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Ecological Scoping Assessment
Ringstone Hill Farm, Brierley

Report reference: BE-R-1068-01
September 2011

Report Title:	Ecological Scoping Assessment Ringstone Hill Farm, Brierley
Report Reference:	BE-R-1068-01
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Summary Statement

The proposed turbine location is well sited and its operation is not expected to impact significantly on wildlife. Recommendations are made in respect of the stand off from an adjacent hedgerow.

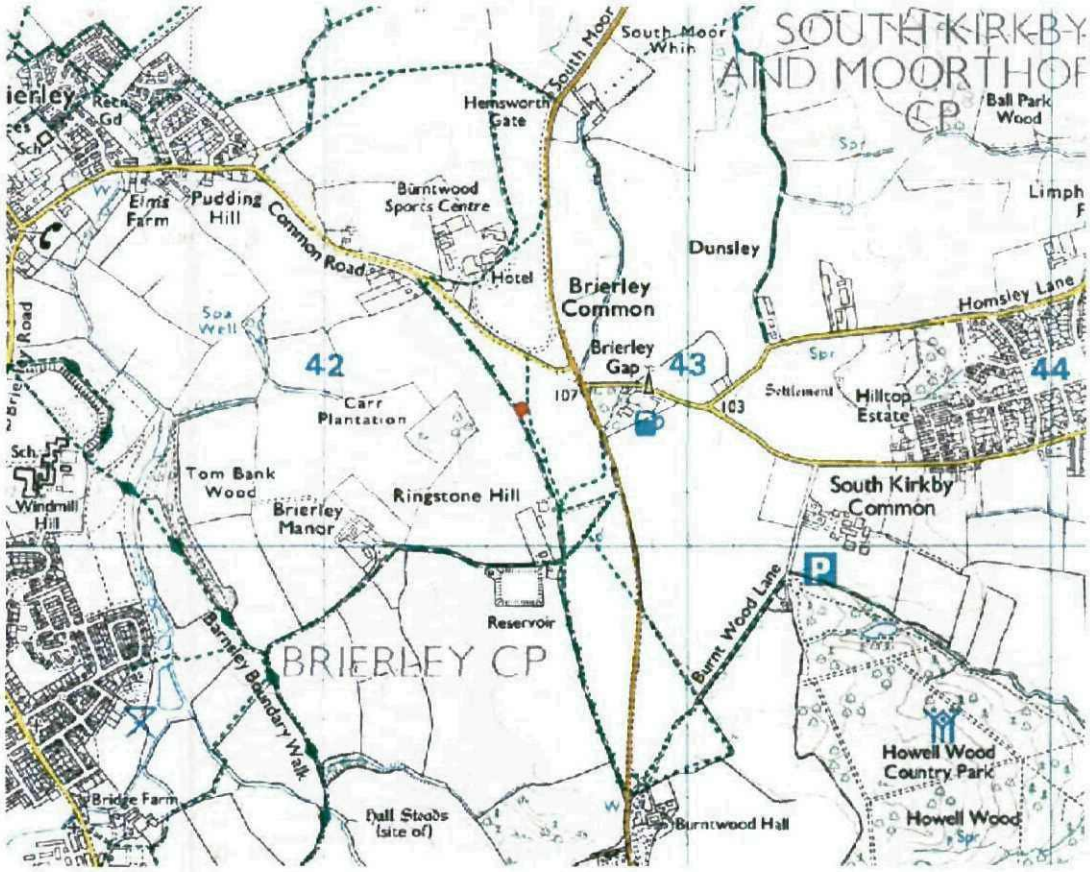
Introduction

Brooks Ecological Ltd was commissioned to carry out an Ecological Scoping Assessment of the location of potential wind turbines in arable fields at Ringstone Hill Farm, Brierley Common, Barnsley (SE 424 103).

Site Proposals

It is proposed to erect a single Enercon E33 wind turbine which has 8.5m blades mounted on a hub at 45m. The current proposed location of the tubine is shown in figure 1 below.

Figure 1 Site location, the proposed turbine is marked with a red circle in the centre of the map.



This report comprises a desk study, extended phase 1 habitat survey, bat remote recording visit and an ornithological scoping assessment.

Section 1 Desk Study

A desk study was carried out to identify species or habitats that are considered important in a local context and to identify any species recorded locally that may be associated with the application site. This information can be used to help target groups that need to be considered in more detail in order to identify the ecological baseline for the application site.

