An assessment of the results of the Phase 1 Habitat Surveys carried out in 1988 and 2016, and a summary of the Fauna, Flora and Fungi recorded in the Parish of Roughlee Booth, in the Borough of Pendle, Lancashire.

For Roughlee Booth Parish Council

By the Lancashire Wildlife Trust

Final Report, December 2017

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Note: Botanical names in this report follow Stace, C. (2010) New Flora of the British Isles, Third Edition, published by Cambridge University Press. Title Case is used for naming specific species of animals and plants, e.g. Grey Willow, and lower case for indeterminate species, e.g. willow or willows. Scientific names are expressed in *italics*, e.g. *Salix cinerea* – the Grey Willow.

An introduction to the Wildlife Trust for Lancashire, Manchester and North Merseyside

The Wildlife Trust is a charity and non-profit making organisation dedicated to protecting wildlife and natural habitats throughout Lancashire, Greater Manchester and Merseyside (north of the Mersey). It is one of 47 independent charities that together form a national partnership, The Wildlife Trusts - the largest voluntary body in the UK concerned with all aspects of wildlife. Established by volunteers in 1962, the Wildlife Trust is governed by a voluntary council elected by its membership of nearly 30,000. On a day to day basis work is undertaken by a team of over 160 staff, headed by a Chief Executive, who work closely with volunteers in every area of activity. The Trust's headquarters is based at The Barn in Cuerden Valley Park, a 243 hectare (600 acre) country park south of Preston. Other staff are based at the Trust's centres in Bolton, Burnley, Heysham, Mere Sands Wood (West Lancashire), Brockholes (Preston), Seaforth (Liverpool) and Wigan.

The Trust's vision is ...

"*to create a region richer in wildlife for all to enjoy. Keeping nature at the heart of everything we do.*"

Mr. John Lamb is one of five regional conservation officers employed by the Trust with Mr. Lamb being the Senior Conservation Officer (Lancashire). Mr. Lamb has a B.Sc. (Hons.) in Environmental Biology and a M.Sc. in Landscape Ecology, Design and Maintenance. He is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM)

The duties of Conservation Officer include the following areas of work:

- Providing information and advice to land managers, Trust members and members of the public including leading walks, training courses and educational materials and literature;
- Commenting on strategic documentation, planning applications, reviews of local plans and other documents in East Lancashire;
- Undertaking ecological survey and advisory work, normally on a consultancy basis, both in East Lancashire and elsewhere in the Trust's area;
- Representing the Trust at meetings of various partnerships and initiatives; and
- Auditing the management systems and their implementation for companies that apply for The Wildlife Trust's Biodiversity Benchmark, see www.biodiversitybenchmark.org

The Trust is a charity registered as The Lancashire Wildlife Trust (Charity No. 229325) and a Company limited by guarantee registered as The Lancashire Wildlife Trust Ltd (No. 731548), VAT No. 265 7548 65.

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We are a membership organisation and couldn't achieve all of the work that we do without our members and volunteers – please consider joining us.

Preface

Today many people lead busy and often stressful lives, surrounded by modern technology including air conditioning, cars, central heating, computers, digital television, high speed trains, mobile phones and the internet, and have lost touch with the natural environment, do not see or appreciate it, take it for granted, and may even think that habitats and their native flora and fauna are expendable.

What are habitats? Plants grow in association with other plants and the communities they form are called habitats, or vegetation types, and include woodland, grassland, heath, peat bog, marsh, swamp, aquatic vegetation, sand dunes and saltmarsh. Different species of plants and animals live in different habitats, and the places that the plants and animals occupy in their habitat is called a niche. Some animals use more than one habitat at different times of the year, or for different purposes, e.g. Swallows and Cuckoos spend the autumn and winter in Africa but come to the UK in the spring and summer to breed, ground-nesting birds such as Golden Plover breed on the hills but spend the winter in lowland fields and on the coast, Bewick and Whooper Swans spend the summer in Scandinavia but come to the UK for the winter.

Why are habitats important? Some of the reasons are:

- Plants produce the oxygen that we breathe, through the process of photosynthesis.

- It is estimated that 80% of the world's population employs herbs as primary medicines. 40% of the pharmaceuticals in use in the US today are plant based. Everyday medicines such as Aspirin and Penicillin originate from willow and fungi. Mother Nature is providing cures for cancer.

- A small number of plants, and grasses in particular, provide the staple diet for the majority of people, especially barley, oats, potatoes, rice, rye and wheat.

- The animals that we eat in the UK are vegetarian and largely eat forages (grass and other vegetation), cereals and other home-grown crops, as well as some compound foodstuffs and products from the human food and brewing industries.

- Economically-important fruit crops such as apples and pears, berries and cherries, damsons and plums, are pollinated by invertebrates.

- The landscape, flora and fauna have inspired artists, poets, songwriters and writers to draw, paint and photograph, right books, poems, stories and songs.

- Trees and woodlands help alleviate flooding, filter air pollution, provide shade and shelter, reduce noise pollution and screen unsightly buildings or operations.

- Nature is now being recognised by the medical and psychological profession as being important for our health and well-being, e.g. Contact with nature can reduce stress levels and patients in hospital recover more quickly if the view out of the window includes vegetation.

- Working animals such as horses & ponies, guide dogs & sheep dogs, & our pets, are descended from wild animals and the ancient lineage and DNA is an important part of biodiversity.

- Our one species, *Homo sapiens*, is completely and utterly dependent upon the variety of life on earth, our one and only home. We should not live a part from nature, because we are very much a part of it.

Background and introduction

In March 2017, Andrew Walker, Chair of Roughlee Booth Parish Council, contacted the Lancashire Wildlife Trust with a view to commissioning a survey and assessment of the flora and fauna of the parish. A meeting was held on the 19th May, following which the Trust produced quotes for carrying out six items of work, presented as a 'shopping list'. The items of work were presented to a meeting of the parish council on the 3rd July 2017, and the Wildlife Trust was commissioned to carry out the first two items of work, as follows:

1. An assessment, or interpretation, of the results of the Phase 1 habitat surveys, putting them into plain English so that Councillors and parishioners can more easily understand what it all means, including a comparison between the 1988 and 2016 surveys to see how things have changed over the past 28 years. Two days work for £420 plus VAT.

2. Purchase the biological records held by the Lancashire Environment Record Network (LERN) for £120 plus VAT and summarising them into the numbers of different species of animals, plants and fungi that have been recorded in the parish over the years, including check lists and highlighting species that are notable or noteworthy. One days work at £210, plus £120, plus VAT.

Roughlee Booth Parish in the Borough of Pendle, Lancashire, lies entirely within the Forest of Bowland AONB and is bordered by five other parishes; Blacko to the north, Barrowford to the east, Old Laund Booth to the south, Goldshaw Booth to the southwest and Barley-with-Wheatley Booth to the west. The Pendle Way passes through the parish in two sections.

The highest point in the parish is along the road below Stang Top Moor at just over 320 metres above sea level (m asl), with Brown Hill (SD839410) being the highest hill in the parish at 312m asl. The lowest point in the parish is 160m asl along Pendle Water in the far eastern tip of the parish. The parish lies entirely within the catchment of Pendle Water, a tributary of the River Calder, which itself is a tributary of the River Ribble.

ITEM 1. An assessment of the results of the Phase 1 habitat surveys carried out in 1988 and 2016.

What is a Phase 1 habitat survey?

The Phase 1 habitat classification and methodology is a standardised system for classifying and mapping habitats or types of vegetation in all parts of Great Britain, including urban areas. The 'Phase 1 manual' published originally by the Nature Conservancy Council in 1990 and reprinted with minor revisions by the Joint Nature Conservation Committee (JNCC), has been used widely throughout Britain for a diverse range of purposes. It has largely stood the test of time, and continues to be used as the standard 'Phase 1' technique for habitat survey across the UK (JNCC 2010, which can be downloaded at http://jncc.defra.gov.uk).

The aim of the Phase 1 survey is to provide, relatively rapidly, a record of the man-made and semi-natural vegetation and wildlife habitat over large areas of countryside in which every parcel of land is classified and recorded. The areas of the different habitat types can then be measured.

Vegetation is mapped on to Ordnance Survey maps, usually at a scale of 1:10,000, in terms of some 90 specified habitat types, using standard colour codes. The colour codes allow rapid visual assessment of the extent and distribution of different habitat types. Further information is gained

from the use of dominant species codes within many habitat types and from descriptive 'Target Notes' which give a brief account of particular areas that are of interest and/or are too small or too complicated to map.

The parish of Roughlee Booth was surveyed in 1988 as part of the Phase 1 habitat survey of Lancashire and in 2016 as part of the Phase 1 habitat survey of Pendle Hill and its hinterland. The area of the parish is approx. 449.43 hectares (ha), which equates to 44,943,400 square metres (m^2) or 1,110.5 acres.

