

Bowler Energy

Bird Lane House Farm, South Yorkshire Extended Phase I Habitat and Bird Reconnaissance Survey Report

November 2011



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Practical Ecological Solutions

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Plans

Drawing Number: 111383/1/1/wor1	Extended Phase I Habitat Survey
Drawing Number: 111383/1/7/wor2	Bird Reconnaissance Survey

Appendices

Appendix 1	Wildlife Legislation and Policy
Appendix 2	Nature Conservation Value Assessment Criteria for Birds

1.0 Introduction

Background

- 1.1 Keystone Environmental Ltd was instructed by Bowler Energy to undertake an Extended Phase I Habitat (including bat tree and building assessments) and Bird Reconnaissance Survey of a proposed wind turbine site at Bird Lane House Farm, South Yorkshire (central Ordnance Survey (OS) location SE 283 024).
- 1.2 The proposals are for the installation of 2 x 11Kw Gaia (18 metre mast and 24 metres to blade tip) wind turbines.

Aims and Objectives

- 1.3 The aims of the survey were:
- to identify ecological habitats and species that could potentially pose a constraint; and
 - to scope requirements for Phase II surveys, if required.
- 1.4 The report considers potential effects to birds and bats in detail as these are widely considered to be the most pertinent receptors for wind farm developments.

Site Context

- 1.5 Habitats within the locality are characterised by arable land and grazing pasture, with mainly fenced field boundaries, small woodland blocks and farmsteads.

2.0 Methodology

Desk Study

- 2.1 Table 1 provides details of the site and species records obtained to provide background information on ecological features in the vicinity of the site. Local records were sourced from Barnsley Biodiversity Trust. The relevant web-based data were accessed on 18th November 2011.

Table 1: Desk study details

Record Type	Search Radius ¹ (km)	Source(s)
<i>Sites and Habitats</i>		
Statutory sites designated for bats or birds	10	Locations: Joint Nature Conservation Committee UK-wide Digital GIS Datasets for Internationally Designated Sites: www.jncc.gov.uk/ProtectedSites/SACselection/gis_data/terms_conditions.asp Natural England GIS Digital Boundary Database: www.gis.naturalengland.org.uk/pubs/gis/tech_ds.htm Citations: Joint Nature Conservation Committee Special Areas of Conservation (SAC): www.jncc.gov.uk/page-23 Natural England Sites of Special Scientific Interest (SSSI): www.naturalengland.org.uk/ourwork/conservation/designated_areas/sssi/default.aspx
Other statutory sites	0.5	Natural England GIS Digital Boundary Database: www.gis.naturalengland.org.uk/pubs/gis/tech_ds.htm
Non-statutory sites (ecological and geological)	0.5	Local biological records centre
Ancient woodland	0.5	Natural England GIS Digital Boundary Database: www.gis.naturalengland.org.uk/pubs/gis/tech_ds.htm
Waterbodies	0.5	Ordnance Survey map data and Google Maps
<i>Species</i>		
Bat species	5	Local biological records centre
Birds (only Annex I, Schedule 1, BAP and Red List species)	5	Local biological records centre
Other protected species	0.5	Local biological records centre

¹ In each case the search included the site and the specified area beyond the site boundary.

Record Type	Search Radius ¹ (km)	Source(s)
UK and local BAP species	0.5	Local biological records centre

Field Survey

Phase I Habitat Survey

- 2.2 The Habitat Survey was undertaken on 10th November 2011 by a Principal Ecologist from Keystone Environmental. The survey area was restricted to all land within 250 metres of the proposed turbine locations (within the site ownership boundary), although other habitats within the application site boundary were mapped according to standard criteria. The Extended Phase I Habitat Survey Map is presented as *Drawing Number: 111383/1/1/wor1*.
- 2.3 Phase I Habitat Survey (JNCC, 2010) is a standard technique for obtaining baseline ecological information for large areas of land in which the main vegetation types present within the survey area are mapped using a standard set of habitat categories.
- 2.4 In addition to mapping, each of the main habitats within the survey area was described; including details of component plant species abundances (recorded using the DAFOR scale²).
- 2.5 Incidental observations of protected and/or BAP priority species and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted. The field survey also included assessment of bat roost potential for all buildings within the survey area (BCT, 2007).

Bird Reconnaissance Survey

- 2.6 A Reconnaissance Survey combining Vantage Point (VP) and transect methods, was conducted on 10th and 14th November 2011 by an experienced Ornithologist (Principal Consultant). Weather conditions on the first day of the survey were 13°C, 100% cloud cover, with no wind. Weather conditions were very similar during the second survey.
- 2.7 The VP Surveys were combined with transect/Common Bird Census (CBC) style survey methods employed within 250 metres of the application site. All bird flights and registrations were mapped in the field according to the standard notation (Marchant, 1983; Gilbert, Gibbons & Evans, 1998), and are presented as *Drawing Numbers: 111383/1/7/wor2*.

Nomenclature

- 2.8 Only the English names of flora and fauna species are given in the main text of this report. Scientific names are given only in the absence of English names. Vascular plants and Charophytes follow the nomenclature of The Botanical Society for the British Isles database (2008) with all other flora and fauna following the National Biodiversity Network (NBN) Gateway (NBN, 2011).

