

Preliminary Ecological Appraisal

**Bowland Wild Boar Park,
Wardsley Road,
Chipping
PR3 2QT**

Provided for:

Bowland Wild Boar Park,
Wardsley Road,
Chipping,
PR3 2QT

13th January 2020



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Summary

A data search, surveys and a preliminary ecological appraisal were carried out in 2019 to assess the value or likely value of the proposed development site.

The demonstrable value of the proposed development site, and therefore its ecological constraints are as follows:

- Its position with the Forest of Bowland AONB
- Its position adjacent to Swaney Holme Wood & New Ground Wood Biological Heritage Site
- The presence and use by brown hare
- The presence of Biodiversity Action Plan Broad Habitats
- The presence of a single habitat listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) - hedgerow

In addition the proposed development area also has **potential** value and therefore **potential** ecological constraints in relation to:

- Use by protected species including badgers, foraging and nesting birds, foraging bats, hedgehog and common toad.

In addition, there is **potential** for Himalayan balsam to occur on the proposed development site, as a result of its close proximity within the surrounding landscape.

Management advised and recommended to address the ecological constraints is as follows:

- Take full account of the impact on the AONB
- Undertake careful pre-works, during works and post-works precautions as regards all known and potential species (including pre-commencement checks and sensitive use of artificial lighting)
- Avoid damage to the adjacent Biological Heritage Site
- Minimise disturbance to and loss of habitats
- Protect retained trees
- Adopt measures to control the potential for non-native invasive species to spread onto the proposed development site and surrounding area

Opportunities for ecological enhancement are as follows:

- Enabling the development of dense sheltering woody vegetation (e.g. scrub), particularly in association with existing trees and the hedgerow.
- Using and encouraging the growth of native species of local provenance.
- Incorporation of bird boxes into the design of new structures and bat boxes on trees.

It is the professional judgement of Ecology Services UK Ltd that in the case of the proposed development at Bowland Wild Boar Park, a Preliminary Ecological Appraisal provides a sufficient level of detail; this reflects the small-scale nature of the development, the ecological features present and the predicted impacts of the scheme. This judgement is made on the basis that all mitigation and enhancement works, as outlined in section 7 of this report, are fully specified in the design and access statement or other submitted documents.

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1 Introduction

1.1 This report has been produced on behalf of Bowland Wild Boar Park as part of the information required for a proposed development on land to the north of the Wild Boar Park site. The proposed development comprises the construction of lodge buildings and associated infrastructure.

1.2 Ecology Services UK Limited was commissioned in December 2019 to carry out a preliminary ecological appraisal and to produce a report.

1.3 It is proposed to seek planning permission for the proposed development.

1.4 The information contained within this report comprises:

- The methodology used for the surveys
- A brief description of the proposed development site
- The results from the surveys
- An evaluation of the ecological aspects of the proposed development site
- Limitations to the surveys
- Advice and recommendations in relation to the survey site and the proposed development

1.5 This report complies with national best practice guidance as outlined in:

Chartered Institute of Ecology and Environmental Management (2017), *Guidelines for Preliminary Ecological Appraisal. Second Edition*. CIEEM, Hampshire

Pat Waring and Janette Gazzard carried out the surveys and prepared the report.

1.6 Pat is a licensed great crested newt surveyor, a licensed bat worker (Class 2 licence), a registered consultant of the Bat Low Impact Class Licence, a Chartered Environmentalist and a full member of the Chartered Institute of Ecology and Environmental Management, with a Bachelor of Science degree in Biology.

Pat has been working as an ecological consultant for over twenty two years, most recently as Director of Ecology Services UK Limited. This work includes provision of expert advice and guidance to bodies such as Statutory Nature Conservation Organisations, Local Planning Authorities, National Park Authorities and Lancashire and Yorkshire Police Authorities.

Pat has recognised and extensive experience and knowledge of ecological survey, monitoring, condition assessment and impact assessment techniques; these include ecological surveys and assessments.

Janette is a full member of Chartered Institute of Ecology and Environmental Management, with a Bachelor of Science degree in Environmental Management.

Janette has over sixteen years' experience working in ecology and nature conservation, including roles as a Senior Ecologist for a large multidisciplinary company and as a lead adviser for Natural England throughout the North West of England. She has a range of demonstrable skills including habitat surveys, ecological appraisals, protected species surveys and mitigation, conservation management advice and condition assessments.

Pat and Janette meet the requirements for knowledge, skills and practical experience as outlined in the CIEEM technical guidance series, Competencies for Species Surveys available at: <http://www.cieem.net/competencies-for-species-survey-csS>

Pat and Janette have been undertaking wildlife surveys at Bowland Wild Boar Park since autumn 2016; these include installing and checking bat boxes and undertaking breeding bird surveys.

1.6 Advisory note

The information in this letter represents the professional opinion of an ecological consultancy and does not constitute professional legal advice. You may wish to seek professional legal interpretation of the wildlife legislation associated with this area of work.

The information, opinion and advice that Ecology Services UK Ltd has prepared are true, and have been prepared in accordance with the CIEEM Code of Professional Conduct. Ecology Services UK Ltd confirms that the opinions expressed are our true professional bone fide opinions.

Ecology surveys are time-limited; as a rule survey findings can generally be relied on for the season in which surveys took place. However, mobile species such as bats and birds may increase or decrease in numbers and change behaviours over time. Statutory agencies will often accept survey results for 12-18 months, but this varies around the country.

Ecology Services UK Ltd personnel make a professional judgement as to how long the results of our surveys can be relied on, for the purposes of a planning submission or similar. Advice and recommendations as regards currency and its impacts on decision making are included in section 7 of this document.

It is the professional judgement of Ecology Services UK Ltd that in the case of the proposed development at Bowland Wild Boar Park, a Preliminary Ecological Appraisal provides a sufficient level of detail; this reflects the small-scale nature of the development, the ecological features present and the predicted impacts of the scheme. This judgement is made on the basis that all mitigation and enhancement works, as outlined in section 7 of the current report, are fully specified in the design and access statement or other submitted documents.

2 Objectives and methodology

2.1 General background

The brief for this work was to carry out a preliminary ecological appraisal of a proposed development site to the north section of Bowland Wild Boar Park in Chipping, Lancashire.

Information gathering involved a desk-based study and site surveys.

The methodology was designed to address the following objectives.

- To identify designated sites, habitats and protected species present on and adjacent to the proposed development site
- To assess the potential for protected species to occur on the proposed development site
- To enable clear advice to be provided regarding the implications of designated sites, habitats and protected species presence
- To enable clear advice to be provided regarding the potential for occurrence of protected species, such as the need for further surveys

The assessment focussed on a number of aspects which, if present, would help to determine the ecological value of the site and therefore help to identify any potential constraints to the proposed development.

These aspects were as follows:

- Presence of sites and features designated for ecological reasons
- Presence or likely presence of protected species
- Nesting and other significant use by birds
- Presence of important habitats and species (including Biodiversity Action Plan (BAP) broad habitats, as well as Species and Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006)
- Presence of hedges
- Presence of undesirable species

2.2 Desk-based study

2.2.1 Presence of designated sites

Information about statutorily designated sites, ancient woodlands and Local Nature Reserves was accessed from the MAGIC map website (<https://magic.defra.gov.uk/>).

Information about the location of non-statutory wildlife sites was accessed from the Ribble Valley Districtwide Local Plan Adopted June 1998.

2.2.2 Presence or likely presence of protected species and other species of note

The National Biodiversity Network website was consulted for information regarding records of protected species in and around the proposed development site.

Information was also obtained from planning applications lodged on the Ribble Valley Borough Council website, Ecology Services UK Ltd records relating to the Wild Boar Park and information from the current woodland management plan for the Wild Boar Park.