The following habitat types were recorded in the parish of Roughlee Booth in 1988 and 2016 (in decending order by area):

Area in 1988 (ha)	**%**	**Area in 2016 (ha)**	**%**	**Phase 1 habitat or vegetation type**	**Description**
354.88	78.96	352.92	78.53	Improved grassland	Grassland that has been ploughed and reseeded
31.90	7.10	33.82	7.53	Built-up land	Buildings, caravan sites, hardstandings and roads etc.
26.42	5.88	30.28	6.74	Woodland & scrub	Broadleaved, coniferous or mixed woodland - plantation or semi-natural - & dense scrub
13.87	3.09	9.57	2.13	Neutral grassland	Grassland with a pH between 5.5 and 7
13.44	2.99	6.65	1.48	Marsh/marshy grassland	Marsh and wet grassland dominated by rushes and/or wetland plants
5.57	1.24	11.64	2.59	Acid grassland	Grassland with a pH less than 5.5
2.43	0.54	2.43	0.54	Flowing/running water	Rivers and streams
0.48	0.11	0.72	0.16	Standing/still water	Lakes, ponds and reservoirs
0.28	0.06	1.26	0.28	Amenity grassland	Regularly mown lawns, playing and sports fields
0.16	0.04	0.14	0.03	Bracken & tall ruderal vegetation	Stands of Bracken, docks, nettles, thistles, Rosebay Willowherb etc.
449.43	100.00	449.43	100.00		

Changes in Woodland in Roughlee Booth between 1998 and 2016 are:

- Overall increase in woodland from 26.42ha in 1988 to 30.28ha in 2016, i.e. an increase of 3.86ha or 14.6%.

- Increase in semi-natural broadleaved woodland from 14.20ha in 1988 to 15.49ha in 2016, i.e. an increase of 1.29ha or 9%.

- Increase in broadleaved plantation from 1.43ha in 1988 to 3.67ha in 2016, i.e. an increase of 2.24ha or 157%.

- Increase in coniferous plantation from 9.58ha in 1988 to 10.04ha in 2016, i.e. an increase of 0.46ha or 4.8%.

- Decrease in mixed plantation from 1.20ha in 1988 to 0.11ha in 2016, i.e. a decrease of 1.09ha or 91%. However, the woodland hasn't been lost but the conifers been replaced with broadleaved trees.

- Gain of 0.97ha of dense scrub – only scattered scrub was recorded in 1988, the area of scattered scrub isn't measured. Over time it is likely that the dense scrub will develop into semi-natural broadleaved woodland.

Changes in Grassland in Roughlee Booth between 1998 and 2016 are:

- Increase in acid grassland from 5.57ha in 1988 to 11.64ha in 2016, i.e. an increase of 6.07ha or 109%. Acid grassland is the most abundant semi-natural habitat type in Lancashire, covering around 5.6% of the county, and dominates extensive areas of the uplands and marginal fields, but it is scarce in lowland Lancashire. Acid grassland is often species poor, sometimes as a result of historic over-grazing, and can occur in a mosaic with Heather moorland. However, acid grassland is used by ground-nesting birds including Meadow Pipit and Skylark.

- Decrease in the area of neutral grassland from 13.87ha in 1988 to 9.56ha in 2016, i.e. a decrease of 4.31ha (31%). However, the 9.56ha includes 8.49ha of poor semi-improved grassland, and if this species-poor neutral grassland is excluded, as this category wasn't available in 1988, then the reduction in neutral grassland 12.80ha, which represents a decrease of 92.2%. Neutral grassland can be managed as meadow (cut for hay) and/or pasture (grazed by livestock), and includes the archetypal wildflower meadows that are full of attractive wildflowers and alive with bees, butterflies and others insects.

- Decrease in Improved grassland from 354.89ha in 1988 to 352.92ha in 2016, i.e. a decrease of 1.96ha or 0.55%. Improved grassland is the most abundant habitat type in Lancashire, covering nearly 58% of the county, and dominates the lowlands and marginal fields extending up to the hill walls. Most fields have been reseeded with commercial grass seed mixes, often including Rye-grass and White Clover, fertiliser and herbicides are often applied, and they typically support a limited range of wildflowers. However, they can be used by ground-nesting birds such as Lapwing.

- Decrease in marshy grassland from 13.44ha in 1988 to 6.65ha in 2016, i.e. a decrease of 6.79ha or 50.5%. Marshy grassland is typically dominated by rushes and/or sedges, Purple Moor-grass and/or wetland plants such as Meadowsweet. It is also one of the most abundant semi-natural habitat type in Lancashire and dominates extensive areas of the uplands and marginal fields, but it less common in lowland Lancashire. It can be species-rich or species-poor and, due to the abundance of rushes, is usually grazed by livestock rather than being cur for hay. Marshy grassland can support large numbers of ground nesting wading birds such as Curlew, Lapwing and Snipe.

Changes in Other habitat types in Roughlee Booth between 1998 and 2016 are:

- Decrease in stands of Bracken and tall ruderal vegetation (i.e. dominated by Bracken, docks, nettles, thistles and/or Rosebay Willowherb) from 0.16ha in 1988 to 0.14ha in 2016, i.e. a

decrease of 0.02ha or 12.5%. Stands of docks, nettles, thistles and/or Rosebay Willowherb can provide important sources of seeds for seed-eating birds and nectar for a wide variety of insects.

- Increase in standing water from 0.48ha in 1988 to 0.72ha in 2016, i.e. an increase of 0.24ha or 49.6%. Standing water is very important for aquatic and wetland birds and plants, provides breeding sites for amphibians, and is home to a myriad of aquartic invertebrates.

- Increase in amenity grassland from 0.28ha in 1988 to 1.26ha in 2016, i.e. an increase of 0.98ha or 450%. Amenity grassland is regularly mown as greens, lawns and pitches. Many areas are reseeded with commercial grass seed mixes, often including Rye-grass, fertiliser and herbicides are often applied, and they typically support a limited range of wildflowers. However, they can provide food for a variety of birds including Backbird, Carrion Crow, Collared Dove, gulls, Jackdaw, Magpie, Rook, Starling and thrushes.

- Increase in caravan site from 4.5ha in 1988 to 5.74ha in 2016, i.e. an increase of approx. 1.2ha or 27%. However, it is assumed that there has been negligible change in other areas of built up land, i.e. 27.4ha of roads, buildings, hardstandings and small gardens.

- Gain of 0.68ha of bare ground, which is assumed to be associated with human activity but bare ground can be created naturally, e.g. eroding river banks. Bare ground can be very important for solitary bees and wasps, which burrow into the ground.

- It is assumed that there has been no change in the area of rivers and streams, i.e. 2.43ha of running water.

Summary of changes in natural/semi-natural versus man-made/artificial habitat types in Roughlee Booth between 1998 and 2016:

The habitat or vegetation types can be summarised in terms of them being natural/semi-natural or man-made/artificial.

- In 1988, 50.14 hectares (11.16%) was natural/semi-natural and 399.29 hectares (88.84%) was man-made/artificial.

- In 2016, 47.60 hectares (10.59%) was natural/semi-natural and 401.84 hectares (89.41%) was man-made/artificial.

- Overall there has been a decrease in semi-natural habitats from 50.14ha in 1988 to 47.60ha in 2016, i.e. a decrease of 2.55ha or 5.1%.

- Conversely, there has been an increase in artificial habitats from 399.29ha in 1988 to 401.84ha in 2016, i.e. an increase of 2.55ha or 5.1%.

- The proportion of artificial to semi-natural habitats in 1988 was 88.84 : 11.16, and this has increased to 89.41 : 10.59 in 2016.

Changes in habitat types in Roughlee Booth can be compared to changes that have been recorded for the Pendle Hill Landscape Partnership area, as follows:

Habitat	Roughlee Parish 1988 (ha)	Roughlee Parish 2016 (ha)	% Change Roughlee Parish		Pendle Hill 1988 (ha)	Pendle Hill 2016 (ha)	% Change Pendle Hill
Broadleaved Woodland[1]	15.63	20.13	29		334	602	80
Coniferous Woodland	9.58	10.04	4.8		116	126	8
Mixed Woodland	1.20	0.11	-91		61	55	-10
Acid Grassland	5.57	11.64	109		948	1,192	26
Neutral Grassland	13.87	9.56	-31		764	97	-87
Calcareous Grassland	0	0	0		48	32	-32
Marshy Grassland	13.44	6.65	-50.5		680	292	-57
Bracken & Tall herb	0.16	0.14	-12.5		106	136	28
Heath	0	0	0		321	97	-70
Blanket Bog	0	0	0		359	564	57
Fen	0	0	0		52	134	159
Open Water	2.91	3.15	8		38	45	18
Other (mainly Improved Grassland and Built-up)	387.07	388.01	0.2		8,580	9,035	5
Total	**449.43**	**449.43**	**0**		**12,407**	**12,407**	**0**

[1] includes dense scrub in Roughlee Booth in 2016.

From the table above it can be seen that there have been significant increases in the area of woodland in both Roughlee and Pendle Hill between 1998 and 2016, but the change has been greater across Pendle Hill as a whole than in the parish of Roughlee Booth. There have been relatively small increases in conifer plantation but larger decreases in the area of mixed plantation. However, the greatest change in woodland in Roughlee Booth is the increase in broadleaved plantation, there being four main areas of new tree planting:

1. Between Carr Head/Ouzle Rock and Dimpenley Top,
2. Between Lower Gray Stones and Dole House,
3. Adjacent to Noggarth Road and the start of the access lane to Dole House, and
4. North of Intake, south of Offa Hill.

