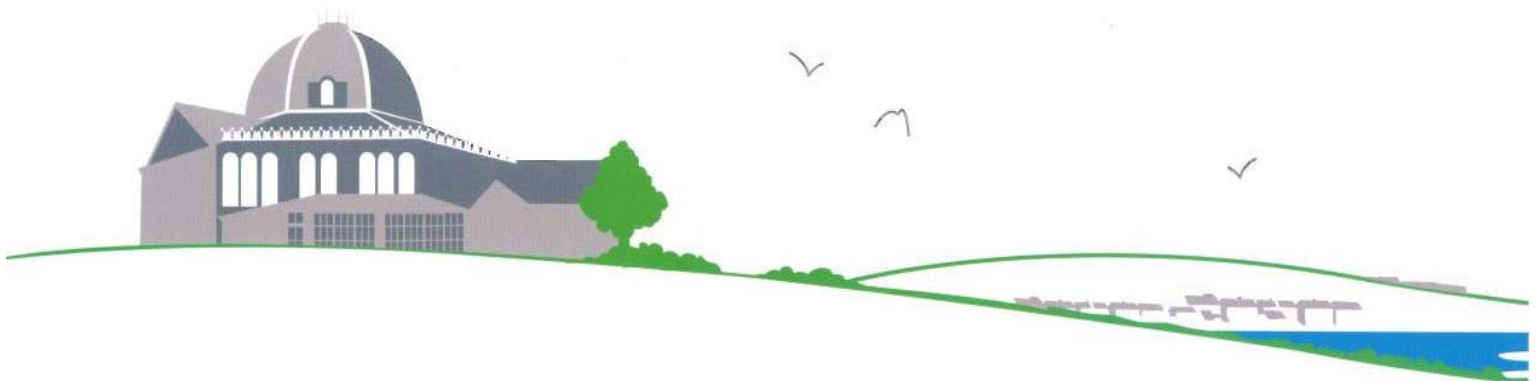




TRUSTEES OF HAMMOND GROUND
LAND OFF GEORGE LANE, READ
ECOLOGICAL ASSESSMENT



TRUSTEES OF HAMMOND GROUND

LAND OFF GEORGE LANE, READ

ECOLOGICAL ASSESSMENT

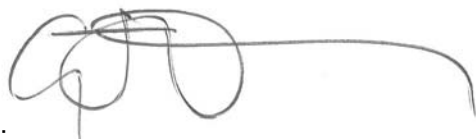
Penny Anderson Associates Limited
'Park Lea'
60 Park Road
Buxton
Derbyshire
SK17 6SN

Project Manager and Author
Gerard Hawley BA (Hons), MSc, DipPSE (Dist), MCIEEM

Co-author
Caroline Boffey BSc (Hons), MRes

August 2019

This project has been undertaken in accordance with PAA policies and procedures on quality assurance.



Signed: _____

CONTENTS

PAGE

1. INTRODUCTION	1
Site Description	1
Legislative Context	1
Protected Species	2
2. METHODS	4
Desk Study	4
Fieldwork	4
Phase 1 Habitat Survey	4
Limitations	6
3. RESULTS	7
Desk Study	7
Statutory Protected Sites	7
Sites of Special Scientific Interest	7
Bats.....	9
Birds.....	9
Mammals	10
European Badger	10
European Water Vole.....	10
European Otter	10
European Brown Hare	10
Amphibians.....	11
Great Crested Newt (GCN).....	11
Common Frog.....	11
Reptiles.....	11
Common Lizard.....	11
Fish	11
Non-native and Schedule 9 Species	11
Plants	11
Animals	12
Phase 1 Habitat Survey.....	12
Overview of the Site.....	12
Improved Grassland.....	12
Poor Semi-improved Grassland.....	12

Hedgerow.....	13
Trees	13
4. EVALUATION.....	14
Designated Sites	14
Habitats and Botanical Interest	14
Protected Species	14
Nesting Birds.....	14
Bats	14
5. RECOMMENDATIONS.....	15
Mitigation and Avoidance Measures	15
Retaining Existing Features of Ecological Value	15
Site Clearance.....	15
General Good Practice during Construction	16
New Soft Landscaping	16
Lighting.....	16
Ecological Enhancement.....	16
6. REFERENCES	18

TABLES

1	Bat Roost Assessment Criteria	5
2	Bat Habitat Suitability Assessment Criteria	5
3	Biological Heritage Sites within 2km of the Site	8
4	Bat Records Returned Within a 5km Search Area	9
5	Assessment of Trees for Potential Bat Roost Features	13
6	Recommended Surveys/Action	15
7	Potential Enhancement Measures for Consideration	17

FIGURES

1	Phase 1 Habitat Survey
2	Desk Study Data Received from Lancashire Environment Record Network

APPENDICES

1	Protected Species Summary Legislation
2	Botanical Species Recorded on Site
3	SSSI Citations
4	Biological Heritage Sites descriptions and Maps
5	Bird Species Records Returned within the Search Area

6 Site Photographs

1. INTRODUCTION

- 1.1 Penny Anderson Associates Ltd (PAA) was commissioned by the Trustees of Hammond Ground to carry out an ecological assessment of land off George Lane, Read, and Burnley (hereafter referred to as the 'site') where there is a proposal for a small residential development.
- 1.2 The ecological assessment included a desk study for the site and the area within 2km of its centre. The desk study examined all data records for protected sites, habitats and species held by the Lancashire Environment Record Network (LERN), which is the local environmental record centre for the county of Lancashire. This was done in order to ecologically characterise and contextualise the site within the surrounding area.
- 1.3 This report details the results of the desk study and site surveys and evaluates the results in the context of the proposed development of the site, making recommendations for any further survey work as required.

Site Description

- 1.4 The site fronts on to George Lane, separated by a low stone wall and margin of vegetation. It is bounded by fencing to the south, open land to the west and a boundary fence of a recently constructed residence to the north. The site is grassland (Photo 1), with two relatively mature trees along the boundary at the west and three mature trees slightly further away just outside the site boundary (Photo 2). A residential garden containing a number of standard trees and short section of conifer hedgerow abuts the site boundary to the south (Photo 3). There are no built structures within the site.
- 1.5 The site lies at the north-western edge of a small residential area with interconnecting gardens, many containing trees. The surrounding landscape is agricultural grassland with scattered trees and areas of woodland.

Legislative Context

- 1.6 The text below provides a brief summary of the legislation in relation to the species or species group in England and Wales. The original Acts, Regulations and any amendments should be referred to for the precise wording.
- 1.7 A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2017; further details can be obtained from the Joint Nature Conservation Committee (JNCC) web site at www.jncc.defra.gov.uk.
- 1.8 Other international conventions include: the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA) (1981) (as amended) and Countryside and Rights of Way (CROW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).
- 1.9 At the national level, the UK Post-2010 Biodiversity Framework published in 2012 is the Government's response to the Convention on Biological Diversity (2010). It describes the UK's biological resources, commits a detailed plan for the protection of these resources within the UK's devolved framework across England, Wales, Scotland and Northern Ireland. The

document identifies future priorities for nature conservation and adopts a more strategic approach, including ecosystem services and sustainability alongside biodiversity. Despite administrative changes following devolution, there is still an underlying objective of protecting and enhancing a range of priority species and habitats, often still based on the objectives and classifications of the original UK Biodiversity Action Plan. *Biodiversity 2020* is England's national biodiversity strategy. Building on the *Natural Environment White Paper* published in 2011, this provides a means of delivering the international and EU commitments to biodiversity. Under Biodiversity 2020, Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

1.10 Finally, the National Planning Policy Framework (NPPF, updated 2019) provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and
- minimising impacts on biodiversity and providing net gains for biodiversity including establishing coherent ecological networks that are more resilient to current and future pressures.

1.11 To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Protected Species

1.12 Details of the protected species legislation relevant to this site can be found in Appendix 1.

Invasive Species

1.13 Certain non-native species that have been introduced into the UK are regarded as being a threat to native biodiversity. Legislative measures have, therefore, been put in place to prevent the spread of these invasive species in the wild.

1.14 Under section 14 of the WCA 1981 (as amended), it is illegal to introduce plants listed under Part II of Schedule 9 of the WCA into the wild or sell these species. Offences include causing the spread of viable plant material or neglecting to contain or appropriately manage non-native species.

- 1.15 Commonly encountered Schedule 9 species include several non-native cotoneaster species, such as hollyberry cotoneaster (*Cotoneaster bullatus*) and wall cotoneaster (*C. horizontalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Reynoutria japonica*).

2. METHODS

Desk Study

- 2.1 The desk study consisted of a consultation exercise to gather local and site-specific ecological information, which was used to help identify species and habitats that could be present on site and nearby areas that could potentially be affected by the proposals. A request for details of protected species and wildlife sites within 2km of the centre of the site was made to LERN. Records for bats extended to 5km.

Fieldwork

- 2.2 A daytime site survey was carried out by Ecologist Caroline Boffey (ACIEEM)¹ on 8th August, 2019.
- 2.3 All methods, equipment and assessment criteria were consistent with current good practice guidelines for each survey type and the surveyor was competent for the assigned tasks based on the CIEEM competency framework (CIEEM 2013).

Phase 1 Habitat Survey

- 2.4 Habitats were assessed based on the plant species present (JNCC 2010), with the results reported and presented on an annotated Phase 1 habitat survey map (see Figure 1). This habitat map details the location and extent of all habitat types recorded within the site boundaries. Habitat types were recorded, along with an indication of the relative abundance of each plant species using the 'DAFOR' scale (where D = dominant; A = abundant; F = frequent; O = occasional; R = rare; L = locally). Common names for species are given in the text and a full list with common and scientific names after Stace (2019) is presented in Appendix 2.

Scoping for Protected/Notable Species

- 2.5 The habitat survey was 'extended' (Institute of Environmental Assessment 1995, CIEEM 2017) to include a general assessment of the suitability of the site for supporting any protected or notable species. Features with suitability for any individual species were noted, together with any incidental field signs found such as footprints, feeding remains or sightings of animals themselves.
- 2.6 In relation to bats, the survey followed current good practice guidelines published by The Bat Conservation Trust (Collins 2016) and trees within the site were assessed for their potential to support roosting bats.
- 2.7 Trees were inspected from ground level and the types and locations of any features that appeared to provide sufficient shelter for bats were recorded, for example woodpecker holes, knot holes, crevices in deadwood or beneath loose bark and other natural fissures and cavities. Any potential indication of bat presence that could be seen was also recorded, for example bat droppings beneath Potential Roost Features (PRF) or scratch marks at the entrance. Each PRF was categorised either as Low, Moderate or High potential for roosting bats and, using this

¹ Associate of the Chartered Institute of Ecology and Environmental Management

data, each tree as a whole was assigned to one of the same categories based on its most suitable feature, or Negligible where no suitable features were present.

- 2.8 The habitats within the site and immediately adjacent areas were also considered for their general suitability for commuting and foraging bats to place the site in the context of its surroundings, as this can have a bearing on the likelihood of a roost being present.
- 2.9 The assessment of suitability was based on the broad criteria outlined in the tables below (Collins 2016), combined with the professional judgement and experience of the surveyor in recognising suitable habitat features and field signs of bats.

Table 1 Bat Roost Assessment Criteria

Suitability	Description of Roosting Habitats
Negligible	No features likely to be used by roosting bats.
Low	A tree of sufficient size to contain potential roost features but none seen from the ground or only those with very limited suitability. (i.e. suitable for occasional day roosting but unsuitable for maternity or hibernation roost.)
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost type of high conservation significance (i.e. suitable for day roosting but unsuitable for maternity or hibernation roost.)
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. (i.e. suitable for maternity and/or hibernation roost.)
Confirmed Roost	A tree with evidence of bat presence, i.e. droppings, feeding remains, audible bat calls heard during daytime survey or sightings of the animals themselves, existing (reliable) record of bats roosting at the location.

Table 2 Bat Habitat Suitability Assessment Criteria

Suitability	Description of Commuting / Foraging Habitats
Negligible	No habitat features likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

Suitability	Description of Commuting / Foraging Habitats
High	<p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to known roosts.</p>

Limitations

- 2.10 It is important to note that the desk study results provide an indication of the species present in and around the site, but do not confirm current presence or absence of any particular species. Protected species are often under-recorded in county wildlife databases.
- 2.11 The site was fully accessible and the weather conditions were suitable for the survey. Therefore, the results are considered to be robust.

3. RESULTS

Desk Study

- 3.1 A summary of the desk study results returned by LERN record centre is presented below.

Statutory Protected Sites

Special Areas of Conservation

- 3.2 Special Areas of Conservation (SAC) are protected sites with strict conservation protection, designated under Article 3 of the European Commission Habitats Directive.
- 3.3 There are no SAC within the search area.

Sites of Special Scientific Interest

- 3.4 Sites of Special Scientific Interest are statutory sites designated to support species of plants and animals that find it more difficult to survive in the wider environment. They represent a selection of this country's best wildlife and geological sites, and cover approximately 7% of the terrestrial area of the country (with over 4,000 separate sites in England).
- 3.5 There is one SSSI within the search area: Cock Wood Gorge, approximately 1.9km to the west of the site.
- 3.6 The designation is for the geological interest where the Sabden Brook has cut down to expose an almost continuous section through the Carboniferous upper Kinderscout grit formation exposing shales and sandstones with fossil remains of marine animals. The full citation is presented in Appendix 3.

Local Nature Reserve

- 3.7 Local Nature Reserves (LNR) are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. LNR are sites that contain wildlife and/or geological features that are of special interest locally.
- 3.8 There are no LNR within 2km of the site.

Non-statutory Designated Sites

- 3.9 Biological Heritage Sites (BHS) is the name given to non-statutory wildlife sites in Lancashire considered to be of significance for local and regional biodiversity. They are often designated because they support characteristic or threatened species or habitats or are listed as 'Species of Principal Importance' in Section 41 of the NERC Act 2006 (which replace the former UK BAP list). Their importance is recognised by local authorities when considering any relevant planning applications and there is a presumption against granting permission for development that would have an adverse impact on a site. Such measures have been strengthened by the provisions of the NERC Act 2006, which requires all public bodies to *'have regard for the conservation of biodiversity.'*
- 3.10 There are 14 BHS that fall wholly, or partly, within 2km of the site. The location maps and descriptions are provided in Appendix 4 and a summary in Table 3. See Figure 2 for the location of Biological Heritage Sites.

