



Ecological Appraisal

Whiteacre Lane, Barrow

August 2014

Control sheet

Project No & Title: BOW0017/546 Whiteacre Lane, Barrow – Preliminary Ecological Appraisal

Client: Cass Associates

Prepared by: Claire Wilson, Project *Ecologist*

Checked by: Alice Helyar, *Senior Ecologist*

Date of Issue: August 2014 **Status:** Final

Version No: 1

Revisions: 0

This report is prepared by Bowland Ecology Ltd for the sole and exclusive use of Cass Associates in response to their particular instructions. No liability is accepted for any costs, claims or losses arising from the use of this report or any part thereof for any purpose other than that for which it was specifically prepared or by any party other than Cass Associates.

This report has been prepared by an environmental specialist and does not purport to provide legal advice. You may wish to take separate legal advice.

CONTACT DETAILS

Bowland Ecology Ltd

No 8 Poorsland Barn
Slaidburn
Clitheroe
BB7 3AE

Tel: 01200 446777
Fax: 01200 446775
Web: www.bowlandecology.co.uk

Contents

1. Introduction	1
2. Methodology	2
3. Results	4
4. Evaluation of Habitats and Assessment of Potential Impacts	9
Legal Information	14
Appendix A – Extended Phase 1 Target Notes	18
Appendix A – Extended Phase 1 Habitat Plan	22

1. Introduction

- 1.1 Bowland Ecology Ltd was commissioned by Cass Associates to undertake an extended Phase 1 habitat survey of a site off Whiteacre Lane, Barrow, Lancashire (NGR: SD 74082 437821). The site comprises two fields, with mature hedgerows and fencing on field boundaries. The site is being investigated as a possible location for a new residential development.
- 1.2 The purpose of the survey was to: 1) identify and map all habitats occurring within the survey area, 2) identify the presence of (or potential for) wildlife interests with particular reference to the need for further surveys and legal requirements, and 3) provide an ecological assessment, identify potential impacts and provide recommendations pertaining to the proposed works.
- 1.3 The ecological survey methodology followed that of an extended Phase 1 habitat survey. It also included a desk study to search for designated wildlife sites and protected species records. This report includes a description of survey methods and results; provides recommendations for further survey; and outlines recommendations to provide protection and enhancements for biodiversity and protected species. This report should be read in conjunction with target notes (1-13) as listed in Appendix A and the Phase 1 plan (Appendix B).

2. Methodology

- 2.1 The desk study, ecological walkover survey and appraisal follow the Guidelines for Preliminary Ecological Appraisal (GPEA) (CIEEM, 2012) and are in line with the British Standard BS42020:2013 'Biodiversity – Code of practice for planning and development.

Desk Study

- 2.2 The aim of the desk study was to identify the presence of statutory wildlife sites, non-statutory wildlife sites and any legally protected and notable species records for the area.
- 2.3 Local records on and within 1.5 km of the site were obtained following a data search with LERN, Lancashire Environmental Records Network.
- 2.4 Online resources were also searched for records of protected species. The Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.defra.gov.uk/>) was reviewed for information on locally, nationally and internationally designated sites of nature conservation importance (statutory sites only) on or within 1.5 km of the site boundary. The UK and Local (Lancashire) Biodiversity Action Plans were also consulted.
- 2.5 Aerial photographs were reviewed online at <http://maps.google.co.uk/maps>, to help identify any continuous habitat and any other notable habitats within the surrounding area.

Walkover Survey

- 2.6 An ecological walkover survey was undertaken, following the 'extended Phase 1 methodology (JNCC, 2010 as amended) and CIEEM, 2012). All features of ecological significance were target noted and the location of target notes are shown in Appendix B. A colour coded map of the habitats on site has been produced, with corresponding target notes of ecologically interesting features (Appendix A).
- 2.7 The survey was carried out by and Claire Wilson BSc (hons) MSc ACIEEM on the 14th August 2014. The weather was mild, with patchy cloud with light rain and a moderate breeze.
- 2.8 This survey method records information on the habitats together with any evidence of and potential for legally protected and notable fauna, in particular:
- potential roosting sites for bats within buildings and trees (identification of suitable cracks and crevices – survey undertaken externally and from ground only);
 - assessing the suitability of habitats for other notable and protected species such as nesting birds (including any active or disused nests), reptiles, water vole, otter, white-clawed crayfish, badger and invertebrates. No suitable habitat was present for water vole, otter, or white clawed crayfish.
 - checking for the most common invasive plant species subject to strict legal control (Japanese knotweed, giant knotweed, hybrid knotweed,

giant hogweed, rhododendron and Himalayan balsam) within the survey area.