Acid grassland has increased by nearly 110% in Roughlee Booth and by 26% across Pendle Hill as a whole between 1988 and 2016, probably as a result of soils being leached by rainwater that is slightly acidic, as well as by farmers applying less, or no, lime (Calcium Carbonate) to the fields.

In contrast to acid grassland, neutral grassland has decreased by over 30% in Roughlee Booth, but by nearly 90% across Pendle Hill between 1998 and 2016, probably as a result of agricultural improvement.

Marshy grassland has decreased by over 50% in both Roughlee and Pendle Hill between 1998 and 2016, probably as a result of drainage.

There is more open water in both Roughlee Booth and across Pendle Hill as a whole compared to 1988, which is a result of pond creation, i.e. 7ha across Pendle, but just 0.24ha in Roughlee Booth, i.e. at Dole House.

ITEM 2. A summary of the fauna, flora and fungi recorded in the parish.

There are two main centres or offices that hold biological records for Lancashire; Lancashire Environment Record Network (LERN – the biological records centre for Lancashire), which is based at the County Council offices in Preston, and the online National Biodiversity Network (NBN) Atlas, based in Nottingham, see https://nbnatlas.org . Additional records may be held by a number of organisations whose interests and activities cover the Parish, Pendle, East Lancashire, Lancashire and/or Northwest England, including the East Lancashire Bat Group, East Lancashire Ornithologist's Club, Lancashire branch of Butterfly Conservation, Lancashire & Cheshire Fauna Society, North West Fungi Group etc.

As part of the contract with the parish council, Lancashire Wildlife Trust bought a copy of the data held by LERN that had been recorded within the parish boundary. For the NBN Atlas, a circle was drawn around the parish to produce a dataset, which included many of the LERN data but also additional records, some of which may fall outside the parish boundary but lie within the circle and have been included in the summary below.

The species recorded in/adjacent to the parish of Roughlee are presented in Appendices 1 - 9, but can be summarised as follows:

Group of fauna and flora	No. of species	% of species	No. Non-native	% Non-native	No. INNS*	% INNS	No. Lancashire Key Species (LKS)	% LKS
Amphibians	1	0.08	0	0	0	0	1	100
Birds	103	7.83	3	2.9	2	66.7	26	25.2
Fish	9	0.68	1	11.1	1	100	3	33.3
Fungi[1] and lichens	2	0.15	0	0	0	0	0	0
Invertebrates	318	24.18	2	0.6	1	50	48	15.1
Mammals	13	0.99	4	30.8	2	50	4	30.8
Non-vascular plants	132	10.04	0	0	0	0	5	3.8
Reptiles	0	0	0	0	0	0	0	0
Vascular plants	737	56.05	190	25.8	55	29.95	78	10.6
TOTAL	**1,315**	**100**	**200**	**15.2**	**61**	**30.5**	**165**	**12.6**

*INNS = Invasive Non-native Species, including species on Schedule 9 of the Wildlife & Countryside Act (WCA) 1981 (as amended), the European INNS: Alien Species of Union Concern, National INNS list and/or the Lancashire INNS list.

[1] = Additional records of fungi from the parish may be held by the North West Fungus Group. If such records are forthcoming, they will be added to the appendix and reissued to the parish council.

The list above begs several questions:

1. Are there no Common Lizards or Slow-worms in Roughlee?
2. Are there no Common Toads or newts in the parish? If there are where are they found?
3. How many fungi and lichens have yet to be discovered in the parish?

Lancashire Key Species (LKS) refers to species which have a recognised status, either internationally, nationally or locally within Lancashire. Specifically, it includes species identified in one or more of the sources listed below. The list is maintained by the Lancashire Environment Record Network (LERN) Technical Advisory Group, which includes Lancashire Wildlife Trust.

Status	Qualifying Criteria
International Importance	• Convention on the Conservation of European Wildlife and Natural Habitats • Convention on Migratory Species • Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) • Conservation of Habitats and Species Regulations 2010 • Directive 2009/147/EC on the conservation of wild birds • International Union for the Conservation of Nature (IUCN) Red Lists
National Importance	• Wildlife & Countryside Act (WCA) 1981 (as amended) Schedules 1, 5 & 8 • Natural Environment and Rural Communities (NERC) Act 2006 - Habitats and Species of Principal Importance in England • Protection of Badgers Act 1992 • National Red Lists, including Birds of Conservation Concern • Nationally Rare and Nationally Scarce
Lancashire Importance	• Lancashire Rare Species and Lancashire Scarce Species • Local Decline • Recent Local Extinction • Species Occurring in Nationally Important Numbers • Guidelines for the Selection of Biological Heritage Sites

The vascular plants include Angiosperms (flowering plants), Gymnosperms (conifers) and Pteridophytes (ferns and fern-allies), and the list of 737 species can be broken down as follows:

Wildflowers:	465
Grasses, sedges, rushes, ferns and their allies:	136
Trees and shrubs:	136
	737

Looking at these in turn, the 465 species of wildflowers includes 439 species of terrestrial wildflowers and 26 miscellaneous aquatic plants. Of the 465 species of wildflowers and aquatic plants, 345 are native (74.2%), 120 are Introduced (25.8%), and 60 are Lancashire Key Species (12.9%).

recorded in the parish to date.

The 136 species of grasses etc. in Roughlee includes 67 grasses, 29 sedges and sedge-allies, 26 ferns and fern-allies, and 14 rushes and wood-rushes. Of the 136 species, 122 are native (89.7%), 14 are Introduced (10.3%), and 10 are Lancashire Key Species (7.4%).

The 136 species of trees and shrubs includes 32 species of Bramble, or Blackberries! It may surprise some people that there is more than one Bramble or Blackberry, but there are estimated to be over 520 different Brambles in the British Isles! Of the 136 species trees and shrubs in Roughlee, 78 are native (57.4%), 56 are Introduced (41.2%), and eight are Lancashire Key Species (5.9%).

Of the 190 non-native species of vascular plants, 55 are classed as Invasive Non-native Species (INNS, i.e. 29.95%), which comprises 26 wildflowers, 22 trees and shrubs, three grasses, three aquatic plants and one rush.

Of the total number of species recorded in the parish, 165 are Lancashire Key Species (12.6% not included INNS, which are counted separately in this report and covered above), of which the

majority are wildflowers (78), invertebrates (48) and birds (26). These three groups account for over 92% of the 165 Lancashire Key Species.

Many of the vascular plants are edible and can be foraged e.g. eating leaves in salads; added to soups and stews; as a stock thickener; steamed as a side vegetable; pickled; made into jams and jellies, fruit pies and puddings; flowers and fruits made into cordials, syrups and wines; flavourings for gin and vodka; to make herbal teas and coffees; and substitutes for asparagus, broccoli, capers, parsnips and spinach. Lancashire Wildlife Trust has already produced a foraging calendar and is happy to amend this to include those species that have been recorded in the parish and this is attached as Appendix 3.

Many of the plants also have medicinal properties but expansion of this topic is beyond the scope of this contract.

Important sites for wildlife in Roughlee Booth

Sites that are nationally important for their wildlife and/or geology are designated by the government as Sites of Special Scientific Interest (SSSI) but no SSSIs have been designated in Roughlee with Booth. There is just one SSSI in Pendle, i.e. part of the South Pennine Moors, but the SSSI does not extend into Roughlee Booth.

Sites that are important for their wildlife in Lancashire are identified by the Biological Heritage Sites Partnership (Lancashire County Council, Lancashire Wildlife Trust and Natural England) as Biological Heritage Sites (BHS) and two BHS fall completely within the parish of Roughlee Booth:

1. **Hollin Brow** (1.03ha of grassland, Gr3 at SD841408, BHS No. 84SW11), and
2. **Bank Ends, Middle and Hollin Woods** (6.99ha of woodland, Wd2 at SD843411, BHS No. 84SW12).

