



Phase 1 Habitat Survey

*Submitted as part of the Outline Planning Application for
Land to the east of Clitheroe Road (Lawsonsteads Farm), Whalley*

COMMERCIAL ESTATES GROUP

Land off Clitheroe Road, Whalley Ecological Appraisal

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Final



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1 Introduction

1.1 The Proposed Development

1.1.1 Land to the east of Clitheroe Road in Whalley, Lancashire has been highlighted as an area for a mixed housing development.

1.1.2 Baker Consultants were commissioned in September 2010 by Commercial Estates Group, to undertake a suite of surveys in order to carry out an ecological appraisal of the site. Survey work was carried out between September 2010 and June 2011. Surveys carried out included:

- Extended Phase I survey.
- Water vole survey.
- Badger survey.
- White-clawed crayfish habitat assessment.
- Hedgerow assessment.
- Bat roost assessment.
- Bat activity survey.
- Breeding bird survey.

1.2 Site Description

1.2.1 The site is located to the east of Clitheroe Road, north-east of the town of Whalley in Lancashire.

1.2.2 The Ordnance Survey grid reference is SD 736 366

1.2.3 The site consists of an improved pasture field. Other habitats include streams, hedgerows, and scattered scrub.

- 1.2.4 The site is divided between two Natural Areas: Lancashire Plains and Valleys to the south and Forest of Bowland to the North¹.

Figure 1. Site location



1.3 Study Scope

- 1.3.1 Baker Consultants was commissioned by the client to undertake the following works in relation to the Site:

- Desk-based study including written consultation with consultees and interrogation of online databases to identify statutory and non-statutory designated sites of nature conservation importance and records of protected and/or notable species;
- Phase I Habitat survey to record the nature and extent of vegetation and habitats within and adjacent to the Site; and

¹ Natural Areas are sub-divisions of England, each with a characteristic association of wildlife and natural features. They provide a way of interpreting the ecological variations of the country in terms of natural features, illustrating the distinctions between one area and another. Each Natural Area has a unique identity resulting from the interaction of wildlife, landforms, geology, land use and human impact.

- Species-specific surveys and/or appraisals for protected and or notable flora and fauna.
- Breeding bird survey to document the community and estimate the abundance of breeding bird species present within the site. This is to allow an evaluation of the breeding bird population and provide an assessment of the likelihood of impacts upon the breeding bird community arising from the proposed development.
- Bat survey to establish any potential roost sites and find out how bats use the site for foraging and commuting purposes and provide an evaluation of any impacts towards bat species relating to the proposed works.

1.3.2 The survey findings are presented in this report, together with an assessment of the ecological status of the site, identifying, in particular, any potentially significant ecological constraints that may affect any development proposal.

2 Methodology

2.1 Desk study

2.1.1 A desktop study was carried out to determine:

- The known presence of any protected or notable species or habitats in the site or 2km of the site.
- The presence of designated conservation sites such as statutory Sites of Special Scientific Interest (SSSI) or non-statutory Local Wildlife Sites (LWS) within the site or within 2km radius of the site.

2.1.2 Lancashire Environment Record Network (LERN) was contacted to supply this information. The full results of the data search can be seen in Appendix I.

2.1.3 A further search of web-based source, NBN gateway² was carried out to gain further details for protected species.

2.1.4 The local Environment Agency's fisheries officer for the area was contacted for records of white-clawed *Austropotamobius pallipes* crayfish within the Whalley area.

2.2 Field survey

Extended Phase I Habitats

2.2.1 A Phase I Habitat Survey was carried out by Consultant Ecologists Paul Howden-Leach MIEEM and Kelly Clark MIEEM on 14th September 2010. The vegetation types and habitats present were described and mapped during a walkover of the site, using the standard published guidelines for Phase I Habitat survey¹. Features of particular interest were recorded in Target Notes.

2.2.2 In addition, the habitats within the site and surrounding land were appraised for their suitability to support protected or notable species or assemblages that could be sensitive to the development proposals, in accordance with 'Guidelines for Baseline Ecological Assessment'¹¹.

2.2.3 Protected and notable habitats and species include those listed under the Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species

² National Biodiversity Network (2008) NBN Gateway. Available at <http://data.nbn.org.uk/> [accessed 11/10]

Regulations 2010; and Species and Habitats of Principal Importance in England/Wales, listed under the Natural Environment and Rural Communities (NERC) Act 2006. Consideration was given to features such as potential breeding bird habitat, bat roosting locations, suitable reptile habitats and the suitability of water features for species such as white-clawed crayfish *Austropotamobius pallipes* and water vole *Arvicola amphibius*.

- 2.2.4 Exotic and invasive species, such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*, were noted by the surveyor if present. These species can have implications for development activity and human health respectively.
- 2.2.5 Weather conditions during the survey were showers with sunny spells.
- 2.2.6 The survey approach taken is designed to identify broad habitat types at a site and the potential of these habitats to support notable/protected species, and to assist in providing an overview of the ecological interest at a site. It is generally the most widely used and professionally recognised method for initial ecological site appraisal.

Hedgerow assessment

- 2.2.7 All hedgerows were walked and assessed following the criteria set out in the Hedgerow Regulations 1997. The number of wooded species in the centre 30m of every 100m section were counted and recorded. Any associated wooded ground flora defined in the Regulations was also recorded. This survey was undertaken on 13th September 2010 by Kelly Clark and Paul Howden-Leach.

Bat Roost Assessment

- 2.2.8 The habitats within the survey area were assessed for their potential to support roosting bats in accordance with current guidance^{iii iv}. This involved the inspection of locations such as mature trees for evidence indicating the presence of roosting bats or for features with the potential to provide bat roost habitats. Evidence indicating the presence of bats would normally include droppings, characteristic staining, scratch marks or the presence of live or dead bats. Trees are inspected for the presence of rot holes, scar crevices, loose bark and covering of dense ivy³.
- 2.2.9 An inspection of the survey area was undertaken by Kelly Clark and Paul Howden-Leach on 14th September 2010. Weather conditions during the survey were showers with sunny spells.

³ Typically ivy stems thicker than 4cm create gaps between the stem and the tree that are favoured by bats. As the ivy plant matures the thicker stems push away from the 'host' tree and create a well insulated pocket for bats to shelter.

2.2.10 Trees are assessed according to the following criteria:

- Category 1: Confirmed bat roost in tree with field presence of the presence of bats such as droppings, scratch marks, grease marks or urine staining.
- Category 2a: Trees that have a high potential to support bat roosts.
- Category 2b: Trees with a moderate/low potential to support bat roosts.
- Category 3: Trees with negligible potential to support bat roosts.