- assessing the suitability of the habitat for amphibians and for the protected species, great crested newt. Ponds on site and within 250m (access permitting) will be subject to a habitat suitability index (HSI) (Oldham et al 2000) assessment for great crested newt.

Survey Limitations

- 2.9 Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour.
- 2.10 The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The extended Phase 1 survey checked, in particular, for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam. There may be other invasive plant species present on the site which were not recorded, but it is considered that this survey is sufficient to identify any significant constraints posed by invasive plants.
- 2.11 The timing of the Phase 1 survey was within the optimum period for completing such a survey. As a result, a valid assessment of the habitats present and their potential to support legally protected species was undertaken.
- 2.12 The results of this ecological survey have allowed an evaluation of the likely use of the site by protected and controlled species, the need for any additional survey work and the requirement for any mitigation works.
- 2.13 An assessment of effects on ecological features has been made using the available design and survey information and the professional judgement of the ecologist. This includes a consideration of the relevant legislation and planning guidance. If there are changes to the proposals, such as a change to the proposed development design or to the construction method and programme, the assessment would need to be reviewed.

3. Results

Statutory and Non-Statutory Wildlife Sites

- 3.1 There are two statutory designated sites located within 1.5km of the site.
- The Forest of Bowland Area of Outstanding Natural Beauty (AONB), located approximately 880 m east of the site boundary, and,
 - Light Clough Site of Special Scientific Interest (SSSI), located approximately 990 m east of the site boundary. It is designated for its geological significance, with a series of rock layers originally formed at the onset of the Namurian period.
- 3.2 There are four non-statutory wildlife sites on or within 1.5km of the site, all designated Biological Heritage Sites (BHS);
- Barrow Brook Field BHS, a small field located approximately 820 m north-west of the site boundary, supporting an area of damp species rich neutral grassland,
 - Hard Hill Common BHS, located approximately 980 m north-west of the site, comprises areas of purple moor grass, rush pasture and a series of species rich flushes,
 - Calderstones Hospital Woodland/Railway Line BHS, located approximately 1.15 km south-west of the site boundary. A section of the dismantled railway lies within the 1.5km buffer zone and comprises broadleaved semi-natural woodland,
 - Spring Wood BHS, an area of woodland and scrub located approximately 1.19 km south of the site.
- 3.3 Given the botanical nature of the designations and the distance from the proposed development site it is considered that the BHS's will not be impacted by any proposed development on the site.

Protected Species and Habitats Records

- 3.4 LERN provided records of the following notable and local/national BAP species within 2km of the site within the last 15 years;
- Amphibians; common frog; great crested newt,
 - Birds; barn swallow, common bullfinch, common kestrel, common linnet, common snipe, common starling, common swift, curlew; oystercatcher, grey heron, hedge accentor, house martin, house sparrow, lesser redpoll, meadow pipit, northern lapwing, reed bunting, sand martin, sky lark, song thrush, spotted flycatcher, willow warbler,
 - Terrestrial mammals; brown hare, badger, pipistrelle bat,
 - Flowering plants; bluebell, cornflower, rough horsetail, and,
 - Moss; cow-horn bog-moss; dotted thyme-moss.

3.5 Online resources displayed a number of additional BAP species records for the grid square SD53 between 1990 and 2013, therefore, these species could potentially be present if suitable habitats are found on site;

- Amphibians; common toad, great crested newt,
- Birds; tree pipit, common cuckoo, yellowhammer, reed bunting, common grasshopper warbler, spotted flycatcher, curlew, house sparrow, tree sparrow, grey partridge, wood warbler, ring ouzel, northern lapwing,
- Fish; European eel; Atlantic salmon; brown/sea trout; sea lamprey,
- Flowering plants; cornflower,
- Insects; small heath; wall,
- Lichen; river jelly lichen, laurer's catillaria, *Toninia sedifolia*,
- Reptiles; common lizard, and;
- Mammals; west European hedgehog, brown hare, European otter, soprano pipistrelle, red squirrel.