2.2.3 Historical land-use data

Data pertaining to the previous use of land was accessed from the Mario mapping website of Lancashire County Council (<http://mario.lancashire.gov.uk/agsmario/>).

2.3 Field-based surveys

The following surveys were undertaken.

Survey	Dates	Surveyors
Daytime walkover survey of proposed development site and immediate surroundings	16/12/19	Pat Waring, Janette Gazzard
Deployment of 2x trail-cams along mammal tracks within the proposed development site	16/12/19 to 23/12/19	Pat Waring, Janette Gazzard
Daytime walkover survey of proposed development site and immediate surroundings	19/12/19	Pat Waring, Janette Gazzard

Table 1 - Survey dates

2.3.1 Presence or likely presence of protected species

The site and immediate surroundings (referred to as the proposed development area) were assessed for their potential to support a range of protected species known to occur in the Lancashire area;

- Great crested newts *Triturus cristatus*
- Reptiles
- Water vole *Arvicola terrestris*
- Otter *Lutra Lutra*
- Badger *Meles meles*
- Bats
- Barn owl *Tyto alba* (roosting and nesting)

After the initial site visit, it was recognised that the proposed development area was unsuitable for the following protected species (as a result of current use of the proposed development area and the availability and condition of habitats present):

- Water vole
- Otter
- Barn owl

Great crested newts

A search for great crested newts and their sheltering places was made across the proposed development area, including likely sheltering features such as areas of dense vegetation. This was followed by an assessment of potential sheltering sites and likely availability of feeding resources.

Three ponds lying to the west of the wider proposed development area (nearest = 70 metres and furthest = 190 metres from the boundary of the proposed development site) were visited and assessed for their ability to support breeding great crested newts.

Reptiles

A search for reptiles was made across the proposed development area, including likely sheltering features such as areas of dense vegetation. This was followed by an assessment of potential sheltering sites and likely availability of feeding resources.

Badgers

A survey was carried out following guidance in Harris et al (1989).

During the field surveys, the proposed development site was subjected to examination for signs of use by badgers, including:

Latrines (collections of dung pits)	Setts	Hairs
Badger paths, including exit/entry points to the proposed development site	Footprints	Snuffle holes
Scratching posts		

Table 2 – Field signs of badgers

Bats

There were no buildings within or adjacent to the proposed development site with any potential to support roosting bats.

All trees within and immediately adjacent to the proposed development site were examined. Observations were made from ground level; telescopic 3.8 metre ladders were available but not required. A 1000 lumens Led Lenser X21 torch, close-focussing Zeiss Victory FL 8x42 binoculars and a rigid CA-300 endoscope were available but not required.

The methods used for bat surveys comply with those outlined in current best practice guidance:

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

2.3.2 *Nesting and other significant use by birds*

The proposed development area was assessed for its potential to support a range of bird species known to occur in the Lancashire area.

As the survey was undertaken outside the bird breeding season, all vegetation within and adjacent to the proposed development site was closely examined for potential sites for use by nesting birds, and any signs of nesting from earlier in the year (e.g. old nesting material).

The proposed development area was assessed for its potential to support wintering bird species.

The whole of the proposed development site and its close surroundings was walked, with observation stops made frequently to watch and listen for birds. Zeiss Victory FL 8x42 binoculars were also used as aids to visibility.

2.3.3 *Presence of important habitats and species (including Biodiversity Action Plan (BAP) broad habitats, as well as Species and Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006)*

A habitat survey was carried out, whereby the vegetation and habitats of the whole site and immediate surroundings were surveyed on foot.

Habitats were described in terms of plant species composition and categorised in terms of:

- Phase 1 Habitats (using descriptions in the Phase 1 Habitat Survey Handbook)
- UK Habitat Classification
- Biodiversity Action Plan broad habitats
- Habitats which are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006

Scientific names follow Stace (4th Edition 2019).

Species

The site and immediate surroundings were assessed for their potential to support a range of species which are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (other than those listed in 2.3.1 above) known to occur in the Lancashire area including;

- Hedgehog *Erinaceus europaeus*
- Brown Hare *Lepus europaeus*
- Common toad *Bufo bufo*

Hedgehog

The general approach complied with that described in:

Creswell, W, J et al (Eds) (2012) *UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society.

A search for hedgehogs, droppings and footprints was made across the proposed development area, followed by an assessment of potential nesting sites and likely availability of feeding resources, including macro invertebrates.

Brown hare

The general approach complied with that described in:

Creswell, W, J et al (Eds) (2012) *UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society.

A search for brown hares was made across the proposed development area followed by an assessment of potential sheltering sites and likely availability of feeding resources.

Common toad

The general approach complied with that described in:

Sewell, D. et al (2013) *Survey Protocols for the British Herpetofauna*. Amphibian and Reptile Conservation.

A search for common toads was made across the proposed development site; as there were no standing waterbodies, this focussed on likely sheltering features. This was followed by an assessment of potential sheltering sites and likely availability of feeding resources.

Three ponds lying to the west of the wider proposed development area (nearest = 70 metres and furthest = 190 metres from the boundary of the proposed development site) were visited and assessed for their ability to support breeding common toad.

2.3.4 Presence of hedges

Surveys for hedgerows were carried out as part of the habitat survey as described above.

2.3.5 *Presence of undesirable species*

Surveys for undesirable species and species included in Section 9 of the Wildlife and Countryside Act (Variation of Schedule 9 Order 2010) were carried out as part of the habitat survey as described above.

2.4 **Evaluation**

The following list was used as the basis for evaluation of the site aspects listed in section 2.1.

- International
- National
- Regional
- County/Metropolitan
- District/Borough
- Parish/Neighbourhood
- Negligible

Where the level of value of an aspect was unclear, a judgement was made; where this approach was adopted, a rationale is presented with the judgement of value.

The following documents were also used to form judgements about value:

- CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland
- Schedules and Annexes of UK and European wildlife legislation (e.g. Wildlife and Countryside Act (WCA) (1981) (as amended) and The Conservation (Natural Habitats, &c.) Regulations 1994
- International conventions on wildlife (e.g. Bern Convention, Bonn convention)
- UK Biodiversity Action Plan
- Local Biodiversity Action Plan
- Taxa-specific conservation lists (e.g. RSPB List of Species of Conservation Concern)

3 Description of the survey site

The central point of the proposed development site is SD 6501 4501.

The proposed development site, which is approximately 1.4 hectares in size, lies within the northern section of Bowland Wild Boar Park, and comprises a former open field, planted with broadleaved trees approximately 20 years ago.