2.2.11 The ground assessment used close-focusing binoculars to inspect trees to the canopy. A Cluson Clulite (which has a 500m spot beam) was used to inspect dark cavities and features in shaded areas.

Bat Activity Survey

2.2.12 To record bat activity within the survey area, the surveys listed in Table 1 below were carried out. These were all undertaken in accordance with standard survey guidance.

2.2.13 The surveyors used Batbox Duet bat detectors connected to Edirol digital recorders to record bat calls for later computer analysis. A transect around the survey area was walked, in proximity to features likely to be used by roosting or commuting/foraging bats. Station stops of 2 minutes were carried out at selected locations along the route. This allowed all early and later emerging bats to be observed, if present, during the survey.

Table 1. Bat survey conditions

Date	Surveyors	Weather	Sunset times	Start times of survey
13/09/10	Kelly Clark Paul Howden-Leach	100% cloud cover, Force 4 wind, dry turning to heavy rain	1930hrs	1930hrs (rained off at 2000hrs)
3/05/11	Kelly Clark Carlos Abrahams	Clear/still. Temp. 13°C falling to 9°C	2042hrs	2058hrs
7/06/11	Kelly Clark Susan White	80% cloud cover, dry and still after heavy showers in the day	2135hrs	2123hrs

Badger

2.2.14 A survey for badger *Meles meles* was undertaken by Paul Howden-Leach on 13th September. The survey included areas within the Site and up to 30m beyond in order to check for nearby badger setts. Survey methods were in accordance with published guidance^x, and involved walking across the survey area, looking for signs of badgers, including their setts. Signs are characteristic and include tufts of hair caught on barbed wire fences, conspicuous badger paths, footprints, small excavated pits or latrines in which droppings are deposited, scratch marks on trees, and snuffle holes, which are small scrapes where badgers have searched for insects and plant tubers.

Water vole

2.2.15 A survey for water vole was undertaken by Kelly Clark and Paul Howden-Leach on 13th September 2010. For the purposes of this survey, the entire length of the watercourse within the study area was surveyed using standard methods^{vi}. Any evidence of water voles presence was recorded, including sightings of water voles, sounds of them entering water, latrines showing discrete piles of droppings, tunnel entrances (above and below water), cropped 'gardens' or 'lawns' around tunnel entrances, feeding stations of chopped vegetation, paths at waters edge, runs in the vegetation and footprints in the mud.

2.2.16 The optimum time to survey for water voles is between late April and early October. The survey fell inside this period.

Birds

2.2.17 The breeding birds survey methodology broadly followed the 'Common Bird Census' (CBC) devised by the British Trust for Ornithology^{vii}. This technique records the location and behaviour of every bird present within a defined survey area and includes the mapping of breeding bird territories.

2.2.18 Three visits were undertaken to each parts of the site during the bird breeding season in suitable weather conditions. The visits were made either in the early morning or evening, when birds are most active. The surveyors, dates, times and weather conditions during these surveys are detailed in Table 2.

Table 2. Breeding Birds Survey dates and weather conditions

Date	Surveyor	Times (hrs)	Weather conditions	Sunrise/set time
06/04/11	Susan White	0900-1100	16°C, 25% cloud, slight breeze	0628/1954
04/05/11	Carlos Abrahams	0604-0720	4°C, Clear sky, still	0526/2046
07/06/11	Susan White	1810-1930	19°C, 70% cloud, still, showers	0439/2137

3 Results

3.1 Constraints

- 3.1.1 Whilst every effort was made in the field survey to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment. Also, natural and semi-natural habitats are subject to change, species may colonise the site after surveys have taken place and results included in this report may become less reliable over time.

3.2 Designated Sites

- 3.2.1 The desk study provided information on the designated sites listed below in Table 3.

Table 3. Designated Sites

Site Name	BHS code	Grid ref	Distance from site
Brocklehurst Wood	73NE01	SD 753 355	2.02km
Thornber Wood	73NE07	SD 751 359	1.66km
Mitton Wood	73NW05	SD 713 377	2.55km
Calderstones Hospital Woodland/Railway line	73NW09	SD 722 376	1.72km
Calder Bank, Broken Brow	73NW10	SD 738 359	0.73km
Sir John's Wood & Lords Park Wood	73NW12	SD 742 356	1.17km
Planes Wood	73NW13	SD 744 355	1.36km
Spring Wood	73NW14	SD 741 363	0.26km
Barrow Brookfield	73NW17	SD 731 380	1.49km
Hard Hill Common	73NW18	SD 727 383	1.92km
Banks Wood Marsh	73SW07	SD 737 348	1.80km

3.3 Habitats

- 3.3.1 Scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (1997) for vascular plant species.

Habitats Overview

- 3.3.2 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP).
- 3.3.3 As a result of the Phase 1 Habitat Survey, the habitat types listed on S41 that are present on site are shown in Table 4 below. The Phase 1 habitat plan is shown in Appendix 5.

Table 4. Habitat Types Recorded on Site

Phase I Broad Habitat Type	Equivalent Habitat of Principal Importance	Note/location
Boundaries	Hedgerows	The site is bounded by hedgerows to the north and west. The northern hedgerow is part of a species-rich hedgerow.
Grassland and Marsh	Lowland meadows	The site is primarily grassland. However, this is improved in nature and would not be classed as a 'Lowland Meadow' HPI due to its low ecological value.
Open Water	Rivers	There is a stream that intersects the site, flowing north to south.

Grassland

3.3.4 The site is primarily improved pasture (TNI) (Photo 1). The grassland is managed by grazing and has a short sward. The grass is dominated by species that indicate it's improved nature such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens*, Yorkshire fog *Holcus lanatus*, smooth meadow-grass *Poa pratensis* and creeping buttercup *Ranunculus repens*.

Photo 1. Improved grassland



Boundaries

- 3.3.5 The northern boundary of the site is formed by a species-rich hedgerow (Photo 2, TN2). The hedgerow is well managed with an approximate height of 5m and a width of 3m. A wet ditch is also present at the base.
- 3.3.6 There is a well-managed hawthorn dominated hedgerow that forms the western boundary of the site.
- 3.3.7 The hedgerows were assessed under the Hedgerow Regulations 1997 and are discussed below in Section 3.2.4 below.

Photo 2. Species-rich hedgerow



Photo 3. The stream

*Open Water*

- 3.3.8 There is a stream (TN3) that intersects the site that flows north to south. The stream is no more than 1m wide with banks supporting improved pasture and scattered scrub (Photo 3). The banks are shallow supporting grassy margins. Small rocks and pebbles form the substrate of the stream.

Hedgerow assessment

- 3.3.9 All hedgerows on site were assessed against the criteria of the Hedgerow Regulations 1997. The species-rich hedgerow to the north and the species-poor hedgerow to the west are not classed as ecologically 'important' under the criteria. Although they will still be classed as a Priority BAP habitat and a Habitat of Principal Importance, particularly the species-rich hedgerow to the north.

