

New Maythron Farm,  
Holmfirth, HD9 7TW

**Ecological Appraisal & Breeding Bird Surveys**

June 2015

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# 1 Introduction and Background

This report presents the results of an Ecological Appraisal and Breeding Bird Surveys of a parcel of agricultural land at New Maythorne Farm, Lower Maythorn Lane, Crow Edge, Holmfirth, HD9 7TW. The appraisal was commissioned in relation to the proposed installation and operation of a single wind turbine (500kW): with an overall height of 67 metres.

Turbine 1 is proposed to be sited within an improved grassland field at co-ordinates X419303, Y405184, and at an elevation of 348 metres above sea level. The site is located within the administrative boundary of Barnsley Metropolitan Borough Council.

Figure 1 provides an illustration of the proposed siting for the single turbine. Appendix 3 shows the proposed access and cable route. Pasture dominates the immediate and wider area. The settlements of Hepworth and Penistone are located to the north-west and south-east respectively. Several reservoirs, including Broadstone Reservoir, Ingbirchworth Reservoir and Scout Dike Reservoir are located within 4km of the proposed turbine.

A desk-based study was undertaken to obtain existing ecological information on the site and the surrounding area. This report was completed in order to inform planning decisions in relation to the development.

**Figure 1: Proposed location for the single turbine (T1); image dated 2009.**



## 2 Survey Methodology

### 2.1 Desk Study

An ecological data search of protected / notable species was commissioned from Sheffield City Ecology Unit in order to identify any existing records of protected / notable species within 1.5km of the site. In addition, the following web sources were searched for statutorily protected sites and additional ecological data of most relevance:

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

A bat records search was completed for a 2km radius of the site through the South Yorkshire Bat Group.

### 2.2 Field Survey

An extended phase 1 habitat survey of the site was undertaken on 21<sup>st</sup> April 2015 by Thomas McQuillan MCIEEM (great crested newt survey licence (WLM-CL09) and bat licence (WML-CL18 Level 2) under Natural England Class Licence CLS01846) of Quants Environmental in accordance with the standard methodology<sup>1</sup>.

The site was searched for evidence of protected/notable species and the habitats present were assessed in terms of their potential to support protected/notable species. The survey was undertaken outside of the optimum season for phase 1 habitat survey (May to September). Nonetheless, during the survey it was possible to identify a significant proportion of plant species to provide an accurate representation of the habitats present.

**Table 1: Survey Conditions**

Date	Survey time	Surveyor/s	Weather conditions	Visibility
21 <sup>st</sup> April 2015	10:30am – 1:30pm	Thomas McQuillan & Dave Tate	Dry; Wind 1/2 (Beaufort Scale <sup>2</sup> ), 5% cloud cover and 11°C	Good

<sup>1</sup> JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.<sup>1</sup>

<sup>2</sup> The Beaufort scale is an empirical measure that relates wind speed to observed conditions at sea or on land. 0 = no wind. 12 = hurricane conditions.

### 2.3 Breeding Bird Survey

Three breeding bird surveys were undertaken within the optimal breeding bird season; March to July<sup>3</sup>. The 1<sup>st</sup> survey was undertaken by Dave Tate an experienced bird surveyor and Thomas McQuillan MCIEEM and the 2<sup>nd</sup> and 3<sup>rd</sup> survey were undertaken by Ben McLean ACIEEM an experienced bird surveyor of Quants Environmental. Details on each survey are presented in Table 1.

The surveys followed the standard Common Birds Census (CBC) method<sup>4</sup> (Gilbert et al, 1998). During each survey visit, all bird observations were recorded on 1:10,000 scale maps using standard British Trust for Ornithology (BTO) notation including information on behaviour and evidence of breeding. The surveys involved walking a transect route incorporating field boundaries which enabled visual and audible coverage of all the landforms within at least a 500 metres radius from the proposed turbine location. An illustration of the transect route is provided in Figure 3.

The data collected were subject to territory mapping analysis in order to determine the number and distribution of breeding birds within the area. In addition, all birds were classified as **Non-breeding, Possible, Probable** and **Confirmed** breeding dependent on the activity recorded. A description for defining each breeding classification is provided in Table 2.

In relation to the development proposals, particular attention was focused on the following bird groups:

- 1) all waders, ducks, geese and swans;
- 2) all species listed as qualifying species for the South Pennine Moors SPA<sup>5</sup>;
- 3) all owls/raptors;
- 4) all bird species of principal importance<sup>6</sup> / BoCC Red List species<sup>7</sup>; and,
- 5) all open ground nesting species.

**Table 1: Breeding Bird Survey Conditions**

Date	Survey time	Surveyor	Weather conditions	Visibility	Limitations
22 <sup>nd</sup> April 2015	10:30 – 13:00	Dave Tate & Thomas McQuillan	Dry; Wind bft 1 (Beaufort Scale), 10% cloud cover and 7°C	Excellent	None
07 <sup>th</sup> May 2015	11:45 – 14:15	Ben McLean	Dry; Wind bft 2 (Beaufort Scale), 50% cloud cover and 11°C	Excellent	None
03 <sup>rd</sup> June 2015	10:45 – 13:30	Ben McLean	Dry; Wind bft 3 – from the north-west (Beaufort Scale), 25% cloud cover and 14°C	Excellent	None

<sup>3</sup> West Yorkshire Ecology: Guidance for ornithological information required to support small wind turbine developments in West Yorkshire. Version 1. Page 5. This document relates to the South Pennine Moors SPA.