The proposed development site is bounded by the following features:

North – hedgerow with ditch

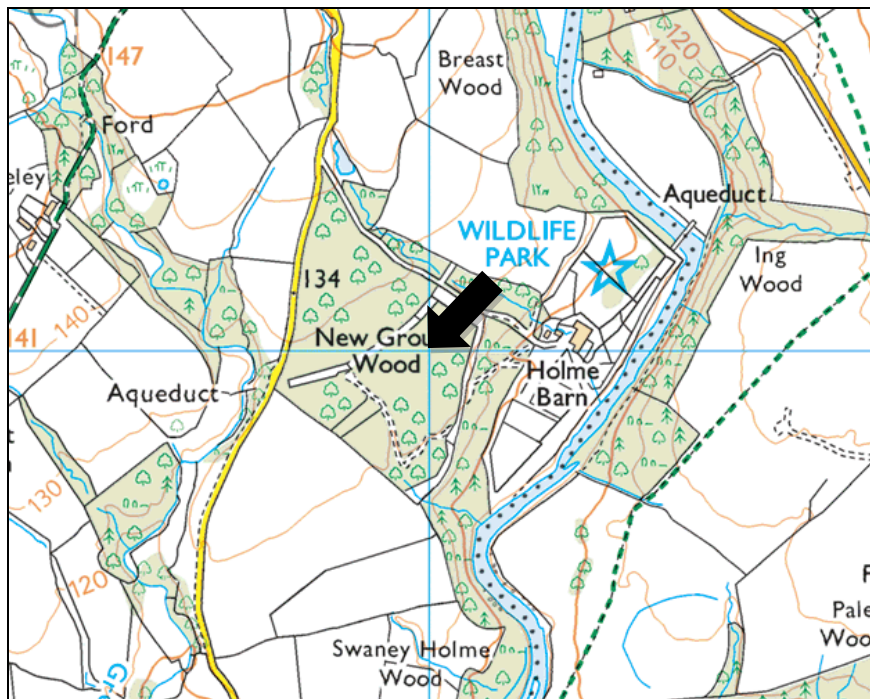
South – footpath with adjacent fence and broadleaved woodland

East – fenced, grass livestock enclosure

West – Broadleaved plantation

The proposed development site supports a limited range of habitats which are described below in Section 4.5.

The wider surroundings are dominated by broadleaved woodland, hedgerows, open grassland managed as livestock shelters and as agricultural fields, and the River Hodder. Connecting features in the landscape include ancient broadleaved woodlands, plantation woodlands, tree belts and hedgerows. The proposed development site is unaffected by artificial lighting, other than very limited occasional light spillage onto the north site margin, when adjacent glamping pods are occupied.



Map 1 - 1:25 000 map of site and context - location shown by black arrow



Image 1 - Aerial view of indicative proposed development site (indicative boundary marked by white lines). Image date 28/6/2018

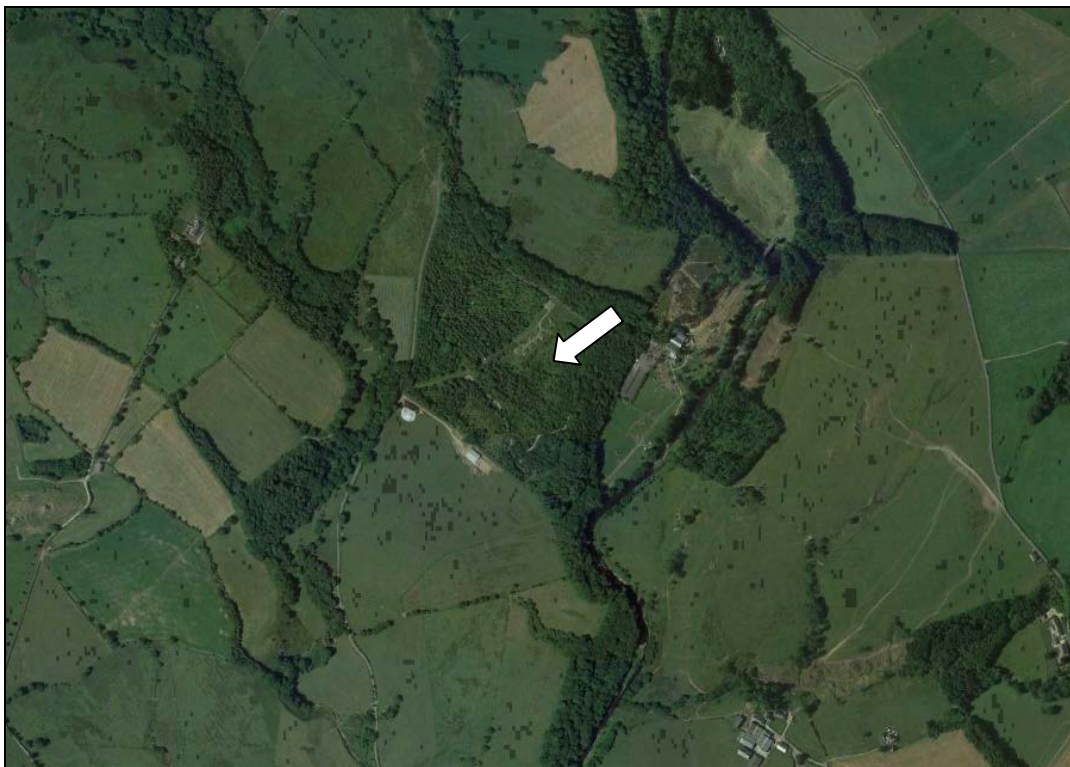


Image 2 - Aerial view of indicative proposed development site (marked with white arrow), showing wider context. Image date 28/6/2018

4 The results of the surveys

4.1 Desk-based survey

4.1.1 Presence of sites and features designated for ecological reasons

The proposed development site lies within the Forest of Bowland Area of Outstanding Natural Beauty.

There are no other statutory sites located within or adjacent to the proposed development site.

The south east border of the proposed development site lies adjacent to Swaney Holme Wood & New Ground Wood Biological Heritage Site (BHS). The BHS is also an ancient woodland, included within the Ancient Woodland Inventory for Lancashire.

4.1.2 Presence of protected species and other species of note

No information regarding protected species or other species of note **within** the proposed development site was found during the data search.

The data search shows that the following protected species have been recorded within 1 kilometre of the proposed development site.

Species and status	Date	Location	Source for record
Common pipistrelle bat <i>Pipistrellus pipistrellus</i> flying	Nov and Dec 2018	New Ground Wood	Anabat detector deployed by ESUK
Soprano pipistrelle bat <i>Pipistrellus pygmaeus</i> flying	Nov and Dec 2018	New Ground Wood	Anabat detector deployed by ESUK
Myotis species flying	Nov 2018	New Ground Wood	Anabat detector deployed by ESUK
Soprano pipistrelle bat <i>Pipistrellus pygmaeus</i> roost of 7 animals	Sept 2018	Bat box by River Hodder	ESUK emergence survey
Pipistrelle bat species <i>Pipistrellus</i> sp. 1-6 animals roosting in any single bat box	2017-2019	Bat boxes in Swaney Holme Wood and New Ground Wood	ESUK bat box checks (throughout each year)
Noctule bat <i>Nyctalus noctula</i> flying above woodland	Sept 2018	New Ground Wood	ESUK activity survey

Species and status	Date	Location	Source for record
Daubenton's bat <i>Myotis daubentonii</i> flying over river	August 2018	River Hodder	ESUK activity survey
Brown long eared bat <i>Plecotus auritus</i> single animal in bat box	Sept 2017	Bat box in New Ground Wood	ESUK
Pied Flycatcher <i>Ficedula hypoleuca</i> – male and female	May 2019	New Ground Wood	ESUK surveys
Pied Flycatcher <i>Ficedula hypoleuca</i> – male singing	May 2017	Swaney Holme Wood	ESUK acoustic surveys
Song Thrush <i>Turdus philomelos</i> – male singing	April 2017 May 2019	Swaney Holme Wood	ESUK acoustic surveys
Tawny Owl <i>Strix aluco</i> – male calling	April 2017	Swaney Holme Wood	ESUK acoustic surveys
Blue Tit <i>Cyanistes caeruleus</i> –calling	April 2017	Swaney Holme Wood	ESUK acoustic surveys
Great Tit <i>Parus major</i> - calling	April 2017	Swaney Holme Wood	ESUK acoustic surveys
Eurasian Nuthatch <i>Sitta europaea</i> – male calling	May 2017	Swaney Holme Wood	ESUK acoustic surveys
Wren <i>Troglodytes troglodytes</i> – male singing	May 2017	Swaney Holme Wood	ESUK acoustic surveys
Blackbird <i>Turdus merula</i> – male singing	June 2018	Swaney Holme Wood	ESUK acoustic surveys
Robin <i>Erithacus rubecula</i> – male singing	April 2018	Swaney Holme Wood	ESUK acoustic surveys
Oystercatcher <i>Haematopus ostralegus</i> -breeding pair with 3x chicks	April 2018	Animal shelter within Wild Boar Park riverside enclosure	ESUK surveys