3.4 Species

Species Overview

3.4.1 Species records from the desk study are provided in Appendix I, and are summarised below, together with field survey data.

Bats

3.4.2 LERN only provided a single bat record in the desk study - for a soprano pipistrelle *Pipistrellus pygmaeus* dated 2010. This recorded is located 1.48km from the site at OS grid reference SD 723 373.

3.4.3 No trees within the survey area were assessed as having bat potential.

3.4.4 The level of bat activity recorded on site during the transect is summarised below in Table 5.

Table 5. Summary of bat activity on site

Date	Time (hrs)	Number of bats	Location/activity
03/05/11	2115-2120	2 common pipistrelle <i>Pipistrellus pipistrellus</i>	Foraging north of the stream
07/06/11	2207-2209	5 common pipistrelle 1 soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Foraging north of the stream
07/06/11	2209-2215	8 common pipistrelle 1 soprano pipistrelle	Foraging/commuting towards Whalley along northern hedgerow
07/06/11	2215-2218	4 common pipistrelle	Foraging/commuting towards Whalley along northern hedgerow

3.4.5 A much higher level of bat activity was recorded outside the southern site boundary consisting of bats commuting from the village of Whalley towards Spring Woods. Bats were recorded using a stream and associated riparian woodland and over housing and gardens.

Badgers

3.4.6 No badger records were provided by the local record centre.

3.4.7 No signs of badgers *Meles meles* such as setts, footprints, and/or dung pits were found in the site or within Spring Woods.

Water Vole/otter

3.4.8 No water vole/otter records were provided by the local record centre

3.4.9 The streams were walked and checked for signs of water vole and otter *Lutra lutra*. The

stream had several animal tracks near the water edge but this was outside the southern boundary. No signs such as latrines, burrows, footprints were found. The stream provides no suitable habitat for otter

White-clawed crayfish

3.4.10 The stream and the stream off site to the south were assessed for their potential to support white-clawed crayfish. The two streams on site are on the edge of the Forest of Bowland Natural Area where it is known to have mineral rich waters. The heights of the streams during the survey work were influenced by weather conditions and had a height between 0.3 m and 0.75 m. The stream on site (TN3) has a substrate consisting of pebbles and stones; suitable for juvenile crayfish, although adults would require bigger rocks, plant root systems and overhanging banks, which are largely absent. The variation of water height could also affect the suitability of the banks for burrowing crayfish. White-clawed crayfish are typically found in a watercourse supporting a height of 0.75 to 1.25 m that flow north to south (which the stream onsite does).

3.4.11 Overall the streams have limited value for white-clawed crayfish, although it is possible that if present in the catchment, individuals and juveniles could persist for a time.

Reptiles

3.4.12 No records for reptiles were provided by the local record centre.

3.4.13 No reptiles were observed during the survey. A habitat assessment for this species group was undertaken and the site itself supports limited habitat for reptile species; areas close to the stream could provide ideal basking and foraging habitat for individual species such as grass snake *Natrix natrix*.

Birds

3.4.14 LERN supplied 240 bird records of 62 species for the search area (see Appendix 1). Bird records from Spring Wood, adjacent to the study site, included blackbird *Turdus merula*, blue tit *Parus caeruleus*, carrion crow *Corvus corone*, chaffinch *Fringilla coelebs*, coal tit *Parus ater*, dunnoek *Prunella modularis*, great spotted woodpecker *Dendrocopos major*, great tit *Parus major*, long-tailed tit *Aegithalos caudatus*, nuthatch *Sitta europaea*, robin *Erithacus rubecula*, song thrush *Turdus philomelos* and wood pigeon *Columba palumbus*.

3.4.15 There are no statutory sites of nature conservation importance within the 2km search area. While there are 11 non-statutory designated sites, the Biological Heritage Sites,

nearby, none of these have been designated for bird interest. The Biological Heritage Sites all contain habitats likely to provide breeding, shelter and foraging habitats for birds and will be considered when assessing the value of connective habitats between the study site and the wider landscape.

- 3.4.16 There is a Lancashire Biodiversity Action Plan (LBAP) for one of the species occurring on the site, song thrush. This is attached in Appendix 4.
- 3.4.17 Breeding birds survey included an area greater than that considered for development in the current proposal. The survey area included fields to the south and east of that set out in Figure 1, this included stream, riparian woodland, rough pasture and the boundary to Spring Wood which were the habitats identified as supporting the greatest number and diversity of birds on the Site.
- 3.4.18 Full results from the breeding birds survey are included as those identified as requiring hedgerow and tree habitats have the potential to be present within the limited area now under consideration.
- 3.4.19 A total of 28 species of birds were recorded during the site surveys, of which one species were confirmed and 7 probably breeding. Seven species were considered to be non-breeding visitors to the survey area (see Appendix 2 for a more detailed species list and Appendix 3 for an explanation of these terms). Table 6 lists these birds, their breeding status and the habitat in which the bird was recorded.

Table 6. Species recorded in the breeding birds survey.

Species	Breeding Status	Site Breeding Habitat
Blackbird <i>Turdus merula</i>	Confirmed	Hedgerow and trees
Blue tit <i>Cyanistes caeruleus</i>	Possible	Hedgerow and trees
Blackcap <i>Sylvia atricapilla</i>	Possible	Hedgerow
Buzzard <i>Buteo buteo</i>	Non-breeding	-
Carriion crow <i>Corvus corone</i>	Present	Mature trees
Chaffinch <i>Fringilla coelebs</i>	Probable	Hedgerow and trees
Chiffchaff <i>Phylloscopus collybita</i>	Probable	Hedgerow and trees
Collared dove <i>Streptopelia decaocto</i>	Possible	Mature trees
Dunnock <i>Prunella modularis</i>	Probable	Hedgerow and trees
Great tit <i>Parus major</i>	Probable	Hedgerow and trees
Greenfinch <i>Carduelis chloris</i>	Possible	Hedgerow
Grey heron <i>Ardea cinerea</i>	Non-breeding	-
Herring gull <i>Larus argentatus</i>	Non-breeding	-
House martin <i>Delichon urbica</i>	Non-breeding	-
Jackdaw <i>Corvus monedula</i>	Possible	Mature trees
Kestrel <i>Falco tinnunculus</i>	Possible	Mature trees