3.6 The search of Multi Agency Geographical Information Centre (www.defra.magic.gov.uk) identified the following BAP priority habitats within 1km. The BAP habitats are shown in Appendix C.

- 24 areas of deciduous woodland BAP priority habitat, the closest of which is located approximately 60 m south-east of the site boundary, bordering the opposite side of the A59,
- Four areas of fen BAP priority habitat, the closest of which is located approximately 625 m north-east of the site,
- One area of lowland calcareous grassland BAP priority habitat located approximately 830 m north-west of the site,
- One area of lowland meadows BAP priority habitat located approximately 830 m north-west of the site,
- One area of upland hay meadow BAP priority habitat located approximately 830 m north-west of the site,
- One area of purple moor grass and rush pasture BAP priority habitat located approximately 990 m north-west of the site,
- Nine areas of woodland included in the 'national inventory of woodland and trees', the closest of which is located approximately 930 m south-east of the site,
- Three areas of ancient woodland, the closest of which is located approximately 1.2 km south of the site, and,
- One area of upland calcareous grassland BAP priority habitat located approximately 1.3 km east of the site.

Ponds

3.7 There are no ponds on the site itself. Examination of aerial photos and Ordnance Survey mapping identified a fishing lake within 250m of the site, approximately 230 m north of the site. In addition to this, there are a further five fishing lakes located at the eastern side of the A59, these are located approximately 280 m north east of the proposed development site.

Walkover Survey

3.8 Target notes summarising key interest features for wildlife recorded during the extended Phase 1 survey are included in Appendix A. The Phase 1 habitat plan for the study site is presented in Appendix B which includes dominant species codes for the habitats present and the locations of the target notes.

- 3.9 The site comprises two small fields possibly used for silage. The surrounding landscape is predominantly rural comprising fields, farms and small villages.

Habitats

Neutral semi improved grassland

- 3.10 Neutral semi-improved grassland is located within the field to the north of the site (TN1). Species comprise; timothy, crested dogs tail, Yorkshire fog, sweet vernal grass, red clover, creeping buttercup, creeping thistle, tufted vetch, ribwort plantain, cock's-foot, perennial rye grass, broad-leaved dock, selfheal, meadow vetchling, common mouse ear, cow parsley, common ragwort and common hogweed. Within the field there are scattered areas that are dominated by soft rush, hard rush, jointed rush and common sedge.

Improved Grassland

- 3.11 Improved grassland (TN10) is located to the south of the site. Species recorded comprise; perennial rye grass, Yorkshire fog and cock's-foot, with occasional nettle, dandelion and creeping buttercup.

Hedgerows

- 3.12 There are four hedgerows present on site (TN5, 8, 9 & 13).
- 3.13 Hedgerow 1 (TN5) is a species poor, unmanaged hedgerow. Dominant species comprise hawthorn, with occasional hazel and blackthorn. Individual mature ash and alder trees are located within the hedgerow. Ground flora beneath the hedgerow comprises; dog's mercury, nettle, hogweed and cock's-foot. Evaluation of the hedgerows under HEGS methodology identifies the hedgerow as 3-, which is considered to be a low quality, species poor hedgerow of low ecological value.
- 3.14 Hedgerow 2 (TN8) is located between the site and a public footpath this lies at the eastern edge of the site. It is a species poor, old laid, unmanaged hedgerow. Dominant species comprise hawthorn, with occasional haze, elder and *Malus* sp. A mature ash tree is located within the hedgerow. Ground flora beneath the hedgerow comprise; dogs mercury, hogweed, ground ivy, nettle, red campion, cleavers, Yorkshire fog, tufted hair grass, cock's-foot and wood brome. Evaluation of the hedgerow under HEGS methodology identifies the hedgerow as 2-, which is considered to be a hedgerow with increased species diversity and of a higher ecological value.
- 3.15 Hedgerow 3 (TN9) is located at the southern edge of the site and is a species poor, defunct, old laid hedgerow dominated by hawthorn, with occasional elder and hazel. Dominant species comprise hawthorn with occasional elder and hazel. Ground flora beneath the hedgerow is sparse with cock's-foot, cleavers and nettle. Evaluation of the hedgerows under HEGS methodology identifies the hedgerow as 3-, which is considered to be a low quality, species poor hedgerow of low ecological value.
- 3.16 Hedgerow 4 (TN13) is located adjacent to Whiteacre Lane. It is a species rich, unmanaged hedgerow. Species comprise; hawthorn, ash, holly, hazel, elder. The hedgerow is located on a hedgebank at the western side. Ground flora beneath the hedgerow is diverse and comprises; herb Robert, common hogweed, ivy, creeping thistle, wood brome, woody nightshade, dog's mercury, nettle, false oat grass and lords and ladies. Evaluation of the hedgerows under HEGS methodology identifies the hedgerow as 3+, which is