Designated Sites

A search of the MAGIC website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Scientific Interest [SSSI's]) as well as many non-statutorily listed habitats (e.g. Ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats.

Only one statutory designation is located within the search area, this is West Haigh wood (LNR), an ancient birch/sessile oak woodland which is located c.1km south of the site. The proposal site does not hold similar habitats of have any good habitat links to this designation, the proposals would not be expected to have any significant negative effect on it.

Aerial Photography and Detailed Map Study

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.

The site is located to the north east of the large village of Grimethorpe near the town of Barnsley. The immediate area is dominated by arable fields, with small clusters of residential housing located to the north, east and west of the site.

There are two large woodland areas to the south east and south of the site; the closest woodland is Howell Wood which is c.720m south east of the site.

The nearest pond is located c:440m east of the site near Manor Farm, and the nearest watercourse drains land 1km to the west towards Grimethorpe and the Dearne wash-lands beyond.

The site's landscape is pictured in figures BE-D-1068-01and 2 later in the report.

English Nature Natural Area

The site falls within *Natural Area 24 Coal Measures*

Based on shale and sandstone deposits natural area 24 is characterized by dense population centres such as Sheffield, Leeds and Wakefield. The area's ecology reflects the changing geology which underlies it and is typified by mixed agriculture, acidic / ancient woodlands, valley wetlands and acidic / neutral grasslands.

There are no nationally important conservation priorities. Local Conservation priorities for the area are;

- Acid Grassland
- Fen, Marsh and Swamp
- Lowland Heathland
- Neutral Grassland
- Rivers and Streams
- Standing and open water
- Wet Woodland

The application site does not support these habitat types and they would not be affected by the proposed development.

Local Biodiversity Action Plan

The local BAP is 'Barnsley Biodiversity Action Plan". Under this BAP plans have been created for the species or groups listed in Table 1.

Table 1: Species Action Plans

Species/group	Potentially on site	Likely to be significantly affected?
Hedgehog	Yes	No
Barn owl	No	No
Skylark	Yes	No
Tree sparrow	Yes	No
Twite	No	No
Great crested newt	No	No
Salmon	No	No
Bullhead	No	No
White-clawed crayfish	No	No
Glow worm	No	No
Dingy skipper	No	No
Bats	Yes	No
Bluebell	No	No
Water vole	No	No
Otter	No	No
Grey partridge	Yes	No
Bittern	No	No
Kestrel	No	No
Little ringed plover	No	No
Lapwing	Yes ?	No

Bats and birds are discussed in the relevant sections of the report. Due to the nature of the proposals impacts on species such as hedgehog would not be expected.

Action plans have also been produced for the habitats in Table 2:

Table 2: Habitat Action Plans

Habitat	Present on site	Likely to be significantly affected?
Upland oakwood	No	No
Lowland heathland	No	No
Upland heathland	No	No
Blanket bog	No	No
Purple moor grass and rush pasture	No	No
Reedbeds	No	No
Ponds	No	No
Rivers	No	No
Open mosaic habitats	No	No
Lowland mixed deciduous woodland	No	No
Wet woodland	No	No
Wood pasture and parkland	No	No
Hedgerows	Yes	No
Arable field margins	Yes	No
Floodplain grazing marsh	No	No
Lowland meadows	No	No
Lowland dry acidic grassland	No	No

The wider site does contain hedgerows and arable field margins, these are described in more detail later in the report and would not be directly impacted by the current proposals.

Records

The Barnsley area does not have any dedicated ecological record holder at this time. With the exception of bats and birds, which are considered in more detail in this report no other terrestrial species would be likely to be affected by the proposals. This is both as a function of absence of suitable habitat on site and the very limited nature of construction impacts.

The South Yorkshire Bat Group was asked to provide a 1km search for records of bats in the area. They held two records (both of indeterminate species), one of these was for a roost on Common Road Brierley 1.2km northwest of the site, the other being for a single bats seen in Grimethorpe 1.6km east of the site. In addition Brooks Ecological are aware of the presence of common pipistrelle bats at the ex-Willowgarth High School in Grimethorpe.

The RSPB/Natural England "Map of sensitive bird areas in relation to onshore wind farms in England", as published within the RSPB Research Report No 35, was consulted and the proposal site was shown not to be located within any area with a High or Medium sensitivity rating.

Section 2 Phase 1 Habitat Survey

Survey Method

The survey was carried out on the 3rd August 2011 by an experienced field ecologist who is a full member of the Institute of Ecology and Environmental Management (IEEM).