A further three BHS straddle the parish boundary:

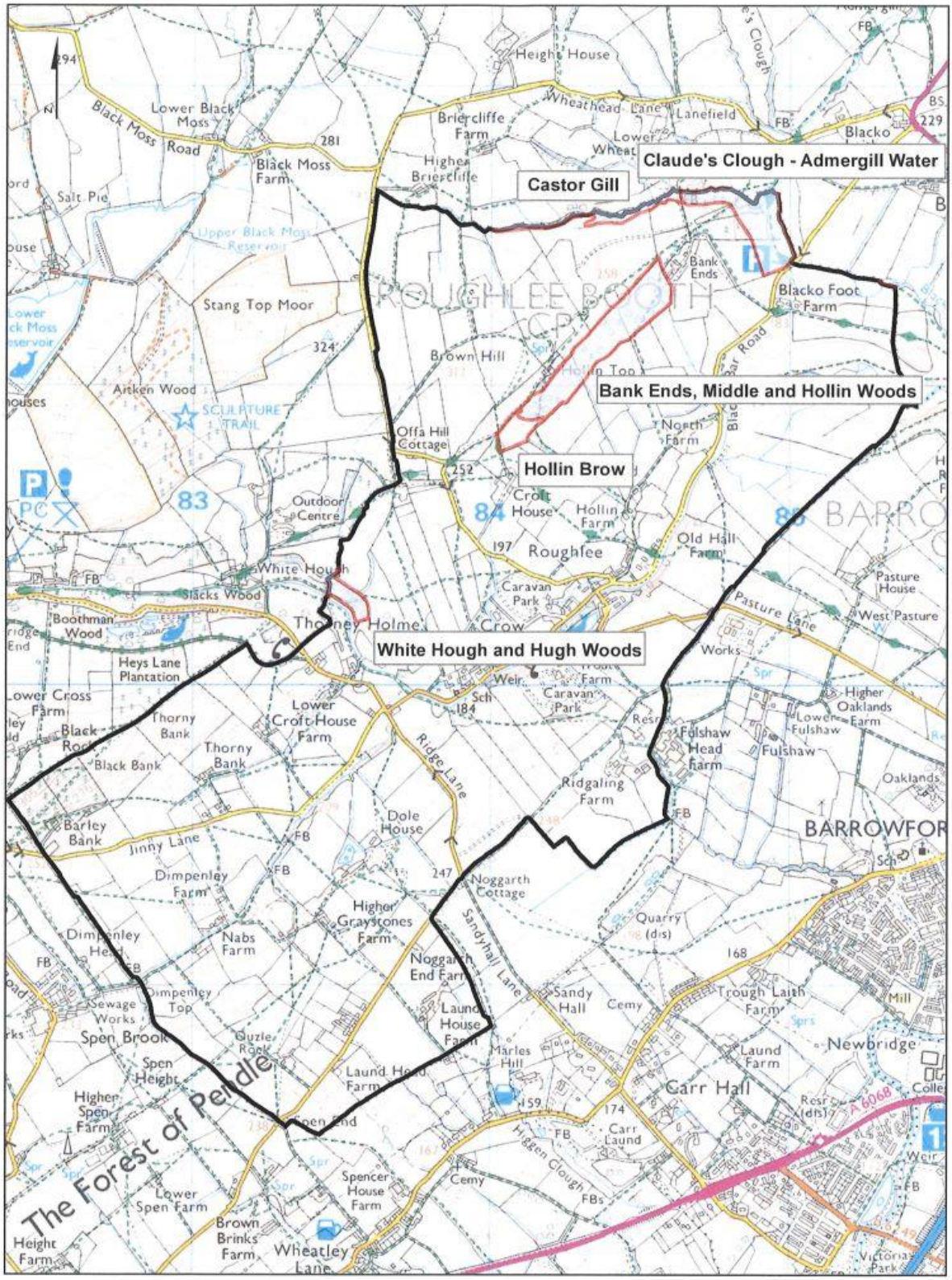
1. **White Hough and Hugh Woods** (1.83ha of woodland at SD835403, BHS No. 84SW08),
2. **Castor Gill** (5.49ha of grassland and woodland at SD845416, BHS No. 84SW13), and
3. **Claude's Clough – Admergill Water** (11.66ha of grassland and woodland, centred on SD850419, BHS No. 84SE01).

A sixth BHS, **Lower Blacko Water** (4.01ha of grassland and woodland at SD856412, BHS No. 84SE02), touches the parish boundary for approx. 70m along the eastern edge of the parish.

These six areas are the most important places for wildlife in and adjacent to the parish, see map below for their locations.

Hollin Brow is part of the action plan that the Pendle Hill Landscape Partnership will start to deliver in 2018, subject to funding being approved by the Heritage Lottery Fund.

Map of Important sites for wildlife in Roughlee Booth.



Conclusions and what next – where do we go from here?

The next step is for the Parish Council to decide what to do with the information that Items 1 and 2 have provided and revealed. The Wildlife Trust suggests the following steps:

1. Some of the information and results in this report are added to the Parish Council website and illustrated with photographs of the landscape, sites, habitats and species. Some of the information could be changed every month or season to reflect the changing flora and fauna that can be seen, or heard, see the Wildlife Calendar presented as Appendix 1 for examples.

2. Parishioners, local groups, girl guides/scouts and schoolchildren are encouraged to record their own observations of flora and fauna and submit them either to the Parish Council, directly to Lancashire's Record Centre (LERN), or online via iRecord. People could be encouraged to look out for something different every month to reflect the changing flora and fauna that can be seen, or heard. This could tie in/link up with the Wildlife Calendar in Appendix 1 or the Calendar of Events presented as Appendix 2.

3. By working with the Pendle Hill Landscape Partnership and the Wildlife Trust, the owners of the Biological Heritage Sites that lie within or straddle the boundary with the parish could manage the important wildlife sites to conserve and enhance the flora and fauna, if they are not doing so already.

4. The checklists and recording forms produced by the Wildlife Trust for the parish of Roughlee Booth are made available to the parishioners, or visitors to the parish, so that they can be used to make records and submit observations of flora and fauna in order to improve our knowledge of the wildlife in the parish and to keep the information up-to-date. The following checklists are appended to this report:

   Appendix 4. Amphibians and Fish,
   Appendix 5. Birds, and
   Appendix 6. Mammals.

5. Having completed Items 1 and 2 of the 6 items discussed with the Parish Council in May 2017, the Parish Council could commission the Wildlife Trust to carry out Item 3 of 6, i.e.

   An assessment of the results of the 2016 Phase 1 habitat survey in context with the ecological networks for grassland and woodland that have been mapped within the parish. The networks may be better understood as corridors of habitats along which wildlife can move. This assessment can identify areas of land that could be targeted for habitat creation, especially tree planting and seeding with native wildflowers, in order to strengthen the relevant network or corridor. Fee: One days work at £210, plus VAT.

6. Having completed Items 1 - 3 of the 6 items discussed with the Parish Council in May 2017, the Parish Council could commission the Wildlife Trust to carry out Items 4, 5 and/or 6, i.e. management recommendations (4), additional site assessments (5) and identification of circular walks that join up features of interest including sites, habitats and species, archaeology, geology and geomorphology, landscape features, local history and culture etc. (6).

Appendix 1. Month-by-month Wildlife Calendar.

JANUARY

Trees/shrubs:	Hazel catkins, also called “Lamb’s tails”, dangle and shed pollen in the wind.
Plants:	Snowdrop, Heliotrope and Lesser Celandine may be found in flower.
Birds:	Redwings, Fieldfares and Waxwings foraging for berries.
Mammals:	Foxes begin breeding. Squirrels build their homes, called ‘dreys’.
Amphibians:	Frogs & Toads may wake from hibernation if the temperature rises.
Invertebrates:	Small Tortoiseshell butterflies may wake from hibernation on sunny days.

FEBRUARY

Trees/shrubs:	Hazel catkins are joined by the catkins of Alder trees.
Plants:	Most Snowdrops, Lesser Celandine & White Butterbur come into bloom. Heads of Bulrush (Reedmace) burst open producing fluffy seeds dispersed on the wind. Look out for the first Primroses.
Birds:	Woodpeckers drumming on dead trees, male Moorhens defend their territory against rivals, Herons nest in tree tops in groups called heronries.
Mammals:	Badgers emerge from their setts at dusk, between 6 & 8pm.
Amphibians:	Frogs return to ponds in town and country, the males arrive first.
Invertebrates:	Look out for Comma, Peacock and Small Tortoiseshell butterflies on the wing during warm days especially towards the end of February.

MARCH

Trees/shrubs:	White flowers appear on bare twigs of Blackthorn/Sloe. Willow catkins appear in profusion - the male catkins of Goat Willow are called “pussy willow”. Hawthorn leaves unfurl & can be eaten (called “bread & cheese”).
Plants:	Crocuses, Daffodils, Winter Aconite, Lesser Celandine, Primrose, Dog’s Mercury, Opposite-leaved Golden-saxifrage, Dog-violets, Red & White Deadnettle & Coltsfoot, which flowers before producing leaves. The leaves of Lords-and-ladies (Cuckoo Pint), Wood Anemone, Bluebells & Ramsons (Wild Garlic) are pushing up through the soil. Ivy fruits in the spring - its berries are a valuable early food source for birds.
Birds:	Woodpecker drill into trees and Blue Tits are looking for places to nest. Curlews are back on the upland peat bogs & wet fields ready to breed. Ducks & Coots are squabbling on ponds. Lapwings (also known as peewits or chewits) start to establish their territories. Listen out for the Skylark’s song, followed by the arrival of the first spring migrants including the Wheatear, Chiffchaff &Willow Warbler or even an early Cuckoo.
Mammals:	As the saying goes it’s as “Mad as a March Hare”.
Amphibians:	Toads return to ponds & by late March have spawned, whereas frogspawn may have already hatched so look out for any tadpoles.
Invertebrates:	Insects emerge, some butterflies take to the air, queen bumblebees search undergrowth for a suitable nesting place, bees gather nectar & pollen.
Fungi:	Look out for Morels & the Scarlet Elf Cup.