Table 3 – Protected species recorded with 1km of the proposed development site

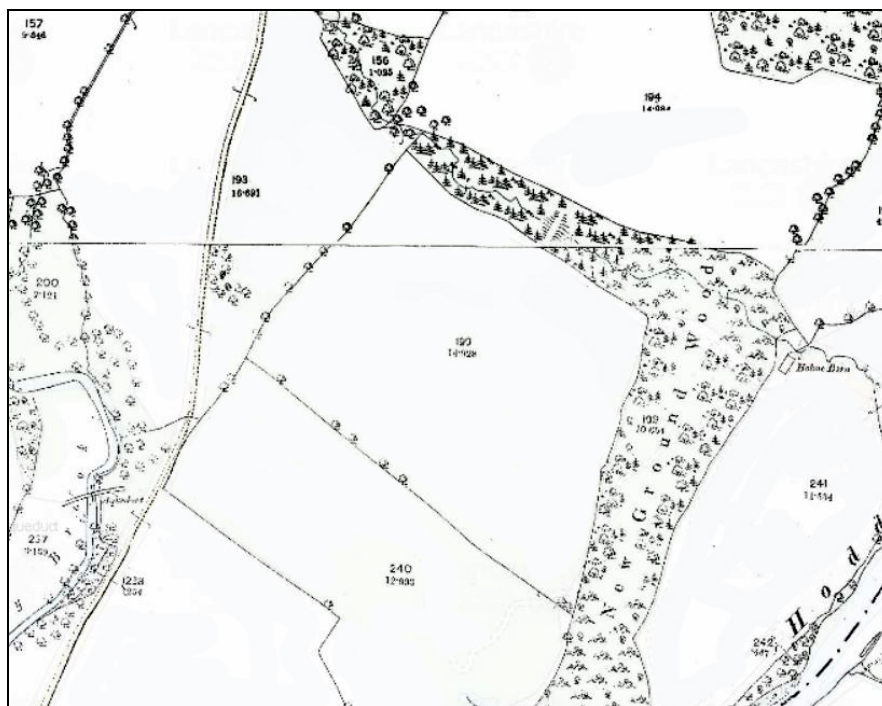
In addition to the above records, the woodland management plan for Bowland Wild Boar Park contains the following information about birds occurring in woodland adjacent to the proposed development site:

Tawny Owl (at least 1 pair), Great Spotted Woodpecker (at least 1 pair), Wren, Dunnock, Robin, Blackbird, Song Thrush, Blackcap (3+ pairs), Chiffchaff, Willow Warbler (3+ pairs), Goldcrest, Spotted Flycatcher (1 pair), Long-tailed Tit, Treecreeper, Jay and Chaffinch. Marsh Tit has been observed at the feeding station in winter and may breed, but has so far not been observed in summer.

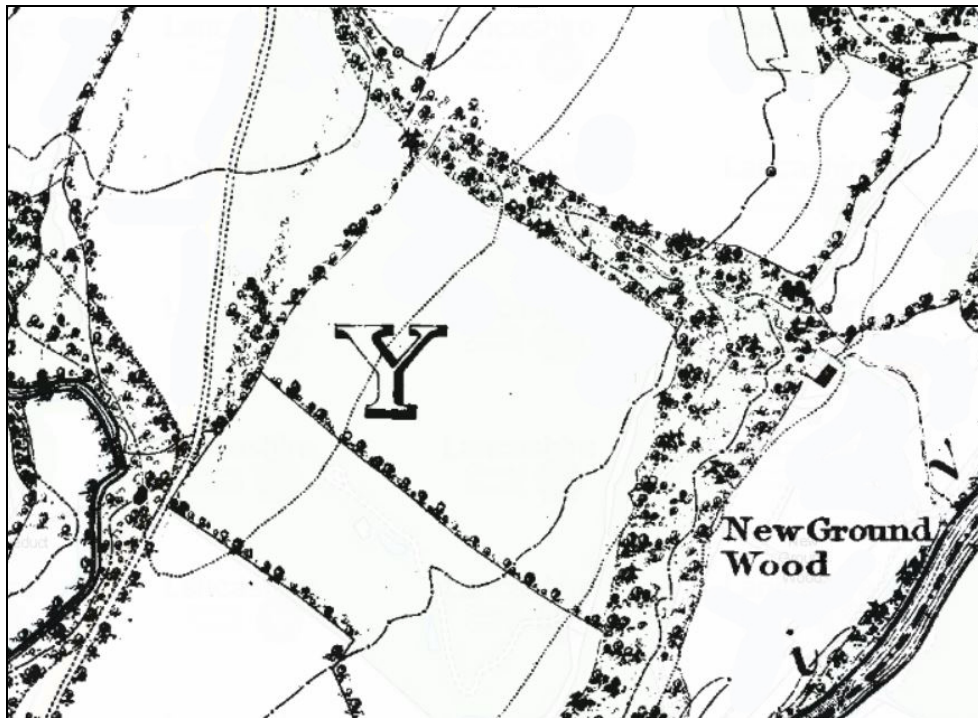
4.1.3 Historical land-use data

Historical maps and aerial photographs show that:

- There is no evidence to suggest that the proposed development site has been subject to development since the 1840s.
- There is no evidence to suggest that the proposed development site has been wooded since the 1840s.
- There is no evidence to suggest that the proposed development site has supported buildings.
- There has been a substantial area of broadleaved woodland in close proximity to the proposed development site since the first edition Ordnance Survey coverage in the 1840s.



1: 2500 1st Edition Ordnance Survey Map (1840s). The proposed development site lies to the centre of the image, in an area without woodland or hedgerows.



1: 10000 1st Edition Ordnance Survey Map (1840s). The proposed development site lies to the centre of the image, in an area without woodland or hedgerows.



1940s aerial photograph. The proposed development site lies to the centre of the image, in an area without woodland or hedgerows.



1960s aerial photograph. The proposed development site lies to the centre of the image, in an area without woodland or hedgerows.

4.2 Field-based surveys

4.2.1 Presence or likely presence of protected species

Great crested newts (including other amphibians)

- No amphibian species were found during the survey and there are no amphibian records for the proposed development site.
- The proposed development site offers moderate potential sheltering places and refugia suitable for use by great crested newts and other amphibians.
- There are three ponds within 190 metres of the boundary of the proposed development site. All three ponds lie within livestock enclosures and are heavily degraded. The ponds have negligible potential for use by amphibians. No further surveys of these ponds are required at the current time.
- There is no evidence to suggest that great crested newts may be present in the proposed development site or its immediate surroundings.
- Based on the information available, there is **no reasonable likelihood** of great crested newts occurring on the proposed development site at any time of year.

Reptiles

- No reptiles were found during the surveys and there are no reptile records for the proposed development site.
- The proposed development site offers low potential for use by breeding sheltering and foraging reptiles, such as grass snakes.
- The wider proposed development area offers moderate potential for use by reptiles based on the availability of occasional suitable sheltering and refugia within the Wild Boar Park.
- Based on the information available, there is **no reasonable likelihood** of reptiles occurring on the proposed development site at any time of year.