The survey followed a Phase 1 habitat survey methodology (JNCC, 1993) and was extended to assess faunal potential. This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). Evidence of fauna and faunal habitat is also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995).

Results

The application site comprises a large parcel of open arable landscape with moderately large fields separated by mature and generally intact but species-poor hedgerows, with occasional semi-mature trees and blocks of woodland. The site occupies an elevated position with a particularly steep downward slope on the western side.

The application site was found to support the following terrestrial habitats, these are illustrated indicatively on plan BE-D-1068-01:

- Arable crops
- Rough grassland
- Hedgerows and margins
- Trees

Arable fields

Remnants of cereal crops occupy the vast majority of the site and the proposed turbine location is situated within such a field. These fields support very few associated arable weeds; those present include knotgrass (*Polygonum aviculare*), pineapple weed (*Matricaria discoidea*), scented mayweed (*Matrcaria recucita*), nipplewort (*Lapsana communis*) and chickweed (*Stellaria media*).

Rough Grassland

The arable fields dominating the site have narrow grassy field margins adjacent to the boundary hedgerows including a strip between the two main fields marking a footpath passing through the site. These are dominated by common grass species, especially false oat-grass (*Arrhenatherum elatius*) and cock's-foot (*Dactylis glomerata*) with a range of arable weeds including: poppy (*Papaver rhoeas*) and wild radish (*Raphanus raphanistrum*) and other common forbs such as dock's (*Rumex* spp.) and rosebay willowherb (*Chamerion angustifolium*). These areas are not felt to constitute good examples of the LBAP habitat – Arable Field Margins.

Hedgerow

The fields between the central footpath and the roads to the north (Common Road) and east (Southmoor Road) as well as adjacent to the track running from Southmoor Road to Ringstone Hill Farm are bound by generally intact mature hedgerows.

These hedgerows are all species-poor examples dominated by hawthorn (*Crataegus monogyna*) with infrequent additional species such as elder (*Sambucus nigra*), sycamore (*Acer pseudoplatanus*), field maple (*Acer campestre*) and ash (*Fraxinus excelsior*). None of these include any standard trees.

The hedgerow running adjacent to the central footpath has a different character and includes a few gappy sections. The hedge is again dominated by hawthorn but significant patches of plum (*Prunus* sp.), blackthorn (*Prunus spinosa*), gorse (*Ulex europaeus*) and dog rose (*Rosa canina*) occur along with dense sculpted sections of bramble (*Rubus fruticosus* agg.) filling some of the gaps in the woody vegetation canopy.

Figure 1

Panoramic view facing west with proposed turbine location in arable field near centre of picture. Large arable fields backed by hillside copses (looking to proposed turbine locations).

Figure 2

Panoramic view of landscape looking east from the turbine location. Shows the predominantly open arable landscape.

Figure 3 Views looking south (turbine location left of path) and north (turbine to right) respectively, along foot path through centre of site.

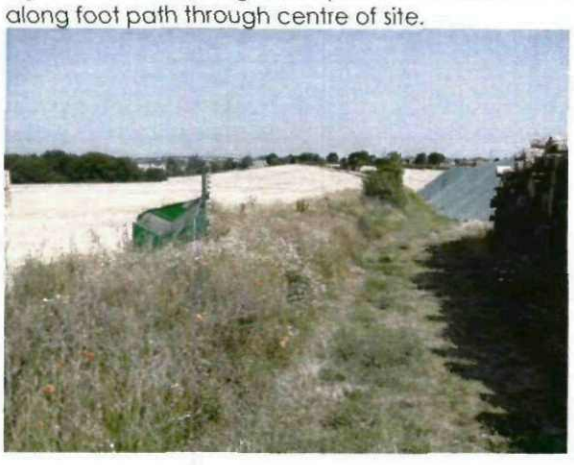


Figure 4

Hedgerows either side of Common Road (looking east).

Trees

Four immature standard trees occur along the central footpath hedge, all in the central third. These include oak (*Quercus* sp.), sycamore ash and birch (*Betula* sp.). All appear intact with no significant deadwood, cracks, holes or areas of peeling bark suitable as bat roosts.

Fauna

Amphibians

The application site does not support permanent water bodies capable of supporting breeding amphibian populations and no such features appear to be within 500m of the application site boundary. This will ensure that the specially

protected great crested newt is not present on site and not likely to be affected by the proposals. The proposals present no significant impacts to this group.

