

**LAND AT HURST QUARRY,
HURST ROAD, BIDDULPH,
STAFFORDSHIRE -**

BREEDING BIRD SURVEY

REVISED FEBRUARY 2017



ces ecology
consultant ecologists

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Date: 10/09/2016

Checked by: F. Davies

Date: 13/09/2016

AUGUST 2016

CES:1258/08-16/ML

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1.0 INTRODUCTION

- 1.1 Cheshire Ecological Services Ltd. (CES), the consultancy arm of Cheshire Wildlife Trust, to which all profits are covenanted, was commissioned to conduct a breeding bird survey of Hurst Quarry, Biddulph, in connection with an outline planning application to develop the former quarry site for low density residential use.
- 1.2 The purpose of the survey was to establish the breeding status of bird species at the site, assess the predicted impact of the proposed development on breeding birds, and to formulate appropriate mitigation and compensation measures to redress the development impact.
- 1.3 To date CES has conducted various ecological surveys of this former quarry site, including surveys for bats, great crested newt, reptiles, badger, and an extended phase 1 habitat survey. This survey report should be read in conjunction with the extended phase 1 habitat survey report, which provides detailed descriptions of the habitats present within the site.

2.0 SURVEY AREA DESCRIPTION

- 2.1 The survey area included all former working areas of the disused quarry and its associated infrastructure (including reservoirs, sediment ponds and buildings) and adjacent grassland fields which are being made available to help deliver habitat compensation/enhancement in connection with the proposed development. Aerial imaging of the survey area is presented in Appendix A: Site Location Plan.
- 2.2 At the time of survey the quarry was not operational. Hurst Quarry has previously been used for the extraction of sand and sandstone.
- 2.3 The proposed development site is contained within the former quarry site and totals approximately 9.5 hectares. It comprises a range of habitats at varying stages of successional transition; from bare ground to unimproved grassland, heath, dense scrub and broadleaved woodland. Two reservoirs and a number of ponds are present within the proposed development site. The latter are largely ephemeral/fluctuating and have previously been used for washing quarried material. The majority of land within the proposed development site is contained within a bowl, which is bounded to the north and west by steep sandstone cliffs, and to the south and east by wooded embankments.
- 2.4 The adjacent grassland fields within the survey area that are being made available for habitat compensation/enhancement have a combined coverage of approximately 2.5 hectares and are delineated by dry-stone walls and stock fencing. At the time of survey, one field was cattle grazed and supported relatively low levels of trees and scrub, and another appeared to be used for a hay or silage crop.

- 2.5 Pastoral farmland surrounds much of the survey area. Troughstone Hill Site of Biological Importance (SBI) is located immediately adjacent to the study area's north-eastern boundary and comprises a mosaic of dry heath, acid grassland, bracken and birch dominated woodland. Spring Wood is located immediately adjacent to the proposed development site's southern boundary, beyond Hurst Road, and comprises an extensive stand of mature broadleaved woodland.

3.0 LEGISLATION & PLANNING POLICY

- 3.1 All species of wild bird, their nest and eggs are protected under Section 1 of the *Wildlife and Countryside Act*, 1981. Amongst other things, it is an offence to intentionally kill, injure or take any wild bird, or intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built.
- 3.2 In addition to the level of protection afforded to all wild birds, species listed on Schedule 1 (Part 1) of the Act are protected by special penalties at all times, and receive special legal protection when breeding; making it an offence to intentionally or recklessly disturb these birds whilst at or near a nest containing eggs or young, or disturb the dependent young of such a bird. Such disturbance is punishable by a fine of up to £5000 and/or a prison sentence of up to six months.
- 3.3 Many species listed on Schedule 1 of the *Wildlife and Countryside Act* are under particular threat from disturbance whilst they are breeding. Legislation does not permit disturbance licences to be issued for Schedule 1 species, or any other species of wild bird, in relation to development of land.
- 3.4 In addition to statutory protection, British bird species can be classified according to their conservation status, including their position on the Red and Amber lists of Birds of Conservation Concern⁴ (BoCC⁴) and whether they have been identified as Species of Principal Importance under Section 41 (S41) of the *Natural Environmental and Rural Communities (NERC) Act*, 2006 (for England), or as Priority species in the UK Biodiversity Action Plan (UK BAP).
- 3.5 The BoCC⁴ lists provide a tool for guiding conservation action for birds in the UK. All the major bird conservation organisations, both governmental and non-governmental, endorse the BoCC lists, which cover a total of 244 species. 67 species are currently included on the Red List and 96 species on the Amber List.
- 3.6 The BoCC⁴ Red List includes species which have experienced severe declines (of more than 50%) in their UK breeding population size; their UK non-breeding population size; and/or their breeding range in the UK, over 25 years or longer. The Red List also includes globally threatened species.
- 3.7 The BoCC⁴ Amber List includes species which have experienced moderate declines (by more than 25% but less than 50%) in their UK breeding population; their UK non-breeding population size; and/or their breeding range in the UK,

over 25 years or longer. The Amber List also includes species for which the UK supports 20% or more of the European population.