APRIL

Trees/shrubs:	Trees and shrubs come into leaf, fruit trees are heavily laden with blossom, Ash flowers look like large swollen buds. Gorse blooms on acidic soils, its yellow pea flowers smelling of coconut or vanilla.
Plants:	Marsh-marigold (Kingcup) flowers beside ponds and streams, Primroses flower in clusters, Bluebells and Ramsons (Wild Garlic) start to carpet the woodland floor, Cowslips blossom in meadows and roadside verges. The Early-purple Orchid is the first orchid of the year to flower. Also look out for Barren Strawberry, Cow Parsley, Dog-violet, Garlic Mustard (Jack-by-the-Hedge), Meadow Buttercup, Wood-sorrel and Wood Anemone.
Birds:	The 'dawn chorus' of birdsong fills the air. Watch out for Swallows, Blackcap, Warblers and Cuckoo arriving. Look out for Blue Tits and Blackbirds feeding their young.
Mammals:	Badger setts have been spring-cleaned and adults forage each night. The young Badgers may be seen above ground for the first time.
Amphibians:	Any remaining spawn hatches into tadpoles and toadlets.
Invertebrates:	Butterflies and bees forage for food. Common butterflies include Peacock, Red Admiral and Small Tortoiseshell. During late April swarms of St Mark's flies maybe seen with their longish black legs trailing lazily beneath them as they fly around. Male Orange tip butterflies emerge in April but only the male that has orange wing-tips.
Fungi:	Look out for Many-zoned Polypore and St George's mushroom.

MAY

Trees/shrubs:	White blossom of Hawthorn (May blossom) replaces that of Blackthorn. Elder bushes come into flower. More trees break into leaf, including Beech, Oak and ash - remember the saying "Oak before Ash in for a splash, Ash before Oak in for a soak".
Plants:	Cow Parsley and Meadowsweet adorn hedgerows and roadside verges. Bluebells and Cowslips are joined by Cuckooflower (Lady's smock), upon which the female Orange Tip butterfly lays her eggs, Lords-and-ladies (Cuckoo Pint), Greater Stitchwort and Red Campion. In damper woodland Bluebells are often mixed with, or replaced by, the white flowers of Ramsons (Wild Garlic). The fluffy white 'flowers' of Cotton-grass resemble cotton wool balls can dominate wet peat bogs on the hills. Also look out for Woodruff, Pignut, Yellow-Rattle, Bush Vetch, Common Spotted-orchid, Oxeye Daisy, Germander and Wood Speedwells.
Birds:	Only by May have all the singing birds arrived so get out very early to hear the full glory of the dawn chorus - listen out for the explosive songs of Blackcap, Garden Warbler and Wren. Swifts and martins join the migrant Whitethroats and Warblers that have already arrived. In the first week of May listen out for the screeching sound of Swifts in the sky. Look out for the holes of Woodpeckers in trees with adults returning to feed their young. Stonechats 'clack' from the tops of bushes, showing off their bright orange coloured breasts.
Mammals:	If you hear grunting and snorting in your garden during warm nights in May it could be hedgehogs mating! Bats are out in force swooping through the air using their sophisticated echo-location technique to home in and catch and eat midges and other insects.
Amphibians:	Tadpoles metamorphose into Frogs and Toads - have any developed legs yet?
Invertebrates:	Insects are incredibly abundant, from cockchafer beetles and dragonflies to aphids and mayflies. Dragonflies and damselflies emerge on warm days. Common Blue butterflies feed on the flowers and lay their eggs on Bird's-foot-trefoil.

JUNE

Trees/shrubs:	Dog-rose and Guelder-rose come into flower.
Plants:	Foxgloves are a distinctive feature of the countryside while Bramble (Blackberries) and Honeysuckle flower in the hedgerows. Orchids appear in wet grassland, whilst vetches and daisies grow in profusion in meadows and pastures. As Cow Parsley flowers fade, Common Hogweed and Hedge-parsley take its place. Water Mint, Water Forget-me-not and Brooklime flower in wet places and along ditches and streams. Also look out for Bird's-foot-trefoil, Oxeye Daisy, Red Campion, Meadow Crane's-bill and Yellow Iris.
Birds:	Listen out for the song of the canary-like Yellowhammer which goes like "a-little-bit-of-bread-and no-cheese" sung from a tree or hedgerow perch! Linnets, Goldfinches and Greenfinches all add to the June birdsong. House Martins are busy catching insects on the wing to feed their young in the large cup-like nests made of mud under the eves of houses. Swallows find easy pickings skirting low over meadows and pastures.
Mammals:	On warm midsummer nights look out for Badgers and bats and Fox cubs playing with their siblings and parents.
Amphibians:	The first young frogs and toads leave their ponds.
Invertebrates:	Mayflies are still around in early June. Rivers, streams and ponds are alive with damselflies and dragonflies. Look out for orange Soldier-beetles feeding on Common Hogweed. On sunny days look out for day-flying black Chimney Sweep moths with white wing tips, and on warm midsummer nights look out for moths.

JULY

Trees/shrubs:	As Butterfly-bush (*Buddleja*) come into flower they attract bees and many butterflies including Small Tortoiseshell, Red Admiral, Peacock and the whites.
Plants:	Pink spikes of Rosebay Willowherb feature in the countryside with Honeysuckle clambering amongst some hedgerows. In damp places the creamy-white Meadowsweet flowers may be accompanied by many other waterside species such as Yellow Iris, Hemp-agrimony and the tall spikes of Purple loosestrife and Great Willowherb. Broad-leaved Helleborine, which are a type of orchid, comes into flower this month in woods and shady places. Also look out for Knapweed, Goat's-beard, Meadow Crane's-bill, Common Spotted-orchid, Bittersweet and Tufted Vetch.
Birds:	Flocks of goldfinches (called charms) feed on seedheads of Knapweed and thistles. Cuckoos are the first birds to migrate south for the winter. July is a good time of year to see birds of prey - Kestrels hoverabove fields and roadside verges with long grass.
Mammals:	Young Rabbits emerge from their warrens.
Amphibians:	Any remaining Frogs and Toads leave their ponds.
Invertebrates:	Bumble bees and butterflies such as Red Admiral and Peacock are still seen on Buddlejas and many hedgerow flowers. The Humming-bird Hawk-moth is a day-flying moth with a wingspan of about two inches. It beats its wings so rapidly that they produce an audible hum. It can hold its body still while its long proboscis drinks nectar from flowers.

AUGUST

Trees/shrubs:	Tree seeds are ripening and Large-leaved Lime, Sycamore, Field Maple and Hornbeam will soon be shedding their winged seeds. By the end of the month, some trees may start to show the first autumnal colours. Blackberries start to ripen, going from green to red then finally black and delicious. Elderberries also ripen and are feasted on by birds such as Blackbird and Starling. Other berries are ripening too, such as Hawthorn (called haws), Blackthorn (sloes) and Roses (hips).
Plants:	Leaves of Lords-and-ladies (Cuckoopint) have died down leaving a fruiting stem, with its head of poisonous red berries. The purple of heather flowers cover the hills, moor and lowland heaths, attracting thousands of bees. Bilberries are now ripe and ready to eat and look out for the carnivorous Sundew on wet boggy ground. Late flowering species include Lady's Bedstraw, Knapweed, Harebell, Field Scabious and, in wet grasslands and on peaty soils, the deep purple-flowered Devil's-bit Scabious. Also look out for Betony and Marsh Woundwort.
Birds:	Swallows gather on telephone cables and martins muster in flocks as they prepare for the journey south. August is a good month to see Kingfishers as chicks leave the nest and disperse to new areas of water. Take an early morning walk along a small river or stream and look out for the flash of orange and bright blue plumage. The Red Grouse is one of the few birds only found in the UK and is effectively confined to Heather moorland, which also supports Golden Plover, Meadow Pipit and Skylark.
Mammals:	Watch bats feed on insects over water during the night. Squirrels can be heard chattering and squealing at each another and can be heard cracking open unripe pale green Hazel nuts, even though there is little reward inside.
Invertebrates:	The black/yellow striped caterpillars of the Cinnabar moth feed on Ragwort, absorbing the poisonous chemicals. Butterflies to look out for include the orange and brown Gatekeepers. Listen for grasshoppers making their distinctive sound as they rub their legs against their bodies in areas with long grass. This is called 'stridulating' and they are advertising their territories. Species most likely to be found are the Common Green, Common Field and the Meadow Grasshoppers. On certain days around this time of the year swarms of black ants fill the air. The females have temporary wings which, after their short flight, they bite off and colonise a new area.
Fungi:	August is normally too early for most of the Autumn fungi, but the Birch Polypore and Dryad's Saddle can be found.