considered to be a low quality, species poor hedgerow of low ecological value.

Scrub and trees

- 3.17 There is a line of scattered scrub (TN2) potentially an old outgrown hedgerow, located to the north-west of the site adjacent to the public footpath. Species comprise; hawthorn, hazel and elder, dense bramble dominates the understory.
- 3.18 Two mature ash trees (TN3) are located amongst the line of scattered scrub on the western edge of the site. Both have some small branch cavities, however, they were too high to visually inspect. A small trunk cavity (approx. 3 m) was recorded on the ash tree located to the south.
- 3.19 Two mature ash trees (TN4 & 7) are located within hedgerow 1 and hedgerow 2 respectively.
- 3.20 A mature alder (TN12) with minimal flaking bark, and a large trunk cavity (south facing) located at approximately 1.5 m within hedgerow 1.

Tall ruderals

- 3.21 An area of tall ruderals (TN11) dominated by great willowherb is located to the east of the site, just outside the boundary.

Dry ditch

- 3.22 A dry ditch is located within the improved field and lies adjacent to hedgerow 1, 2 and 3. The ditch appears to have been dry for some time (it is likely to be seasonally wet) and is heavily vegetated and densely shaded by the mature hedgerow.

Fauna

- 3.23 The habitats on and around the site provide a number of opportunities for fauna.

Bats

- 3.24 The mature ash at TN3 has a small trunk cavity at approximately 3 m which may provide suitable roosting habitat for bats. However, no evidence of use by bats such as grease marks, scratches, droppings, feeding remains, urine stains was recorded during the survey.
- 3.25 No features suitable for use by bats were observed on the mature ash trees at TN4 & TN7.
- 3.26 The hedgerows, scrub and mature trees at TN2, 3, 4, 7, 8, 9, 12 and 13 provide potential commuting and foraging habitat for bats.

Birds

- 3.27 The scrub, hedgerows, trees at TN2, 3, 4, 7, 8, 9, 12 and 13 provide potential habitat for nesting birds. A pair of wrens were recorded commuting/foraging along hedgerow 1 (TN5).

Amphibians

- 3.28 No ponds were located on the site. A fishing lake is located approximately 230 m to the north of the site. Assessment of the fishing lake gave it a HSI score of 0.30 indicating that it is of low suitability for great crested newts. It is considered that the fishing lake is unlikely to support great crested newts

given the, low HSI score, presence of water fowl, likely major impacts by fish and lack of aquatic vegetation.

- 3.29 A further five fishing lakes are located on the eastern side of the A59 approximately 280 m from the proposed development site. These fishing lakes are stocked with coarse fish and have an abundance of water fowl utilising them for foraging and breeding, therefore, they are unlikely to support a population of great crested newt.
- 3.30 The data search from LERN indicated that there are no records for great crested newt within 1 km of the proposed site or the fishing lake located to the north of the site.

Mammals

- 3.31 No evidence of terrestrial mammals such as badger were identified on site during the survey.

4. Evaluation of Habitats and Assessment of Potential Impacts

Scheme Proposal

- 4.1 The site is being investigated for its potential as a location for a new housing development.