- 3.8 The S41 list of species and habitats of Principal Importance in England was drawn up with reference to the UK BAP list of Priority species and habitats, which was produced in 1994 as the UK's response to signing up to the Convention on Biological Diversity (1992). The UK BAP list has now been superseded by the S41 list (for England), however, as it is still widely recognised the two should be considered interchangeable (with the exception of hen harrier which appears on the S41 list only). Species included in the UK BAP and S41 lists may be referred to as Priority species.
- 3.9 Under the NERC Act (2006) with regards to species of Principal Importance in England, public authorities are placed under a Statutory Biodiversity Duty '*to take such measures as they consider expedient for the purposes of conserving biodiversity*' including restoring or enhancing populations or habitat.
- 3.10 In addition to the UKBAP, Local Biodiversity Action Plans (LBAPs) were drawn up by regional biodiversity partnerships for the most threatened species and habitats at a local level. LBAP species are not necessarily included within the UKBAP or S41 lists, however, they are a material consideration for planning.
- 3.11 Non-designated species of note (e.g. non-priority species of scarce/limited distribution) are termed as 'notable'. This is an interpretive classification at the discretion of the ecologist, and aims to highlight the presence of notable species not covered by the main conservation designations.
- 3.12 For the purposes of this survey, notable species and species included in the Local BAP, S41 or Red or Amber BoCC⁴ lists are referred to as being of 'conservation interest'.
- 3.13 Under the *National Policy Planning Framework* (NPPF), 2012, the planning system should contribute to, and enhance, the natural environment by 'minimising the impacts on biodiversity and providing net gains in biodiversity where possible'.

4.0 SURVEY METHODS

Desk-based study

- 4.1 A desk-based study was undertaken as part of the survey effort. The desk-based study comprised consultation with Staffordshire Ecological Record (SER), the Biodiversity Information Service for Staffordshire, who were asked to provide information on protected and Priority bird species and species of conservation concern recorded within 2km of the centre of the survey area (Grid ref: SJ 90161 59530) since 1996.

Field survey

- 4.2 The survey consisted of three morning and one dusk survey visits undertaken during the period mid-April to early-July. The daytime survey visits commenced at dawn and their duration was 6 hours. The dusk survey visit commenced one hour before sunset and the duration was 3 hours. Details of the survey visits are detailed in Table 1 below.

Table 1: Breeding bird survey details

Date	Survey period	Weather conditions	Notes
13/04/2016	06:30 – 12:30	Partially cloudy, light breeze	Suitable conditions
05/05/2016	06:00 – 12:00	Occasional light showers	Suitable conditions
17/06/2016	21:00 – 00:00	Fine	Suitable conditions
06/07/2016	06:30 – 12:30	Partially cloudy, breezy	Suitable conditions

- 4.3 The combined survey time was twenty one hours. Survey visits were not undertaken during unfavourable conditions, such as heavy rain or strong wind, which can cause reduced bird activity and therefore negatively affect survey results.
- 4.4 Birds recorded overflying and not specifically using the site were not recorded unless it was considered possible they may have an association with the site for breeding purposes.
- 4.5 The survey methodology employed was broadly based on that of territory mapping (Bibby *et al*, 1992) as used by the British Trust for Ornithology's (BTO) Common Bird Census, whereby the point at which a territory or home range appears to be centred is mapped. This 'reduced' territory mapping method is considered to be suitable for surveying small sites. Survey results have been combined within one territory map, which shows the highest breeding status recorded for all birds observed within any given territory.
- 4.6 The survey was required to attribute one of the following status codes for all birds recorded:
- Not breeding (e.g. flying over the site, migrant or nesting habitat not suitable);
 - Possible breeding (e.g. birds present in suitable nesting habitat, singing male heard on one occasion);
 - Probable breeding (e.g. pair observed in suitable nesting habitat, singing male recorded on more than one visit or multiple singing males on one visit, display or courtship behaviour, bird visiting a probable nest site, bird seen building a nest, agitated behaviour and anxiety calls)

- Confirmed breeding (e.g. distraction display, bird visiting probable nest site the contents of which cannot be deduced, recently fledged young, recently used nest, occupied nest, adults carrying food for young, adults carrying faecal sack, nest with eggs or young, juvenile feeding calls)
- 4.7 Observations were made from a combination of vantage points and transects, using binoculars and a telescope as an aid. All bird calls considered to have originated from or near the site were recorded.
- 4.8 Vantage points were strategically chosen to enable maximum visibility of the survey area whilst minimising the potential risk of the surveyor's presence influencing bird behaviour.
- 4.9 The conservation status of all species detected was recorded according to their position in the BoCC⁴ Red and Amber lists, inclusion in Section 41 of the NERC Act and UK Biodiversity Action Plan (UK BAP), and whether they are identified in the Staffordshire Biodiversity Action Plan as a Priority Species (SBAP). Species included on the Staffordshire BAP list are presented below.