Long-tailed tit <i>Aegithalos caudatus</i>	Possible	Hedgerow
Magpie <i>Pica pica</i>	Possible	Hedgerow and trees
Mallard <i>Anas platyrhynchos</i>	Non-breeding	-
Nuthatch <i>Sitta europaea</i>	Possible	Mature trees
Pheasant <i>Phasianus colchicus</i>	Non-breeding	-
Robin <i>Erithacus rubecula</i>	Probable	Hedgerow and trees
Rook <i>Corvus frugilegus</i>	Non-breeding	Mature trees
Song thrush <i>Turdus philomelos</i>	Probable	Hedgerow and trees
Stock dove <i>Columba oenas</i>	Possible	Mature trees
Swift <i>Apus apus</i>	Non-breeding	-
Woodpigeon <i>Columba palumbus</i>	Probable	Mature trees
Wren <i>Troglodytes troglodytes</i>	Possible	Hedgerow

4 Assessment

4.1 Designated Sites

- 4.1.1 The closest designated site to the study area is Spring Wood BHS which is ancient woodland and is located 260m east from the site. Spring Wood has been fragmented by the A671 road and the BHS is now split into two. The majority of woodland is on the eastern side of this road.
- 4.1.2 The proposed development has the potential to have an indirect impact towards the woodland. Indirect impacts could include an increase of disturbance from members of the public, new home-owners and dog walkers, and acts of vandalism. Although this is only likely to the much smaller section present on the western side of the A671 road.

4.2 Habitats.

Improved pasture

- 4.2.1 The fields of improved pasture are considered to be of limited ecological value and any impact from future potential development would not be ecologically significant.

Species-rich hedgerow/species-poor hedgerow

- 4.2.2 Hedgerows are a UKBAP priority habitat and are considered to have ecological value at local level. Re-establishing a hedgerow composition and structure equivalent to the existing hedgerows, particularly the species-rich hedgerow to the north will take longer and full re-instatement will not be possible in the short term.

Stream

- 4.2.3 The stream is of good water quality, although there is little of vegetative value along the banks. However, it is considered that this stream will be used as a wildlife corridor and therefore the stream has ecological value at site level.
- 4.2.4 The proposed development has the potential to spread silt downstream, which would have an adverse impact towards the water quality.

4.3 Species

Bats

- 4.3.1 Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended), and by the Conservation of Habitats and Species Regulations 2010. Taken

together, these make it an offence to:

- a) Deliberately capture, injure or kill a bat;
- b) Deliberately disturb any bat, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong;
- c) To be in possession or control of any live or dead bat or any part of, or anything derived from a bat;
- d) Damage or destroy a breeding site or resting place of a bat;
- e) Intentionally or recklessly obstruct access to any place that bat uses for shelter or protection;
- f) Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.

- 4.3.2 Seven bat species are listed in the UK Biodiversity Action Plan and are listed as Species of Principal Importance under the provisions of the NERC Act 2006.
- 4.3.3 There are no trees within the site that support features that may be used by roosting bats. Therefore no impacts are anticipated towards roosting bats as a result of the proposed development.
- 4.3.4 Common pipistrelle and soprano pipistrelle bats were observed flying along the northern boundary of the site. The proposed development will not result in the loss of the hedgerow or the stream. In addition, the new gardens have the potential to increase suitable foraging habitat for pipistrelle bat species.
- 4.3.5 A higher number of bats were observed off site to the south commuting from Whalley village, along a stream and riparian habitat and existing housing further south, towards Spring Wood.
- 4.3.6 The proposed development is unlikely to affect the tree line and the stream to the south and it is anticipated that this route will continue to be used by bats in the vicinity of the site for commuting to Spring Wood and foraging purposes. Therefore it is considered unlikely that the proposed development will have an adverse impact towards local bat

populations.

Badger

- 4.3.7 Badgers are protected under the Badgers Act 1992. This makes it an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. Removal of significant areas of badger foraging habitat may also contravene the Act, as it could be regarded as cruelty.
- 4.3.8 No badger records exist within 2km of the site, and no badger setts or evidence of badger was noted on site or within 30m. It is anticipated that there will be no impact on badgers as a result of the proposed development.

Water vole

- 4.3.9 Water voles are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000). This makes it an offence to kill, injure or take any water vole, damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or disturb voles while they are using such a place. In addition, water vole is a UK Biodiversity Action Plan species and is also listed as a Species of Principal Importance under the provisions of the NERC Act 2006.
- 4.3.9.1 The stream was walked and checked for signs of water voles and otter and none were found. The stream has potential to support water voles but no evidence was found to indicate that they are currently present. Therefore no impacts towards these species are anticipated as a result of the proposed development. The stream was considered unsuitable for otter.

Reptiles

- 4.3.10 All British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000). Grass snake, slow worm, common lizard and adder are protected against intentional killing or injury and against sale. In addition, all British reptiles are UK Biodiversity Action Plan species and are listed as Species of Principal Importance under the provisions of the NERC Act 2006.

- 4.3.11 No records were provided by the record centre for within the search area. The stream provides some limited potential for grass snake.

White-clawed crayfish

- 4.3.12 White-clawed crayfish is protected under Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000). This makes it illegal either to take it from the wild or sell it without an appropriate licence from the appropriate nature conservation agency.
- 4.3.13 In addition, white-clawed crayfish is a UK Biodiversity Action Plan species and is listed as a Species of Principal Importance under the provisions of the NERC Act 2006.
- 4.3.14 No records for white-clawed crayfish from the record centre or the Environment Agency were received. Further interrogation of the NBN Gateway revealed the nearest records are over 10km north in the River Ribble.
- 4.3.15 The habitat assessment of the two streams showed that the streams have some limited potential for crayfish. However, it is considered unlikely that they would be present due to the small size and shallowness of the stream. Therefore no impacts towards this species are anticipated as a result of the proposed development.

Birds

- 4.3.16 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.
- 4.3.17 The Birds of Conservation Concern initiative^{viii} publishes lists of Red and Amber species. Birds on the Red list are of high conservation concern within the UK, while those on the Amber list are of medium conservation concern. In addition, a number of bird species are also included as Species of Principal Importance under the provisions of the NERC Act 2006.
- 4.3.18 28 birds were recorded during the breeding birds surveys, including the notable species set out in Table 7 below.

Table 7. Notable species recorded in the breeding birds survey.