Habitats

- 4.2 No statutory or non-statutory designated sites will be impacted by the proposed development due to their distance from the proposed development site.
- 4.3 The development will result in the loss of improved grassland (TN10). This habitat is species poor and offers little intrinsic ecological value.
- 4.4 The development will also result in the loss of areas of neutral semi-improved grassland (TN1). This habitat is of greater ecological value. Appropriate mitigation measures should be implemented to minimise/offset the loss of this habitat.
- 4.5 The proposed development impacts on hedgerows 1 and 4, both of which are graded as 3 – and 3 + respectively under the HEGS methodology. Hedgerows are a UK BAP habitat, and whilst they are common in the wider landscape they support a variety of species and provide habitat connectivity within the landscape. Therefore loss of this habitat will have a small scale, negative ecological impact.

Bats

- 4.6 The mature ash tree at TN3 has a small cavity within the main trunk and several small cavities within the branches of the canopy which provide potential habitat for roosting bats. The tree is therefore considered to fall into 'category 2' in the 'BCT protocol for visual inspection of trees to be affected by arboriculture works'. It is therefore considered that the potential of the trees to support roosting bats is moderate.
- 4.7 The proposed development will not impact upon the aforementioned tree; therefore further surveys and/or mitigation are not considered to be required. However, if the plans change further detailed surveys may be required which could include a climbing survey with the use of an endoscope to inspect the cavity and potentially emergence/ dawn re-entry survey (s) of the tree along with possible licensing.
- 4.8 The mature alder at TN12 has a large trunk cavity at approximately 1.5 m height. However, a visual inspection of the cavity indicated no presence of bats. It is also exposed and open to the elements at the entrance, providing damp conditions unsuitable for roosting bats. Therefore the tree is considered to provide negligible habitat for roosting bats.

Birds

- 4.9 Removal/disturbance of trees, hedgerows, and scrub (TN2, 3, 4, 7, 8, 9, 12 and 13) as a result of the proposed works would result in the loss of habitat for nesting birds and could result in disturbance if site clearance is carried out within the breeding bird season (March – September).

- 4.10 Works to the neutral semi-improved field (TN1) could result in the loss of habitat for ground nesting birds and could result in disturbance if works are carried out within the breeding bird season (March – September).

Amphibians

- 4.10 Due to the distance of the single fishing lake from the site (approx. 230 m), the low suitability to support a population of great crested newts and the lack of great crested newt records within the search area it is advised that there is no requirement for further survey with respect to great crested newts .

5. Recommendations

Habitats

- 5.1 Suitable mitigation for the loss of hedgerows (1 and 4) and the mature ash and alder tree, located within hedgerow 1 should be implemented within the proposed development site. Specifically the replanting of new trees that are native species and of local provenance at a ratio of 2:1, to offset the loss of these ecological features. Planting of new hedgerows within and around the perimeter of the proposed development site should be implemented along with improving the connectivity of the existing defunct hedgerow 3 located at TN9 by infilling gaps with native species of local provenance. Future management of the hedgerows to maintain and improve their connectivity to the habitats within the wider landscape will enhance the ecological value of the site.
- 5.2 Mitigation for the loss of semi-improved neutral grassland should include the planting of wildflower areas within the new development with species that are native and of local provenance. Maintaining grass verges with low fertility substrate will also enable species rich grassland to form.

Bats

- 5.3 Should the works impact upon the mature ash tree (TN3) then further survey will be required which would likely include a visual/climbing inspection with the use of an endoscope. The results of this survey will advise if any further survey will be required in the form of emergence/dawn re-entry survey (s) along with possible licensing.

Birds

- 5.4 Any tree, hedgerow, scrub and shrub removal works (TN2, 3, 4, 7, 8, 9, 12 and 13) or works to the neutral semi improved grassland field at TN1 should take place outside the breeding bird season which runs from late February until September, in order to prevent any impacts upon nesting birds.
- 5.5 Any vegetation/tree clearance that must be carried out within the bird breeding season will be subject to a pre-clearance bird survey carried out by a suitably experienced ecologist. No works will be carried out within 5 m of an identified nest until the young have fledged and are no longer returning to the nest site. Works will only be undertaken once a scheme ecologist has declared the nest to be no longer in use.
- 5.6 Mitigation for the loss of breeding bird habitat should include the planting of native species of trees and shrubs and the provision of alternative nesting opportunities in the form of nest boxes within the new development.

Amphibians

- 5.7 Due to the lack of suitability of the fishing lake located to the north of the proposed development site for great crested newt, no further survey in respect of this species is considered to be required.