² D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Limitations

- 2.9 The results of the survey and assessment work undertaken by Keystone Environmental are representative at the time of surveying.
- 2.10 This document does not contain a comprehensive site botanical species list. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded. In addition, many plant species are only evident at certain times of the year and so some plant species may have gone undetected.
- 2.11 The data held by consultees may not be exhaustive. The absence of records does not necessarily indicate absence of a species/habitat from an area but rather that these have not been recorded or are perhaps under-recorded within the search area.
- 2.12 The accuracy of GIS datasets that are downloaded from the JNCC and other sources varies due to the quality and scale that they were digitised to and the supporting information used to define boundaries. Keystone Environmental cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.
- 2.13 During the survey undertaken on 14th November 2011, evening mist prevented the gathering of flightline data towards the end of the VP survey³. In total 5 hours of VP Survey data was collected.
- 2.14 No access was possible to the loft void of the Farmhouse and as such the assessment of bat roost potential is based on external observations only.

³ The second survey visit was curtailed to a 2 hr session

3.0 Results and Evaluation

Desk Study

3.1 Statutory designated sites for bats within 10 kilometres are:

- None

3.2 Statutory designated sites for birds within 10 kilometres are:

- The Dark Peak (SSSI).
- Peak District Moors (South Pennine Moors Phase 1) (SPA).

3.3 Other designated sites and Ancient Woodland within 0.5 kilometres or on-site are:

- None

3.4 Species identified by the desk study are presented in Tables 2 to 3

Table 2: Species recorded within 500 metres of site

Species	European Protected	Nationally Protected	UK BAP	LBAP	Suitable Habitat on Site?
Badger		✓*			Yes

*Protected under the Protection of Badgers Act 1992

Table 3: All bat species recorded within 5 kilometres (Noctule, Leisler's and Nathusius' Pipistrelle within 10 kilometres⁴)

Species	European Protected	Nationally Protected	UK BAP	LBAP	Suitable Habitat on Site?
Bats sp.	✓	✓	✓*	✓*	Yes
Brown Long-Eared	✓	✓	✓	✓	Yes
Common Pipistrelle	✓	✓		✓	Yes
Daubenton's	✓	✓		✓	Yes
Leisler's	✓	✓		✓	Yes
Natterer's	✓	✓			Yes
Noctule	✓	✓	✓	✓	Yes
Pipistrelle sp.	✓	✓	✓*	✓*	Yes
Soprano Pipistrelle	✓	✓	✓	✓	Yes
Whiskered	✓	✓		✓	Yes

*Protection dependent on species.

⁴ Species considered to be of High sensitivity to wind turbine developments (Carlin *et al* 2009).

Phase I Survey

Habitats - Overview

3.5 Habitats identified on site along with their UK BAP and/or Local BAP listing where applicable, are presented in Table 4.

Table 4: Habitats identified on site

Habitat	UK BAP	LBAP
Semi-improved grassland Two fields adjacent to the northern ownership boundary of the site. Semi-improved, sheep and cattle grazed pasture dominated by Perennial Rye-grass, Creeping Bent, Yorkshire-Fog, Smooth Stalked Meadow-grass, Annual Meadow-grass, with occasional Creeping Buttercup, Creeping Thistle, Common Mouse Ear, and Common Nettle. Cattle poached areas of bare earth are also occasionally present.	No Photo	

Habitat	UK BAP	LBAP
Amenity Grassland/Ornamental Shrubs Regularly mown 'lawned' areas in close proximity to the farm buildings/gardens. Dominated by Perennial-rye-grass, Bent and Fescue species with occasional Daisy and Creeping Buttercup. A variety of native and non native shrubs including Dogwood, Oregon Grape and Cherry Laurel are also present in border plantings.	No Photo	
Improved Grassland Single field of recently sown silage/grazing pasture adjacent to northern ownership boundary of site, and a single horse grazed pasture field close to the farmstead. Almost entirely dominated by Perennial Rye-grass, with Red Clover frequently present. Dandelion and Red Dead Nettle also occasionally present. Horse grazed pasture field also has locally frequent Annual Meadow-grass and occasional/rare Common Nettle, Red Clover, and Yorkshire-fog.	No Photo	

Habitat

UK BAP

LBAP

Arable

Two fields of currently autumn sown cereals – the locations of the proposed turbines. At the time of survey the fields had been recently cultivated and were devoid of arable pioneer species.



✓

✓

Plate 1: Showing the arable fields and the proposed turbine locations.

Hedgerow (Intact Hedgerow and Hedgerow with Trees)

No photo

A short length of roadside hedgerow is present adjacent to the farmstead, entirely dominated by Hawthorn, approximately 1.5 metres in height and tightly trimmed to a box shape. A second hedgerow which forms the western boundary of the site is outgrown and defunct, dominated by Hawthorn with mature Ash, Oak and Sycamore trees growing as 'standards', with a third hedgerow dividing two arable fields between the proposed turbine locations with similar species/composition.

Habitat

UK BAP

LBAP

Mature Treesature Trees

Isolated 'standard' specimens of English Oak, Ash. Sycamore and Willow sp present between fields and around the farm buildings.