Species	Legal/Policy Status^{ix}
Dunnoch <i>Prunella modularis</i>	SPI, Amber
Kestrel <i>Falco tinnunculus</i>	Amber
Mallard <i>Anas platyrhynchos</i>	Amber
Song thrush <i>Turdus philomelos</i>	SPI, Red, LBAP
Stock dove <i>Columba oenas</i>	Amber

SPI – Species of Principal Importance for Conservation

Amber – Species of Moderate Conservation Concern

Red – Species of High Conservation Concern

LBAP – Priority species on the relevant Local Biodiversity Action Plan

4.3.19 To assess the overall breeding bird assemblage Fuller (1980)* described a method for assessing the ornithological interest of sites, whereby the importance of a site is defined by the number of breeding species present. These have been adapted to fit the geographical levels used by the Institute of Ecology and Environmental Management, and also to reflect ongoing declines in bird populations. It is these adapted criteria that are shown in Table 8 below:

Table 8. Site importance by number of breeding bird species present

Number of breeding bird species	Site importance
<25	Local
25 – 49	District
50 – 69	County
70 – 84	Regional
>85	National

4.3.20 Eight species have been assessed as either confirmed or probably breeding on the site, with a further 14 possibly breeding. Using the adapted version of Fuller's criteria, the site is therefore considered to be of local importance. Weight is added to this evaluation by the fact that of those species possibly, probably or confirmed to be breeding on the site one is a red-listed species of high conservation concern and a further 4 are amber-listed species of moderate conservation concern.

4.3.21 In general, the use of the site by birds is typical of lowland farmland in England, with both the species and numbers encountered being broadly typical of this type of landscape.

4.3.22 Those habitats with the greatest value to breeding birds within the current application area are the hedgerows and trees. These habitats support breeding birds but also serve as important connective habitat linking to the wider landscape.

5 Recommendations

5.1 Further Survey

5.1.1 No further survey is required.

5.2 Mitigation Measures

Habitats

5.2.1 It is recommended that the species-rich hedgerow is left *in situ* as part of the development

Bats

5.2.2 To offset and/or to avoid any adverse impact from the development, it is recommended that the following mitigation measures should be carried out:

- Retain existing habitat features, such as hedgerows/streams, wherever possible.
- If the removal of hedgerows is unavoidable, then replace with features that could be used by commuting bats, for example with a suitable planting scheme.
- The Masterplan for the development is to include the stream as part of open space. Any artificial lighting should avoid this area.
- Artificial lighting should be directed away from hedgerows where possible. Other bat features within the site should also be protected from unnecessary light spill by using direct lighting, e.g. hoods, shields, and louvers.
- Bollard lighting rather than overhead lighting should be used for lighting footpaths.

Birds

5.2.3 To avoid committing an offence under the Wildlife and Countryside Act it will be necessary to programme all construction works that might directly impact upon breeding birds to the September-February period outside the bird breeding season.

6 Useful Links

Baker Consultants www.bakerconsultants.co.uk
Natural England Wildlife Licensing

7 References

- i Joint Nature Conservation Committee (2007) Handbook for Phase I Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.
- ii Institute of Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. Institute of Environmental Assessment, London.
- iii Mitchell-Jones, A.J. & McLeish, A.P. (Eds.). (1999) The Bat Workers Manual, 2nd Edition. JNCC, Peterborough.
- iv Bat Conservation Trust (2007) Bat Surveys – Good Practice Guidelines. Bat Conservation Trust, London.
- v Harris, S, Cresswell, P & Jeffries, D. (1989) Surveying Badgers. An occasional publication of the mammal society – No 9. Mammal Society, London.
- vi Strachan, R. (1998), Water vole conservation handbook. English Nature, Environment Agency and the Wildlife Conservation Research Unit, Oxford.
- vii Marchant, J.H. (1983) Common Bird Census Instructions. British Trust for Ornithology, Tring.
- viii Easton, M.A. et al (2009) Birds of Conservation Concern 3: The population status of birds in the united Kingdom, Channel Islands and the Isle of Man. British Birds 102, pp296-341
- ix Easton, M.A. et al (2009) Birds of Conservation Concern 3: The population status of birds in the united Kingdom, Channel Islands and the Isle of Man. British Birds 102, pp296-341
- x Fuller, R.J. (1980) A method for assessing the ornithological interest of sites for conservation. Biological Conservation 17:229-239

Appendix I: Data Trawl



Legend

-  Buffer_of_Whalley
 Whalley
 Biological Heritage Sites
 SSSI

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1:20,000

Lancashire
County Council



Legend

- Buffer of Whalley
- Whalley
- ★ Lancashire BAP Provisional Long List

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Lancashire
County Council



Appendix 2: Bird Species List

Legislative status –

BirDir	Listed in Annex I of the Birds Directive (2009)
NERC	s41 species on Natural Environment and Rural Communities Act (2006)
WCASch I	Listed in Schedule I of the Wildlife and Countryside Act (1981) As amended
BB	Breeding bird, all protected by Wildlife and Countryside Act (1981) As amended.

BoCC –

●	Species is red listed
●	Species is amber listed
●	Species is green listed
No status	Non-native species, not assessed

BAP –

UK	Priority Species in UK Biodiversity Action Plan
LBAP	Priority Species in Local Biodiversity Action Plan

Common Name	Scientific Name	Breeding status	Legislative Status	BoCC Status	BAP
Blackbird	<i>Turdus merula</i>	Confirmed	BB	●	
Blackcap	<i>Sylvia atricapilla</i>	Possible	BB	●	
Blue tit	<i>Cyanistes caeruleus</i>	Possible	BB	●	
Buzzard	<i>Buteo buteo</i>	Flying over	-	●	
Carriion crow	<i>Corvus corone</i>	Present	BB	●	
Chaffinch	<i>Fringilla coelebs</i>	Probable	BB	●	
Chiffchaff	<i>Phylloscopus collybita</i>	Possible	BB	●	
Collared dove	<i>Streptopelia decaocto</i>	Possible	BB	●	
Dunnock	<i>Prunella modularis</i>	Probable	BB	●	UK
Great tit	<i>Parus major</i>	Probable	BB	●	
Greenfinch	<i>Carduelis chloris</i>	Present	BB	●	
Grey Heron	<i>Ardea cinerea</i>	Flying over	-	●	
Herring gull	<i>Larus argentatus</i>	Flying over	-	●	
House martin	<i>Delichon urbica</i>	Flying over	-	●	
Jackdaw	<i>Corvus monedula</i>	Possible	BB	●	
Kestrel	<i>Falco tinnunculus</i>	Present	BB	●	
Long-tailed tit	<i>Aegithalos caudatus</i>	Possible	BB	●	
Magpie	<i>Pica pica</i>	Flying over	-	●	
Mallard	<i>Anas platyrhynchos</i>	Present	BB	●	
Nuthatch	<i>Sitta europaea</i>	Possible	BB	●	
Pheasant	<i>Phasianus colchicus</i>	Present	BB	No status	
Robin	<i>Erithacus rubecula</i>	Probable	BB	●	
Song thrush	<i>Turdus philomelos</i>	Probable	BB	●	UK and LBAP
Stock dove	<i>Columba oenas</i>	Possible	BB	●	
Swift	<i>Apus apus</i>	Flying over	-	●	
Woodpigeon	<i>Columba palumbus</i>	Probable	BB	●	
Wren	<i>Troglodytes troglodytes</i>	Possible	BB	●	

Appendix 3: Bird Status Glossary

Birds of Conservation Concern (BoCC)⁴

Birds are included on the BoCC list after assessment against a set of objective criteria which places each species on one of three lists, green, amber or red, indicating an increasing level of conservation concern.