SEPTEMBER

Trees/shrubs:	Seeds fall from many of the trees, including conkers from Horse-chestnut trees (which were introduced to the UK from Albania in 1616?), as well as acorns from oaks and the ripe brown winged seeds from Ash, Sycamore and Field Maple. Hedgerows are full of the ripe black-coloured berries of sloes, elderberries and blackberries and red-coloured hips and haws. Deciduous tree leaves change colour and start to fall to the ground.
Plants:	Common Toadflax and the dandelion-like Rough Hawkbit bloom in dry grasslands as do Common Fleabane, Greater Bird's-foot-trefoil, Yellow Loosestrife and Purple Loosestrife in wetter areas. Also look out for Yarrow in meadows and roadside verges, and the white flowers of Greater Bindweed and Wild Angelica attract bees and hoverflies.
Birds:	Preparations for winter begin but do not finish fully until November. Small birds move through the countryside in flocks helping each other to find food. Jays and

	hide-away acorns in the ground as stashes to help make it through the winter. On warm days Willow Warblers may be heard singing once again before they leave the UK.
Mammals:	Shrews feed on insects and their numbers peak during September. Squirrels, like Jays, also stash acorns in the ground.
Amphibians:	Frogs and Toads eat greedily to put on body weight to sustain them through the winter.
Invertebrates:	Look out for the dragonflies in wetland areas and bees and wasps feeding on the late-flowering Ivy. September is a good time to see plant galls. Look out for oak 'apples', red 'bean galls' on willow leaves, and "Robin's pin cushion" on roses, looking like a tangled ball of red fishing line! Butterflies can still be on the wing from the second or third hatchings. However, they may be ragged and this will be their last month as adults. The browns and skippers feed on grasses. The male Gatekeeper sets up territories along hedges where the nectar bearing plants of Mint, Wood Sage and Bramble attract the adults. The Wall butterfly can be seen basking in the sun on rocks and stones.
Fungi:	Fungi such as Stinkhorns, Puffballs and Field Mushrooms appear above ground in abundance in woodlands, meadows and pastures. The Fly Agaric is one of Britain's best known and most attractive fungi, made famous by Lewis Carroll in Alice in Wonderland - take a look around Silver Birch trees.

OCTOBER

Trees/shrubs:	Trees such as Beech, Oak, Field Maple and Ash reveal their autumn colours, which can happen quite suddenly if there's a sharp frost.
Plants:	Ivy is a very important plant and especially during autumn when it flowers, providing a vital nectar source for insects before they hibernate.
Birds:	Redwing and Fieldfares return from the north and many of our summer visitors head off south to Africa.
Mammals:	It's the deer rutting season and stags compete for hinds by fighting each other with their antlers. As the days shorten, dusk is a good time to catch sight of Foxes.
Amphibians:	Toads hibernate under rocks and stones, as do female Frogs and young Frogs, but some male Frogs go to the bottom of the pond.
Invertebrates:	The Holly Blue butterfly lays its white, dimpled, disc-shaped eggs on flower stalks of Ivy - the green caterpillars that hatch feed on the ivy flower buds. There are plenty of Harvestmen (Daddy Long-legs) about at this time of year.
Fungi:	Fly Agaric and Shaggy Inkcap, appear in coniferous and deciduous woodlands. Look out for fairy rings formed by toadstools in grassland and the Beefsteak fungus on oak and chestnut trees.

NOVEMBER

Trees/shrubs:	We are still treated to one of nature's spectacular scenes - the autumn colours from dark browns to bright yellows and others of reds and oranges. As the leaves fall we can notice the red twigs of Dogwood shrubs and the small catkins of Hazel.
Plants:	Ivy is in flower and provides a late source of food for insects. White Deadnettle, looks like a short stinging nettle without a sting and has white flowers in between its leaves.
Birds:	Mixed flocks of Chaffinch, Greenfinch and Goldfinch, scour the countryside for food. Redwing, Fieldfare and Waxwing feed on the remaining berries of Hawthorn

	and Rowan in the hedgerows. Robins are about the only birds left singing as they continue to defend their territory in winter. Tawny Owls begin to establish territories in November –listen out for the distinctive 't'wit t'whooo' after dusk.
Mammals:	Hedgehogs try to build up their fat reserves to get them through their hibernation over the winter by feeding on slugs, beetles and worms.
Amphibians:	Some of this year's young Frogs and Toads may still be out hunting.
Invertebrates:	Ladybird hibernate clustered together in large numbers, up to 1000 individuals, to provide extra warmth.
Fungi:	Look out for Puffballs, which have a firm and rubbery white texture but when ripe look like stemless brownish sacs, which contain the spores and are released in a cloud of dust when hit by a drop of rain.

DECEMBER

Trees/shrubs:	The two coniferous trees that are native to the UK, i.e. the Scot's pine and yew, are evergreen and the upper bark of the pine has an orangey-pink colour, and berries appear on female Yew trees. The holly is an evergreen broadleaved tree and, like Yew trees, are either male or female, with only the female trees producing berries. Other trees that stand out in winter are Silver Birch, with its white bark, and Alder, with its purple-tinged catkins. The young stems of Dogwood shrubs are blood red in colour.
Plants:	A few plants may still be found lingering on in flower, such as Groundsel, Scarlet Pimpernel and Red Campion.
Birds:	Look out for the pink crests of Waxwings that feed on berries after severe winter weather in Europe brings them to the UK. The Robin is one of the few birds in the UK that sing all year round because it holds its territory over the winter and males often hold the same territory for their whole life.
Mammals:	At night, Foxes call out with the female's eerie blood-curdling screams and the dog's barks and yelps as they start to form pairs. If the weather is mild bats may emerge briefly from their winter's sleep to grab a meal of insects if there are any about.
Amphibians:	Frogs and Toads may wake to feed for short periods in warm weather.
Invertebrates:	The December Moth can be found until mid to late December.

Appendix 2. Calendar of national and international wildlife days, weeks and events.

Date(s) – may change every year, unless highlighted in **bold** – check websites for details:	**Event** (and organizing body):
23rd December 2017 – 7th January 2018	Festival of Winter Walks (Ramblers)
2nd January – 23rd February 2018	Big Schools Garden Watch (rspb)
27th-28th January 2018 (**last w/e in January**)	Big Garden Bird Watch Weekend (rspb)
2nd February 2018	World Wetlands Day (Ramsar)
14th-21st February 2018	National Nest Box Week (British Trust for Ornithology)
21st March 2018	World Forestry Day (United National General Assembly)
22nd March 2018	World Water Day (United Nations Water)
15th April 2018 (tbc)	Daffodil Sunday
19th April 2018	Primrose Day (after Benjamin Disraeli)
22nd April 2018	Earth Day (Earth Day Network)
6th May 2018 (**1st Sunday in May**)	International Dawn Chorus Day
1st – 31st May 2018	Walk in the Woods Month (The Tree Council)
1st – 31st May 2018	National Walking Month (Living Streets, Pedestrians Association)
22nd May 2018	International Day for Biological Biodiversity (United Nations)
30th May 2018 (**last Weds in May**)	International Otter Awareness Day
12th – 27th May 2018 (tbc)	Be Nice to Nettles Week (CONE)
29th May 2018	Oak Apple Day
1st – 7th June 2018	National Volunteers Week (NCVO)
2nd June 2018 (**1st Saturday in June**)	Butterfly Education & Awareness Day (Association for Butterflies)
5th June 2018	World Environment Day (United Nations)
2nd June 2018 (**1st Saturday in June**)	Butterfly Education & Awareness Day (Butterfly Association)
16th June 2018	National Badger Day
14th – 22nd July 2018 (tbc)	National Dragonfly Week (British Dragonfly Society)
18th - 24th June 2018 (Biennial - not in 2019 etc.)	National Insect Week (Royal Entomological Society-biennial)
7th July 2018 (**first Saturday in July**)	National Meadows Day (Plantlife)
29th July 2018 (**last Sunday in July**)	International Bog Day (established by the Scottish Wildlife Trust)
29th August 2018	International Bat Night (UNEP EUROBATS)
21st – 29th July 2018	National Moth Week (Friends of East Brunswick Environ. Comm.)
26th – 30th August 2018	World Water Week (Stockholm International Water Institute)
23rd September – 23rd October 2018 (**from equinox**)	Seed Gathering Season (The Tree Council)
28th September 2018	Forest Stewardship Council Friday (FSC)
1st October 2018 (**1st Monday in October**)	World Habitat Day (United Nations)
4th October 2018	World Animal Day (Naturewatch Foundation)
6th October 2018	National Badger Day (The Badger Trust)
8th October 2018	UK Fungus Day (British Mycological Society)
27th October 2018 (**4th Saturday in October**)	Make a Difference Day (TEGNA)
27-28th October 2018 (**last weekend in October**)	Feed the Birds Day (rspb)
24th November – 2nd December 2018	National Tree Week (The Tree Council)
27th November 2018	Lancashire Day
1st – 2nd December 2018 (**1st full w/e in Dec.)**	Tree Dressing Day (Common Ground)
5th December 2018	International Volunteer Day (United Nations)
22nd December 2018 – 6th January 2018 (tbc)	Festival of Winter Walks (Ramblers)

Appendix 3. Wild food calendar for some plants found in the parish of Roughlee Booth, by the Lancashire Wildlife Trust 2017.
(green = salad, pale yellow = cooked, brown = tea/coffee, pink = preserves & wines, orange = pickled, white = raw snack)