Bats

Section 3 of this report deals with bats specifically.

Birds

Section 4 of this report deals with birds specifically.

Protected mammals

No evidence of badger foraging and latrining was noted on site and no badger setts were found. The site has some value to brown hare but no significant impacts would be expected on this species from the proposed development. The site does not represent suitable habitat for any protected mammal species likely to occur in this location.

Reptiles

Due to the prevalence of arable agriculture and near absence of open undisturbed ground the application site is extremely unlikely to support reptiles and this group is given no further consideration in this report.

Invasive Plants

No evidence of species listed on Schedule 9 (Part 2) of the Wildlife and Countryside Act (1981) as amended was found on the site.

Section 3 Bat Scoping

Bats can be adversely affected by wind turbines and reports of bat casualties at turbine sites are known. Current research suggests that this may have more to do with the distortion of air pressure around turbine blades than actual impact with bats – obviously the risk to bats is therefore much higher from larger turbines, and in particular the complex effects around multiple turbines.

However given that there is a theoretical possibility that bats could be displaced by or harmed by wind turbines, is always important that even single turbines, or small plots of them, are sited away from transit routes, roost entrances or primary foraging areas for bats.

According to both EU guidance (*Eurobats*) and Natural England (*Technical Information Note TIN051 Bats and Onshore Wind Turbines - Interim Guidance*); and the recently published Bat Conservation Trust (BCT) guidance in Surveying for Onshore Wind Farms (2001) certain bat species are more at risk from wind turbines than others. This can be due to varying migration, flight pattern and foraging habits.

The bat species potentially affected at this location, and the scale of risk posed to them as individuals (and by inference, their populations) by wind turbines is represented in table 3.1.

Table 3.1 Risk to bat species/populations recorded within 10km of the application site (adapted from Natural England 2009).

Species	Risk status	Population Risk Status
Nathusius' pipistrelle (*Pipistrellus nathusii*)	High	High
Noctule (Nyctalus noctula)	High	High
Liesler's (Nyctalus leisleri)	High	High
Pipistrelles (*Pipistrellus pipistrellus* and *P. pygmaeus*)	Medium	Low
Brown long-eared (Plecotus auritus)	Low	Low
Natterer's (Myotis nattereri)	Low	Low
Daubenton's (Myotis daubentonii)	Low	Low
Whiskered/Brandt's (*Myotis mystacinus* and *M. brandtii*)	Low	Low

Method

Landscape Assessment

The recently published Bat Conservation Trust (BCT) guidance in Surveying for Onshore Wind Farms (2001) was referred to, to help scope the need or otherwise of detailed bat survey.

The primary objective of the surveys is to determine whether the proposal site is used by, or is likely to be used by bats for roosting, foraging or transit, so allowing an assessment of the risk posed to bats. This can often be effectively determined through daylight assessment of landscape features and surroundings, likely roosting and foraging sites, and if necessary followed up by bat activity surveys during the summer; unless features suggest bats could use the area in significant numbers at other times of year.

Key potential bat foraging grounds and commuting corridors and possible roost locations were looked for based on a site visit and study of aerial photographs of the landscape within 1km of the site. This includes features such as belts of woody vegetation or similar linear corridors between areas of invertebrate rich habitat such as cattle grazed pasture, water bodies, wetlands or woodlands. This assessment is shown in figure BE-D-1051-02.

This illustration demonstrates that the turbine location is set amongst a landscape containing potential roost sites (such as Ringstone Hill Farm 275m to the south and the public house 234m to the to the east), and foraging habitats (such as Carr Plantation 160m to the west and the drain running 170m to the north west of the site). However the application site does not form part of any network of commuting habitat which bats would use to move between these features. This would make conflicts with the turbine in its proposed location unlikely, but a precautionary period of activity monitoring was nonetheless carried out.

Activity Survey

A 'Song Meter' (WCA SM2) detector was left at the proposed turbine location with a microphone pointing into the blade swept area from the on each night in a central position among the proposed turbine array. The SM2 allows for sound recordings to be made of any passing bats and subsequent analysis of the sonograms to identify species. This is a very useful tool in such sites as they are especially helpful at detecting and identifying brown long-eared bats (often elusive using traditional detection methods). It also allows night long recordings picking up all passes of bats and recording time and duration of the pass and associated activity.