Badgers

- No badgers or signs of badgers were found during the surveys
- The proposed development site and its immediate surroundings offer high potential for use by badgers. The potential is associated with both the plantation woodland and older, established woodlands where there is scope for foraging and sett excavation.
- The wider proposed development area offers at least moderate potential for use by badgers, based on its accessibility and the opportunities for foraging and sett excavation. However, no information about the presence of badgers was found for the Wild Boar Park or the wider landscape.
- Based on the information available, there is **no reasonable likelihood** of badgers occurring on the proposed development site at any time of year.

Bats

- There are no suitable features for roosting bats found within any of the trees within the plantation woodland.
- There are occasional suitable features for roosting bats found within trees within the immediately adjacent part of the BHS woodland.
- The proposed development area, immediate and wider surroundings offer high potential foraging opportunities for bats.
- Based on the information available, there is **no reasonable likelihood** of roosting bats occurring on the proposed development site.
- Based on the information available, there is **a reasonable likelihood** of foraging and commuting bats occurring on the proposed development site at any time during their active season (April to October).

- Based on the information available, there is **a reasonable likelihood** of roosting bats occurring in trees within the immediately adjacent part of the BHS at any time of the year.

4.2.2 Nesting and other significant use by birds

- No old bird nests were found associated with the proposed development site.
- The proposed development area (hedgerow only) and its immediate BHS surroundings offer high potential for use by nesting birds.
- The proposed development area and its immediate surroundings have high potential for use by foraging birds throughout the year.
- The proposed development area and its immediate surroundings have low potential for important assemblages of wintering birds.

The following bird species and behaviours were recorded in the proposed development area during the daytime surveys:

Species	Behaviour recorded
Woodcock <i>Scolopax rusticola</i>	Single bird flushed from ground vegetation during one survey
Long tailed tit <i>Aegithalos caudatus</i>	Flock of birds moving through proposed development site during one survey

Table 4 - Bird species recorded during 2019 surveys

- Based on the information available, there is **a reasonable likelihood** of nesting birds occurring in the hedgerow on the proposed development site.
- Based on the information available, there is **no reasonable likelihood** of nesting birds occurring in habitats other than the hedgerow on the proposed development site.
- Based on the information available, there **is a reasonable likelihood** of nesting birds occurring within the woodland habitat immediately adjacent to the proposed development site.

4.2.4 Presence of important habitats and species (including Biodiversity Action Plan (BAP) broad habitats, as well as Species and Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006)

Species

Images showing species are included in the appendices.

- Brown hares were recorded on trail-cams using the proposed development site, diurnally and nocturnally, throughout the survey period.

- The proposed development site offers high potential for use by brown hares at any time of year.
- The immediate and wider surroundings are also judged to have high potential for use by brown hares, based on the availability of habitats, and the availability of feeding resources.
- Based on the information available, there **is a reasonable likelihood** of brown hare occurring on the proposed development site at any time of year.

No other Species of Principal Importance (S41 NERC Act 2006) were observed within the proposed development area.

- No hedgehogs or signs of hedgehogs were found during the survey.
- The proposed development site offers high potential for use by hedgehogs, based on the availability of sheltering features and the likely availability of feeding resources.
- Based on the information available, there **is a reasonable likelihood** of hedgehogs occurring on the proposed development site at any time of year.
- No common toads were found during the survey.
- The proposed development site offers at least moderate potential for use by common toads, due to the availability of sheltering features and the likely availability of feeding resources.
- Based on the information available, there **is a reasonable likelihood** of common toads occurring on the proposed development site at any time of year.

Habitats

Images showing location and extent of habitats are included in the appendices.

Broadleaved Plantation

The whole of the proposed development site has been managed as a broadleaved plantation since tree establishment in 2000, as part of a wider arboretum which comprises stands of both exotic species and native broadleaves. The trees are spaced at original planting distance (2 m – 3m) in a dense sward of neutral grassland. However, many of the trees to the north section of the proposed development site have failed or exhibit only stunted growth and a substantial area of open grassland is still present. Some of this failure may well be attributed to the high moisture levels in the ground (especially to the north), which was marshy underfoot at the time of the surveys, although no standing water was present.

Tree species present are ash *Fraxinus excelsior*, oak *Quercus sp.* and willow *Salix sp.* There is no understorey and the ground flora exhibits no signs of shade-bearing species which would be characteristic of woodland conditions.

Ground cover is dominated by grasses including Yorkshire fog *Holcus lanatus*, creeping soft grass *Holcus mollis* and cocksfoot *Dactylis glomerata* and there is a thick thatch of litter indicating at most only light grazing, particularly in the northern section. Soft rush *Juncus effusus*, nettle *Urtica dioica* and broad leaved dock *Rumex obtusifolius* are locally dominant, along with bracken *Pteridium aquilinum*. Other species found occasionally to rarely include angelica *Angelica sylvestris*, creeping thistle *Cirsium arvense*, meadow buttercup *Ranunculus acris* and creeping buttercup *Ranunculus repens*. There is a small, discrete flushed area to the south boundary which supports a carpet of opposite-leaved golden saxifrage *Chrysosplenium oppositifolium*, along with creeping buttercup and the moss *Brachythecium rutabulum*.

Biodiversity broad habitat – *Best regarded as broadleaved, mixed and yew woodland*

Habitats which are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 – *None*

Phase 1 Habitats: *Best regarded as woodland; broadleaved plantation*

UK Habitat Classification – *Mixed woodlands including plantations with <50% conifers (w1h5), neutral grassland (g3c)*

Hedgerow

A single length of planted hedgerow forms the northern boundary of the proposed development site. The hedgerow is species-poor and intact and is dominated by hawthorn *Crataegus monogyna* with rare plants of hazel *Corylus avellana*. There is no distinctive ground flora with only occasional plants of goosegrass *Galium aparine* and male fern *Dryopteris filix-mas* being found during the surveys.

Biodiversity broad habitat – *Boundary habitat*

Habitats which are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 – *Hedgerows*

Phase 1 Habitats - *Intact species-poor hedge*

UK Habitat Classification – *hedgerows (priority habitat)(h2a)*

Broad habitat	UK BAP Broad Habitats	Lancashire BAP	Habitat of Principal Importance (Section 41 NERC Act 2006)
Broadleaved Plantation	<i>Y</i>	<i>N</i>	<i>N</i>
Neutral grassland	<i>Y</i>	<i>N</i>	<i>N</i>
Hedgerow	<i>Y</i>	<i>N</i>	<i>Y</i>

Table 5 - Habitat categories

4.3 Presence of hedges

There is a single, species-poor hedgerow along the north boundary of the proposed development site, as described in 4.2.4 above.

4.4 Presence of undesirable species

No evidence of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was found.

Himalayan balsam is occasional to locally abundant in the older, established woodland to the south and east of the proposed development site.

5 Evaluation

5.1 Presence of sites and features designated for ecological reasons

Value
Bowland Wild Boar Park, including the proposed development site, is part of the Forest of Bowland AONB. Although the Bowland Wild Boar Park is clearly suitable for inclusion within the AONB, its significance in terms of value is unclear.
Rationale
There is no current guidance to help judge the value of separate parcels of land in terms of their contribution to the Forest of Bowland AONB.

5.2 Protected species

Value
The proposed development site has no current, demonstrable value for the following species: <ul style="list-style-type: none"> • Great crested newts • Reptiles • Badger • Bats (roosting) • Water vole • Otter • Barn owl
Rationale
There is no evidence of current presence of these species, and available information suggests that there is no reasonable likelihood of occurrence by these species. Reasonable likelihood is determined by a number of factors, including presence of species in the wider landscape, as well as habitats and features within and adjacent to the proposed development site that are suitable to support these species.