Plate 2: Showing one of the mature Sycamore trees

Habitat

UK BAP

LBAP

Buildings

The agricultural and residential buildings of Bird Lane House Farm lie within the study area and ownership boundary. Nine buildings are present including 2 occupied residential properties which are brick built with pitched slate roofs.

Other buildings on site are agricultural barns, workshops and machinery stores, of relatively modern 'dutch barn' type with concrete block/sheet steel walls and corrugated steel/composite roofs.



Plate 3: Showing Bird Lane House

Habitat

UK BAP

LBAP

Adjacent Land

No Photo

To the north of the land ownership boundary is a line of mature English Oak and Ash trees with Bird House Lane and semi-improved (sheep grazed) pasture fields beyond.

Jagger Wood, a linear strip of broad – leaved woodland dominated by mature Ash, Sycamore and English Oak lies adjacent to the eastern boundary.

To the south and west lies arable and semi-improved grazing land of Highfield Farm.

Protected Species not Including Birds

3.6 The possibility that protected species will pose a constraint to the proposed development is evaluated for each of the main protected species/groups in Table 5, based on assessment of habitat suitability and other relevant factors, such as:

- National distribution of each species/group;
- Previous records of species occurrence obtained through the desk study;
- Connectivity to suitable habitats in the surrounding landscape;
- Field signs (e.g. tracks, droppings, direct sightings) suggesting presence of species within or near to the site;
- Probability of the proposed development having an adverse impact on the species/group if present.

Table 5: Evaluation of constraints posed by protected species not including birds

Species/ Group	Potential Habitat	Other Relevant Factors	Potential Constraint?
Bats	Buildings and trees within the ownership site are potentially suitable for roosting bats. The application site may be over-flown by bats	The 2 dwelling houses are assessed as being of Moderate potential to support roosting bats; with slipped and raised roof tiles, soffit boxes with gaps and lead flashing with gaps beneath. Other farm buildings are modern open barns with low or negligible potential for roosting bats No evidence of a bat roost was recorded by the external building inspection, although there was no access to the loft void of the farmhouse, and therefore the presence of roosting bats cannot be ruled out. The proposed turbines lie in excess of 200 metres from the farm buildings. Several mature trees have crevice features potentially capable of supporting roosting bats, the nearest tree with such features lies approximately 120 metres from the closest turbine. Currently, the proposed turbine lies within 50 metres of a hedgerow which may be used by foraging and commuting bats.	Yes
Badger	The study area contains suitable habitat for this species	No active setts were recorded during the surveys, although suitable habitat for sett building and foraging is present at the proposed turbine location.	Yes

Species/ Group	Potential Habitat	Other Relevant Factors	Potential Constraint?
Dormouse	Potential (hedgerow or scrub/woodland) habitats occur within the application site.	The study area is appreciably distant from the known range of this species and no hedgerows will be affected by the development proposals	No
Otter	None present		No
Water Vole	None present		No
Reptiles	No potential habitats within the application site	Only arable land, at the turbine locations will be impacted, viable (semi-improved grassland) habitat elsewhere will not be affected.	No
Great Crested Newt	No breeding habitat (ponds) present, within 500 metres of application site.	Only arable land, at least 500 metres distant from potential breeding habitat, at the turbine locations will be impacted, potentially viable (semi-improved grassland) habitat elsewhere will not be affected.	No
Invertebrates	The application site contains no habitats suitable for protected invertebrate species.	Even if present, the proposed development is highly unlikely to have any adverse impact on invertebrate species.	No
White-clawed Crayfish	None present		No
Plants and vegetation communities	The application site contains no habitats suitable for protected plant species.		No

UK BAP Priority and Local BAP Species not Including Birds

- 3.7 No additional UK BAP species were recorded on site during the field survey or are present in the desk study records.

Invasive Species

- 3.8 No invasive species were recorded during the field survey.

Birds

- 3.9 The desk and field survey results, combining data from Vantage Point and Transect Survey are presented in Table 7. All species recorded are mapped in *Drawing Number: 111383/1/7/wor2*. Potential constraints are then discussed in Section 4 for non passerine species of conservation value and for species considered to be at risk of negative impacts from wind turbines, in terms of collision risk and sensitivity to disturbance/displacement. Counts are provided as daily totals, or peak flock counts where there was a substantial risk of double counting.

- 3.10 Table 6 lists the main bird groups considered to be at risk of collision with, or displacement by, onshore wind turbines in accordance with the latest information/guidance provided by the Royal Society for the Protection of Birds (Bright et al. 2009), Natural England (2010) and Scottish Natural Heritage (SNH 2005; 2006). Passerine species are generally not considered to be at risk of collision/displacement, although those of higher conservation concern would be considered in detail in the event that the site supported populations of regional importance.