Species that meet any of the following criteria are Red listed:

- Species listed by BirdLife International as being Globally Threatened using the International Union for Conservation of Nature (IUCN) criteria.
- Species has demonstrated a severe decline in population between 1800 and 1995 without substantial recovery.
- A severe decline (more than 50%) in the UK breeding population size.
- A severe contraction (more than 50%) in the UK range.

Species that meet the following criteria are Amber listed:

- Categorised as a Species of European Conservation Concern.
- Previously red listed for historical decline but with substantial recent recovery.
- Moderate population decline (between 25 and 50%).
- Moderate range contraction (between 25 and 50%).
- UK breeding population of <300 pairs or a UK non-breeding population of <900 individuals.
- At least 50% of the UK breeding or non-breeding population found in 10 or fewer sites.
- At least 20% of the European breeding or non-breeding population found in the UK.

Breeding Status

The breeding status of birds encountered within the survey area are classified in three categories as a result of behaviour observed during the surveys and following the criteria set out by the European Ornithology Atlas Committee⁵:

Confirmed breeding: Nest containing eggs located.
Nests with young seen or heard.
Used nests or eggshells found.
Recently fledged or downy young observed.
Adults entering/leaving nest, particularly if with food or faecal sacs.
Distraction display or injury feigning by disturbed adult.

Probable breeding: Pairs observed in suitable nesting habitat in the breeding season.
Permanent territory presumed through registration or territorial behaviour on at least two different visits at the same place.
Display and courtship behaviour observed.
Birds seen visiting probable nest site.
Agitated behaviour or anxiety calls from adults.

⁴ Easton, M.A. et al (2009) Birds of Conservation Concern 3: The population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341

⁵ European Ornithology Atlas Committee (1979) *Categories of Breeding Bird Evidence*

Building nest or excavating nest hole.

Possible breeding: Species observed in breeding season in likely nesting habitat.
Singing male(s) present or breeding calls heard.

Appendix 4: Lancashire BAP – Song Thrush

Song Thrush (*Turdus philomelos*)



Song thrush
Copyright: RSPB

The song thrush is a familiar songbird of gardens and farmland throughout Britain. It is a little smaller than a blackbird but has a similar shape and build. It has brown upperparts with white underparts and a speckled breast.

Its song is highly distinctive as each phrase is repeated up to three times. The clarity of each note is also remarkably pure.

The song thrush feeds largely on worms and snails. Dry or frozen soil conditions result in worms withdrawing from the surface and becoming unavailable to thrushes. At such times, they rely more heavily on slugs and snails. Song thrushes have the habit of using a favourite stone as an anvil on which to break snail shells.

About half of adult thrushes that breed in Britain and two-thirds of juveniles, migrate in the autumn (1). Most birds that migrate from northern Britain move to Ireland.

There is some evidence that males and females over-winter in different areas with the females tending to travel furthest. Many of the song thrushes that are seen in this country in the winter will be visitors from Scandinavia.

Main Habitat(s): Essentially a bird of primary forest that has much undergrowth. Adapted to living in small woods, parkland, hedgerows and gardens.

National status

The song thrush suffered a 55% overall decline in population between 1970 and 1998. Its decline in farmland habitats was more marked than that in woodland. One study estimated the reduction in numbers as being 73% in farmland and 49% in woodland between 1968 and 1993 (2).

The Song Thrush is a Priority Species in the UK BAP because of its population decline (3). It also appears on the 'Red List of Birds of Conservation Concern' (4). It is protected under the Wildlife and Countryside Act 1981.

Regional status

A reliable estimate of the total population size in the region is not available but the species probably remains widespread throughout (5). Breeding song thrush has been chosen as a Regional Biodiversity Indicator to measure conservation objectives linked with hedgerows (6).

According to the North West Biodiversity Audit (7), the maximum population densities are around Barrow-in-Furness and the Kent estuary in Cumbria. Merseyside and north Cheshire are also areas with an abundance of this species.

In North Merseyside, song thrushes breed in 90% of the 2 km squares surveyed in 1997-99 and are absent only from the most built-up areas (8).