Table 2: Staffordshire BAP Priority Bird Species

Common name	Scientific name
Barn owl	<i>Tyto alba</i>
Grey partridge	<i>Perdix perdix</i>
Lapwing	<i>Vanellus vanellus</i>
Nightjar	<i>Caprimulgus europaeus</i>
Skylark	<i>Alauda arvensis</i>
Woodlark	<i>Lullula arborea</i>
Snipe	<i>Gallinago gallinago</i>
Bullfinch	<i>Pyrrhula pyrrhul</i>
House sparrow	<i>Passer domesticus</i>
Linnet	<i>Carduelis cannabina</i>
Tree sparrow	<i>Passer montanus</i>
Yellowhammer	<i>Emberiza cinrinella</i>
Reed bunting	<i>Emberiza schoeniclus</i>
Corn bunting	<i>Emberiza calandra</i>

Survey Limitations

- 4.10 The recognised survey window for breeding birds is mid-March to mid-July. Breeding bird surveys should usually consists of a minimum of three survey visits undertaken March – June, with visits undertaken one month apart. Given the relatively cold and wet start to the breeding season, commencement in mid-April is not considered to have adversely affected the survey results.
- 4.11 Detection of breeding ranges in difficulty across species, therefore the recorded breeding categorisations should be treated with some caution. Although a higher degree of accuracy may be achieved for ‘confirmed breeders’ when assessing the development impacts, that is not to say that the development impact on species recorded as ‘possible’ or ‘probable’ breeders will be any less so. Nevertheless, greater weighting should be given to ‘confirmed’ and ‘probable’ breeders when considering development impacts.
- 4.12 It should be noted that the survey results represent a snap-shot in time, whereby only the species detected during the survey visits were recorded. The absence of a species from a survey does not necessarily indicate the continued absence of that species from the site.

5.0 RESULTS

Desk-based Study

- 5.1 SER highlighted the presence of the following protected and Priority bird species and birds of conservation concern occurring within a 2km radius of the centre of the proposed development site since 1996 (refer to Table 2 below).

Table 2: SER Data-search

Scientific name	Common name	Designations
<i>Tyto alba</i>	Barn Owl	WCA1, WCA9, SBAP, BAm (RSPB)
<i>Hirundo rustica</i>	Barn Swallow	BAm(RSPB)
<i>Limosa limosa</i>	Black-tailed Godwit	WCA1, BRd(RSPB)
<i>Hyacinthoides non-scripta</i>	Bluebell	WCA8
<i>Fringilla montifringilla</i>	Brambling	WCA1
<i>Pyrrhula pyrrhula</i>	Common Bullfinch	BAm(RSPB), SBAP
<i>Loxia curvirostra</i>	Common Crossbill	WCA1, BAm(RSPB)
<i>Cuculus canorus</i>	Common Cuckoo	S41, BRd(RSPB), UKBAP
<i>Alcedo atthis</i>	Common Kingfisher	WCA1, BAm(RSPB)
<i>Gallinago gallinago</i>	Common Snipe	SBAP, BAm(RSPB)
<i>Sturnus vulgaris</i>	Common Starling	BRd(RSPB)
<i>Apus apus</i>	Common Swift	BAm(RSPB)
<i>Sylvia communis</i>	Common Whitethroat	BAm(RSPB)
<i>Emberiza calandra</i>	Corn Bunting	S41, SBAP, BRd(RSPB)
<i>Prunella modularis</i>	Dunnock	BAm(RSPB)
<i>Numenius arquata</i>	Eurasian Curlew	S41, UKBAP, BAm(RSPB)
<i>Falco subbuteo</i>	Eurasian Hobby	WCA1
<i>Passer montanus</i>	Eurasian Tree Sparrow	S41, UKBAP, BRd(RSPB), SBAP
<i>Scolopax rusticola</i>	Eurasian Woodcock	BAm(RSPB)
<i>Turdus pilaris</i>	Fieldfare	WCA1, BRd(RSPB)
<i>Anas strepera</i>	Gadwall	BAm(RSPB)
<i>Picus viridis</i>	Green Woodpecker	BAm(RSPB)
<i>Perdix perdix</i>	Grey Partridge	S41, UKBAP, SBAP, BRd(RSPB)
<i>Delichon urbicum</i>	House Martin	BAm(RSPB)
<i>Passer domesticus</i>	House Sparrow	S41, BRd(RSPB), UKBAP, SBAP
<i>Acanthis cabaret</i>	Lesser Redpoll	S41, UKBAP, BRd(RSPB)
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	S41, BRd(RSPB)
<i>Linaria cannabina</i>	Linnet	S41, LBAP, BRd(RSPB), SBAP
<i>Anas platyrhynchos</i>	Mallard	BAm(RSPB)
<i>Vanellus vanellus</i>	Northern Lapwing	S41, UKBAP, SBAP, BRd(RSPB)
<i>Falco peregrinus</i>	Peregrine Falcon	WCA1
<i>Ficedula hypoleuca</i>	Pied Flycatcher	BAm(RSPB)
<i>Milvus milvus</i>	Red Kite	WCA1
<i>Turdus iliacus</i>	Redwing	WCA1, BRd(RSPB)
<i>Turdus torquatus</i>	Ring Ouzel	S41, UKBAP, BRd(RSPB)
<i>Alauda arvensis</i>	Skylark	S41, SBAP, BRd(RSPB)
<i>Turdus philomelos</i>	Song Thrush	S41, UKBAP, BRd(RSPB)
<i>Columba oenas</i>	Stock Dove	BAm(RSPB)
<i>Phylloscopus trochilus</i>	Willow Warbler	BAm(RSPB)
<i>Phylloscopus sibilatrix</i>	Wood Warbler	BRd(RSPB)