Enhancement

- 5.8 A key element of the Natural Environment and Rural Communities (NERC) Act 2006 is a duty placed upon every public authority to conserve biodiversity. Part 3.40 of the document states that 'Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

5.9 Measures to enhance the biodiversity of the site include:

- a) Seeking the advice of a professionally/suitably qualified ecologist throughout the progress of the development in order to maximise ecological and biodiversity gains at each stage.
- b) Planting of new trees and hedgerows. Species that should be used should be native species appropriate to the locality. Specimens should be sourced locally, they should be planted at an appropriate time of year (Oct – Feb, when there is no ground frost) and protected from grazing by rabbits and deer.
- c) Retention of deadwood such as whole felled trees and log piles in situ as habitat for invertebrates, small mammals and terrestrial amphibians.
- d) Installation of bird nesting boxes upon trees.
- e) Placement of bat boxes on mature trees can provide suitable roosting sites for crevice dwelling bats. This would provide an alternative roost site to any bats present within any trees on site that might need to be removed.
- f) Providing opportunities for roosting bats within the proposed new buildings.

Incorporation of roosting opportunities within the proposed development should be achievable, and can be designed to meet with planning requirements and building regulations. It is recommended that one of the following is incorporated into each building with south or west aspects.

- Access gaps between soffits and walls (15-20mm);
 - Access points to the roof void via bat tiles incorporated into the roof structure or bat tubes built into gaps in the masonry or into wall surfaces (Tubes such as the Schwegler 2FR Bat Tube would be suitable).
 - Access points over top of cavity walls by specifically constructed gaps;
 - External bat bricks installed at a height of 3m (or close to the roof line), in the south or west facing elevation (Schwegler 1FR Bat Tube would be suitable).
- g) The integration of bat roosting habitat will not cause disturbance to users of the development, nor create aesthetic problems. Bats will not nibble or gnaw at wood, wires or insulation. Bat droppings do not smell strongly, there are no known health risks associated with them. The droppings are dry and do not putrify, but crumble away to dust, or are washed away by rain.
 - h) Any plantings within the new development would provide foraging habitat for bats, and therefore have the potential to increase the value of the site. Nectar rich plants that attract insects would be recommended as they would enhance foraging opportunities for bats in the local area.
 - i) Create more diversity on site by leaving more areas of un-mown grassland or creating a wildflower area with a species rich seed mix that is of local provenance.

Re-survey of the Site

- 5.10 If no works are undertaken on site within 12 months of this survey or if any changes to the proposals are made, a further ecological survey may be necessary (because of the mobility of animals and the potential for colonisation of the site).

6. References

CIEEM, 2012. *Guidelines for Preliminary Ecological Appraisal*. Chartered Institute of Ecology and Environmental Management.

Clements, D. & Toft, R. (1992) Hedgerow Evaluation and Grading System (HEGS) A methodology for the ecological survey, evaluation and grading of hedgerows. *Countryside Planning and Management*.

JNCC, 1993 revised 2010. *Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint)*. Joint Nature Conservation Committee, Peterborough.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

Legal Information

This report provides guidance of potential offences as part of the impact assessment. This report does not provide detailed legal advice and for full details of potential offences against protected species the relevant acts should be consulted in their original forms i.e. The Wildlife and Countryside Act, 1981, as amended, The Countryside and Rights of Way Act 2000, The Natural Environment and Rural Communities Act, 2006 and The Conservation of Habitats and Species Regulations 2010.

Species	Legislation (England & Wales)	Offences	Notes on licensing procedures and further advice (England & Wales)
Species that are protected by European and national legislation			
Bats <i>European protected species</i>	Conservation of Habitats and Species Regulations 2010 Reg 41	<ul style="list-style-type: none"> Deliberately¹ capture, injure or kill a bat; Deliberate disturbance² of bats; Damage or destroy a breeding site or resting place used by a bat. <p>The protection of bat roosts is considered to apply regardless of whether bats are present.</p>	An NE licence in respect of development is required in England or a licence from the Welsh Assembly Government in consultation with CCW in Wales. <i>European Protected Species: Mitigation Licensing- How to get a licence</i> (NE 2010) <i>Bat Mitigation Guidelines</i> (English Nature 2004) <i>Bat Workers Manual</i> (JNCC 2004)
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9	Intentionally or recklessly ³ obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	Licence from NE or CCW is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.