Table 6: *Birds potentially affected by wind turbine developments*

Group	Collision Risk	Disturbance Displacement
Game Birds		✓
Gulls	✓	✓
Raptors	✓	✓
Waders	✓	✓
Wildfowl	✓	✓

Table 7 – Bird Reconnaissance Survey and Desk Study Results and Evaluation

Species	Desk Study Record	Survey Count (minimum number)	European Protected (Annex I)	Nationally Protected (Schedule 1)	UK BAP	LBAP	Red List	Conservation Value ⁵	Sensitive to wind turbines	Suitable Breeding/foraging Habitat on or adjacent to site	Potential Constraint
Barn Owl	Yes	n/a		✓				High	Yes	Yes	Yes
Barn Swallow	Yes	n/a				✓		Low	No	Yes	No
Barnacle Goose	Yes	n/a	✓					High	Yes	No	No
Black Redstart	Yes	n/a		✓				High	No	No	No
Brambling	Yes	n/a		✓				High	No	Yes	No
Bullfinch	Yes	n/a			✓			Low	No	Yes	No
Corn Bunting	Yes	n/a			✓		✓	Low	No	Yes	No
Cuckoo	Yes	n/a			✓		✓	Medium	No	Yes	No
Curlew**	Yes	n/a			✓			Very High	Yes	No	No
Dunnock	Yes	3			✓			Low	No	Yes	No
Dunlin**	Yes	n/a					✓	Very High	Yes	No	No
Fieldfare	Yes	135		✓			✓	High	No	Yes	No
Firecrest	Yes	n/a		✓				High	No	No	No
Garganey	Yes	n/a		✓				High	Yes	No	No
Golden Plover***	Yes	n/a	✓					High	Yes	Yes	Yes
Goshawk	Yes	n/a		✓				High	Yes	No	No

⁵ Adapted from Percival, S. M (2007) *Predicting the Effects of Wind Farms on Birds in the UK: The Development of an Objective Assessment Method*. Quercus. Refer to Appendix 2

Species	Desk Study Record	Survey Count (minimum number)	European Protected (Annex I)	Nationally Protected (Schedule 1)	UK BAP	LBAP	Red List	Conservation Value ⁵	Sensitive to wind turbines	Suitable Breeding/foraging Habitat on or adjacent to site	Potential Constraint
Grasshopper Warbler	Yes	n/a			✓		✓	Medium	No	No	No
Grey Partridge	Yes	n/a			✓	✓	✓	Medium	No	Yes	No
Hawfinch	Yes	n/a			✓		✓	Medium	No	No	No
Herring Gull	Yes	n/a			✓		✓	Medium	Yes	No	No
Hobby	Yes	n/a		✓				High	Yes	Yes	Yes
House Sparrow	Yes	n/a			✓	✓	✓	Medium	No	Yes	No
Kingfisher	Yes	n/a	✓	✓				Very High	No	No	No
Lapwing	Yes	n/a			✓	✓	✓	Medium	Yes	Yes	Yes
Lesser Spotted Woodpecker	Yes	n/a			✓		✓	Medium	No	Yes	No
Linnet	Yes	1			✓	✓	✓	Medium	No	Yes	No
Little Ringed Plover	Yes	n/a		✓				High	Yes	No	No
Merlin*	Yes	n/a	✓	✓				Very High	Yes	No	No
Nightjar	Yes	n/a	✓		✓		✓	Very High	Yes	No	No
Peregrine	Yes	n/a	✓	✓				Very High	Yes	Yes	No
Pied Wagtail	Yes	2				✓		Low	No	Yes	No
Quail	Yes	n/a		✓				High	No	Yes	No
Red Grouse**	Yes	n/a			✓			Low	No	No	No

Species	Desk Study Record	Survey Count (minimum number)	European Protected (Annex I)	Nationally Protected (Schedule 1)	UK BAP	LBAP	Red List	Conservation Value ⁵	Sensitive to wind turbines	Suitable Breeding/foraging Habitat on or adjacent to site	Potential Constraint
Red Kite	Yes	n/a	✓	✓				Very High	Yes	Yes	Yes
Red-Throated Diver	Yes	n/a	✓					High	Yes	No	No
Redwing	Yes	5		✓			✓	High	No	Yes	No
Reed Bunting	Yes	n/a			✓			Low	No	Yes	No
Ring Ouzel	Yes	n/a			✓		✓	Medium	No	No	No
Scaup	Yes	n/a		✓	✓		✓	High	Yes	No	No
Short-Eared Owl***	Yes	n/a	✓					High	Yes	No	No
Skylark	Yes	n/a			✓		✓	Medium	No	Yes	No
Song Thrush	Yes	n/a			✓		✓	Medium	No	Yes	No
Spotted Flycatcher	Yes	n/a			✓		✓	Medium	No	Yes	No
Starling	Yes	40			✓	✓	✓	Medium	No	Yes	No
Tree Pipit	Yes	n/a			✓		✓	Medium	No	No	No
Tree Sparrow	Yes	5			✓	✓	✓	Medium	No	Yes	No
Turtle Dove	Yes	n/a			✓		✓	Medium	No	Yes	No
Twite**	Yes	n/a			✓	✓	✓	Medium	No	No	No
Willow Tit	Yes	n/a			✓		✓	Medium	No	No	No
Wood Warbler	Yes	n/a			✓		✓	Medium	No	No	No
Wryneck	Yes	n/a		✓	✓		✓	High	No	No	No

Species	Desk Study Record	Survey Count (minimum number)	European Protected (Annex I)	Nationally Protected (Schedule 1)	UK BAP	LBAP	Red List	Conservation Value ⁵	Sensitive to wind turbines	Suitable Breeding/foraging Habitat on or adjacent to site	Potential Constraint
Yellow Wagtail	Yes	n/a			✓		✓	Medium	No	Yes	No
Yellowhammer	Yes	2			✓		✓	Medium	No	Yes	No

*Noted within Peak District Moors (South Pennine Moors Phase 1) (SPA) citation.

**Noted within The Dark Peak (SSSI) citation.

***Noted within The Dark Peak (SSSI) citation & Peak District Moors (South Pennine Moors Phase 1) (SPA) citation.

4.0 Discussion and Recommendations

Overview of Potential Ecological Constraints Associated with the Proposed Development

4.1 The following sites/habitats/species have been identified as potential constraints to the proposed development:

- Statutorily designated sites within search radius;
- Bats;
- Badger;
- Barn Owl;
- Golden Plover
- Hobby;
- Lapwing;
- Red Kite; and
- breeding birds (including passerines).

Potential Impacts, Further Survey and Mitigation

Statutory Designated Sites

- 4.2 There are 2 sites within the search area, the Peak District Moors SPA/SSSI suite and the Dark Peak SSSI. Neither site will be subject to direct negative impacts as a result of the development proposals as the application site is too distant and no habitat loss will occur. However, indirect effects to the site's qualifying/cited bird species are theoretically possible if birds using the application site are potential components of the SPA/SSSI supported populations. For these sites **Golden Plover** (a qualifying component of the SPA) is the only species i) regarded as being potentially sensitive to wind turbines and ii) for which suitable breeding or qualifying habitat is present on/adjacent to the application site.
- 4.3 In this case Golden Plover form a component of the Peak District Moors SPA only during the breeding season, whereas the application site is distant from upland moorland and could only support non-breeding Golden Plover. Given the distance between the application site and the conservation area, and the large comparative size of the regional wintering population (peak counts for the Humber Estuary counts are 13,000 birds over winter) any wintering flocks would not necessarily be associated with the SPA supported population. In addition, any potential impacts to this species via collision and/or displacement would be minimal due to the small size of the turbine and the abundance of similar wintering habitat elsewhere in the locality.

- 4.4 Predicted impacts to the conservation area supported bird assemblage are therefore considered to be reasonably unlikely, and therefore any Appropriate Assessment under the Habitats Regulations (2010) is not required.

Bats

- 4.5 There are 7 species of bat recorded within the data search radius. Of which, Noctule and Leisler's Bat are considered to be potentially at high risk of potential effects from wind turbines (Natural England, 2009). Pipistrelle spp. are considered to be at medium risk on an individual level, with Daubenton's, Whiskered and Brown Long-eared Bat all considered to be at Low risk.
- 4.6 Potential roost sites for *Pipistrelle spp*, and other 'Low' risk species (*i.e. Myotis spp* and Brown Long-eared Bat) are present within the residential properties at Bird Lane House Farm. There will be no direct impacts to the buildings through the development proposals, no potential loss, damage of roosts or disturbance to roosting bats and so a European Protected Species Licence would not be deemed necessary, if a bat roost was later confirmed to be present in the buildings.
- 4.7 There are hedgerows within the field study area, as well as blocks of woodland and scattered mature trees, however although bat activity cannot be ruled out at the application site, it is considered most likely that activity would be concentrated around the farm buildings, the vicinity of Jagger Wood and along the tree lined sections of Bird Lane itself. The closest of these optimal bat foraging areas lies at least 120 metres distant from the proposed turbine locations.



Plate 4: Showing open nature of habitats at proposed turbine locations



Plate 5: Optimal bat foraging habitat along Bird Lane (more than 300 metres from the application site).

- 4.8 Given the presence of 7 bat species identified within the desk study and the suitability of habitats within the study area it is recommended that the turbine locations are retained and not shifted by micro-siting, any closer to a single hedgerow which partially separates the two fields in question. The current separation distance between the turbines and the hedgerow is approximately 40 - 50 metres and this may therefore encroach within the 50 metre (blade tip to nearest point of habitat feature) buffer distance recommended in guidance issued by the Statutory Conservation Organisation (Mitchell-Jones & Carlin, 2009). As the turbines are small, with restricted rotor swept areas and are to be located within an arable field, no significant negative effects to local bat populations are predicted.
- 4.9 Provided this advice is followed, the likelihood of impacts to the bat species would be significantly reduced. It should be noted that Noctule and Leisler's bats do not always follow linear features such as hedgerows; however, given the scale of the proposed development it is considered reasonably likely that any such effects would be insignificant.

Badger

- 4.10 No Badger evidence was recorded by the surveys. However suitable foraging habitat exists at the turbine locations and within the wider study area; however the loss of a relatively small area of arable habitat is not anticipated to result in the loss of favorable conservation status if indeed Badgers are present within the wider area.
- 4.11 The application site is considered to be reasonably unlikely to support a (newly dug) Badger sett, given that it lies wholly within regularly tilled arable land, however a check for signs of recently dug mammal excavations should be undertaken immediately prior to works and if

such evidence is present, a suitably qualified ecological consultant should be contacted, to ensure legal compliance with The Protection of Badgers Act (1992).

Barn Owl

- 4.12 Barn Owl were not recorded within the field surveys, despite a check for evidence within the farm barns, however, their presence at other farmsteads within the locality cannot be ruled out.
- 4.13 Due to their low level hunting flights, Barn Owl are generally not considered to be particularly sensitive to wind turbine developments. However, it is recommended that, as a precautionary measure (also appropriate to other species), in recognition of the high conservation status of this species; the turbine is shifted from its current location so that a buffer of at least 50 metres between the blade tips and the nearest point of the closest hedgerow is maintained.
- 4.14 In addition, it is recommended that the existing arable land use should be maintained for the life of the turbine to ensure that long grassland does not develop, which may encourage small mammals (prey species for Barn Owl) to proliferate.

Golden Plover

- 4.15 No Golden Plover flights were recorded during the Reconnaissance Bird Survey and there is no suitable (moorland and upland grassland) breeding habitat within the study area. The site could however be occasionally used during the non-breeding season for foraging/roosting. Further surveys are not considered necessary in this case as the application is for very small turbines, located distant from breeding (upland) and wintering (coastal) populations.
- 4.16 In addition, given the paucity of records from the reconnaissance survey and the relative abundance of this species at local and National scales (BTO Bird Facts website), together with the abundance of alternative habitat elsewhere within the locality; significant impacts to this species are considered unlikely.

Lapwing

- 4.17 The presence of breeding Lapwing cannot be ruled out, given that the application site has suitable breeding habitat (autumn and spring sown cereals) although given the relative abundance of this species at local and national scales (BTO Bird Facts website), together with the abundance of suitable nesting habitat elsewhere within the locality and the small size of the turbines and commensurately small 'risk area'⁶; significant negative effects are not predicted.
- 4.18 Further surveys are considered unlikely to modify an initial assessment of the potential impacts to Lapwing as being not significant, and are not considered appropriate in this case.

Hobby and Red Kite

- 4.19 In terms of potentially negative effects to Hobby and Red Kite, these are species which may be occasionally present within the application site at low densities; however the desk study

⁶ The risk area is used to define the potential volume of the rotor swept zone, where bird collisions may occur for the purposes of Collision Risk Assessments, the likelihood of such collisions reduces with decreasing rotor swept volumes.

data gives the closest record some 2.5 and 4 kilometres away for Hobby and Red Kite respectively. Both species are a species of high conservation status, although due to their excellent visual acuity and flight manoeuvrability they are generally considered to be less sensitive to wind turbine developments – especially from a ‘small’ turbines such as are proposed here. The local and national populations are considered robust and have increased steadily over the last 20 years. Hobby is included on the BoCC ‘green’ list of reduced conservation concern, whereas Red Kite has been subject to more recent population and range expansions, with the assistance of re-introduction schemes.

- 4.20 No displacement impacts are predicted for Red Kite and Hobby although the potential for minor (and not significant) collision effects, in terms of the impacts to local and national populations, cannot be ruled out. No further surveys are considered appropriate.

Breeding Birds

- 4.21 Due to the possible presence of ground nesting bird species (Skylark) within the application site, it is recommended that works are carried out outside the nesting bird period taken to be mid March to August (inclusive). If works cannot be timed to fall outside this period, a nesting bird check should be carried out by a suitably qualified ecologist, prior to works commencing. Any nesting birds recorded should be protected until the nesting attempt is complete.

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UK Biodiversity Action Plan (2007). *UK List of Priority Species* [Online]. Available at: www.ukbap.org.uk/NewPriorityList.aspx [Accessed on 22nd November 2011].

Web addresses for access to full legislation and policy text:

Birds Directive:
eur-lex.europa.eu/LexUriServ/site/en/consleg/1979/L/01979L0409-20070101-en

Conservation of Habitats and Species Regulations 2010:
www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Countryside and Rights of Way Act 2000:
www.legislation.hmso.gov.uk/acts/acts2000/20000037

Habitats Directive:
www.europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0043

Hedgerow Regulations 1997
www.legislation.gov.uk/uksi/1997/1160/contents/made

National Parks and Access to the Countryside Act 1949:
www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1949/cukpga_19490097_en_1

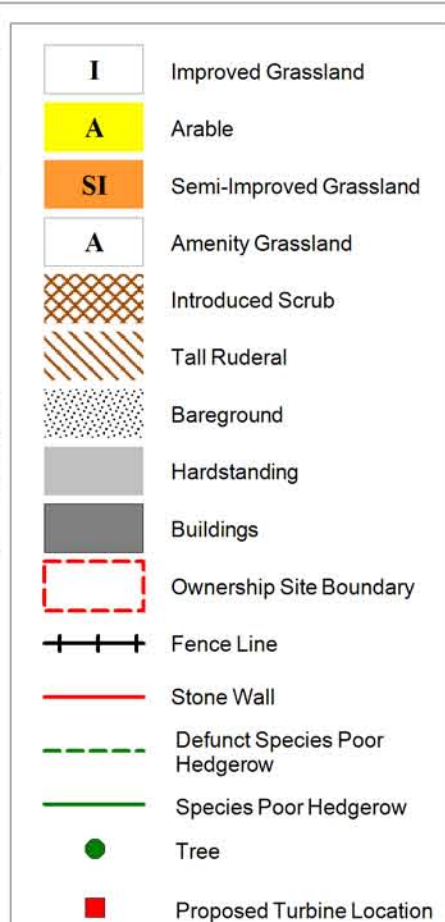
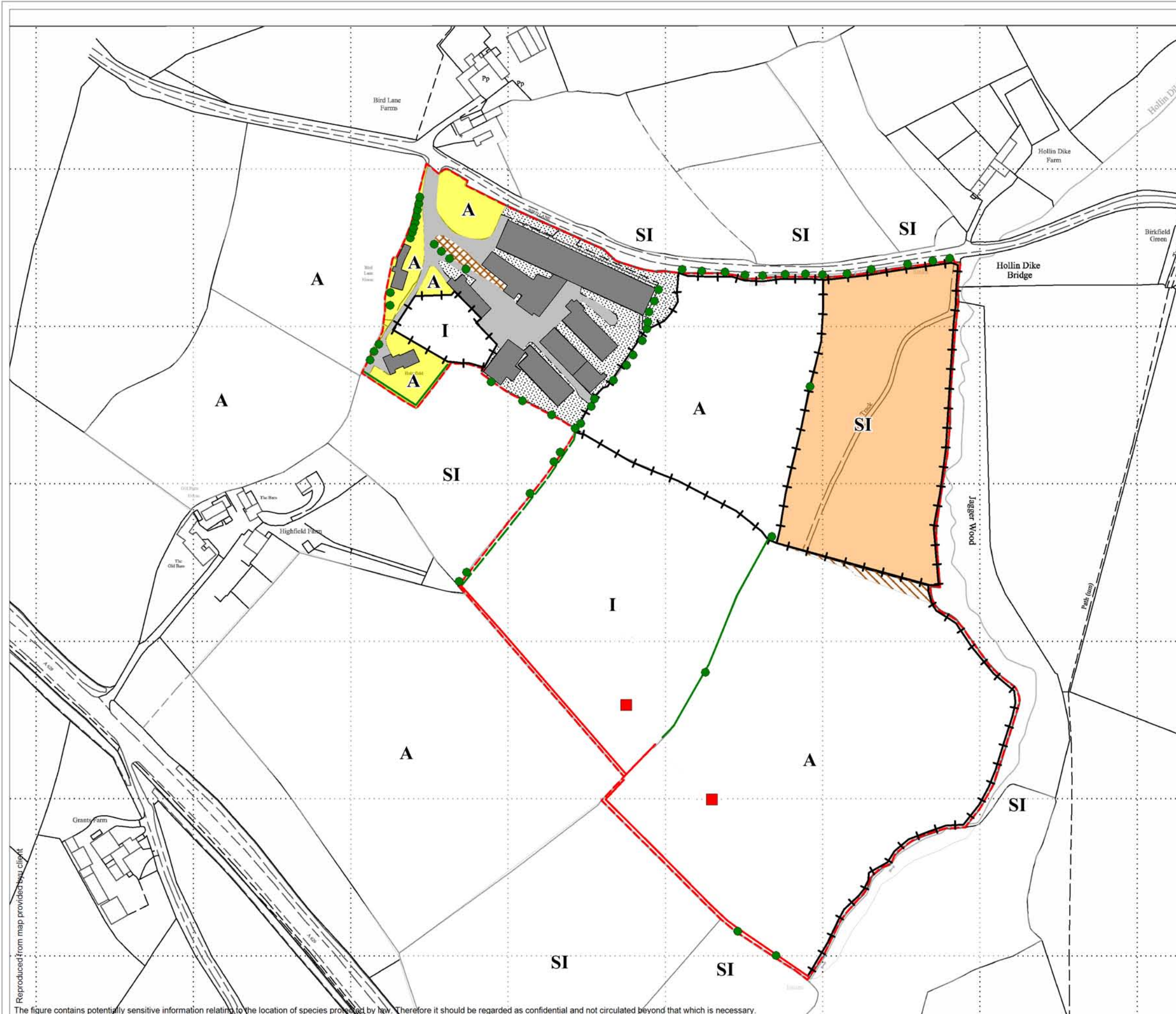
Natural Environment and Rural Communities Act 2006:
www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

Planning Policy Statement 9:
www.communities.gov.uk/documents/planningandbuilding/pdf/147408

Protection of Badgers Act 1992:
www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

Wildlife and Countryside Act 1981:
www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Plans



Drn	Description	Rev	App
SP	Ex Ph I	00	TP

Bird Lane House Farm, Oxspring

Drawing Title:
Extended Phase I Habitat Survey

Client Name: Bowler Energy

Scale: 1:25 @ A3 Date: Nov 2011

Drawing Number: 111383/1/1/wor1



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Reproduced from map provided by client

The figure contains potentially sensitive information relating to the location of species protected by law. Therefore it should be regarded as confidential and not circulated beyond that which is necessary.

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Appendices

Appendix 1

Wildlife Legislation and Policy

This section sets out the wildlife legislation and policy potentially relevant to wind developments. Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information. Web addresses providing access to the full text of these documents are given at the end of this appendix.

Legislation

Important Sites

Designated Site/Habitat	Legal Status
Ramsar Sites	Ramsar Sites are wetlands of international importance designated under The Ramsar Convention. They are afforded the same level of protection as SSSIs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs are strictly protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC), also known as the Birds Directive. They are classified for rare and vulnerable birds, listed in Annex I of the Birds Directive, and for regularly occurring migratory species. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 are the legal instrument for implementing the Birds Directive in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed in Annexes I and II of the EC Habitats Directive. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 are the legal instrument for implementing the Habitats Directive in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs are the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.

Designated Site/Habitat

Legal Status

NNR (National Nature Reserves)

NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under The Wildlife and Countryside Act 1981 (as amended).

Hedgerows

All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.

LNR (Local Nature Reserves)

Under the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under The Wildlife and Countryside Act 1981 (as amended).

Species

Species

Legal Status

European Protected

Creeping Marshwort, Early Gentian, Fen Orchid, Floating-leaved Water Plantain, Killaney Fern, Lady's Slipper, Shore Dock, Slender Naiad, Yellow Marsh Saxifrage

Under the Conservation of Habitats and Species Regulations 2010, it is illegal to deliberately pick, collect, uproot or destroy any plants belonging to these species.

Species	Legal Status
Bats, Dormice, Otter, Wild Cat, Great Crested Newts, Natterjack Toad, Sand Lizard, Smooth Snake, Large Blue Butterfly	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010, which makes it illegal to: i) Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; ii) Deliberately disturb⁷ such an animal; iii) Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: i) The development is for reasons of overriding public interest; ii) There is no satisfactory alternative; and iii) The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.

⁷ Under the Conservation Regulations, disturbance of protected animals includes in particular any disturbance which is likely to:

- (i) impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate; (ii) significantly affect the local distribution or abundance of the species in question.

Species	Legal Status
<i>Nationally Protected</i>	
Bats, Dormice, Great Crested Newts, Heath Fritillary, High Brown Fritillary, Large Blue, Marsh Fritillary, Natterjack Toad, Pine Martin, Otter, Red Squirrel, Sand Lizard, Smooth Snake, Swallowtail, Water Vole, Wildcat	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: i) Intentionally kill, injure or take any such animal; ii) Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; iii) Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Adder, Common Lizard, Grass Snake, Slow Worm, White-clawed Crayfish	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally or recklessly kill or injure any such animal.
Nesting Birds (general)	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: i) Intentionally kill, injure or take any wild bird; ii) Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Schedule 1 Birds	Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.
Badgers	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger, or attempt to do so and also makes it illegal to intentionally or recklessly interfere with a Badger sett. This includes damaging or destroying a sett, obstructing access to a sett and disturbing a Badger while it is occupying a sett. Licences can be granted to permit sett closure and/or disturbance between July and November inclusive.
Wild Mammals	The Wild Mammals (Protection) Act 1996 makes it illegal to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

Species

Legal Status

Invasive Species

Schedule 9 Flora & Fauna

The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act.

Planning Policy

PPS9 sets out government policy regarding consideration of biodiversity in planning decisions. Key Principal (vi) of PPS9 states that:

'The aim of planning decisions should be to prevent harm to biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm. In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place. Where a planning decision would result in significant harm to biodiversity and geological interests which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If that significant harm cannot be prevented, adequately mitigated against, or compensated for, then planning permission should be refused.'

Key Principal (ii) of PPS9 states that:

'...planning decisions should aim to maintain, restore, and enhance or add to biodiversity.'

Under PPS9 the Local Planning Authority has a responsibility to ensure that designated wildlife sites are not lost or degraded as a result of development, unless the need for and benefits of the development outweigh the impacts that it is likely to have.

- a) Under PPS9 the presence of a protected species is a material consideration when a Planning Authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat

Appendix 2

Nature Conservation Value Assessment Criteria for Birds⁸

Nature Conservation Value/Sensitivity	Selected Examples
Very High (International)	• Internationally significant and viable populations of birds listed on Annex 1 of the EC Birds Directive. • Regularly occurring globally threatened species. • Any regularly occurring populations of internationally important species that are rare or threatened in the UK or of uncertain conservation status. • A regularly occurring significant population/number of any internationally important species.
High (National)	• A regularly occurring significant population/number of any nationally important species <i>i.e.</i> listed on Schedule 1 of the 1981 Wildlife and Countryside Act (as amended). • Any regularly occurring population of a nationally important species that is threatened or rare in the county or region.
Medium (Regional/ County)	• Any regularly occurring significant population of a species listed as being nationally scarce, or in the local BAP or relevant Natural Area Profile on account of its regional rarity or localisation. • Significant populations of a species important at regional or county level. • A viable significant population of a UK Biodiversity Action Plan (BAP) priority species.
Low (Local/District))	• Species that are scarce within the locality or which appreciably enrich the local area's habitat resource. • Any regularly occurring significant population of a species that is listed in a Local RDB or BAP on account of its rarity or localisation. • Any other species of conservation importance <i>e.g.</i> species listed in Birds of Conservation Concern (BoCC) <i>i.e.</i> Red List Species (Eaton, M.A et al. 2009).
Negligible (Parish)	• Species populations considered to enrich the habitat resource appreciably within the context of the Parish or Neighbourhood

⁸ Adapted from Percival, S. M (2007) *Predicting the Effects of Wind Farms on Birds in the UK: The Development of an Objective Assessment Method*. Quercus.