Value
The proposed development site has high potential value for foraging and commuting bats during their active season (April to October).
Rationale
There is a reasonable likelihood of bat species using the proposed development site for foraging and commuting; this includes common pipistrelle, Daubenton's, soprano pipistrelle, brown long eared and noctule bat species. The five bat species have been recorded in close proximity to the proposed development site in previous years. The airspace over and immediately around the proposed development site, as well as the shelter offered by the plantation, will be used by insect prey of bats during the bat active season.

5.3 Nesting and other significant use by birds

Value
The proposed development site has high potential value for birds nesting in the hedgerow – other habitats have low potential value.
The proposed development site has high potential value for birds foraging.
Rationale
Based on the information available, there is a reasonable likelihood of nesting birds occurring in the hedgerow but no reasonable likelihood of nesting birds occurring within other habitats on the proposed development site.
Based on the information available, there is a reasonable likelihood of foraging birds occurring on the proposed development site throughout the year.

5.4 Important habitats and species (including Biodiversity Action Plan (BAP) broad habitats, as well as Species and Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006)

Value
The proposed development site has high value for brown hare.
The proposed development site has no current demonstrable value for hedgehog and common Toad.
It is recognised that the proposed development site has high potential to support hedgehog and common toad and the wider area has potential for all of the above species to occur.
Rationale
Brown hares were recorded on trail-cams throughout the period of their deployment.
Based on the information available, there is a reasonable likelihood of hedgehog and common toad occurring on the proposed development site at any time of the year.

Value
The proposed development site has low value at a parish/neighbourhood scale for BAP broad habitats.
The proposed development site has low value at a parish/neighbourhood scale for the single habitat of principal importance (hedges).
The proposed development site has moderate secondary value at a parish/neighbourhood scale (brown hare).
The proposed development site has moderate potential secondary value at a parish/neighbourhood scale (birds nesting and foraging, bats foraging and commuting, hedgehog sheltering and foraging, common toad sheltering and foraging).
Rationale
The habitats are not particularly notable in terms of extent, condition and species composition, but do make up part of the biodiversity resources at a local scale.
The value in relation to brown hare and also potential use by bats, birds, hedgehogs and common toad is particularly due to the context of the proposed development site in relation to other habitats in close proximity.

5.5 Hedges

Value
The proposed development site has low value at a parish/neighbourhood scale for the single hedgerow.
Moderate potential secondary value at a parish/neighbourhood scale (birds nesting and foraging).
Rationale
The hedgerow is not particularly notable in terms of extent, condition and species composition, but does make up part of the biodiversity resources at a local scale.
Hedges are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The hedge on the proposed development site fits the criteria for inclusion Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

5.6 Presence of undesirable species

Value
The value of the proposed development site is currently unaffected by species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended).
Rationale
No evidence of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was found on the proposed development site.
Himalayan balsam is occasional to locally abundant in the older, established woodland to the south and east of the proposed development site. There is potential for this species to occur on the proposed development site.

5.7 Overall conclusions in relation to ecological value

The demonstrable value of the proposed development site is in relation to:

- Its position with the Forest of Bowland AONB.
- The presence and use by brown hare.
- The presence of BAP Broad Habitats.
- The presence of a single habitat listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006) - hedgerow

In addition the proposed development area also has potential value in relation to:

- Use by protected species including badgers, foraging and nesting birds, foraging bats, hedgehog and common toad.

In addition, there is potential for Himalayan balsam to occur on the proposed development site, affecting the ecological value of the proposed development site.

6 Limitations of the survey

- 6.1** Inevitably with any ecological survey it cannot be guaranteed to detect all species and individuals, and surveys cannot be fully representative of all conditions. In this case it was concluded that the baseline surveys provide a robust data set on which to carry out the assessment. None of the limitations are considered likely to have materially affected the conclusions of this assessment.
- 6.2** Observations were limited to daytime surveys in December 2019. Limiting observations to one month during the winter does not take account of animal species activity on the site through the year. For example, development of vegetation across the proposed development site will inevitably change the value and potential value of the site for a range of species.
- 6.3** Limiting the survey period to December does not take account of plant growth through the year. It is likely that a number of flowering vascular plant species would not have been evident during the surveys.

7 Advice and recommendations

7.1 Presence of sites designated for ecological and wider environmental reasons

Ecological Receptor	Issue and rationale	Action
<p>Sites designated for ecological and wider environmental reasons</p>	<p>The proposed development will have an impact on the AONB.</p> <p>The proposed development will potentially have an impact on the adjacent Biological Heritage Site. The BHS lies downhill and immediately adjacent to the proposed development site. There is a risk that activities associated with the development may have a detrimental impact on the BHS.</p>	<p>Advice (mitigation): The proposed development design and extent should take full account of the AONB and where possible, make a positive contribution to the designated area.</p> <p>Prior to and during development.</p> <p>Recommendation (mitigation): The proposed development design should take full account of the adjacent Swaney Holme Wood & New Ground Wood Biological Heritage Site; this is particularly important as regards management of water running off the proposed development site, and other potentially disturbing activities such as vehicle movements. Loss and other damage to the BHS should be avoided at all times. This should be subject to a compliance check by a suitably experienced ecologist.</p> <p>During development.</p> <p>Recommendation (mitigation): The proposed development should minimise disturbance and risk of pollution to the adjacent BHS e.g. by ensuring all materials used by and generated as a result of the development are stored in such a way as to avoid run-off and other contamination entering the BHS. As a matter of course, all inorganics (cements, oils and other volatiles) should be stored as per the relevant manufacturer's instructions. All organic material should also be stored carefully. All waste products should be separated out and disposed of appropriately, using local facilities where possible, to achieve the maximum level of sustainability. This should be subject to a compliance check by a suitably experienced ecologist.</p> <p>During development.</p> <p>Recommendation (mitigation): At all times, artificial light spillage onto the adjacent BHS should be avoided. This should be subject to a compliance check by a suitably experienced ecologist.</p> <p>During development.</p>

7.2 Protected species

Ecological Receptor	Issue and rationale	Action
Bats	<p>There is a reasonable likelihood of bat species using the proposed development site for foraging and commuting; this includes common pipistrelle, Daubenton's, soprano pipistrelle, brown long eared and noctule bat species.</p> <p>All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).</p>	<p>Advice: No further surveys of bats are required at the current time.</p> <p>Recommendation (mitigation): It is recommended that any new lighting associated with the proposed development should comply with: https://www.gov.uk/guidance/light-pollution and Institution of Lighting Professionals and Bat Conservation Trust (2018) <i>Bats and Artificial lighting in the UK; Bats and the Built Environment Series</i>.</p> <p>Specifically, it is recommended that the following practices are adopted:</p> <ol style="list-style-type: none"> 1. Avoid artificial light spillage onto potential bat flyways and foraging features. 2. Ensure that lux levels falling onto bat flyways and foraging features are greater than 0.5 lux. 0.5 lux is the recommended upper limit of lighting for these features. 3. Avoid artificial uplighting onto vegetation. 4. Avoid artificial light spillage onto Swaney Holme Wood & New Ground Wood Biological Heritage Site. This should be subject to a compliance check by a suitably experienced ecologist. <p>During work and post-development.</p> <p>Recommendation (enhancement): It is recommended that a minimum of 4 bat boxes (suitable examples are Vincent Pro, Kent and Schwegler 2F boxes) are installed in the BHS woodland adjacent to the proposed development site. This should be subject to a compliance check by a suitably experienced ecologist.</p> <p>During or immediately following development.</p>