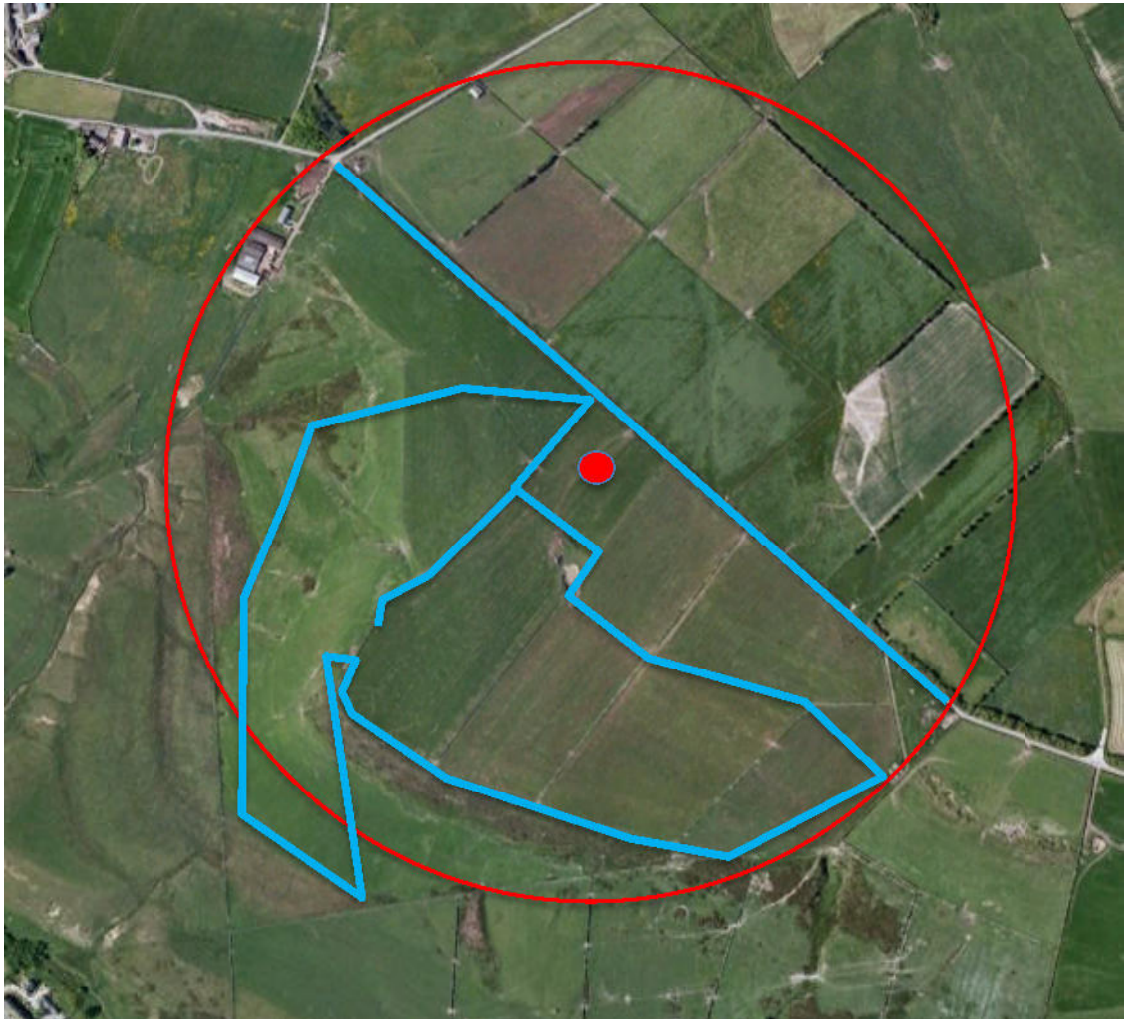
<sup>4</sup> Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird Monitoring Methods. RSPB, Sandy.

<sup>5</sup> <http://jncc.defra.gov.uk/page-2001>. Accessed on 19<sup>th</sup> June 2014.

<sup>6</sup> Species of Principal Importance in England. The Natural Environment and Rural Communities (NERC) Act 2006 (S41)

<sup>7</sup> BoCC = Birds of Conservation Concern. Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 102, pp296-341.

**Figure 2: Survey area (~500m radius shown in red) and transect route (blue line)**



**Table 2: A description for defining each breeding classification**

Breeding likelihood	Activity recorded
Non-breeding	Passage flight only
	Bird on migration
	Non breeding males
Possible breeding	Observed in suitable nesting habitat
	Singing male
Probable breeding	Pair in suitable nesting habitat
	Permanent territory (defended over at least one week or, a number of males all singing in the same area)
	Visiting probable nest site
	Agitated behaviour
	Brood patch of incubating bird (from bird in hand)
	Nest building or excavating nest hole
Confirmed breeding	Distraction display or injury feigning
	Used nest or eggshells found from this season
	Recently fledged young or downy young
	Adults entering or leaving nest site in circumstances indicating Occupied nest
	Adult carrying faecal sac or food for young
	Nest containing eggs
	Nest with young seen or heard

**2.4 Limitations and disturbance notes**

The surveys were all conducted in suitable weather conditions. The extent of the landholding and public footpaths outside the landholding enabled views of all the relevant land within the study zone. There were no significant limitations to survey.