Table 3 Biological Heritage Sites within 2km of the Site

Site Name	Area (ha)	Habitat	Distance from Site	Direction from Site
Brocklehurst Wood	2.54ha	Woodland and scrub	1.3km	North-west
Read Heights Pasture	11.6ha	Grassland	0.7km	North-east
Lower Barn Wood	2.88ha	Woodland and scrub	1.6km	North
Thornber Wood	0.88ha	Woodland and scrub	1.75km	North-west
Planes Wood	5.22ha	Woodland and scrub	1.85km	North-west
Martholme Railway	8.46ha	Artificial habitats	1.7km	South-west
Bridge Hey Wood	3.19ha	Woodland and scrub	0.7km	South-west
Wind Engine Clough	1.86ha	Woodland and scrub	1.9km	South
Lower Dean Wood	3.92ha	Woodland and scrub	1.85km	South-east
Lower Dean Pasture	2.0ha	Grassland	1.75km	South-east
Huntroyde Demesne	206.3ha	Woodland and scrub, parkland and trees, butterflies	1.25km	East
Copy Wood	1.81ha	Woodland and scrub	2.0km	South-west
Cock Wood and Wheatcroft Wood	9.14ha	Woodland and scrub	1.5km	West
Old Park Plantation, New Marls Wood and Sager Heys Plantation	9.76ha	Woodland and scrub, swamp and fen	1.4km	West

Protected Species and Section 41 Species Records

- 3.11 Some of the rarest and most threatened species are listed under Section 41 (S41) of the 2006 NERC Act and Species of Principal Importance. The Government's Biodiversity 2020 strategy has an ambition to ensure that by 2020 there will be an overall improvement in the status of wildlife and no further extinctions of known threatened species. To achieve this, a range of actions have been identified to help in the recovery of S41 species.

Bats

Table 4 Bat Records Returned Within a 5km Search Area

Common Name	Scientific Name	No. Recorded
Pipistrelle species	<i>Pipistrellus</i> sp.	31
Bat species		15
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	13
Noctule bat	<i>Nyctalus noctula</i>	11
Brown long-eared bat	<i>Plecotus auritus</i>	9
Daubenton's bat	<i>Myotis daubentonii</i>	5
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	4
Serotine bat	<i>Eptesicus serotinus</i>	1
Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>	1

- 3.12 There are 31 records for pipistrelle species. This would include common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and Nathusius's pipistrelle (*Pipistrellus nathusii*). The common pipistrelle is one of the UK's most common bat species, found in a wide range of habitats including suburban and urban habitats. Soprano pipistrelle is also widely distributed across the UK. There is a single record for Nathusius's pipistrelle, which is very similar to the common pipistrelle and the distinction difficult to make, but it is widely distributed across Europe. There are nine records for brown long-eared bat (*Plecotus auritus*) which is found throughout the UK and is widespread in the rest of Europe.
- 3.13 There are 11 records of noctule bat (*Nyctalus noctula*). This species is primarily a tree dweller and roosts in rot holes and woodpecker holes. The noctule bat is one of the largest British species and is usually the first bat to appear in the evening, sometimes before sunset. The serotine (*Eptesicus serotinus*) is also one of the largest bat species and appears early in the evening, often when it is still fairly light. Daubenton's bat (*Myotis daubentonii*) characteristically fly and forage over water sometimes taking prey directly from the water surface. (Bat Conservation Trust 2019).

Birds

- 3.14 The majority of S41 species returned are for birds². There are records for 38 bird species. These are listed in Appendix 5, along with their conservation status. The Red and Amber conservation status assessment is based on a number of criteria, e.g. historical decline, trends in population and range, rarity, localised distribution and international importance (full details of this assessment are in Eaton *et al.* 2015).
- 3.15 Species are Red listed because of a 50% decline in their population. Nevertheless, some species remain relatively common, such as starling, dunnock and house sparrow. Schedule 1

² Common names only are referred to in the text. See Appendix 5 for scientific names.

species are protected under the WCA 1981 as amended by the Environmental Protection Act 1990. It is an offence to intentionally disturb any of these species during the breeding season without a valid licence. Schedule 1 species recorded include kingfisher, little ringed plover, redwing and fieldfare.

- 3.16 Kingfisher nest in burrows in river banks and hunt fish from riverside perches. They are Amber listed as their numbers have declined, thought to be caused by habitat degradation through pollution and unsympathetic management of watercourses. The little ringed plover is a summer visitor that first bred in the UK in 1938 and has since successfully colonised a large part of England and Wales. Expansion has been achieved through an exploitation of manmade habitats, especially gravel pits and new reservoirs. Both redwing and fieldfare are winter visitors. They are Red listed and Schedule 1 species because of recent breeding population decline.
- 3.17 It should be noted that the number of species recorded within desk study data repositories does not necessarily indicate the population size. Less common species may be recorded more frequently because of their interest and rarity and more common species may be recorded less often. Records indicate presence and not necessarily breeding.

Mammals

European Badger

- 3.18 Badger (*Meles meles*) and their setts are protected under the *Protection of Badgers Act 1992*. It is an offence to kill or injure a badger, or to damage, destroy or interfere with its sett or to allow a dog to enter a sett.
- 3.19 No records for badger were returned. However, given the nature of the grassland and woodland habitat within the 2km search area there is every likelihood that badgers are present.

European Water Vole

- 3.20 The water vole (*Arvicola terrestris*) is protected and a Priority Species in the UK under Schedule 5 of the WCA, 1981.
- 3.21 The species has seen a dramatic decline, particularly in the latter half of the 20th century thought to be related to a combination of habitat loss, degradation, and fragmentation, pollution, damaging riparian management and predation by American mink (*Neovison vison*).
- 3.22 There is a single record for water vole in the search area.

European Otter

- 3.23 Otter (*Lutra lutra*) is classed as a Species of Principal Importance under Section 41 of the NERC Act 2006, protected under Schedule 5 of the WCA, 1981.
- 3.24 The otter population underwent a widespread decline during the 20th Century, thought to be related to the introduction of pesticides in the mid-1950s (e.g. Chanin 2003). A survey of England between 2009 and 2010 indicated an increase in the signs of otter over the whole country (Crawford 2010).
- 3.25 There are three records of otter signs are present within the search area, likely associated with the River Calder to the south of the site.

European Brown Hare

- 3.26 Brown hare (*Lepus europaeus*) has little protection as they are game animals managed by landowners and farmers. Numbers have declined significantly although they remain common in some parts of the country. Hare coursing was made illegal (Hunting Act 2002).

- 3.27 There are two records for brown hare in the search area.

Amphibians

Great Crested Newt (GCN)

- 3.28 No records were returned for GCN (*Triturus cristatus*) although there are three records for palmate newt (*Lissotriton helveticus*), which is protected by law in Great Britain. It is illegal to sell or trade them.

Common Toad

- 3.29 Common toad (*Bufo bufo*) is protected in the UK under the Wildlife and Countryside Act, 1981. Priority Species under the UK Post-2010 Biodiversity Framework.
- 3.30 There are four records of common toad in the search area.

Common Frog

- 3.31 The common frog (*Rana temporaria*) is protected in the UK under the Wildlife and Countryside Act, 1981.
- 3.32 There is a single record of common frog in the search area.

Reptiles

Common Lizard

- 3.33 The common lizard (*Lacerta vivipara*) is protected under the Wildlife and Countryside Act 1981 from intentional killing, injury or sale.
- 3.34 There is single record of common lizard in the search area.

Fish

- 3.35 There are records for Atlantic salmon (*Salmo salar*), brown trout (*Salmo trutta*) and European eel (*Anguilla anguilla*) the latter a priority species and critically endangered on the IUCN³ Red list of threatened species. These species would not be recorded on or close to the site.

Non-native and Schedule 9 Species

- 3.36 Schedule 9 of the WCA (as amended) lists plants and animals for which it is an offence to allow to escape (animals) or plant or otherwise cause to grow.

Plants

- 3.37 Records for a number of schedule 9 species were returned: wall cotoneaster (*Cotoneaster horizontalis*); Japanese knotweed (*Reynoutria japonica*); Himalayan balsam (*Impatiens glandulifera*); Japanese rose (*Rosa rugosa*); rhododendron (*Rhododendron ponticum*); giant hogweed (*Heracleum mantegazzianum*); Nuttall's waterweed (*Elodea* species); montbretia (*Crocsmia x crocosmiiflora*) and variegated yellow archangel (*Lamium galeobdolon argentatum*).
- 3.38 Invasive species listed in the GB Non-Native Species Secretariat include: Canadian goldenrod (*Solidago Canadensis*), fringe cups (*Tellima grandiflora*) and snowberry (*Symphoricarpos albus*).

³ International Union for Conservation of Nature

Animals

- 3.39 Schedule 9 species include American mink, which escaped or was intentionally released from fur farms in the 1960s and is now an active predator and threat to native water vole, sea birds and fish. Included in records for non-native species are the grey squirrel (*Sciurus carolinensis*), which can damage woodlands and contributes to the decline of native red squirrel (*Sciurus vulgaris*) and Northern River Crangonyctid (*Crangonyx pseudogracilis*), an invasive non-native amphipod shrimp that occupies lakes and rivers and replaces native amphipod species such as *Gammarus pulex*.

Phase 1 Habitat Survey

Overview of the Site

- 3.40 The main habitats on the site are shown on the extended Phase 1 habitat map (Figure 1), with botanical species lists for the habitats presented in Appendix 2. Target notes (TN) on Figure 1 denote features of interest where they were observed during the survey. A selection of illustrative photographs of the site is presented in Appendix 6.
- 3.41 The site comprises a small area of grassland at the north-east corner of a larger, cattle-grazed, pasture field containing scattered mature trees. The site had been previously grazed by cattle, although it was ungrazed at time of the survey. The grassy sward is damper in the north-east corner of the site, which shows signs of cattle poaching and water collected in hoofprints. A line of bare earth along the fencing leads to the damper area where cattle have used it as a walkway (TN1). To the northern edge of the site the ground forms a bank upwards towards the boundary fencing along the adjacent residential curtilage (Photo 1).
- 3.42 The western side of the site is open to the rest of the field. However, the remaining sides of the site are bounded with fencing, with additional dry stone wall and partial hedge to the eastern boundary next to the road.
- 3.43 A cluster of relatively mature trees lie to the north-west of the site, with a horse chestnut and pedunculate oak along the site boundary and two horse chestnuts and a pedunculate oak just outside the boundary (Photo 2). The stump of a mature tree remains at the western edge of the site (TN2) (Photo 4), along with part of a fallen tree, providing deadwood habitat for fungi and invertebrates (TN3; Photo 5).
- 3.44 The site lies at the north-western edge of a small residential area, with interconnecting gardens, many containing trees. The surrounding landscape is agricultural grassland with scattered trees, and areas of woodland. The site is therefore considered to have moderate potential for foraging/commuting bats.

Improved Grassland

- 3.45 The west of the site and along the bank to the north is perennial rye-grass-dominated improved grassland (Photo 6), with abundant rough meadow-grass and frequent to abundant creeping bent. The few forb species present in the sward are low in cover except for occasional spear thistle and patches of common nettle.

Poor Semi-improved Grassland

- 3.46 The eastern part of the site is less improved, slightly more species-rich, poor semi-improved grassland (Photo 1). Grasses still dominate, with perennial rye-grass, an indicator of agricultural enrichment, still frequent to abundant in the sward. Crested dog's-tail and creeping bent, grass species typical of less improved conditions, are abundant and Yorkshire fog and rough meadow-grass occur frequently. Meadow buttercup is occasional in the grassy sward and there

are patches of common nettle and creeping thistle. The other forb species present, common and typical of this habitat-type occur rarely.

- 3.47 The north-east corner of the site is damper grassland with cattle poaching. Creeping bent dominates, with marsh foxtail and small sweet-grass, species of damp grassland, occurring rarely.

Hedgerow

- 3.48 The hedgerow (H1), along the eastern edge of the site, lies on an earth bank to the outside of the dry stone wall, next to the narrow road verge (Photo 7). The hedgerow is gappy, 1.5 - 3m high, having been left uncut for a while. It is predominantly hawthorn/blackthorn, with occasional sycamore and elder. The ground flora is species-poor, with commonly-occurring verge species of false oat-grass, common nettle, common couch and hedge bindweed predominating. Ivy forms a mat beneath the hedge and there are occasional to rare plants of enchanter's-nightshade and hedge woundwort, indicating an element of base richness.
- 3.49 The hedgerow does not meet the criteria to classify as an Important Hedgerow under the Hedgerow Regulations 1997.

Trees

- 3.50 A cluster of relatively mature trees lie north-west of the site, two of the trees (T1 and T2) are on the site boundary and the other three trees just outside the site (Photo 2). T2, a relatively mature pedunculate oak, was assessed as having moderate potential for roosting bats, containing a rot site on the branch suitable for an individual or small number of bats (Photo 8). No potential roost features were seen in T1, the adjacent mature horse chestnut, or in the other two horse chestnuts or single pedunculate oak outside the site.
- 3.51 None of the trees within the cluster contained birds' nests at the time of survey.
- 3.52 There is a row of mature/semi-mature beech and hornbeam trees and immature birch and rowan along the edge of the garden fence adjacent to the southern boundary of the site (Photo 3). None of the trees contain birds' nests or potential bat roost features. However, two of the hornbeam trees had bird boxes installed on them.

Table 5 Assessment of Trees for Potential Bat Roost Features

Code on Phase 1 Map (Figure 1)	Species	Description of PRF	Potential for Bats	Plate No.
T1	Horse chestnut	No potential roost features seen.	Negligible	-
T2	Pedunculate oak	Rot site on end of branch c. 12m from the ground, but unlikely to support a roost type of high conservation significance. Moderate foraging/commuting potential of surrounding habitat, with scattered trees within grassland, woodland areas and linked residential gardens.	Moderate	8

4. EVALUATION

Designated Sites

- 4.1 Cocks Wood Gorge is a SSSI, lies 1.9km to the west of the site and has been designated for its geological interest. There are 14 non-statutory BHS, the closest being approximately 0.7km from the site. All wildlife and earth heritage sites are considered to be sufficiently distant and isolated from the site not to be impacted by the development proposals.

Habitats and Botanical Interest

- 4.2 The improved and poor semi-improved grassland habitats within the site are of low botanical value, containing commonly-occurring species typical of the grassland types
- 4.3 The hedgerow and ground flora beneath is moderately species-poor and is not classified as an Important Hedgerow. Proposals for the site could include increasing the woody species diversity by infill planting of the hedgerow with native species typical of the locality, ideally of local provenance.
- 4.4 The two relatively mature trees on the site boundary, horse chestnut and pedunculate oak, have inherent botanical value, in addition to the value of the associated fauna that depend on the tree habitat. The fallen deadwood habitat near to the trees also provides habitat for invertebrates and fungi.