Common name(s)	*Scientific name*	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Life-cycle	Parts eaten	Type of food
Ash	*Fraxinus excelsior*						✓	✓	✓					Perennial - tree	Young seeds 'keys'	Pickled
Beech	*Fagus sylvatica*				✓	✓								Perennial - tree	Young leaves	Salad
Beech	*Fagus sylvatica*									✓	✓	✓		Perennial - tree	Nuts	Snack (raw or roasted), soup & stew thickener
Blackberry or Bramble	*Rubus Fruticosus*			✓	✓	✓								Perennial	Young leaf buds	Salad
Blackberry or Bramble	*Rubus Fruticosus*							✓	✓	✓	✓			Perennial	Fruit	Jam, jelly, leather*, puddings & wine
Burdock (Greater & Lesser)	*Arctium lappa, Arctium minus*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Perennial	Roots	Roasted, stir-fried, pureed
Burdock (Greater & Lesser)	*Arctium lappa, Arctium minus*			✓	✓	✓								Perennial	Stem insides	Steamed side vegetable
Chickweed	*Stellaria media*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Young leaves & fresh tops	Salad
Cleavers, Goosegrass	*Galium aparine*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Young leaves	Steamed side vegetable
Cleavers, Goosegrass	*Galium aparine*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Seeds	Coffee substitute
Clovers (Red, White etc.)	*Trifolium pratense, T.repens* etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Flowers	Salad
Comfrey (from cream-flowered plants only)	*Symphytum officinale*					✓	✓	✓	✓	✓	✓			Perennial	Leaves	Young leaves as a green in soups & stews, older leaves as fritters

Common name(s)	*Scientific name*	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Life-cycle	Parts eaten	Type of food
Comfrey (from cream-flowered plants only)	*Symphytum officinale*					✓	✓	✓	✓	✓	✓			Perennial	Stems	Asparagus substitute
Comfrey (from cream-flowered plants only)	*Symphytum officinale*				✓	✓	✓	✓	✓	✓	✓	✓		Perennial	Roots	Coffee substitute
Crab Apple	*Malus sylvestris*										✓	✓	✓	Perennial - tree	Fruit	Jelly and “cheese”
Cuckooflower Lady’s-smock	*Cardamine pratensis*			✓	✓	✓	✓	✓	✓					Perennial	Leaves & flowers	Salad
Daisy	*Bellis perennis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Leaves	Salad
Damsons	*Prunus domestica*									✓	✓			Perennial - tree	Fruit	Jam, jelly, leather*, puddings & wine
Dandelion	*Taraxacum officinale*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Young leaves	Salad or as a green in soups & stews
Dandelion	*Taraxacum officinale*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Unopened flower buds	Pickled
Dandelion	*Taraxacum officinale*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Flowers	Marmalade & wine
Dandelion	*Taraxacum officinale*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Roots	Coffee substitute
Elder	*Sambucus nigra*					✓	✓							Perennial - shrub	Unopened flower buds	Pickled and used like capers
Elder	*Sambucus nigra*						✓	✓						Perennial - shrub	Flowers	Cordial, syrup, deep fried & ‘champagne’
Elder	*Sambucus nigra*							✓	✓	✓	✓			Perennial - shrub	Berries	Pontiac sauce (ketchup) & wine
Fat-hen	*Chenopodium album*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Young leaves	Salad

Common name(s)	*Scientific name*	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Life-cycle	Parts eaten	Type of food
Fat-hen	*Chenopodium album*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Leaves	Spinach substitute
Fat-hen	*Chenopodium album*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Unopened flower buds	Broccoli substitute
Fat-hen	*Chenopodium album*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Seeds	Quinoa substitute
Garlic Mustard or Hedge Garlic	*Alliara petiolata*			✓	✓	✓	✓	✓	✓	✓				Biennial	Young leaves	Salad
Greater Stitchwort	*Stellaria holostea*			✓	✓	✓	✓							Perennial	Young leaves & flowers	Salad
Ground Elder or Goutweed	*Aegopodium podagraria*		✓	✓	✓	✓	✓	✓	✓	✓	✓			Perennial	Young leaves	Salad
Ground Elder or Goutweed	*Aegopodium podagraria*				✓	✓	✓	✓	✓	✓	✓			Perennial	Older leaves	Steamed side vegetable
Hawthorn	*Crataegus monogyna*			✓	✓	✓	✓							Perennial - tree	Young leaves & flowers	Salad
Hawthorn	*Crataegus monogyna*									✓	✓	✓	✓	Perennial - tree	Berries	Jelly & leather*
Hairy Bittercress	*Cardamine hirsuta*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Leaves	Salad & substitute for Cress
Hazel	*Corylus avellana*									✓				Perennial - tree	Nuts	Snack
Hogweed	*Heracleum sphodylium*			✓	✓	✓	✓							Biennial	Young leaves & shoots	Blanched side vegetable, Spinach substitute, soups & stews
Hogweed	*Heracleum sphodylium*						✓	✓	✓	✓				Biennial	Flower buds	Broccoli substitute

Common name(s)	*Scientific name*	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Life-cycle	Parts eaten	Type of food
Hogweed	*Heracleum sphodylium*			✓	✓	✓	✓	✓	✓	✓	✓	✓		Biennial	Roots	Parsnip substitute
Lesser Celandine	*Ficaria (Ranunculus) verna*		✓	✓	✓	✓	✓							Perennial	Leaves and flowers	Salad (in moderation)
Lesser Celandine	*Ficaria (Ranunculus) verna*		✓	✓	✓	✓	✓							Perennial	Nobbles on roots	Roasted or boiled
Lime	*Tilia platyphyllos*				✓	✓								Perennial - tree	Young leaves	Salad
Lime	*Tilia platyphyllos*						✓	✓	✓					Perennial - tree	Flowers & fruit inc bract	Tea
Nettle	*Urtica dioica*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Perennial	Young leaves	Soup, side vegetable, Spinach substitute
Oak (Pedunculate & Sessile)	*Quercus robur* & *Q.petraea*									✓	✓	✓		Perennial - tree	Acorns	Binding for breads, pasta & biscuits
Plantain, Ribwort	*Plantago lanceolata*				✓	✓	✓	✓	✓	✓				Perennial	Young flower buds	Mushroom-flavoured stock
Pignut, Earth Chestnut	*Conopodium majus*			✓	✓	✓	✓	✓						Perennial	Tuber	Snack
Pineappleweed	*Matricaria discoidea*					✓	✓	✓	✓	✓				Annual	Leaves & young flower heads	Salad & snack
Ramsons or Wild Garlic	*Allium ursinum*		✓	✓	✓	✓	✓							Perennial	Leaves & flower buds	Salad & Garlic substitute
Raspberry	*Rubus idaeus*							✓	✓	✓				Perennial - shrub	Fruit	Jam, jelly & puddings

Common name(s)	*Scientific name*	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Life-cycle	Parts eaten	Type of food
Rosebay Willowherb	*Chamerion angustifolium*				✓	✓	✓	✓	✓					Perennial	Young leaves	Salad
Rosebay Willowherb	*Chamerion angustifolium*				✓	✓	✓							Perennial	Very young stems	Asparagus substitute
Rosebay Willowherb	*Chamerion angustifolium*					✓	✓	✓	✓	✓	✓			Perennial	Inside of older stems	Soup & stew thickener
Shepherd's-purse	*Capsella bursa-pastoris*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Leaves	Salad
Smooth Sow-thistle	*Sonchus oleraceus*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Annual	Young leaves	Salad & a green in soups & stews
Sorrel (Common & Sheep's)	*Rumex acetosa* & *R.acetosella*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Leaves	Salad & a green in soups & stews
Sweet Chestnut	*Castanea sativa*										✓	✓	✓	Perennial - tree	Nuts	Roasted
White Dead-nettle	*Lamium album*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Young leaves	Steamed side vegetable, Spinach substitute
Wood Avens or Herb Bennett	*Geum urbanum*		✓	✓	✓	✓	✓							Biennial	Young leaves	Salad, stew or deep-fried
Wood-sorrel	*Oxalis acetosella*			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Perennial	Leaves & flowers	Salad & thirst-quencher
Yarrow	*Achillea millefolium*			✓	✓	✓	✓	✓	✓	✓	✓	✓		Perennial	Leaves	Salad & tea

(green = salad, pale yellow = cooked, brown = tea/coffee, pink = preserves & wines, orange = pickled, white = raw snack)

Other plants, in addition to Lime, Nettle and Yarrow above, whose leaves can be used to make a tea include Chamomile (*Chamaemulum nobile*), Mint (*Mentha* species), Mugwort (*Artemisia vulgaris*) and Pine (*Pinus* species).

Other plants, in addition to Blackberry, Crab Apple, Damson, Hawthorn & Raspberry above, whose fruit can be made into a Jelly include Guelder-rose (*Viburnum opulus*), Mountain Ash or Rowan (*Sorbus aucuparia*) and those in the white box below. * A 'leather' is a pressed and dried sheet of berries that can be eaten as a snack through the winter & spring.

Other plants, in addition to Crab Apple above, whose fruit can be made into a "Cheese" include Blackthorn or Sloe (*Prunus spinosa*).

The fruits of Whitebeam (*Sorbus aria*) can be eaten once they have 'bletted', i.e. started to go soft. They can be eaten raw or made into a jelly preserve.

Continued...

Note: The hairy seeds of Rosebay Willowherb gathered in a bunch makes a good tinder for sparks or friction fires.

Plants that are rare or have a restricted distribution have not been included and mushrooms have been excluded due to the risks of misidentification.