## 3 Survey Results

### 3.1 Desk Study

#### Statutory / Non-Statutory Sites

There are no statutorily protected sites within 2km of the site, with the nearest protected site being South Pennine Moors SPA SAC<sup>8</sup> which is located 4.3km to the south-west of the application site. This site includes the major moorland blocks of the South Pennines from Ilkley in the north to Leek and Matlock in the south, and covers extensive tracts of semi-natural moorland habitats including upland heath and blanket mire. The site is of European importance for several upland breeding bird species, including birds of prey and waders. The qualifying features<sup>9</sup> for the SPA are listed as follows:

This site qualifies under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

- *Pluvialis apricaria*; European golden plover (Breeding)
- *Falco columbarius*; Merlin (Breeding)
- *Falco peregrinus*; Peregrine (Breeding)
- *Asio flammeus*; Short-eared owl (Breeding)

This site also qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

- *Calidris alpina schinzii*; Dunlin

There are three Local Wildlife Sites LWS within 1.5km of the site as follows (Appendix 4):

- Whitley Edge LWS located 235m to the south-west of the proposed turbine. This site covers 39.38ha. A large section in the east of the site is species-poor semi-improved grassland, where white clover *Trifolium repens* is abundant and ryegrass *Lolium perenne* and common bent *Agrostis capillaris* are frequent. On the steep well-drained slopes, unimproved acid grassland dominated by mat grass *Nardus stricta* is prevalent. In some areas, the acid grassland is more species-rich, with autumn hawkbit *Leontodon autumnalis*, common cat's-ear *Hypochaeris radicata* and creeping buttercup *Ranunculus repens* more common in the sward. Upper Whitley Edge is a narrow southwest facing strip of steep slope along the eastern edge of the site where much western gorse *Ulex gallii* heath grows in an acid grassland matrix. UKBAP breeding bird species include skylark *Alauda arvensis*, linnet *Carduelis cannabina*, reed bunting *Emberiza schoeniclus*, curlew *Numenius arquata* and lapwing *Vanellus vanellus*. The site is also important for breeding snipe *Gallinago gallinago*, an Amber List species. Full citation provided in Appendix 4.
- Small Shaw LWS located 1.27km to the south-east of the proposed turbine.
- Broadstone Reservoir LWS located 1.08km to the north of the proposed turbine. Habitats within the site includes standing water, dense and scattered scrub, unimproved acid grassland, semi-improved acid grassland, dry dwarf scrub heath and grassland/heath mosaic. The site supports a range of UKBAP bird species including lesser redpoll, linnet, yellowhammer, reeding bunting and little ringed plover.

A map showing Local Wildlife Sites within 1.5km radius of the site, ad wider area, is included at Appendix 4. Citations for Small Shaw LWS and Broadstone Reservoir LWS are available on request.

<sup>8</sup> SSSI = Site of Special Scientific Interest. SAC = Special Area of Conservation. SPA= Special Protection Area

<sup>9</sup> Taken from 'http://jncc.defra.gov.uk/page-2001 (viewed online 18/04/2015).

**Sheffield City Ecology Unit Protected / Notable Species Records**

Information provided by Sheffield City Ecology Unit is reproduced at Appendix 4. The key records of relevance to this report are summarised as follows:

- **Birds** – numerous bird records including the following notable species; grey partridge, lapwing, curlew, tree pipit, yellowhammer, reed bunting, house sparrow, quail, dotterel, fieldfare, pintail, redwing, merlin, greylag goose, little ringed plover, kestrel, oystercatcher, golden plover, snipe, herring gull, green woodpecker, skylark, swallow, house martin, song thrush, blackbird, willow warbler, dunnoek, meadow pipit, grey wagtail, yellow wagtail, starling, linnet, bullfinch, common gull, goldcrest, lesser black-backed gull, mistle thrush, red grouse, starling, stonechat, teal, wigeon, willow tit, grey heron, mallard, great spotted woodpecker, sedge warbler, whitethroat, Canada goose, blackcap, little grebe, sparrowhawk, redpoll, tufted duck, wheatear, yellow-legged gull, chaffinch and pied wagtail.

Following bird species recorded on Whitley Common<sup>10</sup> - meadow pipit, Eurasian curlew, grey partridge, oystercatcher, peregrine falcon (Feb.2013), northern wheatear, golden plover, whinchat, northern lapwing, yellow wagtail, snipe, twite, red kite, pink-footed goose, mallard, common buzzard and short-eared owl (06/12/2014).

- **Reptiles and Amphibians** – common frog (Whitley Edge LWS dated 2012)
- **Bats** – common pipistrelle (2014; Spicer Hill),
- **Mammals** – otter (Broadstone Reservoir), hedgehog, brown hare, mountain hare, mole, rabbit, field vole, fox, water vole, weasel, and stoat.

**South Yorkshire Bat Group**

A data search for a 2km radius of the proposed turbine was completed through the South Yorkshire Bat Group (SYBG). There are no bat records on or within 1km of the surveyed site. SYBG provided records of common pipistrelle, soprano pipistrelle, noctule and Daubenton's bat, as well as numerous unconfirmed species records.

All bat records were >1.7km from the surveyed site. The noctule record was an in-flight foraging record 1.772km from the proposed turbine; record dated 21/05/2012.

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<sup>10</sup> Records from Huddersfield Birdwatcher's Club – January 2015

## 3.2 *Ecological Appraisal Survey*

### Habitats

The proposed turbine will be located within an improved grassland field (5.4 ha), as shown in Figure 1. The improved grassland habitat within the application field is heavily grazed by livestock (sheep); the application field is intensively managed and has a very short grass sward height. The surrounding fields to the east and west are also managed intensively through livestock grazing. Species diversity within the application field was typical of improved grassland habitat and included perennial ryegrass *Lolium perenne*, Cock's foot *Dactylis glomerata*, white clover *Trifolium repens* and annual meadow grass *Poa annua*, with no presence of rush *Juncus* species recorded. The field has minor undulation with an overall north facing slope. The application field contains no standard trees or buildings.

Located on the eastern boundary of the application field is a pond/water holding facility. The pond is used for livestock drinking and consequently has poached eroded banks and minimal bankside vegetation. The water quality within the pond was very poor; principally due to the high nutrient content caused by run-off from the surrounding farmland.

The application field is bordered by dilapidated dry stonewalls on all boundaries; livestock proof post and wire fencing is present on the northern boundary.

The cable route, as shown in Appendix 3, will link up with Maythorne Cross to the north-west, passing only through grazed improved grassland habitat. The access route will run adjacent to a dilapidated dry stonewall linking with Whitley Road to the north. The access route will use existing field access points and will pass only through improved grassland habitat.

Also refer to photos in Appendix 2.

### Fauna

#### Bats

There were no bat records within 1.7km of the application site. Recorded species include common pipistrelle, soprano pipistrelle, noctule and Daubenton's bat, as well as numerous unconfirmed species records. The noctule record was an in-flight foraging record 1.772km from the proposed turbine; record dated 21/05/2012.

The location of the proposed turbine is within a medium sized improved grassland field that was considered to be of low value to bats (exposed position, intensively managed habitat with low insect density). Dilapidated dry stonewalls bound the application field on all sides, with these features considered to be of low/negligible value to foraging and commuting bat species. There are no hedgerows surrounding the application field, with the nearest building located >465m to the north-west at Maythorne Cross.

In accordance with Natural England guidance<sup>11</sup>, a buffer zone distance in excess of 50 metres between the turbine blade tips and any typical habitats likely to be used by bats is achieved.

#### Great Crested Newts

There are no records of great crested newt within 2km of the proposed turbine.

The nearest pond to the proposed development (turbine, access route and cable run) is 90m to the south-east on the field boundary. The pond is used for livestock drinking and consequently has poached and eroded banks with minimal bankside vegetation. The water quality within the pond was very poor; principally due to the high nutrient content caused by run-off from the surrounding farmland. The pond measures approximately 18m x 12m. Fish presence within the pond is not known. Habitats between the pond and the development area include solely improved grassland. Due to the poor condition of the pond and pressures from surrounding

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

intensive agricultural management it was considered to be unsuitable for great crested newts. There are no further ponds within 250m of the application site.

#### Badger

There are no records of badger within 2km of the site.

9 active badger setts and 1 latrine were observed >300m from the proposed turbine and cable/access route. Due to the scope of works and distance from the proposed developments, badgers are not considered a constraint to the works.

#### Other Protected / Notable Species

No records of reptile species were provided within 2km of the site. The likelihood of reptiles within the immediate area of the turbine is low due to the nature of the habitats and intensive management practises.

UKBAP species such as common toad and hedgehog may occur within the area. No further protected / notable species are considered likely to be affected by the proposed turbine.

1-2no. brown hare were recorded within the site boundary during each of the surveys.

### **3.3 Breeding Bird Survey**

A summary of all key observations of breeding and notable sightings recorded during the three breeding birds surveys are provided below. Field survey maps are reproduced at Appendix 3. Please note, all distance measurements between the turbine and bird locations are an approximation only.

#### **Waders**

##### *Curlw (Species of Principal Importance - Amber List BoCC)*

2-3 curlew were observed on the site / flying over the survey area during all three of the breeding bird surveys:

##### **22<sup>nd</sup> April 2015**

- A pair of curlew were observed flying south to north over the east of the site ~450m south-east of the proposed turbine location.

##### **07<sup>th</sup> May 2015**

- A pair of curlew were observed grounded ~440m west of the turbine. One of the pair was disturbed from the area and flew/landed in multiple fields (a field ~370m north-west of the turbine to a field ~180m south-west of the turbine), before landing back in its original area (all flight <20m high).
- A single curlew was observed grounded ~430m north-west of the turbine location.

##### **03<sup>rd</sup> June 2015**

- A pair of curlew were observed foraging ~420m south-west of the site before flying/landing ~300m south-west of the turbine location (all flight <20m high).
- A single curlew was heard calling ~380m north-east and a curlew was heard calling within the wider area to the south-west of the site.

Based on the results of the survey it is considered that a pair of breeding curlew are probably breeding within the rush habitat >400m west of the proposed turbine location. In addition, small numbers of curlew are likely to feed within the site during the breeding bird season.

Lapwing (species of principal importance, Red List BoCC)

The following lapwing were recorded within the site.

**22<sup>nd</sup> April 2015**

- 2 pairs of lapwing were observed ~130m north-west of the turbine location before flying and landing ~300m north-west and ~180m south-west of the proposed turbine.
- A single lapwing was also observed marginally outside the survey radius to the south of the site.

**07<sup>th</sup> May 2015**

- A pair of lapwing were observed flying and calling around the turbine location before landing in the area of the proposed turbine (flight <20m high).
- A single lapwing was observed foraging in the proposed turbine field ~90m south of the turbine.
- 3 pairs of lapwing were observed foraging ~150m north-west of the proposed turbine location. When disturbed all 6 lapwing circled the area, with 5 landing in the original area and 1 flying off to the south-east.
- A single lapwing was observed grounded ~200m south of the turbine site before flying west.
- A single lapwing was observed grounded ~260m north-west of the proposed turbine before circling the area whilst calling and landing within the same area.
- 5 lapwing were observed grounded ~280m south-west of the proposed turbine. When disturbed the lapwings circled the field whilst calling before landing in the original area.
- A pair of lapwing were observed grounded ~360m north-west of the proposed turbine.
- A single lapwing was observed grounded ~410m north-west of the proposed turbine before circling the area whilst calling and landing within the same area.
- A single lapwing was observed grounded ~420m south-west of the turbine site. When disturbed the lapwing circled the area before landing in the original area.
- Lapwing were also heard calling outside of the survey area.

**03<sup>rd</sup> June 2015**

- A pair of lapwing were observed flying and calling around the turbine location before landing in the area of the proposed turbine (flight <20m high).
- 3 lapwing grounded ~130m south-east of turbine site before circling flights over the site and landing in original area.
- A single lapwing was observed grounded ~180m north-east of the turbine site. When disturbed the lapwing circled the area before landing in the original area.
- A single lapwing was observed grounded ~270m south-east of the turbine site. When disturbed the lapwing circled the area before landing in the original area.
- 8 foraging lapwing were observed foraging ~450m south-east of the proposed turbine location. When disturbed 6 of the lapwing flew directly west and 2 flew south. The foraging/flight behaviour is considered to be foraging behaviour only.
- Lapwing were also heard calling outside of the survey area.

During the surveys no nests, chicks or lapwing eggs were observed throughout the walkover surveys. However, based on the results of the survey (particularly 2<sup>nd</sup> and 3<sup>rd</sup> survey) it is considered that between 5 to 11 pairs of lapwing could be breeding within the site; due to the intensity of livestock within the site the number of successfully breeding lapwing is expected to be towards the lower end of this.

Based on the data is considered that 2 pairs of lapwing are probably nesting <250m of the turbine; a pair within immediate proximity of the proposed turbine and a pair nesting ~150m north-west of the proposed turbine.

Redshank (Amber List BoCC)

5 redshanks were observed foraging ~430m south-east of the turbine location on 3<sup>rd</sup> June 2015 before flying directly west. No other redshanks were recorded throughout the surveys and as such redshank are not considered to nest within the site.

Snipe (Amber List BoCC)

A single snipe was observed outside of the survey area to the south on 22<sup>nd</sup> April, no other snipe were recorded throughout the surveys and as such snipe are not considered to nest within the site.

Oystercatcher (Amber List BoCC)

A pair of oystercatcher was observed adjacent to the pond ~120m south of the proposed turbine on 22<sup>nd</sup> April. No other oystercatchers were recorded throughout the surveys and as such oystercatchers are not considered to nest within the site.

**Owl/Raptors**

No observations.

**Ducks/Geese/Swans**

Mallard (Amber List BoCC)

Low numbers recorded within 500m of the site, with a single breeding pair identified within 500m of the turbine site.

**Notable Species**

Skylark (Species of Principal Importance - Red List BoCC)

Common breeding species in suitable rough grassland habitats. Does not appear to breed within the proposed turbine field. A maximum of 4 territorial males were observed within 500m of the turbine site on 07<sup>th</sup> May.

Linnet (Species of Principal Importance - Red List BoCC)

Common breeding species in suitable upland habitats. Does not appear to breed within the proposed turbine field or within 250m of turbine location. Very low numbers recorded within 500m of the site, with a single breeding pair identified within 500m of the turbine site.

Meadow pipit (Amber List BoCC)

Common breeding species in suitable rough grassland habitats. Does not appear to breed within the proposed turbine field. 5-6 breeding pairs were identified within 500m of the turbine site.

Ring ouzel (Species of Principal Importance - Red List BoCC)

8 ring ouzels were recorded on Whitley Edge ~450m south of the proposed turbine location on 22<sup>nd</sup> April. Ring ouzels were not recorded throughout the rest of the surveys and as such they are not considered to nest within the site.

Reed bunting (Amber List BoCC)

2 male reed buntings were recorded within the rush habitat ~290m west of the proposed turbine on 7<sup>th</sup> May and 3<sup>rd</sup> June. It is considered that 2 pairs are breeding within 500m of the turbine site.

**Other Species**

In addition, to the above the following species were recorded within or flying over the site: pheasant, rooks, crows, jackdaw, pied wagtail, blackbird, swift, black-headed gull, swallow and wood pigeon.

## 4 Eco Appraisal Evaluation & Recommendations

### 4.1 *Habitats*

The turbine, access route and cable run are to be located within improved grassland habitat used for livestock grazing. The habitat type is not considered to be of significant ecological value e.g., not classified as local or UK Biodiversity Action Plan habitat. The access route will use existing field access points.

It is not considered that the development will have any significant direct impact on Whitley Edge LWS which is located 235m to the south-west of the proposed turbine.

### 4.2 *Bats*

Whilst bats may occur in low numbers within the local area (e.g. around farmsteads and at lower altitudes to the south); the turbine is proposed to be sited in a location considered to be sub-optimal for use by foraging / commuting bats, and is in accordance with current Natural England guidance<sup>12</sup> with regard to distances from key habitat features. The dilapidated dry stonewalls surrounding the application field were considered of negligible/low potential value to foraging and commuting bats. The exposed position of the site (348 metres above sea level) and poor connectivity to surrounding foraging/roosting habitats reduces further the value of the site to bat species.

Overall, it is considered unlikely that the turbine will have a significant impact on bat species based on the given location, and therefore no further survey effort with regards to bats is recommended.

### 4.3 *Great Crested Newts*

There are no records of great crested newts within 2km of the site.

The only pond within 250m of the turbine is located 90m to the south-east, and for several reasons (lack of aquatic vegetation, regular disturbance and water pollution) this pond was considered to be of low/negligible potential value to great crested newts.

Overall it is not considered that the proposed development is not likely to impact great crested newts.

### 4.4 *Badgers*

Badger setts and a latrine were recorded >300m from the proposed turbine and access/ cable installation works. Due to the scope of works and distance from the proposed developments, badgers are not considered a constraint to the development.

### 4.5 *Other Fauna*

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

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<sup>12</sup> Natural England Technical Information Note TIN051, Bats and onshore wind turbines Interim guidance. First edition 11 February 2009.

## 5 Breeding Birds Evaluation & Recommendations

### 5.1 Evaluation

Based on the survey results it is considered that the following ground nesting birds are breeding within a 500 metre radius of the proposed turbine: curlew (1 pair), lapwing (5-11 pairs), skylark (4 pairs), meadow pipit (5-6 pairs), linnet (1 pair) and reed bunting (2 pairs).

In relation to waders it is considered that 2 pairs of lapwing are probably nesting <250m of the turbine; a pair within immediate proximity of the proposed turbine location and a pair nesting ~150m north-west of the proposed turbine. Curlew are considered to be nesting >400m west of the proposed turbine.

### 5.2 Potential Effects

Several of the ground nesting bird species recorded within the survey are included on the Section 41 list of priority species that are of Principal Importance for the Conservation of Biodiversity in England<sup>13</sup> and / or are listed on the UK Biodiversity Action Plan. Therefore, the impacts from the development on such species can be taken into consideration by the local authority in the making of planning decisions, as the construction and operation of wind turbines on a site can directly cause displacement, disturbance and collision impacts for particular bird groups e.g., raptors, waterfowl, waders including curlew and snipe and some passerines including wheatear<sup>14 15</sup>.

It should be noted that the research which indicates such effects was based on studies of large wind farms (14 to 42 turbines; with site capacity of 8.4 to 97.0 MW) in unenclosed upland habitats (moorland, rough grassland and blanket bog). For such large sites, the construction phase including associated access roads across difficult terrain can take over 12 months. This proposal is for a single wind turbine only with a significantly smaller development footprint therefore it is likely that impacts to birds will be of lower magnitude and duration.

Birds in flight can potentially collide with wind turbine blades. However, this varies significantly between sites and between species. Following recent monitoring, Scottish Natural Heritage have concluded that geese are significantly better at avoiding wind turbines than previously thought; as a result, the predicted 'avoidance rate' for geese has been increased from 95% to 99.8%. In the absence of such research for curlew, the predicted avoidance rate for curlew remains at 98% although curlew may be better at avoiding wind turbine blades than this figure suggests, particularly at breeding sites where curlews may quickly become familiar with new objects in their territory.

Adopting the precautionary principle, disturbance and possible displacement impacts to breeding pairs of lapwing, skylark, meadow pipit and linnet could occur and may be significant at the site level. However, given the scale of the development, impacts are not likely to be significant at the local or district level.

Given the limited number of flights of notable species such as curlew, snipe and oystercatcher and the general distribution of such flight activity, it is considered that the potential for collision impacts on such species will be minor.

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<sup>13</sup> Natural Environment and Rural Communities Act 2006.

<sup>14</sup> Pearce-Higgins, J.W., Stephen, L., Langston, R.H.W., Bainbridge, I.P. & Bullman, R. (2009) The distribution of breeding birds around upland wind farms. *Journal of Applied Ecology*, 46, 1323–1331.

<sup>15</sup> Pearce-Higgins, J.W., Stephen, L., Douse, A., Langston, R.H.W. (2012) Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi-site and multi-species analysis. *Journal of Applied Ecology*, 49, 386–394, April 2012.

The prevalence of breeding birds within the site and adjacent land will be dependent on the agricultural regime (including pasture management techniques and timings) within any given season.

### **5.3** *Recommendations*

In order to minimise the potential for disturbance of nesting birds, it is recommended that any turbine installation activities (including infrastructure) avoid the main bird breeding season of March to July inclusive. Birds can continue to nest into August (and sometimes later) and therefore any ground works during August should be preceded by a check for bird nests by a suitably qualified ecologist. If active bird nests are present, these should be left in situ and undisturbed until the nests are no longer active.

### **5.4** *Conclusions*

There is some evidence that wind turbines can have negative effects on birds, although the published research data is not conclusive in terms of the nature and scale of effects with regard to the species and habitats present at this site. Adopting the precautionary principle, the proposed development could result in a significant effect on skylark, meadow pipit, linnet, lapwing and curlew at the site level. However, given the scale of the development, impacts are not likely to be significant at the local level.

## Appendix 1: Legislation Context

### 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.

### 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, 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.

### Great crested newt

Great crested newt is fully protected through The Conservation of Habitats and Species Regulations 2010 as a European Protected Species (EPS). This species also receives 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 great crested newt. It is an offence to damage or destroy a breeding site or resting place of a great crested newt. It is also an offence to intentionally or recklessly disturb a great crested newt 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 great crested newt; 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.