The SM2 can record activity at two survey stations through use of 50m long cables. In this case one microphone (Station 1) was placed in the field boundary adjacent to the hedgerow, the other out into the field between the proposed turbine location and the nearest woodland (Station 2). This allowed for a comparison of bat activity in the most likely features to attract bat activity within the influence of the turbine. Station locations are shown on plan BE-D-1056-02.

Survey work was directed by Rob Weston BSc (Hons) MSc MIEEM. Rob has many years experience of carrying out bat surveys in a professional capacity and holds a Natural England license in respect of bats (No. 20110642). He is a member of

the West Yorkshire Bat Group and runs training in bat surveys for student ecologists.

Station 1- Hedgerow to the west of the turbine location site

8th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	5	2	2	0	7	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

9th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	1	1	1	3	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

10th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	1	0	0	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

11th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	0	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

12th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	5	2	2	0	7	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

On comparable sites with good quality foraging, and high bat populations hundreds or even thousands of bat passes would be detected using similar methods. Bat activity along the hedge-line was very low indeed with a maximum of 16 passes on any one night, it was generally lower than this and completely on absent two of the nights.

Nearby roosting would result in passes appearing in the shaded columns close to *dusk and dawn. No such passes were registered at this location.*

All bats recorded at the site were common pipistrelles.

Station 2- Proposed turbine location in arable field

8th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	1	3	0	0	1	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

9th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	0	0	5	6	1	0
soprano pipistrelle	0	0	0	0	0	0	0	1	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	2	0	0	0

10th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	0	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

11th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	0	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0

12th August 2011

Time	20.00-	21.00-	22.00-	23.00-	24.00-	01.00-	02.00-	03.00-	04.00-	05.00-
common pipistrelle	0	0	0	0	0	0	0	0	0	0
soprano pipistrelle	0	0	0	0	0	0	0	0	0	0
Myotis spp.	0	0	0	0	0	0	0	0	0	0
brown long-eared	0	0	0	0	0	0	0	0	0	0
noctule / leisler's	0	0	0	0	0	0	0	0	0	0

Again very few bats were recorded at this station with a maximum of 15 passes in any one night.

Again activity patterns were not suggestive of local roosting.

As well as pipistrelle bats this station also picked up evidence of noctules on one occasion.

Evaluation

The data from the August activity survey represents *extremely* low levels of bat activity and use by only three common species. As the survey was carried out in mid-summer at the height of bat activity, and the data backed up conclusions

from the landscape assessment it appears very likely that the turbine is well sited with regard to minimising potential impacts upon bats.

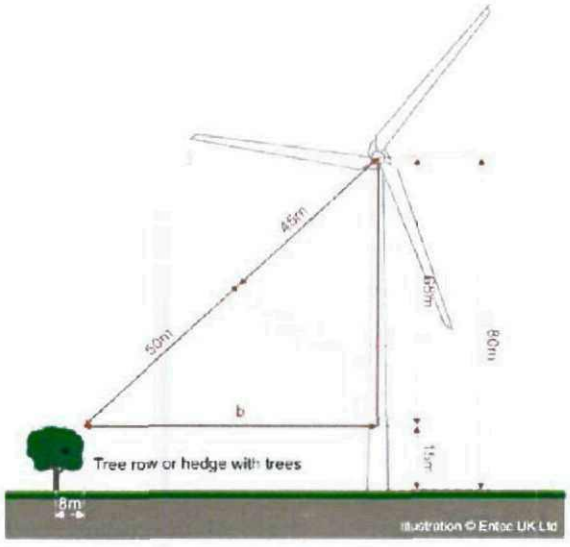
The vast majority of passes recorded were by bats deemed to be at low risk (as populations) from the potential impacts of wind turbines. Two passes by noctule bats were recorded and these bats fly at height and tend to not be as restricted to transit along defined features. As such they are more at risk from the impacts of wind turbines but given the very low levels of their activity detected (probably just one bat passing high over the site over the whole 5 night survey) significant impacts to this species from the proposals can be reasonably ruled out.

The results of this assessment when analysed in the light of Table 1 of BCT's 2011 guidelines place this site in the low category for required survey effort. On this basis and due to the findings of the precautionary activity survey carried out during the peak activity season it is proposed that significant impacts to bats from the proposed turbine are extremely unlikely and that further survey in this respect would be disproportionate.