Protected Species

Nesting Birds

- 4.5 The trees within the site are likely to be used by nesting birds and, although at the time of survey there were no nests present, all nesting birds, their nests, eggs and dependant young are fully protected under current wildlife legislation, which may have implications for the timing of any vegetation clearance works.

Bats

- 4.6 There was one tree (T2) assessed as having a PRF of moderate potential.

5. RECOMMENDATIONS

- 5.1 The recommended survey effort and precautionary measures are outlined in Table 6 below. Additional surveys for other protected species are not considered necessary.

Table 6 Recommended Surveys/Action

Species	Recommended Surveys/Action	Survey Season
Bats	There was one tree (T2) assessed as containing a potential roost feature (PRF) This was assessed as having MODERATE bat roost potential. We would therefore recommend two dusk surveys during the active season.	May – September for bat activity surveys
Hedgehog	The hedgerow provides a potential nesting and hibernation site for European hedgehog (<i>Erinaceus europaeus</i>). We recommend careful removal of the material, ideally by hand, prior to development work.	
Birds	Any nests present in the trees and hedgerow before the start of development work should be surveyed to assess whether the nest is active. If the nest is active the tree should not be disturbed until the chicks have fledged.	Late March – end of August

Mitigation and Avoidance Measures

- 5.2 Based on the information available to date, the following recommendations are made. Additional measures may be required in relation to bats depending on the results of the surveys recommended above.

Retaining Existing Features of Ecological Value

Site Clearance

- 5.3 Where possible, vegetation clearance should be undertaken during the period October to February inclusive to avoid the bird nesting season. For clearance works at other times of year it is recommended that a check is made for active nests by a suitably experienced ecologist. If nesting birds are confirmed to be present then advice should be sought from a qualified ecologist and works be postponed in the vicinity of the nest until young have fledged and/or nesting has been completed. It may be necessary to cordon off the nest and monitor it until nesting is completed.
- 5.4 Care must also be taken to avoid causing harm to any hedgehogs that may be sheltering in the hedgerow at the edge of the site. Ideally, any clearance of this area should be undertaken by hand rather than using large machinery so that any hedgehogs can be safely moved out of harm's way.
- 5.5 Any hedgehogs discovered that appear injured or particularly thin should be placed in a box with some leaves for cover and kept in a warm place whilst advice is sought from the Hedgehog Preservation Society. Contact details are available via their website:

<www.britishhedgehogs.org.uk>

and there are also a number of local hedgehog rescue organisations in the Greater Manchester area.

General Good Practice during Construction

- 5.6 Trenches and excavations should be covered at night to avoid mammals such as badger and hedgehog becoming trapped. Any pipes with a diameter greater than 0.5m should also be securely covered to avoid any risk of them being used for daytime shelter for badgers.
- 5.7 Any protected areas such as around retained trees should be clearly marked out to be visible to site operatives both on foot, in vehicles and when using machinery.
- 5.8 Use spill kits for any potentially contaminating operations such as refuelling of vehicles and machinery.

New Soft Landscaping

- 5.9 It is recommended that proposals should incorporate areas of soft-landscaping where possible, to offset habitats that would be lost. Native species or those with recognised benefit to wildlife (e.g. rich sources of nectar, or producing seeds and berries) and preferably of local provenance should be used in preference to purely ornamental varieties. Using trellis to support climbing plants is a good way to maximise the area of available habitat where planting space is limited.
- 5.10 There are benefits when new landscaping is designed around retained features and habitats such as mature trees to maximise habitat connectivity for wildlife within the site post-development.

Lighting

- 5.11 Artificial lighting can be disturbing to wildlife, particularly for species such as bats that are nocturnal and adapted to forage in low light conditions. Even if no roost is present on site, it would be good practice to adopt a sensitive lighting scheme to maximise biodiversity value post-development, with consideration given to the following points:
 - Directing lamps where they are needed to avoid unnecessary light spillage;
 - Use of narrow spectrum light sources with low ultra-violet, blue or white wavelength component to minimise insect attraction at lamps;
 - Avoiding illumination of features and habitats that are likely to have the greatest value to bats, such as tree canopies and ponds; and
 - Use of timers and/or motion sensors to limit periods of illumination to essential times only.
- 5.12 Further guidance on lighting specifications is provided in publications available from the Bat Conservation Trust website (www.bats.org.uk). This includes the impacts of different types of lighting (RCEP 2009), effects of artificial lighting on bat behaviour (Stone 2013) and guidelines for mitigation (Bat Conservation Trust 2014).

Ecological Enhancement

- 5.13 National Planning policy requires that opportunities for ecological enhancement are sought within all development proposals, moving towards the aim of 'biodiversity net gain'. To achieve this, projects must be considered on an individual basis to ensure that new features, planting and management regimes are suitable for the conditions on site and thus likely to be successful in the longer-term. Some potential options are presented for consideration in Table 7 below.

Table 7 Potential Enhancement Measures for Consideration

Enhancement	Description
Bird nest boxes	<p>Boxes designed for a range of different species are available and could be positioned within planted areas or on built structures depending on the target species.</p> <p>Particular consideration should be given to providing nesting habitat for Red and Amber List species that may be found in urban and suburban areas such as swift, house martin, house sparrow and starling.</p>
Invertebrate refuge features	<p>Log piles placed in sheltered locations such as the base of dense shrub planting to provide habitat for a range of deadwood invertebrates. The existing deadwood stump and fallen log could be retained on site.</p> <p>Partially burying upright logs to mimic the habitat conditions of a decaying tree stump would provide breeding habitat suitable for stag beetles (a priority species).</p> <p>Habitat boxes for butterflies and bees in sunny locations to provide shelter for common pollinator species.</p>
Bat roost features	<p>Features incorporated within the structure of new buildings such as:</p> <ul style="list-style-type: none"> • Self-contained bat bricks in walls; • Small gaps to provide access to cavities behind surfaces such as fascia boards or hanging tiles; and • Access slot at apex of gable ends to allow bats to enter roof voids. <p>These types of features would be best placed on the south-west, south or south-east facing elevations.</p> <p>Self-contained bat boxes mounted on buildings or trees.</p> <p>New roost features should be at a height of at least 3m and should have a clear flight path for bats to approach them.</p> <p>(N.B. To qualify as enhancement new roost features would need to be over and above any requirement for replacement habitat that forms direct mitigation for impacts on an existing roost.)</p>

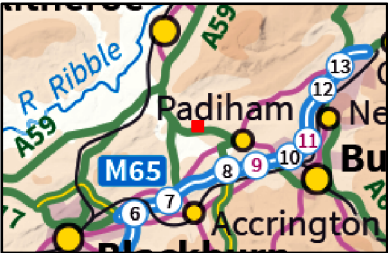
6. REFERENCES

- Bat Conservation Trust, 2014. *Interim guidance: Recommendations to help minimise the impact of artificial lighting*. The Bat Conservation Trust.
- Bat Conservation Trust, 2019. <http://www.bats.org.uk/> (accessed 09/08/2019)
- Chanin, P.R.F., 2003. *Ecology of the European otter Lutra lutra*. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature.
- CIEEM, 2013. *Competency Framework*. <https://www.cieem.net/competency-framework>.
- CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of Ecology and Environmental Management.
- Collins, J., (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.)*. The Bat Conservation Trust.
- Crawford, A., 2010. *Fifth otter survey of England 2009-2010*. Environment Agency.
- Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D., 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, **108**, 708–746.
- Institute of Environmental Assessment, 1995. *Guidelines for Baseline Ecological Assessment*. E & F.N. Spon, an imprint of Chapman & Hall.
- JNCC, 2010. *Handbook for Phase 1 habitat survey: A technique for environmental audit*. Joint Nature Conservation Committee.
- RCEP, 2009. *Artificial Light in the Environment*. Royal Commission on Environmental Pollution.
- Stace, C., 2019. *New Flora of the British Isles. Fourth Edition*. C & M Floristics.
- Stone, E.L., 2013. *Bats and lighting: Overview of current evidence and mitigation guidance*. University of Bristol.

7. ABBREVIATIONS

BAP	Biodiversity Action Plan
BHS	Biological Heritage Site(s)
CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way
EU	European Union
GCN	Great Crested Newt
IUCN	International Union for Conservation of Nature
JNCC	Joint Nature Conservation Committee
LERN	Lancashire Environment Record Network
LNR	Local Nature Reserve(s)
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
PRF	Potential Roost Feature(s)
S41	Section 41
SAC	Special Area(s) of Conservation
SSSI	Site(s) of Special Scientific Interest
TN	Target Note
WCA	Wildlife and Countryside Act

FIGURES



Legend

Site boundary

Habitat

Improved grassland

Poor semi-improved grassland

Defunct hedge - species poor

Hedge

P+W Fence

Drystone wall

● Tree

Target notes

1 Line of bare earth - cattle walkway

2 Stump remains of mature tree

3 Remains of fallen mature tree - deadwood habitat

British National Grid
Projection: Transverse Mercator
False Easting: 400000.000000
False Northing: 100000.000000
Central Meridian: 2.000000
Scale Factor: 0.999601
Latitude Of Origin: 49.000000

N

0 1.5 3 6 9 12 Metres

Penny Anderson Associates Ltd
Parklea, 60 Park Road,
Buxton, Derbyshire, SK17 6SN.
Telephone 01298 27096

Project Name: Read Park

Discipline: Ecology

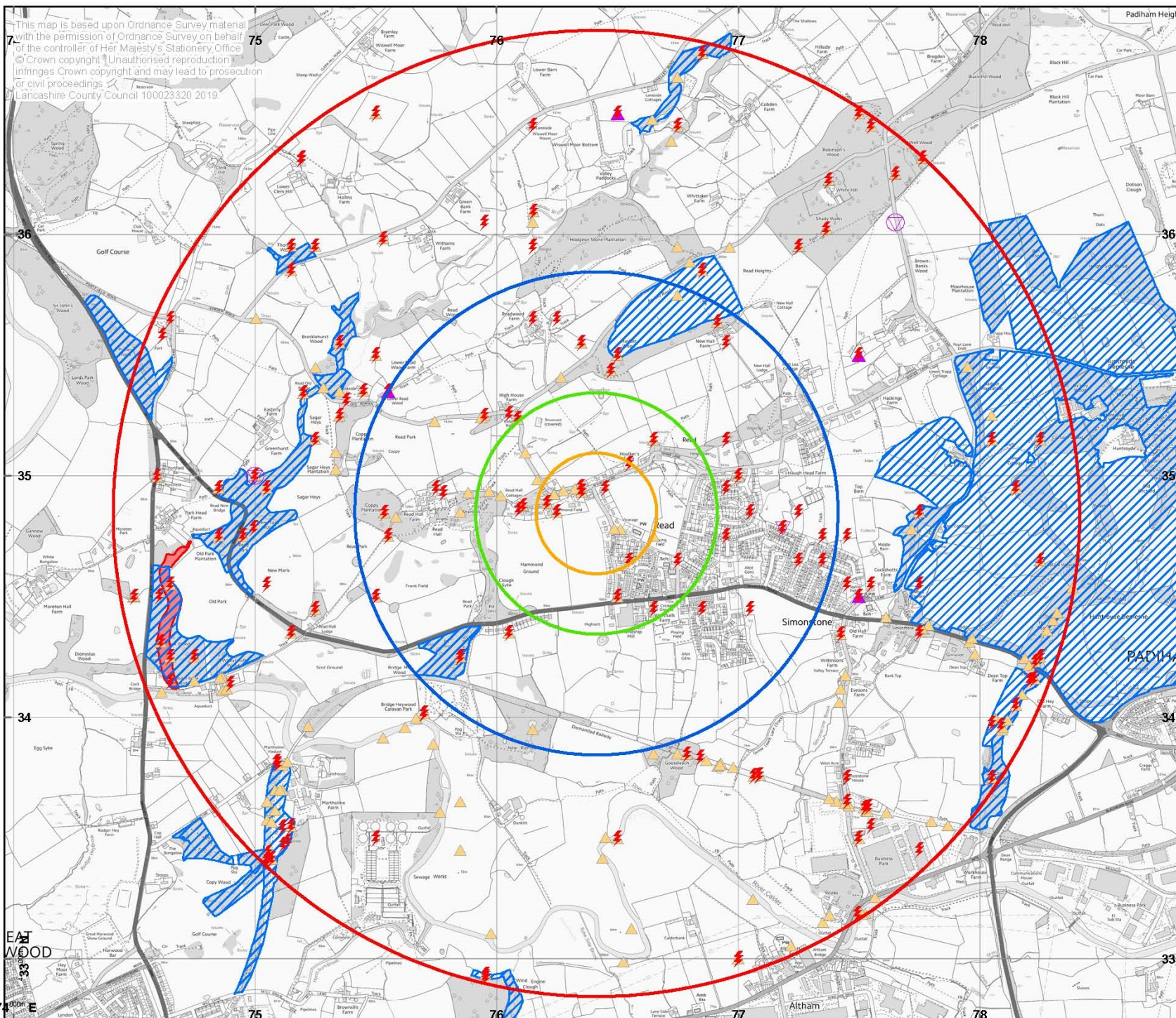
Title: Phase 1 Habitat Survey

Scale: 1:300 Drawing No. Figure 1

Drawn By: MDM Originator: CBo Date: 28/08/2019

PAA Ref: G:\TRHG02_ReadPark_2019\Map\ Revision: 1.0

Ah	<i>Aesculus hippocastanum</i>	Horse chestnut
Bpu	<i>Betula pubescens</i>	Downy birch
Cb	<i>Carpinus betulus</i>	Hornbeam
Fs	<i>Fagus sylvatica</i>	Beech
Qr	<i>Quercus robur</i>	Pedunculate oak
Sac	<i>Sorbus aucuparia</i>	Rowan



Project:

Land off George Lane Burnley

Client:

Penny Anderson Associates

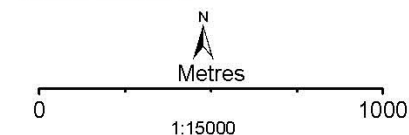
Grid Ref: 376413 434845

Figure 2

Legend

- 250 m Buffer
- 500 m Buffer
- 1 km Buffer
- 2 km Buffer
- Lancashire Key Species
- Bat Roost or Possible Roost
- Other Bat Record
- SLBG Other Bat Record
- Lancashire INNS
- Biological Heritage Sites
- SSSI

**N.B. THIS IS AN INTERACTIVE PDF
LAYERS CAN BE TURNED ON OR OFF
TO AID CLARITY.**



Boundaries of statutory designations (Natura 2000, SSSI etc) are included for information only. Definitive information for these designations should be obtained from Natural England.

Lancashire Key Species records are plotted at the centre of the area to which they relate (the precision of each record is given in the accompanying attribute data and spreadsheet).

NBN Atlas occurrence download at <https://nbnatlas.org> accessed on Fri Oct 20 12:44:41 UTC 2017. See supporting documentation for citations and further information.

Lancashire Environment Record Network
C/O Planning Group
Environment Directorate,
Lancashire County Council,
PO Box 100,
County Hall,
Preston, PR1 0LD



lern@lancashire.gov.uk <http://www.lancashire.gov.uk/lern.aspx>

APPENDICES

APPENDIX 1

Protected Species Summary Legislation

SUMMARY OF THE LEGISLATION RELATING TO BREEDING BIRDS

All wild species of breeding birds and their nests are protected under Part 1 of the Wildlife and Countryside Act (WCA) 1981, as amended by later legislation including the Countryside and Rights of Way (CROW) Act 2000. This legislation applies in England and Wales.

Part 1 (Section 1:1) of the WCA states that:

'If any person intentionally,

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.'

Part 1 (Section 1:5) of the WCA (amended by the CROW Act 2000) refers to specific birds listed on Schedule 1 of the WCA, and states that:

'If any person intentionally or recklessly,

- (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- (b) disturbs dependent young of such a bird,

he shall be guilty of an offence and liable to a special penalty.'

Schedule 1 includes birds such as barn owl (*Tyto alba*), black redstart (*Phoenicurus ochruros*), wood lark (*Lullula arborea*) and Cetti's warbler (*Cettia cetti*). Please refer to the WCA for a complete list of Schedule 1 species.

Some provisions are made to allow the killing and taking of certain species under certain circumstances, as follows:

- Birds listed on Schedule 2 (Part 1) of the Act may be taken or killed outside of the 'close season' for each individual species (the 'close season' is defined by the Act). This includes various wild duck and geese species.
- Birds listed on Schedule 2 (Part 2) of the Act may be killed or taken by authorised persons at all times. This includes species such as carrion crow (*Corvus corone*), black-billed magpie (*Pica pica*), feral pigeon (*Columba livia*) and greater Canada goose (*Branta canadensis*). An 'authorised person' is defined as a person who has written authorisation to undertake the act from the relevant statutory authority. The written authority is in the form of a licence, either a general licence which covers a number of the more typical 'pest' species, or an individual licence for other individual species. In England these licences are issued by Natural England and in Wales by the Welsh Assembly Government.

Please note: the above text provides a brief summary of the legislation in relation to breeding birds in England and Wales and the original Act and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BATS

All wild species of bat are protected under the Wildlife and Countryside Act (WCA) 1981, which has also been amended by later legislation, including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017, and this legislation is applicable to England and Wales. Bats are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Bat species are also listed under Annexes IIa and IVa of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017.

The Conservation of Habitats and Species Regulations 2017 state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead bat or part of such an animal.

In addition, seven native British bat species, including the soprano pipistrelle (*Pipistrellus pygmaeus*) and the brown long-eared bat (*Plecotus auritus*), that are frequently found in buildings, are listed as a 'Priority Species' under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

Section 15 of the National Planning Policy Framework (NPPF 2018) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to ensure that where significant harm resulting from development cannot be avoided (through locating on alternative sites with less harmful impacts),

adequately mitigated, or, as a last resort, compensated for, planning permission is refused. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to bats in England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BADGERS AND THEIR SETTS

Badgers (*Meles meles*) are not an endangered species but have a long history of persecution and cruelty. As such, badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended), which makes it illegal for any person to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a badger sett, or to disturb a badger whilst it is within a sett. There are also additional offences relating to possession of, buying and selling a dead badger, or anything derived from a badger, and causing a dog to enter a sett.

The Act defines a sett as 'any structure or place which displays signs of current use by a badger'. Setts are defined by English Nature (1995) as 'usually underground tunnel systems providing shelter for badgers, but may include other structures used by badgers such as hay bales, drainage culverts, or cellars'. 'Current use' is more difficult to define but is usually interpreted by the presence/absence of badger field signs over several observations of the sett (Natural England 2006).

Section 15 of the National Planning Policy Framework (NPPF 2018) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to consider the likelihood of any proposed development adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations. The planning guidance for Wales, Technical Advice Note (Wales) 5, identifies the need to comply with the Protection of Badgers Act 1992.

English Nature, 1995. *Species Conservation Handbook*. English Nature, Peterborough.

Natural England, 2006. *Guidance on 'Current Use' in the definition of a badger sett*. Natural England, Peterborough.

Please note: the above text provides a brief summary of the legislation in relation to badgers for England and Wales and the original Act and amendments should be referred to for the precise wording.

APPENDIX 2

Botanical Species Recorded on Site

Appendix 2 Botanical Species Recorded on Site

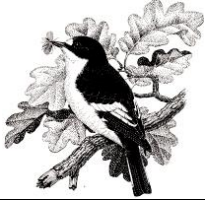
Common Name	Scientific Name	Hedge H1/grassland	Poor Semi-improved Grassland	Improved Grassland
Woody species				
Beech	<i>Fagus sylvatica</i>	O		
Birch	<i>Betula pendula</i>	O		
Blackthorn	<i>Prunus spinosa</i>	F		
Bramble	<i>Rubus fruticosus</i> agg.	O		
Elder	<i>Sambucus nigra</i>	O-LA		
Hawthorn	<i>Crataegus monogyna</i>	F-A		
Hornbeam	<i>Carpinus betulus</i>	O		
Horse chestnut	<i>Aesculus hippocastanum</i>	O		
Pedunculate oak	<i>Quercus robur</i>	O		
Rowan	<i>Sorbus aucuparia</i>	O		
Sycamore	<i>Acer pseudoplatanus</i>	O		
Herbs, grasses and ferns				
Annual meadow-grass	<i>Poa annua</i>			R
Broad-leaved dock	<i>Rumex obtusifolius</i>	R		
Broad-leaved willowherb	<i>Epilobium montanum</i>		R	
Cleavers	<i>Galium aparine</i>	F		
Cock's-foot	<i>Dactylis glomerata</i>		R	
Common bent	<i>Agrostis capillaris</i>		F-LA	LO
Common chickweed	<i>Stellaria media</i>			R
Common couch	<i>Elytrigia repens</i>	F	R	
Common mouse-ear	<i>Cerastium fontanum</i>		R	R
Common nettle	<i>Urtica dioica</i>	O	LA	O-LA
Common sorrel	<i>Rumex acetosa</i>		R	
Creeping bent	<i>Agrostis stolonifera</i>		A	F-A
Creeping buttercup	<i>Ranunculus repens</i>		R-LF	R
Creeping thistle	<i>Cirsium arvense</i>		R-LA	R
Crested dog's-tail	<i>Cynosurus cristatus</i>		A	
Cuckooflower	<i>Cardamine pratensis</i>		R	
Dandelion	<i>Taraxacum officinale</i> agg.		R	R
Enchanter's-nightshade	<i>Circaea lutetiana</i>	R-LO		
False oat-grass	<i>Arrhenatherum elatius</i>	O	R	
Hairy sedge	<i>Carex hirta</i>		R	
Hedge bindweed	<i>Calystegia sepium</i>	F	R	
Hedge woundwort	<i>Stachys sylvatica</i>	R		
Ivy	<i>Hedera helix</i>	A		
Marsh foxtail	<i>Alopecurus geniculatus</i>		R-LO	R
Meadow buttercup	<i>Ranunculus acris</i>		O	R
Perennial rye-grass	<i>Lolium perenne</i>		F-A	A-D
Rough meadow-grass	<i>Poa trivialis</i>		F	A
Selfheal	<i>Prunella vulgaris</i>		R	
Short-fruited willowherb	<i>Epilobium obscurum</i>		R	
Silverweed	<i>Potentilla anserina</i>	O		
Small sweet-grass	<i>Glyceria declinata</i>		R	
Smooth meadow-grass	<i>Poa pratensis</i>			LO
Spear thistle	<i>Cirsium vulgare</i>		R	O
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>		R	
White clover	<i>Trifolium repens</i>			R
Yorkshire fog	<i>Holcus lanatus</i>		F	O
Lower Plants				
Mosses	Mosses			
Spear-moss	<i>Calliergon cuspidatum</i>		LF	

Key

D = dominant
 A = abundant
 F = frequent
 O = occasional
 R = rare
 L = Locally

APPENDIX 3

SSSI Citations



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Brocklehurst Wood

Site Ref: 73NE01

Approved: 01 September 1993

Area (ha): 2.54

Date written/last updated: 01 February 2002

Grid Ref: SD753355

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Read, Sabden, Whalley

Description:

The site comprises a small semi-natural clough woodland situated alongside Sabden Brook approximately 2 km south east of Whalley. It is listed in the *Lancashire Inventory of Ancient Woodland (Provisional)*, (English Nature, 1994).

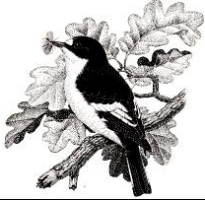
The canopy is composed mainly of ash, wych elm and sycamore with frequent oak and occasional alder, birch and beech. There is a well developed understorey with frequent hazel, hawthorn and rowan and occasional holly and elder. The wood has a varied age structure and good natural regeneration.

Bluebell dominates large areas of the ground flora together with frequent broad buckler-fern, tufted hair-grass and creeping soft-grass. Elsewhere, ramsons and dog's mercury are locally abundant. Other species present include frequent wood anemone, wood-sorrel, woodruff, greater stitchwort and enchanter's nightshade together with occasional herb-robert, wood avens, wood sage, red campion, pignut, honeysuckle, ivy, common nettle, butterbur, great wood-rush, bracken, false brome and sweet vernal-grass. Common dog-violet, lords-and-ladies, primrose and wood-sedge occur rarely.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Read Heights Pasture

Site Ref: 73NE02

Approved: 08 September 1993

Area (ha): 11.6

Date written/last updated: 15 July 2011

Grid Ref: SD767357

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Read

Description:

The site consists of a large species-rich, semi-natural, neutral grassland field, with a flattish plateau on the brow of the hill and a steepish slope on the north side extending down to Back Lane. A wide, dry ditch runs roughly east-west across the field between the plateau and the northern slope. The slope is the most species-rich area, but most of the species are present throughout the field.

The sward is dominated by sweet vernal-grass and crested dog's-tail. Frequently occurring species include pignut, zigzag clover and field wood-rush whilst self-heal, common bird's-foot-trefoil, rough hawkbit, cat's-ear, autumn hawkbit, quaking grass, lady's mantle, common knapweed, eyebright and harebell all occur occasionally. Wood anemone occurs rarely.

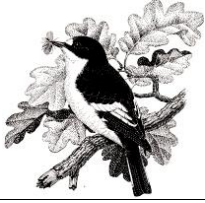
The ditch provides additional interest and diversity to the site as its dry banks support a more acidic grassland/heathland community. Species include frequent wavy hair-grass, heath bedstraw, mouse-ear hawkweed and young heather, with occasional bilberry and mat-grass. Gorse occurs occasionally along the ditch and in the north-west corner of the field.

Guideline(s) for Site Selection:

Grassland (Gr3)

Other Information/Comments:

Lowland Meadows is a Priority Habitat in the UK Biodiversity Action Plan.



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Lower Barn Wood

Site Ref: 73NE03

Approved:

Area (ha): 2.88

Date written/last updated:

Grid Ref: SD767366

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Sabden

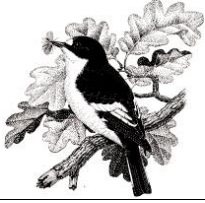
Description:

The site comprises semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodl and.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Thornber Wood

Site Ref: 73NE07

Approved: 22 November 1999

Area (ha): 0.88

Date written/last updated:

Grid Ref: SD751359

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Whalley

Description:

The site comprises a small semi-natural wood situated on the north side of Sabden Road, near Whalley. The wood supports a rich herb layer including many species indicative of ancient woodland. The canopy is dominated by sycamore, with occasional ash, alder and birch. Much of the sycamore is multi-stemmed. The understorey contains a variety of shrubs and saplings including hazel, hawthorn, holly, bird cherry, crab apple, guelder-rose, field-rose, oak, ash, wych elm, rowan, grey willow, black currant, raspberry, bramble and honeysuckle.

The herb layer is dominated by bluebell with locally abundant dog's mercury, wood anemone, woodruff and lesser celandine. Other species include wood-sorrel, greater stitchwort, Lords-and-Ladies, upland enchanter's-nightshade, ivy, red campion, hedge woundwort, common valerian, wood avens, wood horsetail, remote sedge, broad buckler-fern, lady-fern, male fern, wood millet and false brome.

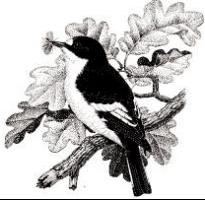
Damp areas associated with the stream which flows through the wood support ramsons, marsh marigold, meadowsweet, alternate and opposite-leaved golden-saxifrage, water avens, bugle, wavy bitter-cress and great horsetail.

The site includes the hedgerow and bank alongside Sabden Road. Species found here include greater burnet-saxifrage, yarrow, bush vetch, germander speedwell, cow parsley and wood-sedge.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd2)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Planes Wood

Site Ref: 73NW13

Approved:

Area (ha): 5.22

Date written/last updated:

Grid Ref: SD744355

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Whalley

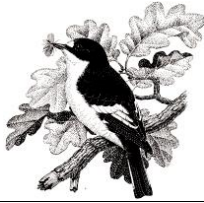
Description:

The site comprises semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodl and.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Martholme Railway

Site Ref: 73SE02

Approved: 01 September 1993

Area (ha): 8.46

Date written/last updated: 01 August 2004

Grid Ref: SD751335

Owner/Occupier: Public
Private

Districts:
Hyndburn

Parishes:
Great Harwood

Description:

The site comprises of areas of woodland, scrub and open grassland along a 1km length (approx.) of dismantled railway line between Martholme Viaduct and Mill Lane, Great Harwood with two adjoining areas of land to the west extending to Martholme Lane. The area has been developed as a linear walkway with open access.

Along the southern section of the track-way the footpath edges and embankments support tall herb-rich grassland with common knapweed, meadowsweet, meadow vetchling, zig-zag clover, tufted vetch, bush vetch, rosebay willowherb, great willowherb and bramble. Higher up the embankment planted trees and shrubs including ash, birch, wild cherry, hazel, oak, dog rose, guelder rose and the hybrid of grey and eared willow *Salix x multinervis* are now well established. Extensive areas of hawthorn, birch, hazel, willow and rowan and bramble have developed adjacent to the central footpath.