## Appendix 2: Photographs

**Photo 1: Showing the application field, looking in a southern direction.**



**Photo 2: Application field; looking south along the western boundary.**



**Photo 3: Habitats to the south of the application field.**



**Photo 4: Showing the pond to the south-east of the proposed turbine.**



## Appendix 3: Bird Survey Maps

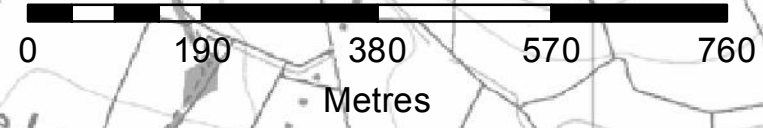
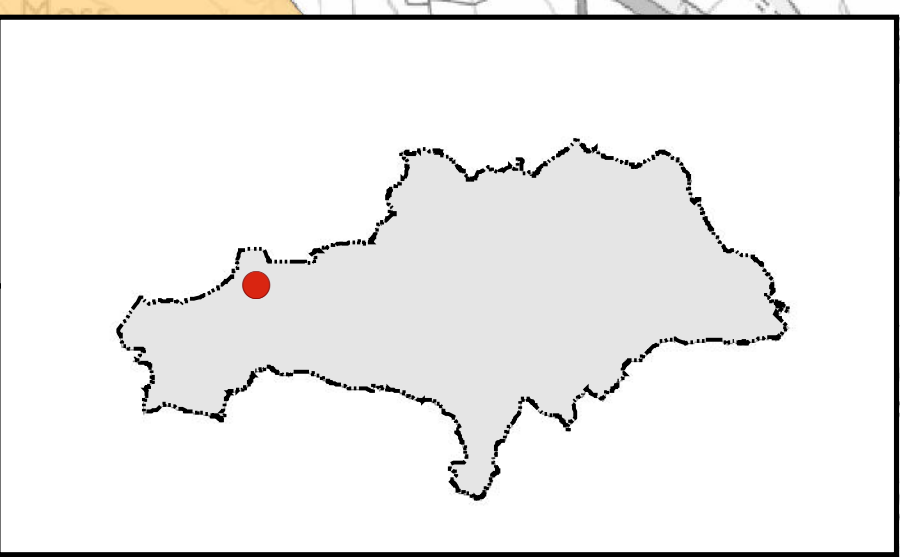
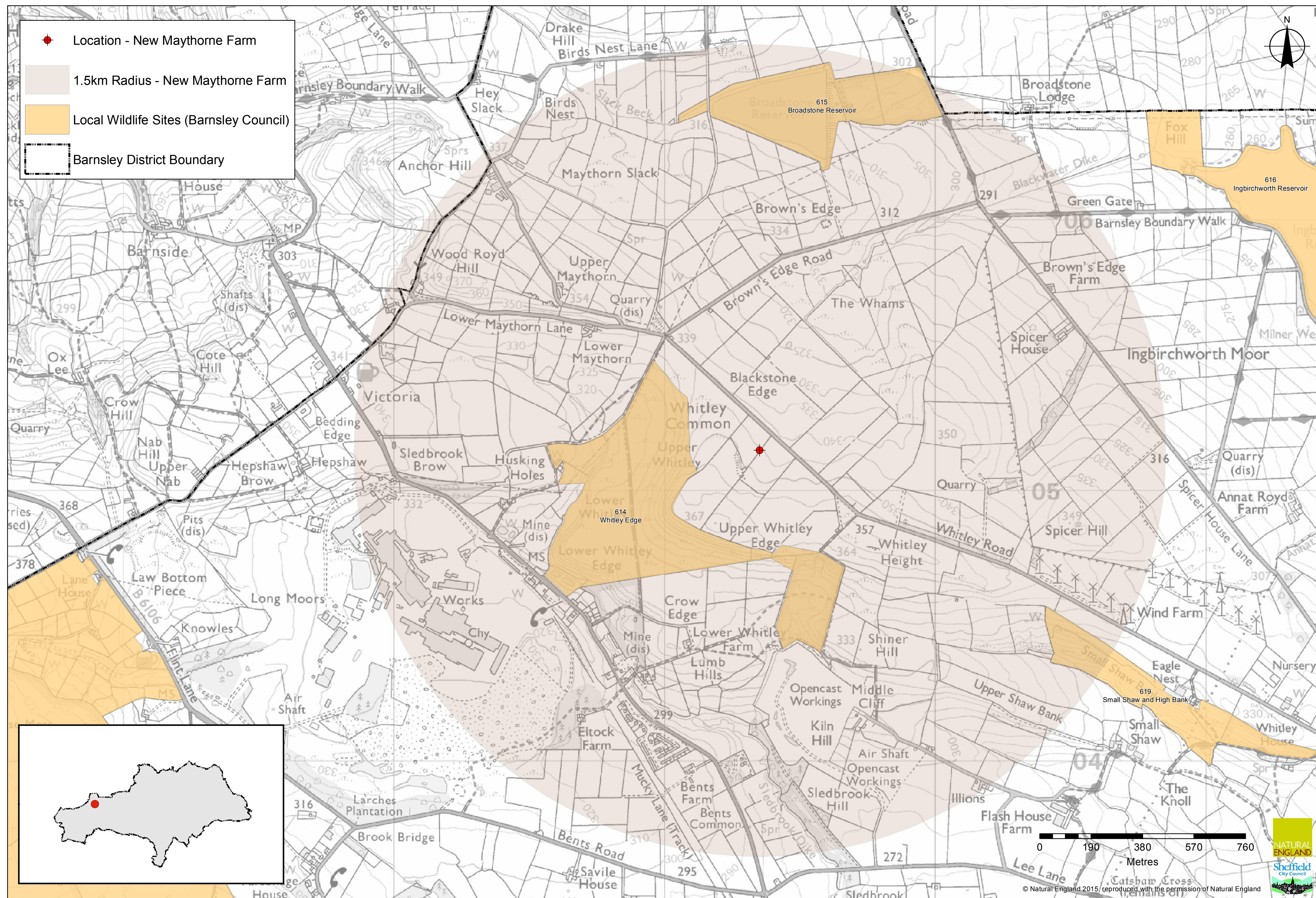
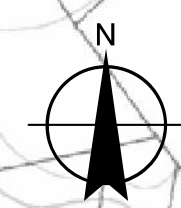