7.3 Nesting and other significant use by birds

Ecological Receptor	Issue and rationale	Action
Nesting and other significant use by birds	<p>There is a reasonable likelihood of nesting birds occurring in the hedgerow on the proposed development site and in adjacent woodland BHS throughout the nesting season (February to September).</p> <p>There is a reasonable likelihood of foraging birds occurring on the proposed development site throughout the year.</p> <p>Wild birds are protected under The Wildlife & Countryside Act 1981 (as amended). Offences include intentionally:</p> <ol style="list-style-type: none"> 1. Killing, injuring or taking a wild bird. 2. Taking, damaging or destroying the nest of a wild bird while that nest is in use or being built. 3. Taking or destroying an egg of a wild bird. 	<p>Advice (mitigation): It is advised that the most appropriate way to address the risk of nesting birds is:</p> <p>Avoid vegetation cutting in all proposed work areas during the nesting season Or If works cannot be delayed all vegetation proposed for removal should be carefully checked, immediately prior to works commencing. Checks should be carried out by a suitably experienced ecologist. If the risk of nesting birds remains, then monitoring for nesting bird activity should continue for the duration of works.</p> <p>Prior to any work commencing (checks) and throughout works in nesting season (monitoring).</p> <p>Advice (mitigation): If works are to be undertaken during the nesting season, all people working at the proposed development site should attend a toolbox talk delivered by an appropriately experienced person, to be made aware of the likelihood of encountering nesting birds and how to identify them, the legal protection of nesting birds and their own responsibilities as regards implementation of precautionary measures.</p> <p>Prior to any work commencing.</p> <p>Advice (mitigation): If birds are found to be nesting within or in close proximity to the work area during proposed works, it will be necessary to stop and establish an exclusion area. The extent of the exclusion area, which should be determined by a suitably experienced ecologist, will depend on the bird species and the nature of the proposed works.</p> <p>At all times.</p>

Ecological Receptor	Issue and rationale	Action
Nesting and other significant use by birds	<p>There is a reasonable likelihood of nesting birds occurring in the hedgerow on the proposed development site and in adjacent the woodland BHS throughout the nesting season (February to September).</p> <p>There is a reasonable likelihood of foraging birds occurring on the proposed development site throughout the year.</p>	<p>Recommendation (mitigation): Provide sheltering and feeding resources for a range of birds continuously throughout the year. Leave all bird sheltering and foraging resources undisturbed as much as possible. Time any management of bird sheltering and foraging resources to avoid the nesting season and to avoid removal of foraging resources such as fruits and berries. At all times.</p> <p>Recommendation (enhancement): Enable the development of dense sheltering woody vegetation (e.g. scrub), particularly in association with existing trees and the hedgerow. Use/encourage native species of local provenance. This should be subject to a compliance check by a suitably experienced ecologist. At all times.</p> <p>Recommendation (enhancement): It is recommended that a minimum of 5 bird boxes (e.g. integral wall boxes and/or 3 x hole fronted boxes e.g. IB Schwegler nest box and 2 x open fronted box e.g. 2H Schwegler robin box) are installed either within buildings or on other structures within the proposed development site. This should be subject to a compliance check by a suitably experienced ecologist. During or immediately following development.</p>

7.4 Important habitats and species (including Biodiversity Action Plan (BAP) broad habitats, as well as Species and Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006)

Ecological Receptor	Issue and rationale	Action
Brown hare, hedgehog and common toad	Brown hare is known to occur on the proposed development site. There is a reasonable likelihood of hedgehog and common toad occurring on the proposed development site.	<p>Recommendation (mitigation): All people working at the proposed development site should attend a toolbox talk delivered by an appropriately experienced person, to be made aware of the likelihood of encountering brown hare, hedgehog and common toad, how to identify them, the protection afforded to these species as part of the development and their own responsibilities as regards implementation of precautionary measures. Prior to any work commencing.</p> <p>Recommendation (mitigation): In order to minimise impacts to these species, potential sheltering features that are likely to be affected by the development, including areas of vegetation and stones, should be removed carefully by hand, avoiding where possible the hibernation period (October to March).</p> <p>Any common toads and/or hedgehogs encountered should be carefully moved to a safe area of suitable habitat, which should then remain undisturbed. Prior to any work commencing (checks) and throughout works (carefully moving animals).</p>

Ecological Receptor	Issue and rationale	Action
Broadleaved plantation, incorporating neutral grassland	<p>The broadleaved plantation and neutral grassland contribute to the AONB and have a potential secondary value in relation to their use by species.</p>	<p>Recommendation (mitigation): Any plan for development and management of the proposed development site should identify habitats to be retained and how these are to be managed to maximise both the landscape and biodiversity benefits of the development. Prior to any work commencing.</p> <p>Recommendation (mitigation): Where possible, retain the broadleaved plantation and neutral grassland; minimise the loss of habitats. At all times.</p> <p>Recommendation (mitigation): Protect retained trees. Storage of materials, equipment and plant should not take place under the ‘dripzone’ of trees (i.e. under their canopy) which are to be retained. Best practice should be followed (i.e. BS5837: 2012 Trees in Relation to Design, Demolition and Construction) to ensure individual trees which are to be retained are not adversely affected. This should be subject to a compliance check by a suitably experienced ecologist/arborist. Before and during development</p> <p>Recommendation (compensation): Replace trees by planting locally native species. The number of trees should be at least equal to that being lost as a result of the proposed development. During and after development.</p>
Hedgerow	<p>The hedge contributes to the AONB and has a potential secondary value in relation to its use by species.</p> <p>Hedges are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.</p>	<p>Recommendation (mitigation): Where possible, retain the hedgerow; minimise the loss of habitats. At all times.</p> <p>Recommendation (compensation): Replace any hedgerow to be lost by planting a new hedgerow, comprising locally native species. The length of hedgerow planted should be at least double to that being lost as a result of the proposed development. During and after development.</p>

7.5 Undesirable species

Ecological Receptor	Issue and rationale	Action
Undesirable species	<p>Himalayan balsam is occasional to locally abundant in the older, established woodland to the south and east of the proposed development site.</p> <p>The proposed works will involve an amount of disturbance which could result in the spread of Himalayan balsam which is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Section 14(2) of the Wildlife and Countryside Act 1981(as amended) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.</p>	<p>Advice (mitigation): All people working at the site should be made aware of the legal issues associated with non-native invasive species and their own responsibilities as regards implementation of precautionary measures. Prior to any work commencing.</p> <p>Advice (mitigation): Precautionary measures should include a method statement and work procedures to avoid further spread of the species and contamination of areas on adjacent land as a result of the activities on the proposed work area. At all times</p> <p>Advice (mitigation): Minimise all disturbing activities, disturbance and movement of infected soils at all times and restrict all movements tracking through infected areas with schedule 9 species on foot or with machinery. At all times</p>

8 References

Chartered Institute of Ecology and Environmental Management (2017) *Guidelines for Preliminary Ecological Appraisal. Second Edition*. CIEEM, Hampshire.

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

Creswell, W, J et al (Eds) (2012) *UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society.

Harris, S., Cresswell, P. and Jefferies, D.J. (1989) *Surveying Badgers*. Mammal Society.

JNCC (2010) Handbook for Phase 1 habitat survey: A technique for environmental audit, Joint Nature Conservation Committee, Peterborough, UK

Stace, C. (2019) *New Flora of the British Isles – 4th edition*. Cambridge University Press.

The UK Biodiversity Steering Group (1994) *“Biodiversity: The UK Action Plan.”* HMSO

Unknown author (2011) *Bowland Wild Boar Park Woodlands Management Plan*.