An open area once spanned by the railway and adjacent to the golf course supports a particularly diverse flora. Additional species present here include fairy flax, common bird's-foot-trefoil, smooth-leaved lady's-mantle, glaucous sedge, hairy sedge, hard rush, autumn hawkbit, selfheal, germander speedwell, teasal, gorse and sweet-briar. To the north of the open area the pathway is bordered by scrub along the margins of which greater burnet-saxifrage occurs occasional.

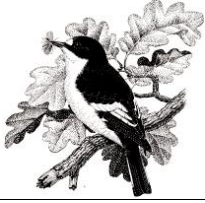
Within the woodland section to the north are mature trees of bird cherry and a magnificent goat willow supporting an abundance of mosses and liverworts. Enchanter's nightshade, wild strawberry and wood avens are a feature of the ground flora. In a small rabbit grazed clearing on the west side of the track, ox-eye daisy and yellow oat-grass occur, whilst a clearing to the east is dominated by a large stand of bracken. Developing woodland with an abundance of common nettle, cleavers and bramble continues to the northern limit of the site where greater burnet-saxifrage occurs in local abundance beneath the developing canopy.

Guideline(s) for Site Selection:

Artificial Habitats (Ar2)

Other Information/Comments:

The site adjoins Copy Wood Biological Heritage Site (BHS 73SW08)



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Bridge Hey Wood

Site Ref: 73SE03

Approved:

Area (ha): 3.19

Date written/last updated:

Grid Ref: SD758342

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Read

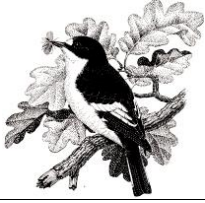
Description:

The site comprises woodland which is ancient semi-natural in character.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd2)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Wind Engine Clough

Site Ref: 73SE05

Approved: 01 September 1993

Area (ha): 1.86

Date written/last updated: 13 April 2011

Grid Ref: SD761328

Owner/Occupier: Private

Districts:

Hyndburn

Parishes:

Altham, Great Harwood

Description:

The site comprises a small semi-natural woodland situated along a tributary stream of the river Calder between Great Harwood and Altham. It is listed in the *Lancashire Inventory of Ancient Woodland (Provisional)*, (English Nature, 1994).

Much of the wood is fairly open in character. The canopy is dominated by oak and sycamore, with occasional ash, wych elm, birch and wild cherry. Hawthorn is frequent in the understorey. The ground flora includes abundant bluebell and creeping soft-grass with frequent/occasional ramsons, wood-sorrel, lesser celandine, red campion, greater stitchwort, common bistort, bramble, broad buckler-fern, lady-fern, male-fern, bracken, wood millet, cocksfoot and sweet vernal-grass. Common nettle, cow parsley and hogweed are abundant along the stream.

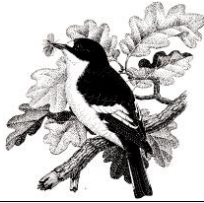
The north western arm of the site is no longer wooded, the few remaining tree being mainly confined to the field boundary. However, bluebell is still frequent in the grassland.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:

Lowland Mixed Deciduous Woodland is a priority habitat in the UK Biodiversity Action Plan



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Lower Dean Wood

Site Ref: 73SE09

Approved: 01 September 1993

Area (ha): 3.92

Date written/last updated: 01 June 1998

Grid Ref: SD781338

Owner/Occupier: Private

Districts:

Burnley
Ribble Valley

Parishes:

Padiham
Simonstone

Description:

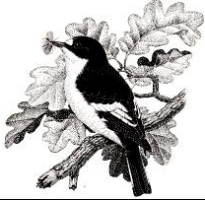
The site comprises plantation woodland on an ancient woodland site occupying a steeply sloping clough above Dean Brook.

The wood is dominated by sycamore and beech with occasional horse-chestnut and some, probably natural, wych elm, ash, pedunculate oak, alder, hawthorn, hazel and bird cherry. Rhododendron occurs frequently in the southern half of the wood, with occasional snowberry. The ground flora is dominated by creeping soft-grass, with abundant bluebell. Other species present include frequent dog's mercury, enchanter's nightshade, ivy, bracken and lady-fern and occasional common bistort and ramsons. A number of other species characteristic of ancient woodland are present on the lower slopes near the brook. These include wood anemone, opposite-leaved golden-saxifrage, wood avens, hairy woodrush, yellow pimpernel and wood sorrel. The upper slopes are species-poor.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd2)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Lower Dean Pasture

Site Ref: 73SE10

Approved: 08 September 1993

Area (ha): 2

Date written/last updated: 02 June 2014

Grid Ref: SD781340

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Simonstone

Description:

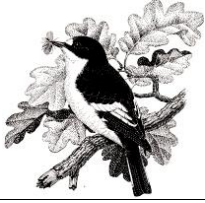
The site comprises of an area of semi-improved neutral and acidic pasture adjoining the west bank of Dean Brook below Dean Bridge, Simonstone.

The steep slopes are exceptional species-rich and comprise of a mosaic of neutral flushes and dry banks. Species present include frequent Large Bird's-Foot-Trefoil, Meadow Vetchling, Common Knapweed, Mat-Grass, Heath Bedstraw and Cat's-Ear with occasional Downy Oat-Grass, Burnet-Saxifrage, Yellow Oat-Grass, Great Burnet, Fairy Flax, Heath-Grass, Carnation Sedge, Glaucous Sedge, Mouse-Ear-Hawkweed, Lesser Stitchwort, Zigzag Clover, Field Wood-Rush, Common Bird's-Foot-Trefoil, Meadowsweet, Sneezewort, Selfheal, Common Dog-Violet and Autumnal Hawkbit. Also present are Bugle, Quaking-Grass, Betony, Common Fleabane, Ragged Robin, Yellow Pimpernel, Water Mint, and Marsh Marigold.

Guideline(s) for Site Selection:

Grassland (Gr3)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Huntroyde Demesne

Site Ref: 73SE11

Approved: 01 September 1993

Area (ha): 206.3

Date written/last updated: 01 August 1998

Grid Ref: SD785346

Owner/Occupier: Private

Districts:

Burnley
Ribble Valley

Parishes:

Padiham
Simonstone

Description:

The site comprises an estate with a high proportion of broad-leaved woodland. Scattered parkland trees are also present and some of these are estimated to be over 200 years old. Such trees are a rare and threatened habitat in Lancashire. They include pedunculate and hybrid oaks, beech and ash. The white-letter hairstreak butterfly has been recorded at the site.

In the south of the site The Dean consists of a mature beech plantation with sycamore and pedunculate oak occupying a moderately steep-sloping clough above Dean Brook. Small areas of the wood are dominated by pine and larch. The understorey comprises rhododendron with hazel, hawthorn, holly and rowan. The field layer includes ramsons, opposite-leaved golden-saxifrage, bluebell, enchanter's-nightshade, wood horsetail, dog's mercury, wood-sorrel, wood sage and remote sedge. Giant hogweed is present.

In the south-east Fiery Wood comprises broad-leaved and mixed plantation. Sycamore and beech dominate with ash, pedunculate oak, wych elm, rowan and Scot's pine. There is a patchy understorey of hawthorn and holly and locally dominant rhododendron. Species present in the ground flora include bluebell, wood-sorrel, raspberry, foxglove, red campion, hedge woundwort and broad buckler-fern. A dried-up pond is being encroached by crack willow.

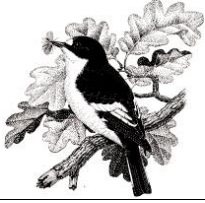
In the north Ox-Hey Wood and Badger Plantation are dominated by beech and/or sycamore with occasional pedunculate and hybrid oaks.

The site provides important habitats for breeding and wintering birds. Breeding birds include grey heron, sparrowhawk, woodcock, curlew, tawny owl, great spotted woodpecker, lesser spotted woodpecker, meadow pipit, pied wagtail, lesser whitethroat, willow warbler and nuthatch. Wintering birds include fieldfare, redwing, brambling and siskin.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd2)
Parkland and Scattered (Pk1)
Trees
Butterflies and Moths (Le4)?

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Copy Wood

Site Ref: 73SW08

Approved: 08 September 1993

Area (ha): 1.81

Date written/last updated: 01 March 2004

Grid Ref: SD749333

Owner/Occupier: Private

Districts:

Hyndburn

Parishes:

Great Harwood

Description:

The site comprises ancient semi-natural woodland listed in the *Lancashire Inventory of Ancient Woodland (Provisional)*, (English Nature, 1994). The location of the woodland is notable in Hyndburn, in that it is situated on a relatively gentle slope rather than along a river valley or terrace. The site lies within the north-eastern corner of the Great Harwood Golf Club. The woodland is divided in two by the route of a pipeline, this has increased the woodland edge habitat and created a glade of semi-improved grassland. A small stream runs along the northern edge of the wood in a north-easterly direction.

The western half of the wood is predominantly oak, with occasional alder, rowan, hawthorn and elder. A grassy ground layer includes creeping soft-grass, rosebay willowherb, bluebell and soft rush. The area around the stream supports a more varied flora with hazel, guelder-rose, lesser celandine, yellow iris and remote sedge.

The eastern section of the woodland is broadly similar though ash, hazel and grey willow are more common and a dense thicket of holly also occurs. Locally a depression with wetter and peaty areas provides the habitat for meadowsweet and common nettle.

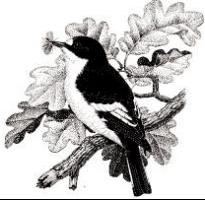
Bird cherry and marsh marigold occur along the eastern boundary next to the railway line, whilst the far north-western corner of the site is a drier oak woodland with a wavy hair-grass and heath bedstraw ground layer.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:

Lowland Mixed Deciduous Woodland is a Priority Habitat in the Biodiversity Action Plan.
The site adjoins BHS 73SE02 Martholme Railway, Great Harwood.



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Cock Wood and Wheatcroft Wood

Site Ref: 73SW09

Approved: 01 September 1993

Area (ha): 9.14

Date written/last updated: 01 August 2004

Grid Ref: SD746343

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Read

Description:

The site comprises ancient, semi-natural woodland situated along Sabden Brook, immediately to the east of Accrington Road. The woodland is listed in the *Lancashire Inventory of Ancient Woodland (Provisional)*, (English Nature, 1994). Sabden Brook runs southwards through the wood and the brook has cut down through the rock strata forming a gorge known as Cock Wood Gorge.

The woodland canopy is dominated by oak and sycamore, accompanied by ash, birch and beech. Alder is present on damper ground. There is good regeneration of ash and sycamore. Hawthorn and holly are present in the understorey. The ground flora includes species such as enchanter's-nightshade, wood avens, dog's mercury, ramsons, wood-sorrel, bluebell, wood sedge and pendulous sedge.

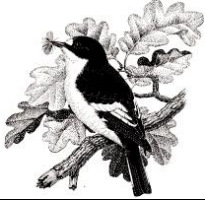
A band of semi-natural grassland separates Cock Wood and Wheatcroft Wood. This grassland supports perforate St John's-wort, meadow vetchling, selfheal, glaucous sedge and hairy sedge.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:

There is some invasion of Indian balsam, a species that is not native to Britain.



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

© Lancashire County Council
© Wildlife Trust for Lancashire
Natural England

This form may contain privileged and confidential information. Permission must be obtained from Lancashire County Council and the Wildlife Trust for Lancashire before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.

Site Name: Old Park Plantation, New Marls Wood and Sager Heys Plantation

Site Ref: 73SW10

Approved:

Area (ha): 9.76

Date written/last updated:

Grid Ref: SD749349

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Read

Description:

The site comprises woodland which is ancient semi-natural in character, and wetland habitats. A number of Lancashire Key Species are recorded from the site.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd2)

Swamp and Fen (Fe1)

Birds (Av3)

Other Information/Comments:

Lancashire County Heritage Sites

Biological Heritage Site

Read Heights Pasture



Site Boundary

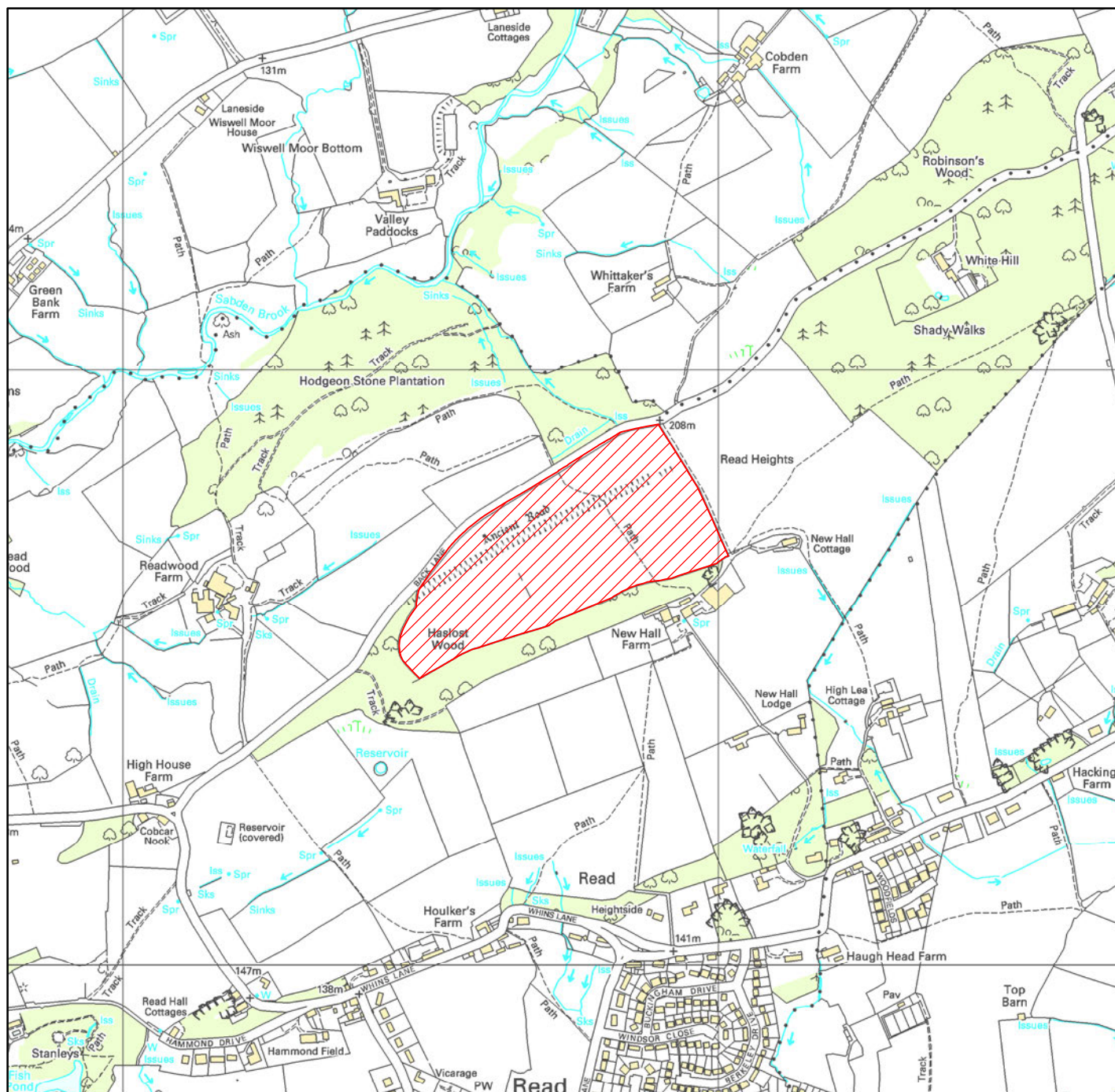
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73NE02