## Appendix 4: Information Provided Sheffield Ecology Unit, LWS Citations & Site Plans

-  Location - New Maythorne Farm
-  1.5km Radius - New Maythorne Farm
-  Local Wildlife Sites (Barnsley Council)
-  Barnsley District Boundary



<b>Site Name:</b>	Whitley Edge
<b>Site Area:</b>	39.38ha
<b>Survey Date:</b>	September 2010
<b>Nearest Settlement:</b>	Crow Edge
<b>Grid Reference at Centre:</b>	SE18999, 04907
<b>Surveyor(s)</b>	PG

### **Site Description:**

The site lies in a mainly agricultural area between Whitley Road and Whams Road; however, to the southwest, beyond Whams Road (A616) there is a large brick works and immediately to the south-east there is an active open-cast quarry. The site has limited connectivity to the surrounding area due the local landscape lacking a network of hedges and trees, although the local drainage systems does provide some links.

A large section in the east of the site is species-poor semi-improved grassland, where white clover (*Trifolium repens*) is abundant and ryegrass (*Lolium perenne*) and common bent (*Agrostis capillaris*) are frequent. On the steep well drained slopes, unimproved acid grassland dominated by mat grass (*Nardus stricta*) is prevalent. In some areas, the acid grassland is more species-rich, with autumn hawkbit (*Leontodon autumnalis*), common cat's-ear (*Hypochaeris radicata*) and creeping buttercup (*Ranunculus repens*) more common in the sward. Upper Whitley Edge is a narrow southwest facing strip of steep slope along the eastern edge of the site where much western gorse (*Ulex gallii*) heath grows in an acid grassland matrix.

On the flatter areas, mainly above the steep acid slopes down to Calf Hey Dike, there is marshy rush pasture dominated by soft rush (*Juncus effusus*). This extensive marshy area cuts through the acid grassland in the western valley bottom. A range of wetland species grows along Calf Hey Dike, which defines much of the western site border.

The part of the site extending west of Calf Hey Dike has similar steep acid slopes with semi-improved pasture on the flatter areas above. There are some bare shale areas and rock exposures on the steep slopes rising above the eastern bank of the Dike but generally these slopes support unimproved acid grassland.

In the southwest extremity there are two areas of open water surrounded by broadleaved plantation. In the southeast corner there is an extension of the site southwards into a partially quarried area, where there is a complex mosaic of acid and wet habitats, including western gorse heath, semi-improved acid grassland, marshy grassland, areas of swamp, rock exposures and a small area of broadleaved plantation. Western gorse and mat grass are each abundant in this area.

### **Important Species:**

UKBAP breeding bird species include skylark (*Alauda arvensis*), linnet (*Carduelis cannabina*), reed bunting (*Emberiza schoeniclus*), curlew (*Numenius arquata*) and lapwing (*Vanellus vanellus*). The site is also important for breeding snipe (*Gallinago gallinago*), an Amber List species.

<b>Target Note:</b>	TN1
<b>Habitat:</b>	Semi-improved grassland with tall swathes of rush pasture
<b>Species List:</b>	
This is a wide flattish area of pasture that appears to be in the process of being improved. Whilst much of it is a short and species-poor sward, currently grazed, there are also extensive areas of quite tall rush pasture, mainly in the northern half of the area. With a mix of species similar to that in TN2	
No species list compiled for this area	

<b>Target Note:</b>	TN2	
<b>Habitat:</b>	Soft rush dominated marshy grassland (rush pasture) extending into semi-improved grassland	
<b>Species List:</b>		
<b>Scientific Name</b>	<b>Common Name</b>	<b>Frequency</b>
<i>Juncus effusus</i>	Soft Rush	D
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	A
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Juncus conglomeratus</i>	Compact Rush	F
<i>Agrostis capillaris</i>	Common Bent	O
<i>Cirsium palustre</i>	Marsh Thistle	O
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare		

<b>Target Note:</b>	TN3	
<b>Habitat:</b>	Unimproved acid grassland	
<b>Species List:</b>		
<b>Scientific Name</b>	<b>Common Name</b>	<b>Frequency</b>
<i>Nardus stricta</i>	Mat-grass	D
<i>Agrostis capillaris</i>	Common Bent	F
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Deschampsia flexuosa</i>	Wavy Hair-grass	O
<i>Galium saxatile</i>	Heath Bedstraw	O
<i>Juncus conglomeratus</i>	Compact Rush	O
<i>Juncus squarrosus</i>	Heath Rush	O
<i>Polytrichum commune</i>	Moss species	O
<i>Polytrichum juniperinum</i>	Moss species	O
<i>Potentilla erecta</i>	Tormentil	O
<i>Trifolium repens</i>	White Clover	O
<i>Carex panicea</i>	Carnation Sedge	R
<i>Cladonia sp.</i>	Cladonia species	R
<i>Danthonia decumbens</i>	Heath Grass	R
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	R
<i>Hypochaeris radicata</i>	Common Cat's-ear	R
<i>Leontodon autumnalis</i>	Autumn Hawkbit	R
<i>Molinia caerulea</i>	Purple Moor-grass	R
<i>Peltigera sp.</i>	Dog-lichen species	R
<i>Ranunculus repens</i>	Creeping Buttercup	R
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare		

<b>Target Note:</b>	TN4	
<b>Habitat:</b>	Soft rush-dominated rush pasture	
<b>Species List:</b>		
<b>Scientific Name</b>	<b>Common Name</b>	<b>Frequency</b>
<i>Juncus effusus</i>	Soft Rush	D
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Juncus conglomeratus</i>	Compact Rush	F
<i>Agrostis capillaris</i>	Common Bent	O