Natural England issued advice in 2009 which aimed to adapt EU (Eurobats) guidance for use in the UK. This is provided in the form of interim guidance in their Technical Information Note TIN 051. In addition to information which has been used in planning our surveys TIN 051 also presents guidance on what is considered a safe stand-off distance from features used by bats (such as the nearby hedgerow at this site) if impacts from turbine blades are to be avoided.

$$b = \sqrt{(50 + bl)^2 - (hh - fh)^2}$$

Figure 5



Guidance from Natural England' TN051 on stand-off a feature used by bats.

fh = feature height

hh = hub height

bl = blade length

b= standoff

At this site this is calculated as

$\sqrt{(50+8.5)^2 - (55-22)^2}$ = **48.3m**

Surveys have shown that the hedgerow adjacent to the nearby bridleway is used by small numbers of foraging bats and calculations suggest that the safe distance between the feature (in this case the linear hedgerow) and the turbine centre is 48.3m. It is recommended that the project should apply Natural England's minimum stand-off of 50m but that a flexible approach allowing placement within 48m is unlikely to present significant risks of impacts to bats.

Section 4 Ornithological Scoping

Landscape Assessment

Breeding birds

The application site presents arable habitats likely to support breeding bird populations typical of these habitats in this area. The site lacks any particularly high value features such as mature woodland, unimproved grasslands or wetlands which would increase the potential for more scarce species to occur. Post construction the area would continue to be managed as arable land making the impact of direct habitat loss around the turbine locations and infrastructure insignificant with regard to breeding bird populations.

It is expected that the open fields and hedgerows dominating the site would support a range of UKBAP/Red and Amber list breeding birds potentially including: yellowhammer, linnet, dunnock, meadow pipit, skylark, song thrush, grey partridge, bullfinch and possibly tree sparrow and lapwing. However, the size of the site, limited value habitats and extent of similar habitats across the wider landscape makes it highly unlikely that populations of significance to the local area would occur at a site level.

None of the species mentioned above are considered to be at significant risk from turbine collision during the nesting season at least.

Lapwing may be subject to displacement disturbance but population numbers on the site and the extent of similar habitat in the surrounding area makes it highly unlikely that local populations would face significant reductions as a result of the proposed wind turbine.

The site supports no potential nesting sites for barn owl and none are present in the immediate surrounding area. The large open fields and limited headland habitat makes it sub-optimal with regard to foraging barn owl. Given these limitations on the likely presence of barn owl and there high manoeuvrability and slow flight; collision risk at this site would likely be negligible and displacement not significant.

Passage/Wintering Birds

The site does not incorporate areas of habitat likely to be particularly attractive to most of the species at highest risk of turbine collision during the passage/winter periods (i.e. swans, ducks, herons and large birds of prey) such as sizeable open water bodies, coastal habitats, reed beds, estuarine habitats etc.

Whilst the site does include sizeable arable fields they are generally long and narrow with tall hedges making them of limited value to wintering and passage flocks of waders such as golden plover and lapwing due to reduced visibility.

The lack of proximity to the coast and upland areas further reduces their potential value and whilst flocks of these species may occur the site is highly unlikely to be of importance to any local populations of waders during either period.

Local bird sites

There are sites managed by the RSPB for their ornithological interest associated within the Dearne Valley which flows some distance to the west of the site. The nearest such site is just within 4km of Ringstone Hill Farm with others around 10km to the south west. The Dearne Valley provides wintering habitat for waders and ducks as well as breeding and passage habitat for a wide range of mainly wetland species. The valley forms a north south linear habitat / fly-way which in no way encompasses the application site or shares common habitats or good links with it. The landscape and habitat factors discussed above mean that impacts on the interests of these sites can be ruled out.

Evaluation

It is considered that the proposed turbine would have no impact upon any important bird populations during any period of the year and further survey in this respect is not recommended.

References

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Rodrigues, L., L. Bach, M.-J. Dubourg-Savage, J. Goodwin & C. Harbusch. (2008) Guidelines for consideration of bats in wind farm projects. EUROBATS Publication Series No. 3 (English version). UNEP/EUROBATS Secretariat, Bonn, Germany, 51 pp.

Natural England. (2009) *Technical Information Note TIN051 – Bats And Onshore Wind Turbines Interim Guidance*. Natural England Publications, Peterborough.

Features with roost potential

Moderate foraging

Good foraging

Proposed turbine location

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Site: Ringstone Hill Farm, Brierley

Title: Landscape Assessment

Drawing Number: BE/D/1068/01

Scale: Do not scale Date: September 2011

Revision: