

Hunger Hill Farm, Hoylandswaine, Sheffield

Ecological Appraisal

June 2012

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1 Introduction

This report presents the results of an ecological assessment undertaken on 6th June 2012 at Hunger Hill Farm, Hoylandswaine, Sheffield S36 7JJ. The assessment was commissioned to highlight any potential ecological constraints to the proposed installation and operation of a single 50kW wind turbine at the site.

The location of the turbine which is shown in Figures 1 and 2 will be centred on approximate grid reference: SE25530484. This report was completed to support planning decisions in relation to the application.

Figure 1: Proposed turbine location



Figure 2: Proposed turbine location (indicated by red arrow)



2 Survey Methodology

2.0 *Desk Study*

Barnsley Biological Records Centre (BBRC) was contacted for records of statutory / non-statutory designated sites and protected / notable species records within a 1.5 km radius of the site. In addition, the following sources of information were used to provide additional ecological data relevant to the proposals.

- Multi-Agency Geographic Information for the Countryside (MAGIC).
- Ordnance Survey 1:25,000 mapping.
- Aerial imagery.

2.1 *Field Survey*

An ecological assessment of the site was undertaken on 6th June 2012 and conducted by Toby Fisher CEnv MIEEM. The weather conditions at the time of the survey were dry, moderate breeze (Beaufort Scale 3) and 14°C with good visibility. Habitats were assessed in accordance with the standard JNCC habitat classification methodology¹. The site was also searched for evidence of protected/notable species and the habitats present were assessed in terms of their potential to support protected/notable species.

¹ JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.¹

3 Survey Results

3.0 Desk Study

Protected sites

Protected nature conservation sites within 1.5 km of the site are shown on the map in Appendix 2. There are four Natural Heritage Sites (NHS) within 1.5 km of the site:

Royd, Vicar, Lindley and Coates Great Woods NHS (Natural Heritage Sites) is located approximately 1340 metres south-east of the proposed turbine. This site is designated due to its ancient woodland habitat and associated fauna.

Daking Brook NHS is located approximately 1480 metres north-west of the proposed turbine at its nearest point.

Gunthwaite Dam and Clough Wood NHS is located approximately 1480 metres north-west of the proposed turbine.

Wool Greaves Meadows Candidate NHS is located approximately 1500 metres north-east of the proposed turbine

Ancient Woodlands: There are three ancient woodlands within 1.5 km of the site; the nearest being approximately 550 metres north-west of the proposed turbine.

BBRC – Protected / notable species records

BBRC provided over 900 species records from within 1.5 km radius of the site. These records are too numerous to include in this report (the data will be made available on request). The records include several records of rare/protected species and many records of common and widespread species. The key records are summarised as follows:

- Bats: Records of Brandt's bat *Myotis brandtii*, noctule *Nyctalus noctula*, pipistrelle *Pipistrellus pipistrellus*, brown long-eared bat *Plecotus auritus* and unidentified bats. No records within 500 metres of the proposed turbine.
- Badger: Several records from the wider area but no records within 500 metres of the proposed turbine.
- Birds: Numerous records of declining farmland and woodland birds within 1.5 km including several UK Biodiversity Action Plan (UK BAP) priority species such as skylark, linnet, redpoll, twite, lesser spotted woodpecker, yellowhammer, pied flycatcher, grasshopper warbler, crossbill, corn bunting, willow tit, house sparrow, tree sparrow, grey partridge, wood warbler, turtle dove, starling, song thrush and ring ouzel.
- Birds: Several raptors, waders, wildfowl and Schedule 1 (Wildlife and Countryside Act) species: goshawk, short-eared owl, merlin, common sandpiper, kingfisher, teal, wigeon, pochard, tufted duck, goldeneye, little ringed plover, quail, snipe, redshank, lapwing and curlew.
- Brown hare: Several records from the wider area but no records within 500 metres of the proposed turbine.

3.1 Habitats

Also see photos below. The turbine location is within an arable field which was under wheat cultivation at the time of the survey. The majority of the fields within 500 metres are also arable (mostly wheat with some rye-grass leys) along with several fields of semi-improved grassland to the north.

The majority of the field boundaries within approximately 500 metres comprise dry stone walls and wire fences with occasional scrub and standard trees.

The proposed turbine location is adjacent to a field boundary which comprises a broken dry stone wall and wire fence. Vegetation along this field boundary comprises cock's-foot *Dactylis glomerata*, false oat-grass *Arrhenatherum elatius*, cow parsley *Anthriscus sylvestris*, smooth brome *Bromus hordeaceus* and red fescue *Festuca rubra*.

No trees, scrub or woodland was identified within 100 metres of the proposed turbine location; the nearest scrub vegetation comprises isolated hawthorn bushes *Crataegus monogyna* located over 100 metres from the turbine location along field boundaries. The nearest hedgerow appears to be located approximately 190 metres to the south-west.

The grassland located approximately 80 metres north of the proposed turbine location comprises semi-improved neutral grassland containing common bent *Agrostis capillaris*, meadow foxtail *Alopecurus pratensis*, crested dog's-tail *Cynosurus cristatus*, perennial rye-grass *Lolium perenne*, cock's-foot, broad-leaved dock *Rumex obtusifolius*, cow parsley, sorrel *Rumex acetosa* and meadow buttercup *Ranunculus acris*.

A 30-metre stretch of exposed rock-face up to 3-4 metres high is located approximately 100 metres south-east of the proposed turbine. Vegetation associated with the rock-face includes meadow vetchling *Lathyrus pratensis*, zigzag clover *Trifolium medium*, field scabious *Knautia arvensis* and common knapweed *Centaurea nigra*.

3.2 **Birds**

Birds observed within the area during the site visit include skylark, linnet, goldfinch, chaffinch, greenfinch, house sparrow and collared dove. Of these, skylark, linnet and house sparrow are UK BAP (Biodiversity Action Plan) priority species². One male skylark was observed in territorial display over the arable field approximately 100 metres east of the turbine location and this species is likely to nest in the open arable fields here. Three linnets were observed within 100 metres of the proposed turbine location and this species is likely to nest along field boundaries nearby. House sparrows are likely to nest in the houses within 300 metres of the site. No evidence of wading birds was observed and the land within 500 metres does not appear likely to support nesting waders due to the general background disturbance levels associated with the nearby residential areas and roads and dog walkers.

Barnsley Bird Study Group (Geoff Carr) was contacted with respect to the local bird interest. At the time of writing, a response was yet to be received.

3.3 **Bats**

In accordance with Natural England guidance³ buffer zones well in excess of 50 metres have been maintained between the proposed turbine blade tips and any habitats likely to be used by bats, i.e. the hedgerows, trees and gardens in the wider area. The nearest scrub is located over 100 metres from the proposed turbine location.

The nearest potential bat roost sites appear to be in the farm buildings located >140 metres to the south of the proposed turbine location.

3.4 **Other protected / notable species**

No evidence of badger was observed on the site and the proposed turbine location and cabling route are assessed as unlikely to be colonised by badgers in the short-term due to the absence of suitable cover. The likelihood of reptiles within the immediate area is low due to the nature of the habitats. The area of the proposed turbine could potentially support brown hare and hedgehog. Brown hare and hedgehog are both UKBAP priority species. No further protected / notable species are considered likely to be affected by the proposed turbine.

² UK Biodiversity Action Plan (UKBAP) priority bird species status based on: <http://jncc.defra.gov.uk/page-5163>

³ Natural England Technical Information Note TIN051, Bats and onshore wind turbines Interim guidance. First edition 11 February 2009.

Photo 1. Looking west towards the proposed turbine location along field boundary in foreground



Photo 2. Looking north-west towards the exposed rock-face ~100 metres from the turbine site



Photo 3. Looking north-west from the northern end of the field of the proposed turbine



Photo 4. Looking south from the southern end of the field of the proposed turbine



4 Evaluation and Recommendations

4.0 *Habitats*

The turbine is proposed to be located within an arable field which is considered to be of low ecological value in its own right although skylark (UKBAP priority species) could nest in this habitat.

4.1 *Breeding birds*

The arable fields in the immediate area could support nesting skylark. No other open-ground nesting species were noted during the survey. The proposed turbine is not likely to significantly affect other UKBAP bird species such as linnet and house sparrow.

Nesting skylark could be directly affected by turbine construction activities if undertaken during the main bird nesting season of March to August inclusive. Standard measures should be employed to ensure that active bird nests are not damaged or destroyed during construction of the wind turbine.

4.2 *Bats*

Standard guidance in relation to wind turbines in England is to provide a buffer zone of at least 50 metres between turbine blade-tip and the nearest feature likely to be used by bats e.g. a hedgerow, treeline or a built structure. In accordance with the guidance, a minimum distance in excess of 50 metres has been maintained and no significant impacts on bats are predicted and no further surveys with regards to bat are recommended.

4.3 *Other fauna*

No significant impacts on other protected/notable species such as badger, hedgehog or brown hare are predicted.

Appendix 1: Legislation and Conservation Context

Nesting birds

All wild birds in the UK are protected under Section 1 of 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 the nest (whilst being built or in use) or its eggs. Bird species listed in Schedule 1 of the 1981 Act, e.g. barn owl, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

Bats

All British bat species are fully protected through The Conservation of Habitats and Species Regulations 2010 as a European Protected Species (EPS). They also receive some protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Under the legislation, it is an offence to deliberately capture, injure or kill a bat. It is an offence to damage or destroy a breeding site or resting place of a bat. It is also an offence to intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; or obstruct access to any structure or place which it uses for that purpose.

It is also an offence to deliberately disturb a bat; in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or (b) to affect significantly the local distribution or abundance of the species to which they belong.

The 'appropriate authority' (Natural England in England) has powers to issue licences for various purposes including - (a) scientific or educational purposes... and (e) preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment. The appropriate authority shall not grant a licence under this regulation unless they are satisfied - (a) that there is no satisfactory alternative, and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range. It is an offence for any person authorised by virtue of a licence to which this paragraph applies to contravene or fail to comply with any condition which the licence requires him to comply with.

Several species of bat including brown long-eared and soprano pipistrelle *Pipistrellus pygmaeus* are identified as UK Biodiversity Action Plan (BAP) priority species and are also listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as a Species of Principal Importance for the purpose of conserving biodiversity.

Appendix 2: Information provided by BBRC