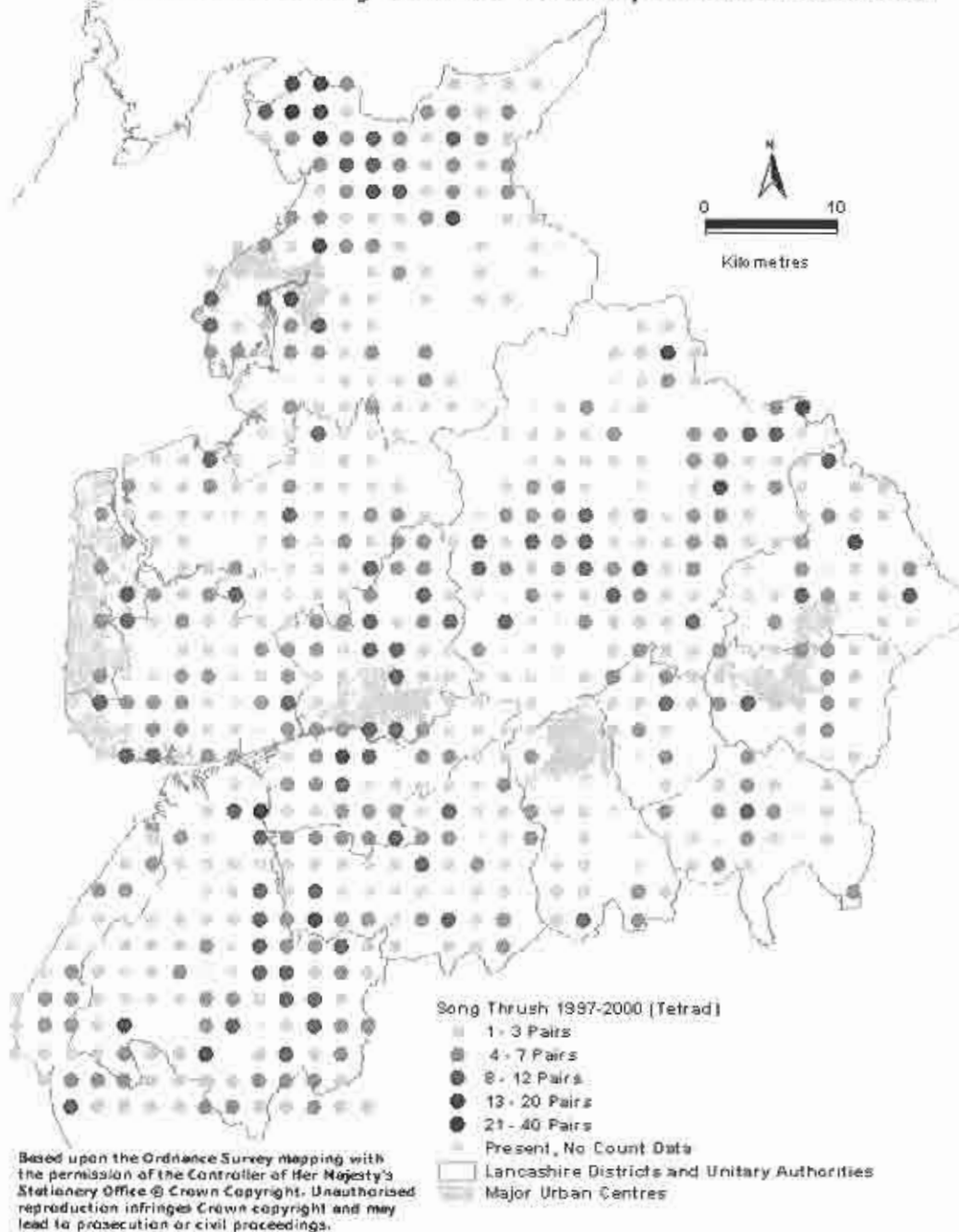
Local status

Song thrushes are found throughout most of the county but they have their highest concentration in West Lancashire and South Ribble and on the north Lancashire limestone. Their occurrence in strong numbers in North Lancashire may be related to the abundance of snails (and worms) in limestone areas.

The estimated population for Lancashire and North Merseyside is 3000 pairs.

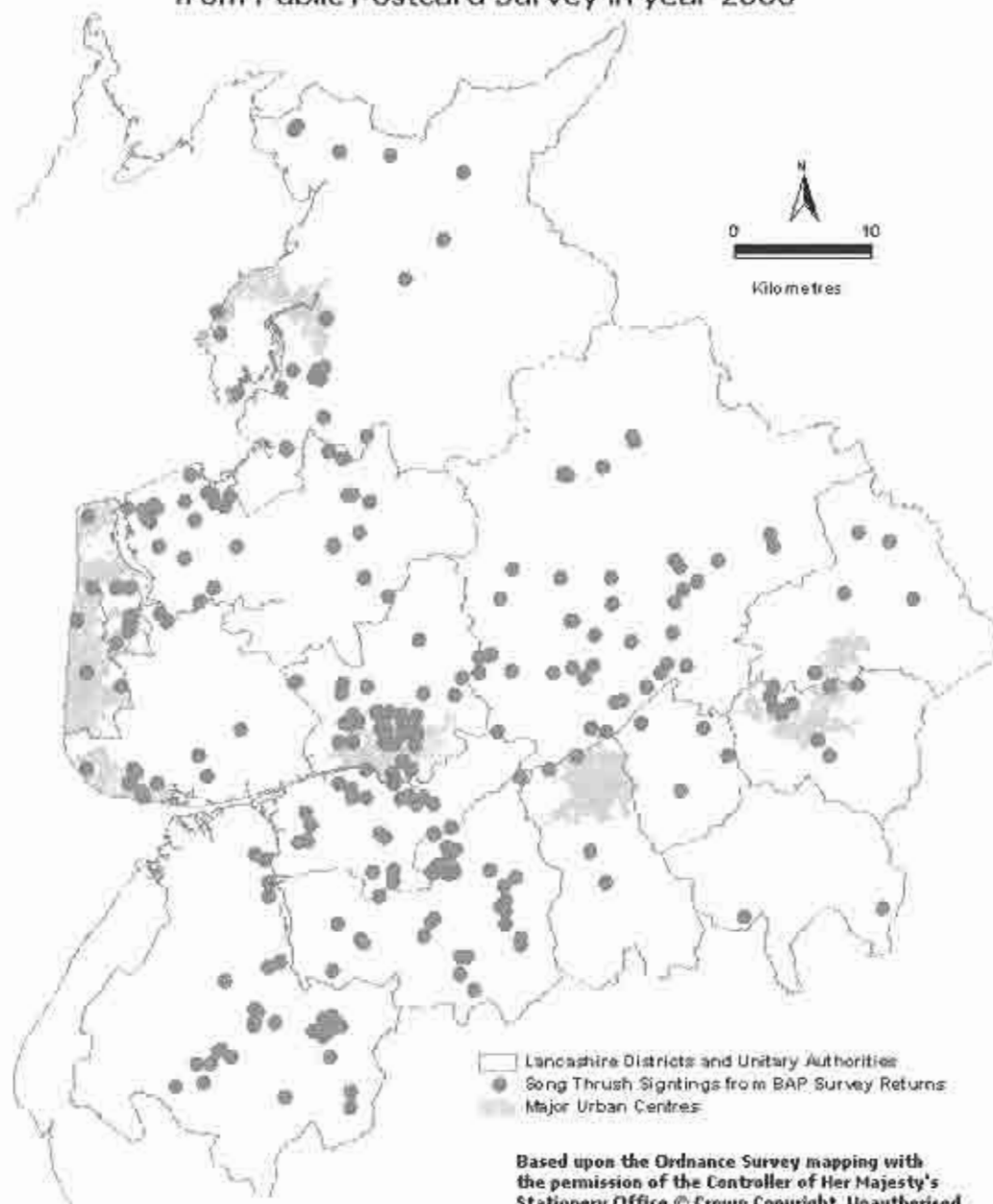
Map(s):

**Density of breeding pairs of Song Thrush (*Turdus philomelos*)
in Lancashire according to data collected by Lancashire Bird Club**



Lancashire County Council 100623320 2007

Records for Song Thrush (*Turdus philomelos*)
from Public Postcard Survey in year 2000



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Lancashire County Council 100023320 2007

Current factors affecting the species

The song thrush's decline has been linked to a very high level of mortality of young birds during their first winter. Recent research indicates that song thrushes may need to produce up to five broods per year in order to maintain their population level and that recent habitat changes have limited them to an average of 2-3 broods a year.

One of the most important changes has been the trend away from spring-sown cereals resulting in the loss of important bare earth foraging habitat in the spring. The loss of stubbles has had similar effects in winter.

In general, there has been a reduction in the number of mixed (arable/pastoral) farming enterprises and a spread of crop monocultures. For the song thrush, this has meant that suitable feeding habitat is less easy to find throughout the year.

During the breeding season (March to July) song thrushes need nest sites in dense hedgerow or shrub cover. Loss or over-management of hedgerows reduces the supply of suitable nest sites and exposes nests to predators.