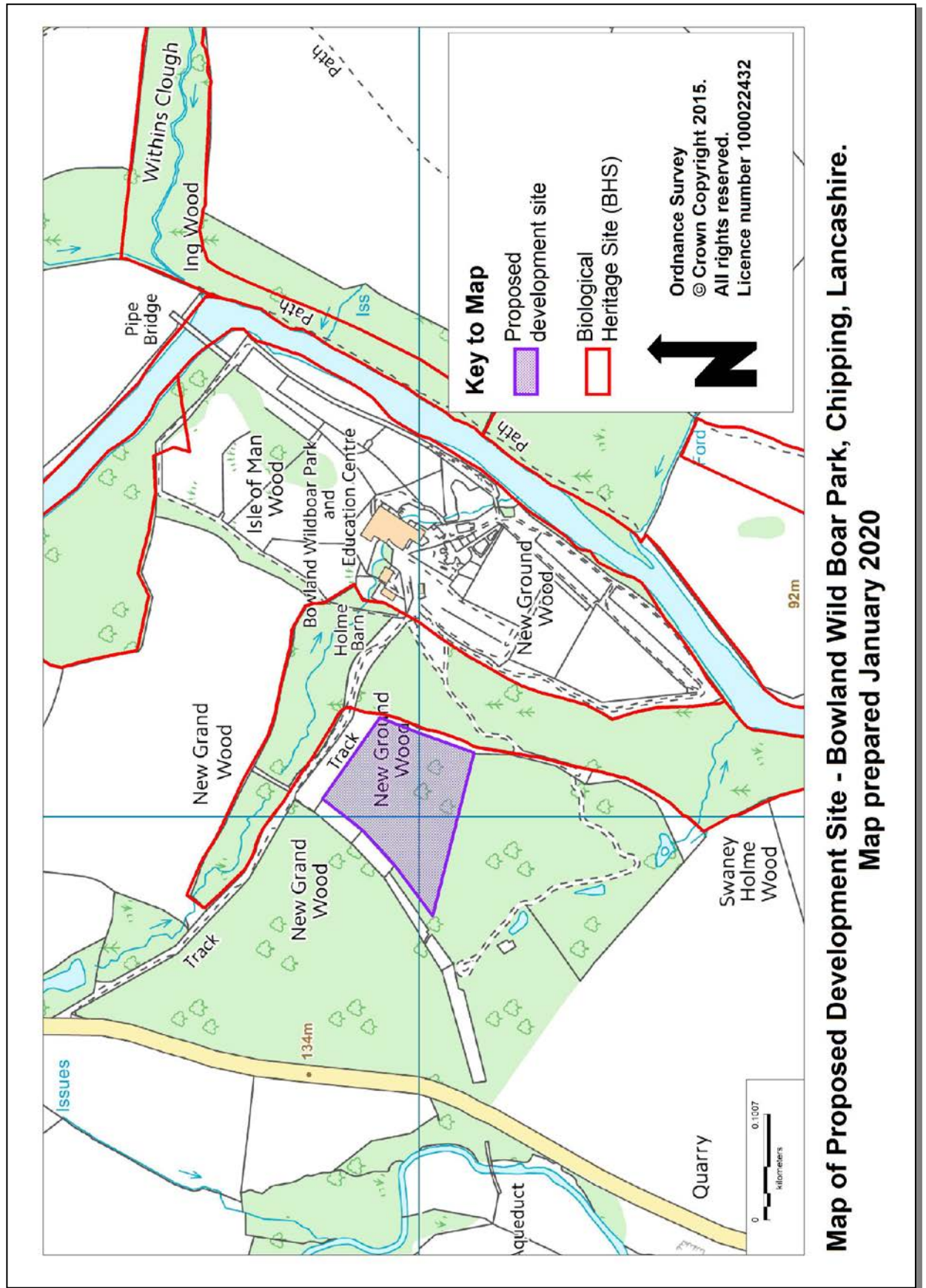
Preliminary Ecological Appraisal

Bowland Wild Boar Park, Chipping, Lancashire

Appendices

App 1 – Map of proposed development site

App 2 – Photographs of proposed development area



Photographs of Bowland Wild Boar Park, Chipping, Lancashire



Oblique aerial image from north east, showing proposed development site context with existing glamping area, livestock enclosures and broadleaved woodland Biological Heritage Site in immediate surroundings. December 2019

Photographs of Bowland Wild Boar Park, Chipping, Lancashire



Vertical aerial image of proposed development site, showing dense tree planting to south and more open grassland to north. The north boundary ditch and glamping area can be clearly seen to the top of the image. January 2020



Oblique aerial image from east, showing proposed development site with dense tree establishment to south (lhs) and open grassland to north (rhs). The hedgerow and boundary ditch are clearly visible alongside the glamping area. December 2019

Photographs of Bowland Wild Boar Park, Chipping, Lancashire



North boundary ditch (lhs) and north boundary hedgerow (rhs). December 2019

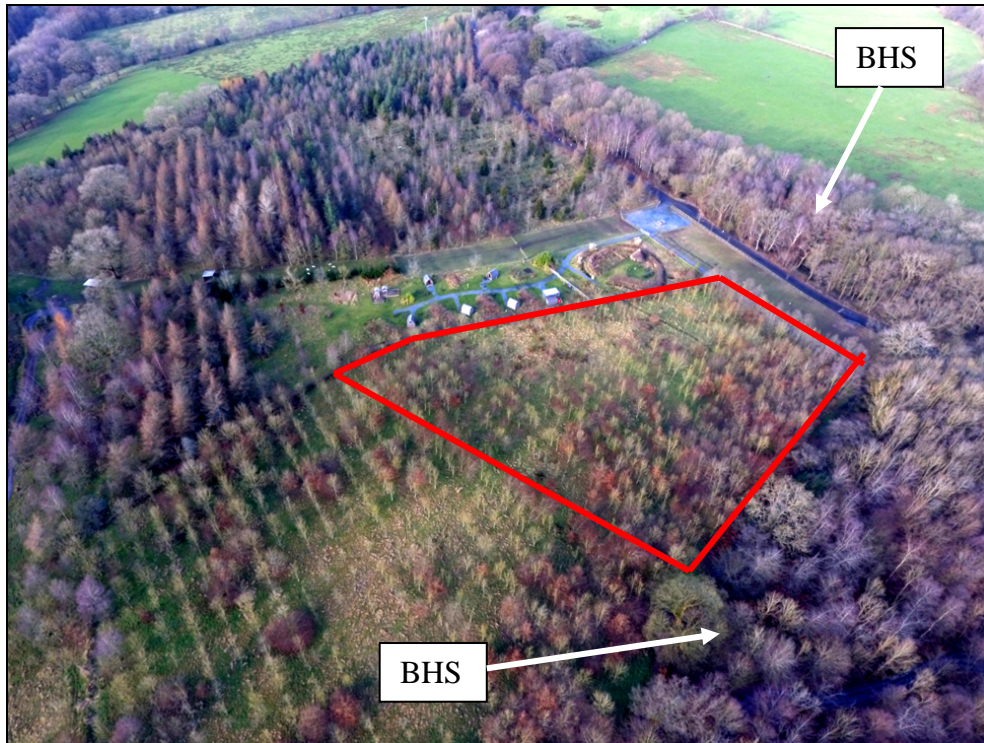


Established planting with canopy closure (lhs) and rush-dominated marshy grassland (rhs). December 2019



Bracken-dominated ground (lhs) and opposite-leaved golden saxifrage (rhs). December 2019

Photographs of Bowland Wild Boar Park, Chipping, Lancashire



Oblique aerial image from south east, showing context of proposed development site (red box) - lying within a wider planted area and adjacent to the Biological Heritage Site (BHS). January 2020.



Pond to west of proposed development site, showing extensive disturbance by livestock. January 2020.

Photographs of Bowland Wild Boar Park, Chipping, Lancashire



Brown hare, recorded on trail-cam. December 2019



Brown hares, recorded on trail-cam. December 2019



Roe deer, recorded on trail-cam. December 2019