Designations key: WCA1 - Wildlife & Countryside Act, 1981 - Schedule 1. WCA9 - Wildlife & Countryside Act, 1981 - Schedule 9. S41 - National Environment and Rural Communities Act 2006, Section 41 species. UKBAP - UK Biodiversity Action Plan Priority Species. SBAP - Staff Biodiversity Action Plan Species. BRd(RSPB) - Birds of Conservation Concern (RSPB) – Red. BAm(RSPB) - Birds of Conservation Concern (RSPB) - Amber

Fieldwork

5.2 The results of the breeding bird survey are presented in Table 3 below. Territory mapping is presented within Appendix B.

Table 3: Breeding Bird Survey Results

Species	Number of birds & behaviours recorded				Conservation status	Likely breeding status and number of occupied territories/breeding pairs
	Visit 1 13/04/16	Visit 2 05/05/16	Visit 3 17/06/16 (Dusk visit)	Visit 4 06/07/16		
Blackbird	≤8 (S, H)	≤12 (S, ON)	≤12 (S)	≤12 (S, P)		C
Blackcap	≤3 (S)	≤3 (S)	-	≤3 (S, P)		Pr
Blue tit	≤7 (H)	≤3 (H, A)	-	≤7 (H)		Pr
Bullfinch	2 (P)	-	-	2 (P)	SBAP, UKBAP, S41, BoCCAm	Pr
Chiffchaff	≤4 (S)	≤8 (S, N)		≤4 (S, FY)		C
Chaffinch	-	3 (H)	-			Po
Common buzzard	3 (O, H)	-	-	1 (O)		N
Common whitethroat	≤3 (S, H)	≤3 (S, H)	1 (H)	≤4 (A, RF)	NS	C (≤2)
Dunnock	1 (H)	1 (H)	-	2 (P, H)	UK BAP, S41, BoCCAm	Pr
Garden warbler	≤3 (H)	≤3 (H)	-	≤3 (H)		Pr (≤3)
Goldfinch	3 (H)	-	-	≤5 (H)		Po
Great tit	≤3 (S, N)	≤4 (H)	-	≤6 (H, RF)		C
Grey heron	-	-	-	1		N
Jackdaw	4 (O)	2(O, H)		3(O)		Po
Jay	≤2, (P, H)	≤2, (P, H)	≤2, (P, H)	≤5, (RF)		C
Kestrel	1 (H, N)	1 (H, N)	-	-	BoCCAm	Pr (1)
Linnet	5 (H, P)	-	-	4 (H)	SBAP, BoCCRd, S41	Pr
Magpie	4 (H)	2 (ON)		2 (H)		C
Mallard	-	-	1(H)	-	BoCCAm	Po
Robin	≤3 (H)	≤3 (H, S)	-	≤5 (RF)		C
Sand martin	3 (H)	3 (P, ON)	-	1 (ON)	NS	C (≤2)
Song thrush	≤4 (S, FY)	≤4 (S)	≤10 (S)	≤3 (S, FY)	BoCCRd, S41	C (≤10)
Stock dove	-	-	-	2 (P, H)	BoCCAm	Pr (≤1)
Swallow	5 (H)	3(H)	-	3(H)		Po
Swift	3	-	5	-	BoCCAm	N
Tawny owl	-	-	1 (O, H)	-	BoCCAm	Po (1)
Willow warbler	≤2 (S)	≤5 (S)		≤4 (S, FY)	BoCCAm	≤5C
Wren	≤7 (H)	≤7 (H, A)	≤2 (H)	≤7 (H)		Pr

Key:

Designations

WCA1 = Schedule 1, S41 = Section 41 of NERC Act, BoCCAm = BoCC⁴ Amber List, BoCCRd = BoCC⁴ Red List, SBAP = Staffordshire BAP, NS = Notable Species

Breeding Status Codes

(O) = bird observed, (H) = species present in suitable nesting habitat, (S) = singing male, (P) = pair observed, (D) = display or courtship, (N) = birds visiting probable nest site, (B) = bird seen building a nest, (UN) = recently used nest, (ON) = occupied nest, (FY) = adults carrying food for young, (FC) = feeding calls, (RF) = recently fledged young, (NE) = nest with eggs, (A) = agitated behaviour

Po = Possible breeding, Pr = Probable breeding, C = Confirmed breeding, N = Not breeding

Estimated peak counts of birds recorded during each survey visit are provided alongside breeding status codes under headings 'Visit 1' to 'Visit 4'. An evaluation of the number of occupied breeding territories or breeding pairs is shown in brackets where a reasonable degree of confidence could be deduced. Lower degrees of confidence are represented as ≤ (not more than) or ≥ (at least), and in no confidence figures are not provided.