For further details and recipes see 'Food for Free' by Richard Mabey, 'Wild Food' by Roger Phillips and the following websites in particular: www.eatweeds.co.uk and www.wildfooduk.com

Notes:	

Appendix 4. Checklist and recording form for Amphibians and Fish in the parish of Roughlee Booth:

Common Name	***Scientific name***	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Amphibians:							
Common Frog	*Rana temporaria*		**Yes**				
1 species of amphibian			**1**				
Fish:							
Stone Loach	*Barbatula barbatula*						
Bullhead	*Cottus gobio*		**Yes**				
Brown/Sea Trout	*Salmo trutta*		**Yes**				
Eel	*Anguilla anguilla*		**Yes**				
Perch	*Perca fluviatilis*						
Gudgeon	*Gobio gobio*						
Three-spined Stickleback	*Gasterosteus aculeatus*						
Minnow	*Phoxinus phoxinus*						
Rainbow Trout	*Oncorhynchus mykiss*	INNS					
9 species of fish		1	**3**				
Any others?:							

* INNS = Invasive Non-native Species. Please send your records to Lancashire Environment Record Network, PO Box 100, County Hall, Preston, Lancashire. PR1 8XJ or to lern@lancashire.gov.uk, or submit them online to iRecord: www.brc.ac.uk/irecord/

Appendix 5. Checklist and recording form for Birds in the parish of Roughlee Booth:

Common Name	***Scientific name***	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Birds:							
Blackbird	*Turdus merula*						
Blackcap	*Sylvia atricapilla*						
Brambling	*Fringilla montifringilla*		**Yes**				
Bullfinch	*Pyrrhula pyrrhula*		**Yes**				
Bunting, Reed	*Emberiza schoeniclus*		**Yes**				
Buzzard	*Buteo buteo*						
Chaffinch	*Fringilla coelebs*						
Chiffchaff	*Phylloscopus collybita*						
Coot	*Fulica atra*						
Cormorant	*Phalacrocorax carbo*						
Crossbill	*Loxia curvirostra*		**Yes**				
Crow, Carrion	*Corvus corone* ssp. *corone*						
Curlew	*Numenius arquata*		**Yes**				
Dipper	*Cinclus cinclus*						
Dove, Collared	*Streptopelia decaocto*						
Dove, Rock	*Columba livia*						
Dove, Stock	*Columba oenas*						
Duck, Tufted	*Aythya fuligula*						
Duck, Wood	*Aix sponsa*	INNS					
Dunnock	*Prunella modularis*		**Yes**				

Common Name	***Scientific name***	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Fieldfare	*Turdus pilaris*		**Yes**				
Flycatcher, Pied	*Ficedula hypoleuca*		**Yes**				
Flycatcher, Spotted	*Muscicapa striata*		**Yes**				
Goldcrest	*Regulus regulus*						
Goldeneye	*Bucephala clangula*		**Yes**				
Goldfinch	*Carduelis carduelis*						
Goosander	*Mergus merganser*						
Goose, Canada	*Branta canadensis*	INNS					
Goose, Greylag	*Anser anser*		**Yes**				
Grebe, Great Crested	*Podiceps cristatus*						
Grebe, Little	*Tachybaptus ruficollis*						
Greenfinch	*Carduelis chloris*						
Gull, Black-headed	*Chroicocephalus ridibundus*		**Yes**				
Gull, Common	*Larus canus*						
Gull, Great Black-backed	*Larus marinus*		**Yes**				
Gull, Herring	*Larus argentatus*		**Yes**				
Gull, Lesser Black-backed	*Larus fuscus*		**Yes**				
Heron, Grey	*Ardea cinerea*		**Yes**				
Jackdaw	*Corvus monedula*						
Jay	*Garrulus glandarius*						
Kestrel	*Falco tinnunculus*		**Yes**				
Kingfisher	*Alcedo atthis*		**Yes**				
Lapwing	*Vanellus vanellus*		**Yes**				
Linnet	*Linaria cannabina*		**Yes**				
Magpie	*Pica pica*						
Mallard	*Anas platyrhynchos*						

Common Name	*Scientific name*	Introduced & INNS*	Lancashire Key Species	Seen by (name)	Where (site name)	Where (grid ref)	When (date)
Martin, House	*Delichon urbicum*						
Martin, Sand	*Riparia riparia*						
Moorhen	*Gallinula chloropus*						
Nuthatch	*Sitta europaea*						
Owl, Little	*Athene noctua*						
Owl, Tawny	*Strix aluco*						
Oystercatcher	*Haematopus ostralegus*		**Yes**				
Partridge, Grey	*Perdix perdix*		**Yes**				
Pheasant	*Phasianus colchicus*	I					
Pipit, Meadow	*Anthus pratensis*		**Yes**				
Plover, Golden	*Pluvialis apricaria*		**Yes**				
Plover, Ringed	*Charadrius hiaticula*		**Yes**				
Raven	*Corvus corax*		**Yes**				
Redpoll, Lesser	*Acanthis cabaret*		**Yes**				
Redshank	*Tringa totanus*		**Yes**				
Redstart	*Phoenicurus phoenicurus*						
Redwing	*Turdus iliacus*		**Yes**				
Robin	*Erithacus rubecula*						
Rook	*Corvus frugilegus*						
Sandpiper, Common	*Actitis hypoleucos*		**Yes**				
Siskin	*Spinus spinus*						
Skylark	*Alauda arvensis*		**Yes**				
Smew	*Mergellus albellus*		**Yes**				
Snipe	*Gallinago gallinago*		**Yes**				
Snipe, Jack	*Lymnocryptes minimus*						
Sparrow, House	*Passer domesticus*		**Yes**				

Common Name	***Scientific name***	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Sparrowhawk	*Accipiter nisus*						
Starling	*Sturnus vulgaris*		**Yes**				
Stonechat	*Saxicola rubicola*						
Swallow	*Hirundo rustica*						
Swan, Mute	*Cygnus olor*						
Swift	*Apus apus*		**Yes**				
Teal	*Anas crecca*		**Yes**				
Thrush, Mistle	*Turdus viscivorus*		**Yes**				
Thrush, Song	*Turdus philomelos*		**Yes**				
Tit, Blue	*Cyanistes caeruleus*						
Tit, Coal	*Periparus ater*						
Tit, Great	*Parus major*						
Tit, Long-tailed	*Aegithalos caudatus*						
Treecreeper	*Certhia familiaris*						
Wagtail, Grey	*Motacilla cinerea*		**Yes**				
Wagtail, Pied	*Motacilla alba* ssp. *yarrellii*						
Warbler, Garden	*Sylvia borin*						
Warbler, Grasshopper	*Locustella naevia*		**Yes**				
Warbler, Sedge	*Acrocephalus schoenobaenus*						
Warbler, Willow	*Phylloscopus trochilus*		**Yes**				
Warbler, Wood	*Phylloscopus sibilatrix*		**Yes**				
Waxwing	*Bombycilla garrulus*						
Wheatear	*Oenanthe oenanthe*						
Whitethroat	*Sylvia communis*						
Woodcock	*Scolopax rusticola*		**Yes**				
Woodpecker, Great Spotted	*Dendrocopos major*						

Common Name	***Scientific name***	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Woodpecker, Green	*Picus viridis*						
Woodpecker, Lesser Spotted	*Dendrocopos minor*		**Yes**				
Woodpigeon	*Columba palumbus*						
Wren	*Troglodytes troglodytes*						
Yellowhammer	*Emberiza citrinella*		**Yes**				
103 species of birds		3	**46**				
Any others?:							

* INNS = Invasive Non-native Species. Ssp. = sub-species. Please send your records to Lancashire Environment Record Network, PO Box 100, County Hall, Preston, Lancashire. PR1 8XJ or to lern@lancashire.gov.uk, or submit them online to iRecord: www.brc.ac.uk/irecord/

Appendix 6. Checklist and recording form for Mammals in the parish of Roughlee Booth:

Scientific name	**Common Name**	**Introduced & INNS***	**Lancashire Key Species**	**Seen by (name)**	**Where (site name)**	**Where (grid ref)**	**When (date)**
Mammals:							
Brown Hare	*Lepus europaeus*		**Yes**				
Feral Cat	*Felis catus*	I					
Grey Squirrel	*Sciurus carolinensis*	INNS					
Hedgehog	*Erinaceus europaeus*		**Yes**				
Mink	*Neovision vision*	INNS					
Mole	*Talpa europaea*						
Mouse (unidentified)	*Muridae*						
Otter	*Lutra lutra*		**Yes**				
Pipistrelle Bat	*Pipistrellus pipistrellus*		**Yes**				
Rabbit	*Oryctolagus cuniculus*	I					
Roe Deer	*Capreolus capreolus*						
Weasel	*Mustela nivalis*						
Wood Mouse	*Apodemus sylvaticus*						
13 species of mammals		4	**4**				
Any others?:							

* INNS = Invasive Non-native Species. Please send your records to Lancashire Environment Record Network, PO Box 100, County Hall, Preston, Lancashire. PR1 8XJ or to lern@lancashire.gov.uk, or submit them online to iRecord: www.brc.ac.uk/irecord/