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD767357

Site approved

Boundary revised

Scale 1:10,000

Map 1 of 1

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Lower Barn Wood



Site Boundary

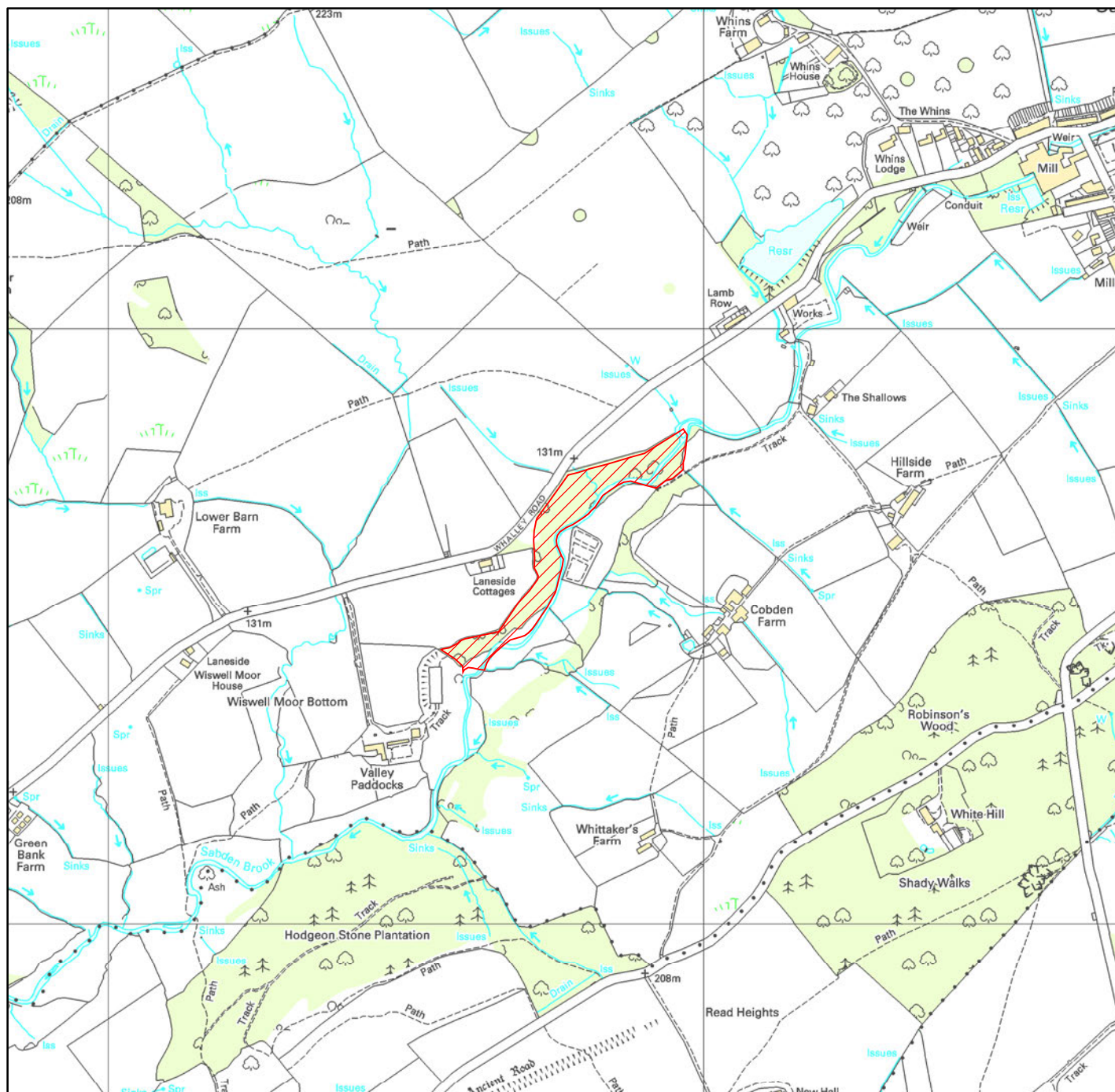
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73NE03

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire, Manchester and North Merseyside
Natural England



Grid ref. SD767366

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Thornber Wood



Site Boundary

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

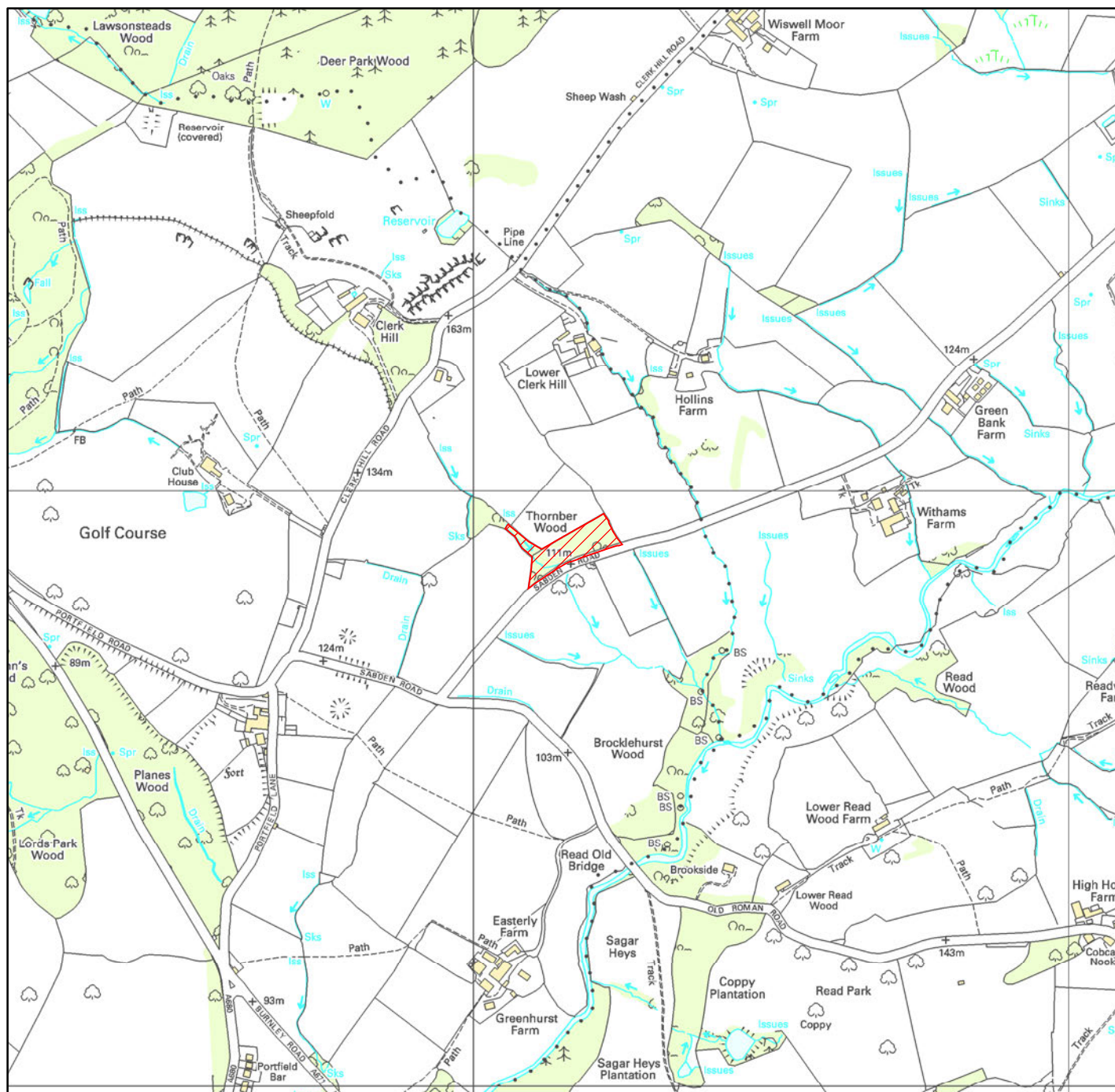
This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73NE07

Biological Heritage Sites Partnership

© Lancashire County Council

© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD751359

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Bridge Hey Wood



Site Boundary

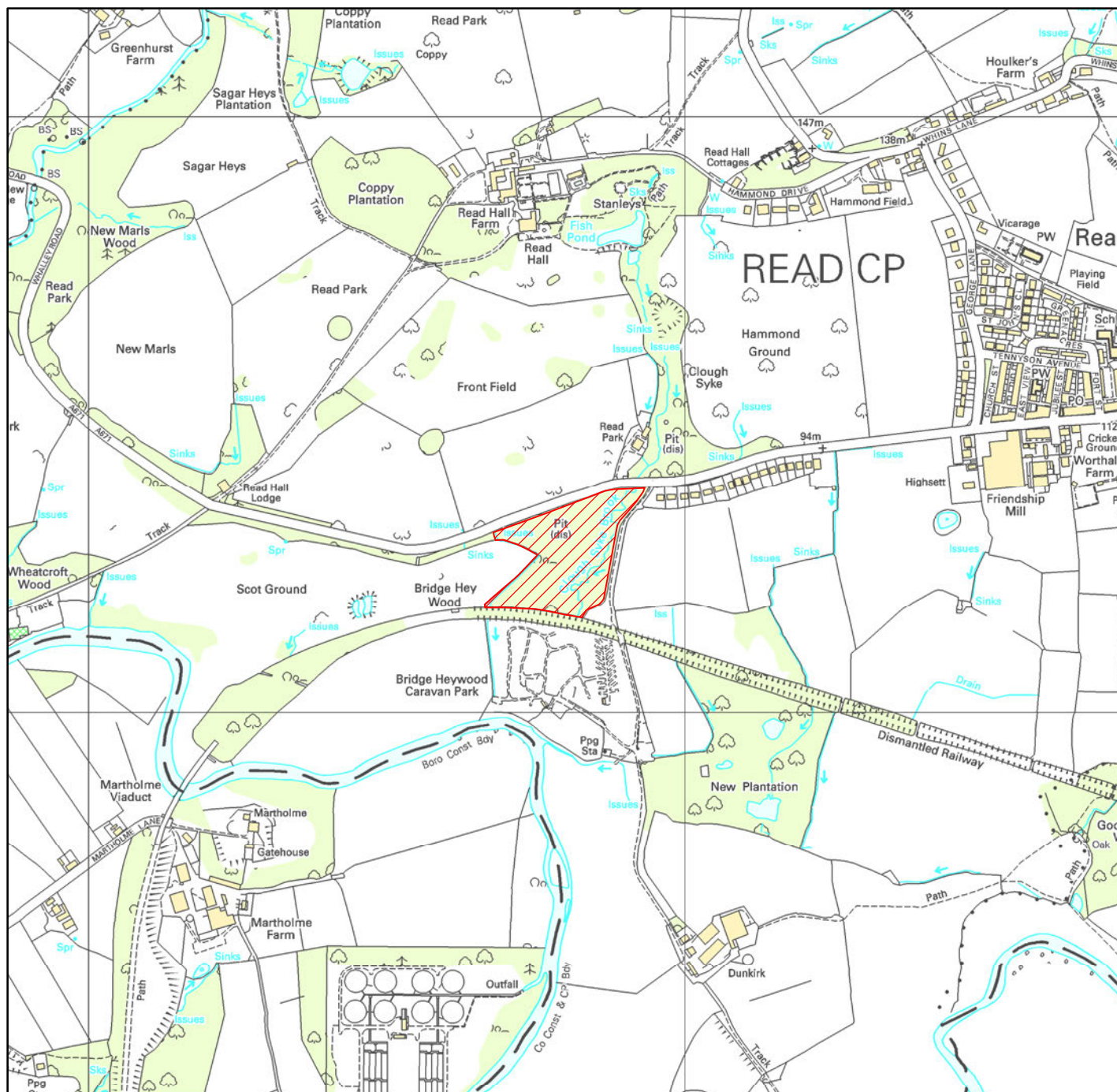
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SE03

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire, Manchester and North Merseyside
Natural England



Grid ref. SD757342

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



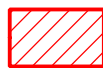
Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Wind Engine Clough