Results Summary

- 5.3 A total of twenty eight species were recorded specifically using the study area during this 2016 survey, of which twelve species are of conservation interest. Of these twelve, nine species were recorded as either 'Probable' or 'Confirmed' breeders. No species listed on Schedule 1 of the Wildlife & Countryside Act were recorded during the survey.
- 5.4 The data search returned records of numerous bird species of conservation importance originating from within the 2km search area. An assessment of the study area's potential to support these species is presented below.

Table 4: Assessment of data-search returns

Species	Study area's suitability to support this species
Barn owl	The on-site buildings are suitable to support roosting and possibly nesting. Some buildings could not be inspected thoroughly due to safety concerns.
Barn swallow	The on-site buildings are suitable to support nesting although no evidence of use has been recorded. 'Possible' breeding was deduced by the field survey.
Black-tailed godwit	Not suitable for breeding
Brambling	Woodland may be used as an over-wintering birds only
Bullfinch	Recorded as 'Probable' breeding
Common crossbill	Habitat unsuitable
Cuckoo	Habitat suitable for breeding, i.e. supports host species
Kingfisher	Habitat largely unsuitable – ponds turbid & unlikely to support fish
Snipe	Not suitable breeding habitat but damp areas and pond margins are likely to be used by low numbers of non-breeding birds
Starling	Habitat largely unsuitable for breeding – species not recorded
Swift	No suitable buildings to support nesting
Corn bunting	Habitat unsuitable
Dunnock	Recorded as 'Probable' breeding
Curlew	The grassland fields are suitable for non-breeding birds but unlikely to support nesting
Hobby	Scattered mature trees with old crows nests are present and suitable for nesting, but this species was not recorded and is relatively scarce
Tree sparrow	Habitat largely unsuitable
Woodcock	Areas of woodland are suitable for breeding and over-wintering birds
Fieldfare & redwing	Suitable to support feeding overwintering birds only – migratory species
Gadwall	Habitat unsuitable
Green woodpecker	Highly suitable habitat but the species appears absent
Grey partridge	Habitat largely unsuitable
Lesser redpoll	Suitable habitat
Lesser-spotted woodpecker	Suitable habitat – in combination with the adjacent Spring Wood/Biddulph Grange, but not recorded, although this species is difficult to detect
Linnet	Recorded as 'Probable' breeding
Mallard	Recorded as 'Possible' breeding
Lapwing	The grassland fields appear suitable to support breeding, but this species appears absent
Peregrine falcon	No suitable nesting habitat – the cliffs are not tall/with suitable ledges
Pied flycatcher	The mature broadleaved woodland is suitable to support breeding, although this species was not recorded
Ring ouzel	Suitable breeding habitat but this species was not recorded
Skylark	Habitat largely unsuitable
Song thrush	Confirmed breeding within this site
Stock dove	Probable breeding within the site
Willow warbler	Confirmed breeding within the site
Wood warbler	The mature broadleaved woodland is suitable to support breeding but this species was not recorded

6.0 DISCUSSION

- 6.1 A total of thirteen species of conservation interest were recorded during the field survey. The remaining non-Priority, non-notable, Green-listed species are regularly occurring throughout the UK (BoCC⁴) and are of least conservation concern. At a local level, development impacts on these species are unlikely to be significant. Consequently, these species are not discussed in detail.
- 6.2 The site supports the probable breeding of Bullfinch (SBAP, S41, BoCC Amber) with at least one occupied territory, although the site is considered likely to support significantly more breeding pairs. Woodland and woodland edge habitats are of greatest value to this species.
- 6.3 Common whitethroat (notable species) was recorded on each survey visit, with at least two breeding pairs present. Whitethroat activity was concentrated to the north of the quarry in the area of heath/scrub/grassland. The presence of recently fledged young confirmed breeding in this species.
- 6.4 Dunnock (S41, BoCC Amber) was recorded as a 'Probable' breeder. It is considered highly likely that this species breeds within the site, although it was not possible to confirm breeding or establish a likely breeding population size.
- 6.5 Kestrel (BoCC Amber) was recorded as 'Probable' breeding. On both the first and second visit a female kestrel was seen visiting a probable nest site; namely a derelict building located to the south-east of the site. The dangerous condition of this building meant it was not possible to inspect it for suitable nest sites (e.g. on top of window ledges) or evidence of kestrel nesting. Several accumulations of bird of prey droppings were noted on the sandstone cliffs. This was thought likely to be indicative of kestrel roosting/daytime perching. None of the ledges on the cliff faces were considered to be of sufficient size to support kestrel nesting, however observations were ground based only.
- 6.6 Linnet (SBAP, S41, BoCC Red) was recorded as 'Probable' breeding. The peak count was of five birds (males and females), which were feeding in the area of heath/grassland/scrub to the north of the quarry. The site supports suitable linnet nesting habitat, namely the gorse scrub, and lies within close proximity of a Troughstone Hill SBI, which offers a considerably larger area of suitable breeding habitat for the species.
- 6.7 Mallard (BoCC Amber) was recorded as 'Possible' breeding. This species was recorded only once; when an adult male was observed on a pond. Given the presence of water bodies, it is considered possible that female mallard may nest within the site, although no evidence of breeding, such as the presence of recently fledged young or used nests, was recorded.
- 6.8 Sand martin (notable species) was recorded on all three daytime visits. On the first visit three birds were observed showing interest in the steep sandstone cliff to the north-west of the site. By the second visit a peak count of three birds was recorded, with two nest burrows being visited and the occupants remaining