The widescale application of molluscicides may lead to indirect poisoning or starvation during periods of severe drought or frost, when the song thrush's diet switches to slugs and snails.

There is evidence from various parts of the country that urban habitats (parks, gardens, etc.) are becoming relatively more important for this species than they have been previously. The trend towards 'wildlife friendly gardening' is a welcome one, therefore, with regard to the song thrush.

Current Action / Mechanisms

The RSPB and the BTO are currently undertaking research into the causes of song thrush declines. The RSPB has prepared a SAP and a plan for this species is in the UK BAP.

Countryside Stewardship has the potential to benefit this species if it encourages hedgerows to be planted and maintained well.

Advice is available to landowners in the form of an advisory sheet that the RSPB has produced. FWAG visit some Lancashire farms and can advise on whole Farm Biodiversity Action Plans.

The species is still sufficiently widespread and numerous to be monitored adequately by the Breeding Bird Survey. The local distribution has been surveyed by the Lancashire Bird Club during 1997-1999 and the estimate of current population size given above is based on their data. A postcard campaign was organised as part of the Biodiversity Action Plan process during 1999/2000 to highlight certain key species. The song thrush was included as a local BAP species and the public were encouraged to report sightings. The preliminary findings of this survey were reported in the Wildlife Trust magazine (Autumn 2000) (9). The most up-to-date results emerging from this initiative are shown on a distribution map included in this BAP.

The song thrush is one of the species of wild birds of farmland whose numbers will contribute to the national sustainability indicators announced by the DETR in 1999 (10).

Objectives, targets and proposed actions for song thrush in Lancashire

Broad Objective:	A. Establish baseline information on song thrush abundance and local distribution throughout the bird's current range in the county.
-------------------------	---

Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Establish a centralised song thrush database to be used to enable assessment of population changes.	1. Collate all available data for Lancashire for song thrushes. (High)	LBC, BTO, WT, All bird clubs	S	RM
	2. Identify and map areas of high concentrations of breeding song thrush. (High)	LCC, LBC, BTO, WT, All bird clubs	M	RM
	3. Use available data to keep up-to-date the estimate of overall breeding population size for Lancashire. (High)	BTO, LCC, LBC, WT, All bird clubs	M	RM
	4. Before end of 2002 assess results of A.1.1 - 3. and formulate targets by which to increase song thrush numbers in the county. (High)	LBC, LCC, BTO, WT, All bird clubs	M	RM
Broad Objective:	B. Ensure that breeding song thrushes remain present at densities throughout the species' range.			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Seek to secure sympathetic management of farm habitat for song thrushes.	1. Liaise with landowners and land managers to promote sympathetic management of hedgerows and reduced use of molluscicides. (High)	BHSP, FWAG, MAFF, RSPB	O	A, LM
	2. Lobby for extension of Arable Stewardship scheme to Lancashire. (Medium)	RSPB, WT	M	PR, P
	3. Lobby for reform of CAP that will reward thrush-friendly farming. (Medium)	RSPB, WT	O	PR
2. Seek to secure sympathetic management of urban greenspace (e.g. parks, school grounds).	1. Liaise with landowners and land managers to promote sympathetic management of urban greenspace. (Increase suitable nesting habitat)	LAs, GWk Trusts, LEAs, Schools, LAs, HA	O	A, LM

grounds, shelter belts) for song thrushes.	restrict use of slug pellets and other pesticides.) (High)			
3. Protect hedgerows from loss or fragmentation due to development and other threats.	1. Use the present Hedgerow Regulations to identify and safeguard ancient and/or species-rich hedgerows. (Medium)	LCC, LAs	O	SS
	2. Lobby central government for improvements to Hedgerow Regulations to make them more effective and for funding to allow the Regulations to be properly enforced. (Medium)	RSPB, WT, LAs	M	P
4. Promote hedgerow and tree-planting to benefit the song thrush.	1. Where it does not conflict with other BAP objectives, promote planting and management of hedgerows for song thrush. (Medium)	MAFF, CA, FC, FWAG, BTCV, LAs	O	LM
	2. Organise hedge-planting and hedge maintenance workshops that promote best practice. (Medium)	BTCV, contractors MAFF, CA, FC, FWAG	M	LM
	3. Ensure song thrush requirements are taken into account in tree-planting schemes. (Low)	FC, LAs, ELWOOD, GWK Trusts	O	P, LM
Broad Objective:	C. Promote the song thrush as a flagship species in the Lancashire BAP			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Promote the song thrush as a 'flagship' species to highlight the decline in certain lowland bird species and promote "wildlife friendly" gardening.	1. Work with community-based groups to raise awareness of song thrush conservation issues amongst the general public and landowners. (Medium)	RSPB, WT, FWAG, land-owners, land managers	O	PR
	2. Repeat postcard survey in 2001. (Medium)	WT	S	PR, RM

3. Encourage public participation in Breeding Bird Surveys, and other monitoring. (Medium)	BTO, RSPB, LBC, All bird clubs	S	PR, RM
4. Encourage submission of records to Lancashire Bird Report. (Medium)	LBC, All bird clubs	O	PR, RM
5. Include information about the song thrush in press releases, newsletters and leaflets. (Low)	RSPB, WT	O	PR

Related Action Plans:

- Woodland HAP
- Arable farmland HAP

References & additional reading:

1. Simms, E. (1978) British Thrushes. New Naturalist No. 63. Collins, London.
2. Fuller, R. J. et al (1995) Population declines and range contractions among lowland farmland birds in Britain. Conservation Biology 9.
3. UK Biodiversity Steering Group (1995) Biodiversity: The UK Steering Group Report. Volume 2: Action Plans. SAP for Song Thrush p.107. HMSO.
4. RSPB (1996) Birds of conservation concern in the United Kingdom, Channel Islands and Isle of Man. RSPB, Sandy.
5. Regional Biodiversity Steering Group for North West England (1999) Wild about the North West - A biodiversity audit of North West England.
6. English Nature (1999) Sustainable Development & Regional Biodiversity Indicators for the North West. English Nature, Peterborough.
7. Regional Biodiversity Steering Group for North West England (1999) Wild about the North West. A Biodiversity Audit of North West England.
8. Environmental Advisory Service (2000) Consultation Draft of the North Merseyside Biodiversity Action Plan. SAP for Song Thrush.
9. Rodman (2000) Recording Lancashire's Wildlife. Lapwing. Autumn/Winter 2000. The Wildlife Trust for Lancashire, Manchester and North Merseyside.
10. Department of Environment, Transport and the Regions (DETR) (1999) A better quality of life - a strategy for sustainable development in the UK. DETR.

Date: April 2001.

Appendix 5: Phase I Habitat Plan



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