Species	Legislation (England & Wales)	Offences	Notes on licensing procedures and further advice (England & Wales)
Birds	Conservation of Habitats and Species (Amendment) Regulations 2012	<ul style="list-style-type: none"> N/A 	Authorities are required to take steps to ensure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat. This includes activities in relation to town and country planning functions.
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.1	<ul style="list-style-type: none"> Intentionally kill, injure or take any wild bird; Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; Intentionally take or destroy the nest or eggs of any wild bird. <p>Schedule 1 species Special penalties are liable for these offences involving birds on Schedule 1 (e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover). Intentionally or recklessly³ disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species.</p>	<p>No licences are available to disturb any birds in regard to development.</p> <p>Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development.</p> <p>General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety.</p> <p>http://www.naturalengland.org.uk/Images/wlmsfags_tcm6-3859.pdf</p> <p>www.naturalengland.org.uk/ourwork/regulation/wildlife/advice/advisoryleaflets.aspx</p>

Species	Legislation (England & Wales)	Offences	Notes on licensing procedures and further advice (England & Wales)
Other species			
Rabbits, foxes and other wild mammals For BAP species and Species of Principal Importance, see below	Wild Mammals (Protection) Act 1996	Intentionally inflict unnecessary suffering to any wild mammal.	Natural England provides guidance in relation to rabbits (TIN003, Rabbits-management options for preventing damage, July 2007) and foxes (which are also protected under the Wildlife and Countryside Act 1981 from live baits and decoys, see TAN43 April 2005 and TAN08 April 2005) as well as other wild mammals; see Natural England's website for the list of 'Regulatory Guidance, Best Practice and Information'. Lawful and humane pest control of these species is permitted.

¹Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing

²Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.



Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2010 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.



³The term 'reckless' is defined by the case of Regina versus Caldwell 1982. The prosecution has to show that a person deliberately took an unacceptable risk, or failed to notice or consider an obvious risk.






⁴The Wildlife and Countryside Act (1981) has been updated by various amendments, including the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. A full list of amendments can be found at <http://jncc.defra.gov.uk/page-1377>.





Habitats & Species	Legislation (England & Wales)	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities Act 2006 S.40 (which superseded S.74 of the Countryside & Rights of Way Act 2000).	<p>S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England and Wales.</p> <p>Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretaries of State for England and Wales, in consultation with NE and CCW, are referred to in S.41 of the NERC Act for England and S.42 for Wales. The list of habitats and species was updated in 2008:</p> <p>England: http://www.ukbap-reporting.org.uk/news/details.asp?x=45</p> <p>Wales: http://www.biodiversitywales.org.uk/wales_biodiversity_partnership_documents-134.aspx</p> <p>The habitats and species listed are not necessarily of higher biodiversity value, but they may be in decline. Habitat Action Plans and Species Action Plans are written for them or are in preparation, to guide their conservation.</p> <p>Ecological impact assessments should include an assessment of the likely impacts to these habitats and species.</p>
Biodiversity Action Plan (BAP) Habitats & Species	No specific legislation, unless it is also a species or habitat of principal importance as described above.	<p>The Biodiversity Action Plan (BAP) is the UK's initiative to maintain and enhance biodiversity in response to the Convention on Biological Diversity signed in 1992.</p> <p>The original BAP list of species and habitats, prepared over 10 years ago, was used to form the new list of species and habitats of principal importance. However some of the species have been taken off the new list and additional species and habitats have been included.</p>
Japanese knotweed, hybrid knotweed, giant knotweed Giant hogweed Rhododendron Himalayan balsam	Wildlife and Countryside Act 1981 (as amended) S.14	<p>It is illegal to plant or otherwise cause to grow or spread in the wild these species.</p> <p>Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.</p> <p><i>The Knotweed Code of Practice</i> (Environment Agency 2006)</p> <p><i>Guidance on Section 14 of the Wildlife and Countryside Act, 1981</i> (Defra 2010)</p>