within for an undetermined but considerable period of time (minimum of fifteen minutes). This indicates nesting (i.e. incubation/brooding) rather than nest building (i.e. nest burrow excavation); therefore 'Confirmed' breeding has been deduced. Numerous other potential sand martin nest burrows were observed along this cliff face and on a cliff face to the far north of the site, although there was no evidence to suggest they were in use during the 2016 breeding season.

- 6.9 Song thrush (S41, BoCC Red) was recorded as 'Confirmed' breeding with at least ten occupied territories. Woodland and woodland edge habitats are of greatest value to this species. The site appears to support a high density of breeding song thrush.
- 6.10 Stock dove (BoCC Amber) was recorded as 'Probable' breeding. On the final visit a pair was recorded in suitable nesting habitat, feeding on site. It is possible that this species may find sufficient concealment/ledges within the numerous on-site buildings to support nesting. No trees were observed to support sufficiently sized holes as to support this cavity-nesting species.
- 6.11 Tawny owl (BoCC Amber) was detected during the dusk visit; a single bird was heard calling from within the site. 'Possible' breeding was attributed to this species. The daytime bat survey of the on-site buildings detected tawny owl pellets and feathers within the derelict building to the east of the site (refer to Appendix C: Photographic Plates). As the internal inspection of this building was partially constrained due to safety reasons, it was not possible to either confirm or definitively dismiss tawny owl nesting at this location. However, given that much of the roof was missing (making it light and therefore unsuitable for nesting), use for roosting only is considered more likely. The presence of a range of moulted feathers suggested that this building is regularly used by tawny owl.
- 6.12 Willow warbler (BoCC Amber) was recorded as 'Confirmed' breeding with at least five territories/breeding pairs. This however is considered likely to be an underrepresentation given the extent of suitable habitat within the site. The scattered birch scrub and immature woodland offers optimal breeding habitat for this species.

Dusk Survey

- 6.13 The dusk survey did not detect the presence of crepuscular species such as displaying or feeding nightjar (SBAP, BoCC Amber) or roding woodcock (BoCC Red). The site and surrounding habitat is considered to offer suitable habitat for these species.
- 6.14 During a bat activity survey undertaken on the evening of 14th September 2016, a CES surveyor identified what they thought was likely to be a barn owl perched on a tall corrugated metal building located to the centre of the site. It was not possible to inspect the upper section of this building during the CES daytime internal bat surveys, therefore status of barn owl at the site is not currently known.

7.0 PREDICTED SCALE OF IMPACT

- 7.1 The proposals are to develop the existing quarry bowl and adjacent areas of elevated land (formerly used to store spoil) within the quarry site for low density residential housing. This will involve demolition of all on-site buildings, excavation of land to the north, north-east and south east of the site, and the loss of ponds. The grassland fields to the north-east of the site will not be directly affected by the development. A plan showing the outline development layout plan over recent aerial imaging is presented in Appendix D.
- 7.2 The non-priority, non-notable BoCC⁴ Green listed species recorded during the survey are regularly occurring throughout the UK (BoCC⁴) and at a regional level they are of least conservation concern. They include blackbird, blackcap, blue tit, chiffchaff, chaffinch, common buzzard, garden warbler, goldfinch, great tit, grey heron, jackdaw, jay, magpie, robin, swallow and wren. These species generally have less specific habitat requirements and are more able to disperse into other areas of suitable habitat. Localised negligible/low-level adverse impacts are predicted for these species. As such they are not discussed further.
- 7.3 Most of the established woodland within the site occurs on the steep embankments of the quarry periphery and is proposed to be retained. A small stand of woodland to the south of the site adjacent to Hurst Road (totalling approximately 0.4Ha) is proposed to be removed. Archive aerial imaging indicates that much of this area is secondary woodland, and is therefore, perhaps, of lower value to woodland birds than the more established areas of woodland found elsewhere within the site.
- 7.4 Development of land to the north of the site which currently comprises grassland/heathland mosaic with scattered scrub and immature birch trees will result in loss of habitat which supports confirmed breeding of common whitethroat and willow warbler. The assemblages of breeding birds in this region of the site are likely to be ecologically linked to those from the adjacent Troughstone Hill SBI.
- 7.5 Demolition of the on-site buildings has the potential to result in loss of kestrel, tawny owl, and/or barn owl nesting sites. Due to the poor and unsafe conditions of many of these buildings, it has not been possible to either confirm or dismiss whether these buildings support, or have previously supported, nesting of any of these species. Unmitigated development could result in disturbance to or destruction of barn owl nest sites, which would carry special penalties through its inclusion on Schedule 1 of the Wildlife & Countryside Act.
- 7.6 The sand and sandstone cliffs around the periphery of the quarry bowl are proposed to be retained and development is unlikely to occur above the height at which sand martin nest burrows have been identified. The proposed development is therefore unlikely to adversely impact on the breeding status of this species. Sand martins typically have a close association with water bodies and riparian habitats, which they use for feeding over. The water bodies within