Site Boundary

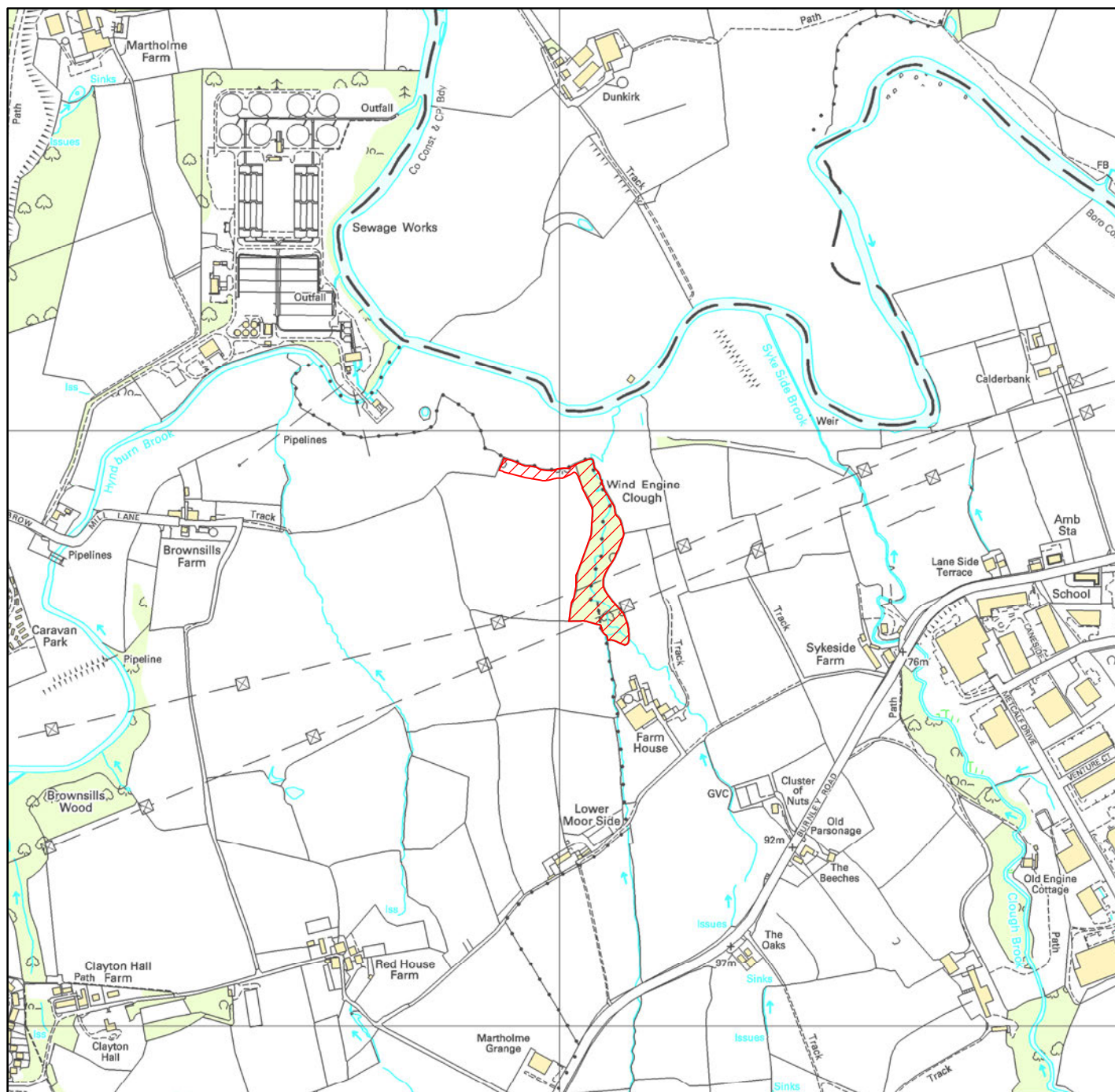
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SE05

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD760329

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Lower Dean Wood



Site Boundary

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SE09

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire, Manchester and North Merseyside
Natural England



Grid ref. SD781337

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Lower Dean Pasture



Site Boundary

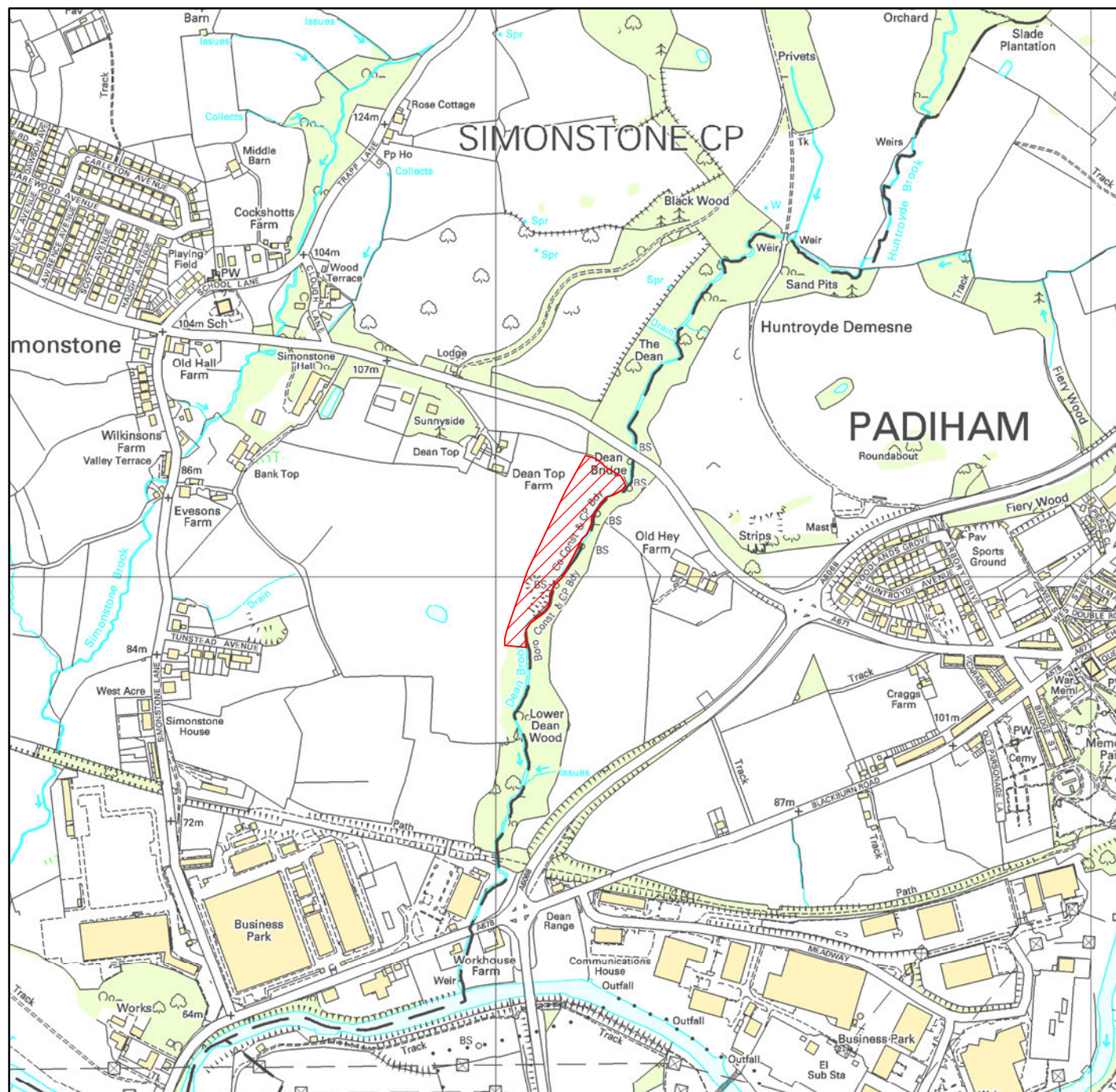
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SE10

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD781340

Site approved

Boundary revised

Scale 1:10,000

Map 1 of 1

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Huntroyde Demesne



Site Boundary

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

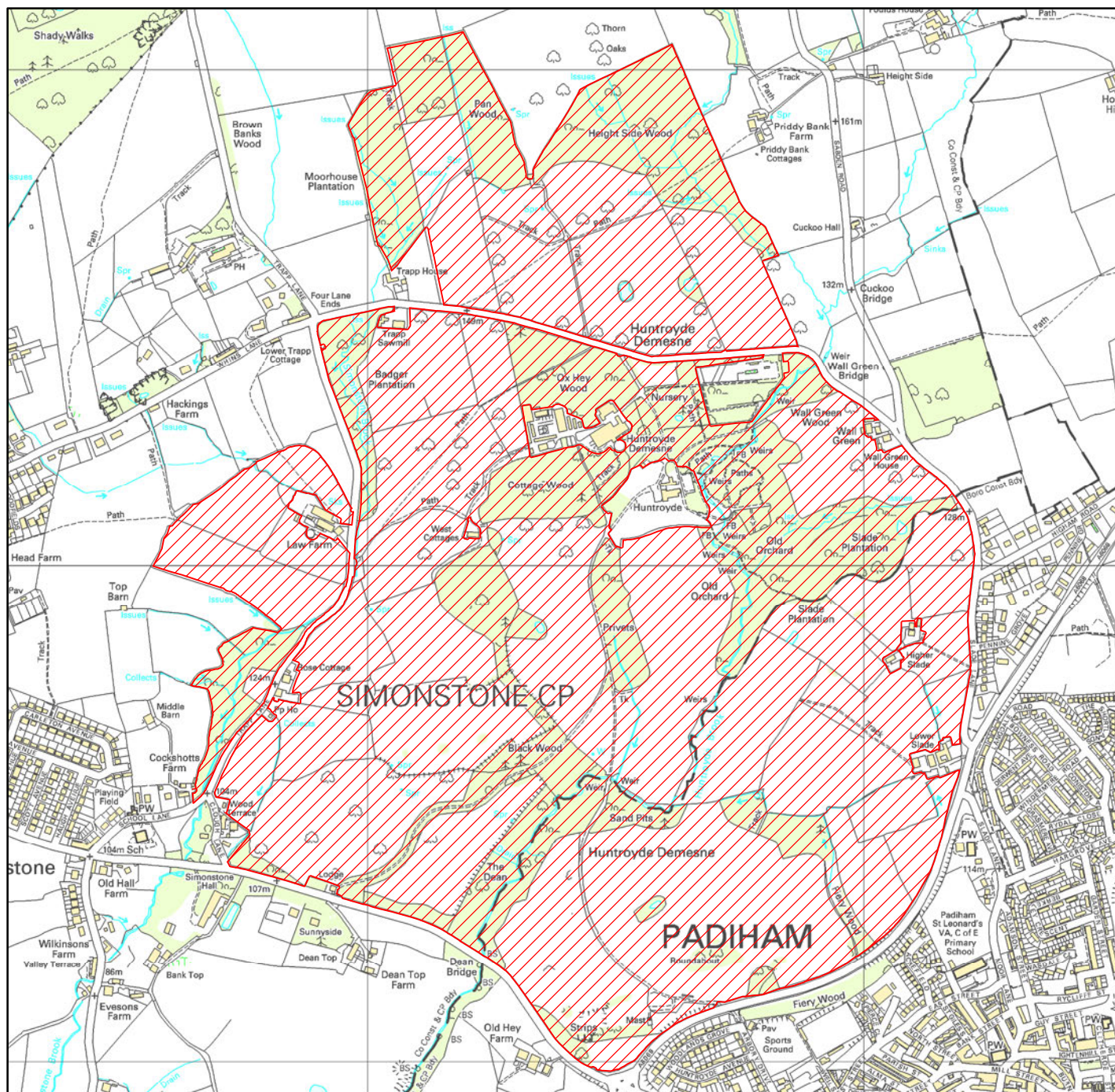
This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SE11

Biological Heritage Sites Partnership

© Lancashire County Council

© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD784346

Site approved

Boundary revised

Scale 1:12,000

Map 1 of 1

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Copy Wood



Site Boundary

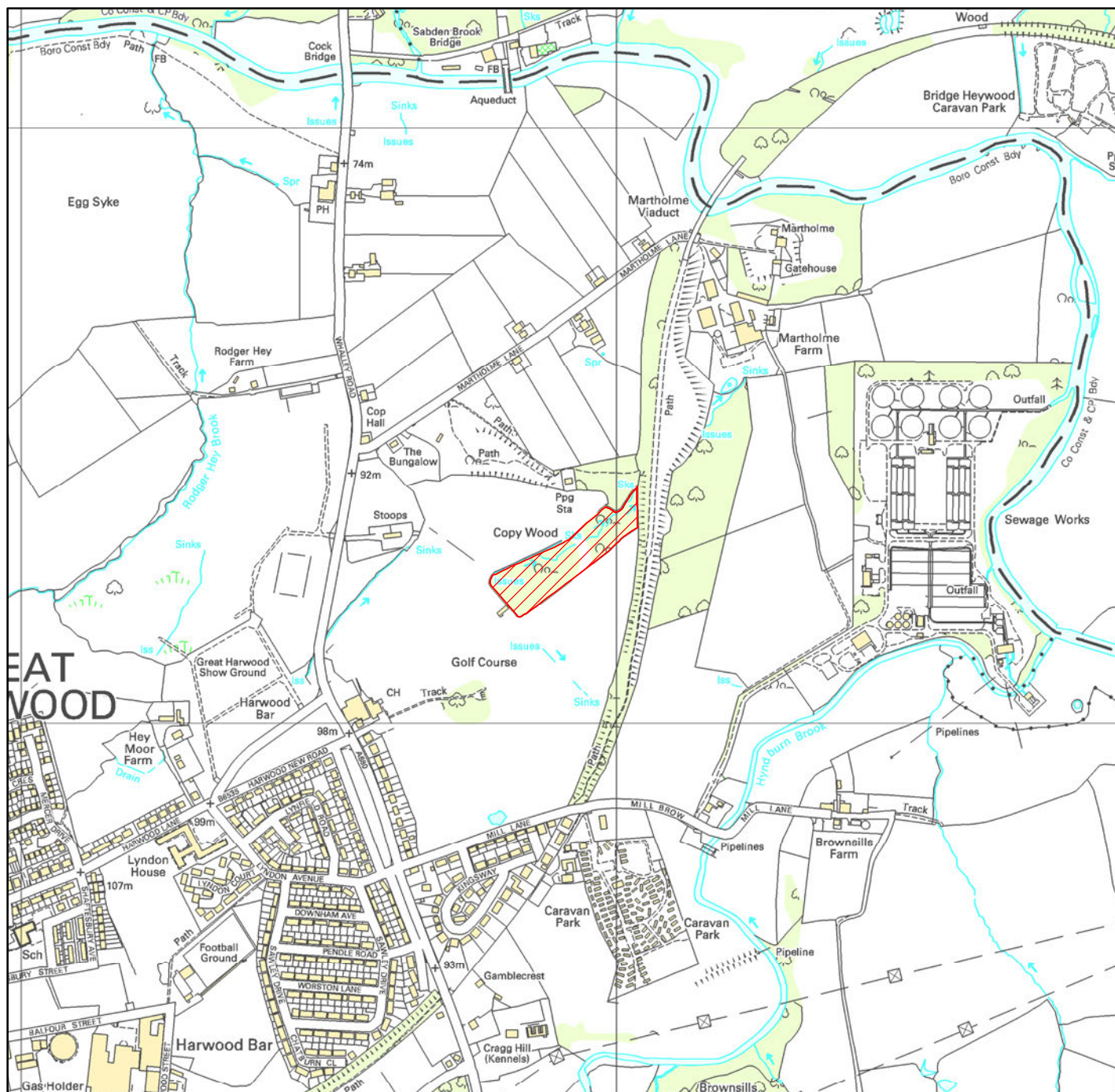
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SW08

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD749332

Site approved

Boundary revised

Scale 1:10,000

Map 1 of 1

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Cock Wood and Wheatcroft Wood



Site Boundary

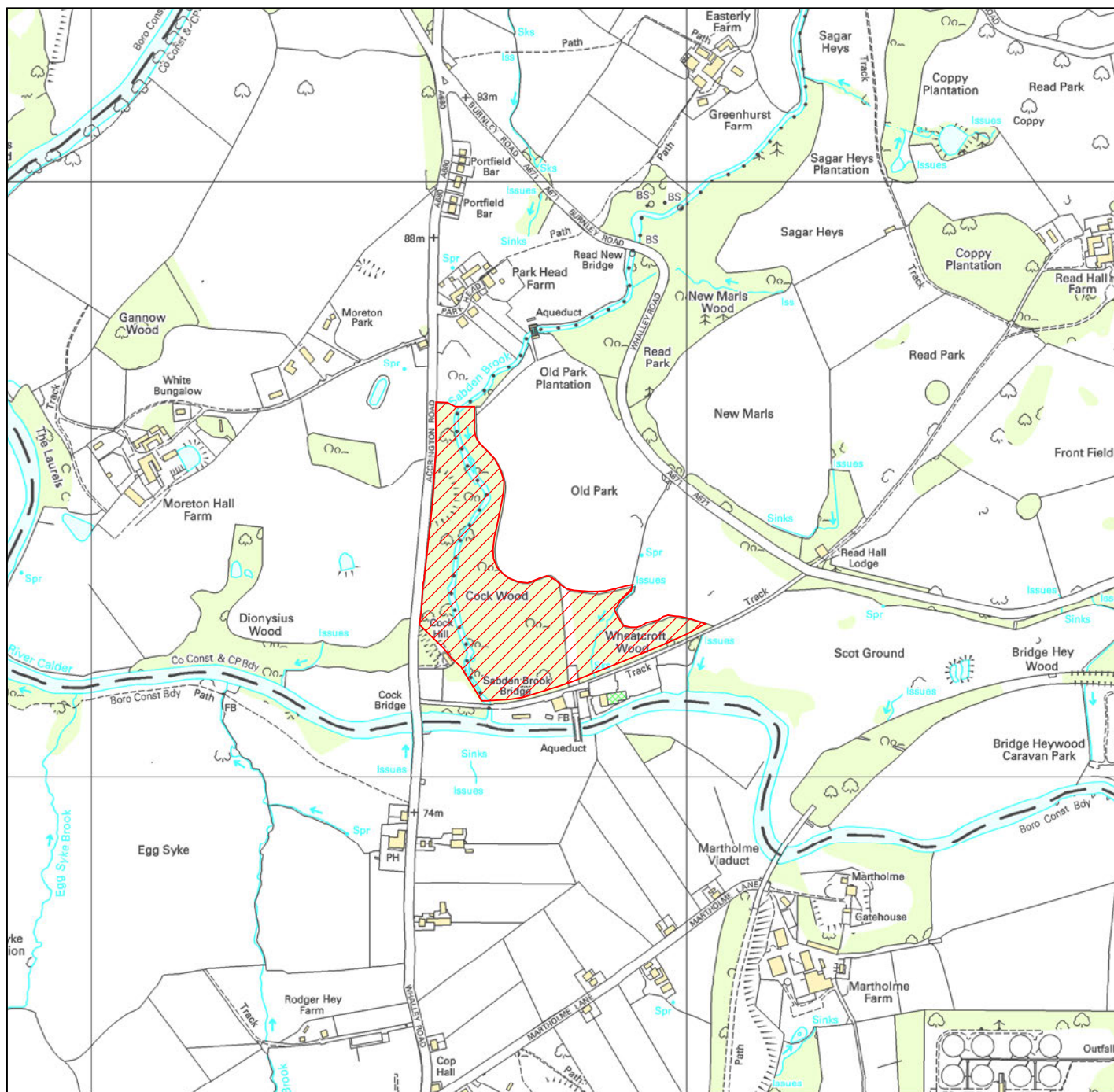
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SW09

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD747342

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Old Park Plantation, New Marls Wood and Sagar Heys Plantation



Site Boundary

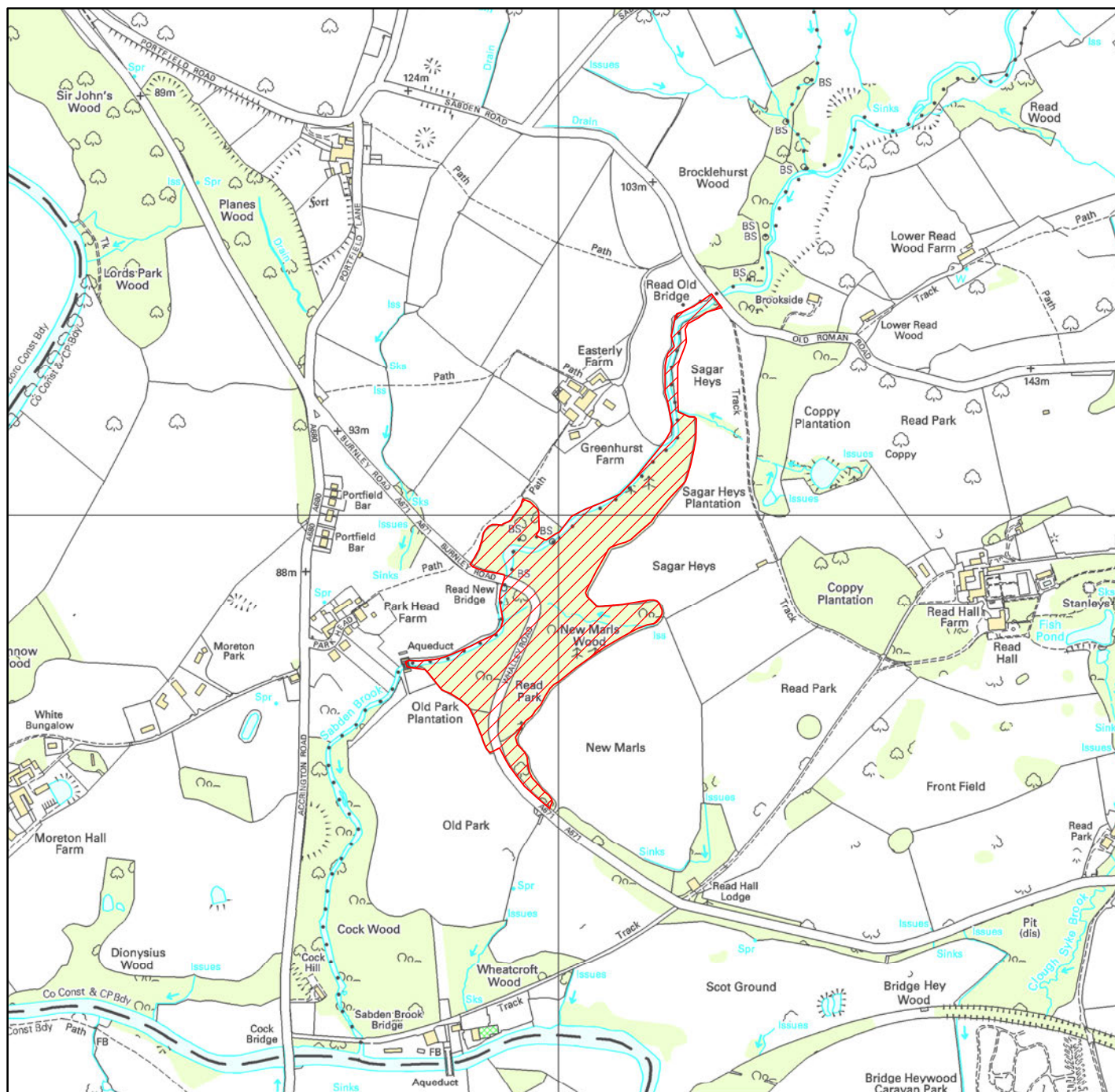
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Lancashire County Council 100023320 2012.

This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73SW10

Biological Heritage Sites Partnership

© Lancashire County Council
© The Wildlife Trust for Lancashire,
Manchester and North Merseyside
Natural England



Grid ref. SD750348

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



APPENDIX 4

Bird Species Records Returned within the Search Area

Appendix 5 Bird Records

Common Name	Taxon Name	Number	Amber	Red	Sch 1
Lesser Redpoll	<i>Acanthis cabaret</i>	2		x	
Common Sandpiper	<i>Actitis hypoleucos</i>	3	x		
Skylark	<i>Alauda arvensis</i>	2		x	
Kingfisher	<i>Alcedo atthis</i>	2	x		x
Meadow Pipit	<i>Anthus pratensis</i>	2	x		
Swift	<i>Apus apus</i>	4	x		
Grey Heron	<i>Ardea cinerea</i>	7			
Little Ringed Plover	<i>Charadrius dubius</i>	1			x
House Martin	<i>Delichon urbicum</i>	3	x		
Corn Bunting	<i>Emberiza calandra</i>	1		x	
Reed Bunting	<i>Emberiza schoeniclus</i>	1	x		
Kestrel	<i>Falco tinnunculus</i>	2	x		
Snipe	<i>Gallinago gallinago</i>	4	x		
Oystercatcher	<i>Haematopus ostralegus</i>	4	x		
Barn Swallow	<i>Hirundo rustica</i>	4			
Linnet	<i>Linaria cannabina</i>	1		x	
Twite	<i>Linaria flavirostris</i>	2		x	
Grey Wagtail	<i>Motacilla cinerea</i>	1		x	
Yellow Wagtail	<i>Motacilla flava</i>	5		x	
Spotted Flycatcher	<i>Muscicapa striata</i>	4		x	
Curlew	<i>Numenius arquata</i>	13		x	
House Sparrow	<i>Passer domesticus</i>	23		x	
Tree Sparrow	<i>Passer montanus</i>	9		x	
Grey Partridge	<i>Perdix perdix</i>	3		x	
Wood Warbler	<i>Phylloscopus sibilatrix</i>	4		x	
Willow Warbler	<i>Phylloscopus trochilus</i>	3	x		
Dunnock	<i>Prunella modularis</i>	12	x		
Bullfinch	<i>Pyrrhula pyrrhula</i>	5	x		
Sand Martin	<i>Riparia riparia</i>	1			
Woodcock	<i>Scolopax rusticola</i>	2		x	
Common Starling	<i>Sturnus vulgaris</i>	25		x	
Shelduck	<i>Tadorna tadorna</i>	1	x		
Redshank	<i>Tringa totanus</i>	6	x		
Redwing	<i>Turdus iliacus</i>	1		x	x
Song Thrush	<i>Turdus philomelos</i>	5		x	
Fieldfare	<i>Turdus pilaris</i>	1		x	x
Mistle Thrush	<i>Turdus viscivorus</i>	2		x	
Northern Lapwing	<i>Vanellus vanellus</i>	5		x	

APPENDIX 5

Site Photographs



Photo 1 Site, looking west from wall at corner of site, with poor semi-improved grassland at eastern end of site



Photo 2 Cluster of trees near north-west corner of site - horse chestnut and pedunculate oak trees on the site boundary and just outside the site



Photo 3 Trees along fencing of residential house adjacent to the site, to the south-east



Photo 4 Site, looking west from wall at corner of site



Photo 5 Remains of log providing deadwood habitat for fungi and invertebrates



Photo 6 Improved grassland in the western part of the site and along the bank up to the boundary fencing



Photo 7 Hedgerow H1 next to road verge, along boundary of site

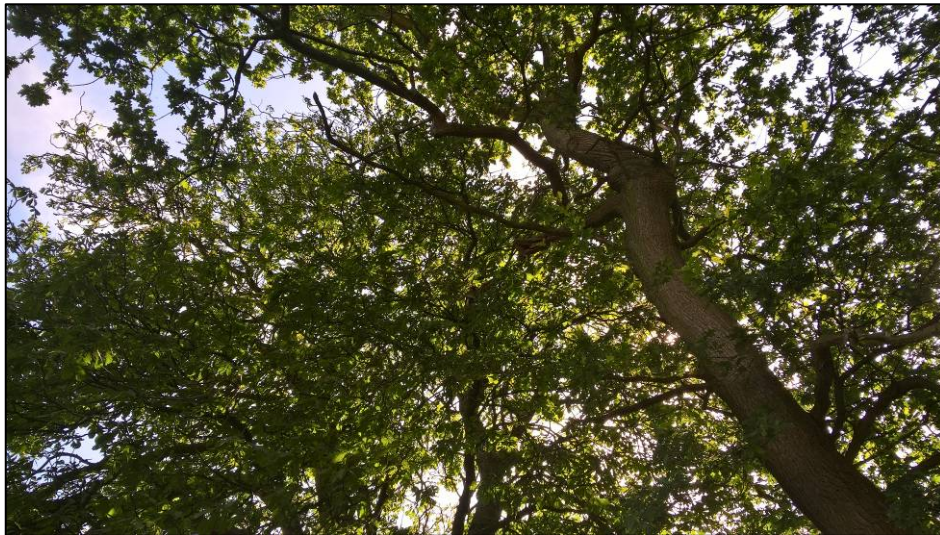
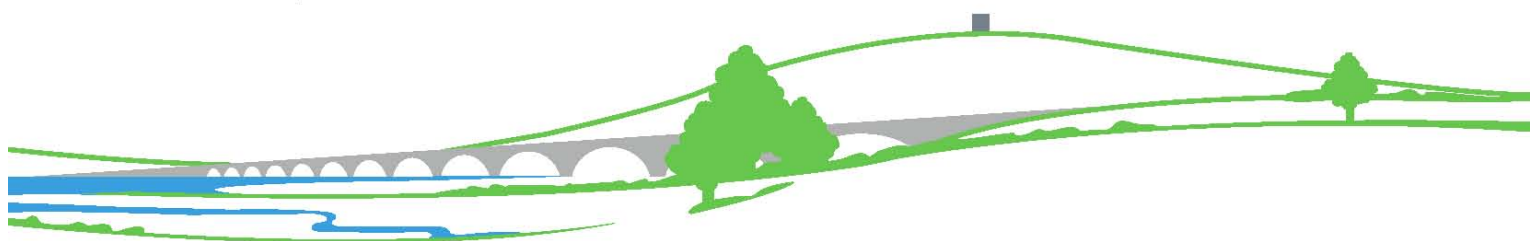


Photo 8 Small rot site at end of branch of oak tree (T2) at north-western end of the site

Penny Anderson
Associates Ltd
CONSULTANT ECOLOGISTS



Park Lea, 60 Park Road, Buxton, Derbyshire SK17 6SN