Appendix A – Extended Phase 1 Target Notes

Target Note	Photograph	Description
1		Neutral semi-improved grassland is located within the field to the north of the site. Species comprise; timothy (<i>Phleum pratense</i>), crested dogs tail (<i>Cynosurus cristatus</i>), Yorkshire fog (<i>Holcus lanatus</i>), sweet vernal grass (<i>Anthoxanthum odoratum</i>), red clover (<i>Trifolium pratense</i>), creeping buttercup (<i>Ranunculus acris</i>), creeping thistle (<i>Cirsium arvense</i>), tufted vetch (<i>Vicia cracca</i>), ribwort plantain (<i>Plantago lanceolata</i>), cock's-foot (<i>Dactylis glomerata</i>), perennial rye grass (<i>Lolium perenne</i>), broad-leaved dock (<i>Rumex obtusifolius</i>), selfheal (<i>Prunella vulgaris</i>), meadow vetchling (<i>Lathyrus pratensis</i>), common mouse ear (<i>Cerastium fontanum</i>), cow parsley (<i>Anthriscus sylvestris</i>), ragwort (<i>Jacobaea vulgaris</i>), and common hogweed (<i>Heracleum sphondylium</i>). Within the field there are scattered areas dominated by soft rush (<i>Juncus effusus</i>), hard rush (<i>Juncus inflexus</i>), jointed rush (<i>Juncus articulatus</i>) and common sedge (<i>Carex flacca</i>).
2		A line of scattered scrub located to the north-west of the site adjacent to the public footpath. Species comprise; hawthorn (<i>Crataegus monogyna</i>), hazel (<i>Corylus avellana</i>) and elder (<i>Sambucus nigra</i>), dense bramble (<i>Rumex</i> sp) dominates the understory.

3		<p>Two mature ash (<i>Fraxinus excelsior</i>) trees located along the line of scattered scrub. One with a small trunk cavity at approximately 3 m. No potential bat field signs were recorded during the survey.</p>
4		<p>Mature ash located within hedgerow 1. No features suitable for roosting bats were observed.</p>

5		Hedgerow 1, mature, species poor, old laid hedgerow dominated by hawthorn with occasional hazel and blackthorn. Some small gaps towards the eastern edge of the hedgerow. A mature ash and alder are located within the hedgerow. A dry ditch is located on the southern side. A pair of wrens (<i>Troglodites troglodites</i>) were recorded foraging/commuting along the hedgerow.
6		Dry ditch adjacent to the hedgerow 1. It appears to have been dry for some time and is heavily vegetated and densely shaded by hedgerow 1.
7		Mature ash tree located within hedgerow 2. No features suitable for use by bats were noted during the survey.
8		Hedgerow 2, located on the western field boundary and adjacent to a public footpath. It is a mature, old laid, outgrown, unmanaged hedgerow, dominated by hawthorn with occasional elder and <i>Malus</i> sp.
9		Hedgerow 3, located on the southern boundary of the site. It is a species poor, defunct, old laid hedgerow dominated by hawthorn with occasional elder and hazel.

10		Improved grassland dominated by perennial rye grass with occasional Yorkshire fog, cock's-foot, nettle (<i>Urtica dioica</i>), creeping buttercup and dandelion (<i>Taxacarium</i> sp).
11		Small area of tall ruderals dominated by great willowherb (<i>Epilobium hirsutum</i>) to the north east of the site, just outside the boundary.
12		Mature alder (<i>Alnus glutinosa</i>), located within hedgerow 1. Some light flaking of the bark on the main trunk and a trunk cavity at approximately 1.5 m.
13		Hedgerow 4, is a species rich, mature, managed hedgerow. Species comprise; hawthorn, ash, hazel, elder and holly (<i>Ilex aquifolium</i>), with a diverse ground flora comprising; nettle, false oat grass (<i>Arrhenatherum elatius</i>), herb Robert (<i>Geranium robertianum</i>), common hogweed, ivy, (<i>Hedera helix</i>), creeping thistle, wood false brome (<i>Brachypodium sylvaticum</i>), woody nightshade (<i>Solanum dulcamara</i>), dogs mercury (<i>Mercurialis perennis</i>), great willowherb. <i>Rumex</i> sp and lords and ladies (<i>Arum maculatum</i>).

Appendix B – Phase 1 Habitat Plan