the site are considered too small to be used to any significant degree by sand martin as a feeding resource. The in-filling of ponds is highly unlikely to adversely affect breeding sand martin within the site, however, these water bodies will invariably support other bird species through their use as a drinking and bathing resource.

8.0 RECOMMENDATIONS

- 8.1 To minimise the impacts of development the mitigation hierarchy should be applied. The hierarchy is a set of prioritised steps to alleviate environmental harm, as far as possible, through avoidance, mitigation (reduction), and as a last resort, compensation.
- 8.2 *National Policy Planning Framework*, 2012 requires the planning system to contribute to, and enhance, the natural environment by 'minimising the impacts on biodiversity and providing net gains in biodiversity where possible'.

Avoidance

- 8.3 Ideally the areas of grassland/heathland mosaic to the north of the site would be retained given the species it supports and the likely ecological function it plays with the adjacent Troughstone SBI in supporting Priority species and habitats.
- 8.4 Most woodland within the site is to be retained, however there will be some losses. Ideally the area of woodland to the south of the site toward Hurst Road (surrounding the industrial premises) would be retained; the value of the on-site woodland to breeding birds is greatly enhanced given its close proximity and connectivity with Spring Wood. Woodland and scrub habitat within the site provides habitat connectively between Spring Wood and Troughstone Hill SBI, therefore the development should seek to maintain this connectivity. With regards to woodland and scrub to the south of the proposed site, the larger the interface with Spring Wood that can be retained, the greater the connecting function is likely to be.
- 8.5 Site clearance works undertaken between the period 1st March and 31st August in any year have the potential to result in damage and/or destruction of bird's nests, their eggs and/or their young, which is an offence under Section 1 of the *Wildlife and Countryside Act*, 1981 (as amended). Many of the species identified by this survey nest in low vegetation or on the ground, therefore it is not appropriate to only consider the potential for nests in trees and shrubs.

Mitigation

- 8.6 To mitigate for the likely loss and degradation of some woodland edge habitat, the retained areas of established woodland should be enhanced through the removal of rhododendron (refer to Paragraph 5.38 within the Extended Phase 1 Habitat Survey report). This will effectively increase the quality of breeding

habitat for woodland species and prevent further habitat degradation as it spreads.

- 8.7 If the grassland/heathland mosaic to the north of the site can be retained, it should be subject to habitat enhancement to restrict or prevent the ultimate succession to woodland and scrub.

Compensation

- 8.8 The grassland fields to the north-east of the site are being made available to provide compensatory habitat to help 'off-set' development impacts on biodiversity. With regards to breeding birds, these fields have not been identified as being important for any species, therefore breeding birds are unlikely to pose a significant constraint to any habitat creation or enhancement works that may subsequently be proposed for this land.
- 8.9 All ponds/sediment pools within the site are proposed to be lost. Ponds are a Priority habitat, and as such are a material consideration for planning. Ponds to be lost should be compensated at a ratio of at least 1:1 (per unit and/or surface area) within the site. In terms of compensatory ponds, sand martin favour large water bodies for feeding. Therefore provision of fewer ponds but with a combined surface area equal or greater to that which is to be lost may benefit sand martin. This could ultimately result in the site supporting more breeding pairs of the species.
- 8.10 Nest boxes for tawny owl and kestrel should be provided within the site to compensate for the loss of a known tawny owl roost site (nest boxes will also be used for roosting) and a probable kestrel nest site (i.e. the derelict building to the east of the site). A scheme detailing the nest box design and locations will be required to support any future reserved matters application. This should be secured by means of planning condition/s.
- 8.11 The breeding status of barn owl at the site is not currently known, and due to safety reasons, is unlikely to ever be definitively established. A precautionary approach should therefore be taken, involving implementation of avoidance and mitigation measures for the protection of breeding barn owl, and provision of a compensatory nest site. A detailed strategy for the protection of barn owl will have to be formulated to support any future reserved matters application, and should be secured by means of planning condition/s.

Enhancement

- 8.12 If the area of grassland/heathland mosaic to the north of the quarry site can be retained, there will be opportunity to improve its connectivity to the adjacent Troughstone Hill SBI (and so increase the resilience of the species these areas support) by allowing a more semi-natural habitat to develop on the cattle-grazed grassland fields to the north-east of the site, which are being made available to provide compensatory habitat. The viability of any potential habitat creation would ultimately depend on sufficient funds being made available to

implement long-term habitat management. Ultimately, a diverse swathe structure of increased botanical diversity and comprising low levels of scrub would be most suitable, such as grassland/heathland mosaic.

- 8.13 Detailed proposals for all habitat compensation and habitat creation, along with a commitment to funding long-term habitat management, will be required to support any future reserved matters application.

9.0 CONCLUSIONS

- 9.1 The majority of the site consists of bare ground which is of negligible value to breeding birds. The breeding bird interest within the site is limited to the semi-natural habitats found to the periphery and north of the quarry bowl.
- 9.2 These habitats are at varying successional stages and support assemblages of breeding birds typical of these habitat types for the region, and include Priority species and species of conservation concern (BoCC⁴).
- 9.3 The linear stand of woodland and scrub along the site's eastern boundary is likely to provide a connecting function linking Spring Wood to Troughstone SBI. Retention of as much of the woodland and scrub habitat to the south east and east of the site will effectively mitigate this impact.
- 9.4 Retention of the grassland/heathland mosaic to the north of the site is recommended and is perhaps the greatest opportunity to mitigate likely development impacts as the species it supports are highly likely to be ecologically linked to the adjacent Troughstone Hill SBI.
- 9.5 CES understands that the grassland fields to the north-east of the site are being made available to help provide compensatory habitat to 'off-set' development impacts on biodiversity. Detailed proposals for any compensation and habitat creation will be required to support any future reserved matters application, alongside a commitment to secure long-term management of these areas.
- 9.6 The findings of this 2016 breeding bird survey should enable the local planning authority to make an informed decision as to whether it is possible to discharge their responsibilities under current planning guidance relating to breeding birds, when determining the outline application submitted in respect of the proposed development.

10.0 REFERENCES

Bibby, C.J., Burgess, N. & Hill, D.A. (1992). *Bird Census Techniques*. London: Academic Press

Eaton, M.A, Aebischer N.J, Brown A.F., Hearn R.D., Lock, L., Musgrove, A.J., Noble D.G., Stroud, D.A. and Gregory R.D. (2015) Birds of Conservation Concern 4: the population statistics of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708-746

UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) (2008)

http://www.rspb.org.uk/Images/BoCC_tcm9-217852.pdf

<http://www.sbap.org.uk/actionplan/species/index.php>

Appendices

Appendix A: Site Location Plan



Legend

- Survey Area
- Proposed Development Site Boundary

Client:	Renew Land Developments Ltd.	
Project:	Hurst Quarry, Biddulph	
Map:	Site Location Plan	
CES Ref:	CES/1258/09-16/NF	
Scale:	Not to scale / Indicative	
Date/Rev:	September 2016	0

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0 250 500
Metres

Appendix B: Breeding Bird Territory Mapping (species of conservation interest)



Legend

Proposed Development Site Boundary

Confirmed Breeding

Probable Breeding

Possible Breeding

BTO Species Codes:

WW

Willow Warbler

D

Dunnock

TO

Tawny Owl

K

Kestrel

BF

Bullfinch

SD

Stock Dove

MA

Mallard

SM

Song Thrush

ST

Sand Martin

LI

Linnet

WH

Whitethroat

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Appendix C: Photographic Plates



Plate 1: View looking southwards of grassland/heath mosaic to the north of the site with scattered scrub and immature birch trees



Plate 2: View looking southwards of semi-natural habitat contained to the north of the quarry bowl



Plate 3: View of the sandstone cliff which supports nesting sand martin (in upper section/seam of exposed sand)



Plate 4: View of bare ground at the lower section of the quarry, which is of negligible value to breeding birds. Much of the established woodland on the eastern boundary of the site (to the right) will be retained.



Plate 5: View of a metal corrugated building within the site on which a possible barn owl was seen perched during a dusk bat survey. It is not possible to fully inspect this building internally for safety reasons. This building may support barn owl nesting, and/or nesting of other species.



Plate 6: View of a pond located to the centre of the site – typical of most water bodies on site; appearing not to support breeding water birds



Plate 7: View of a grassland field to the north east of the site; separating the proposed development site and Troughstone Hill SBI



Plates 8 - 11: Tawny owl feathers and pellets found within the derelict stone building to the east of the site

Appendix D: Proposed Development Layout Plan (over aerial imaging)



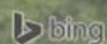
Legend

— Proposed Development Site Boundary

(Drawing Layout provided by Knights 1759)

Client:	Renew Land Developments Ltd	
Project:	Hurst Quarry, Biddulph	
Map:	Proposed Outline Layout Plan Over Aerial Image	
CES Ref:	CES/1258/02-17/NF	
Scale:	Not to scale / Indicative	
Date/Rev:	February 2017	1

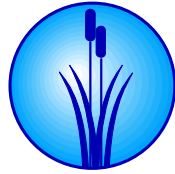
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