Park House Farm Wind Farm, Lowca, Cumbria

Bat Activity Survey Report

For Cannock Wind Farm Services

March 2020

4th Floor, Rotterdam House, 116 Quayside, Newcastle Upon Tyne, NE1 3DY

Tel: 0191 249 9829

Email: ecology@wyg.com

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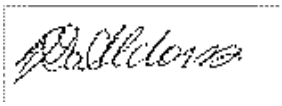
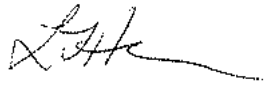
Prepared by:		Monica Souza GradCIEEM **Assistant Ecologist**
Checked By:		Kirstin Aldous MCIEEM **Principal Ecologist**
Verified By:		Laura Holmes MCIEEM **Principal Ecologist**

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V2	12.03.2020	P Gruba		Amendments following client review
V3	12.03.2020	P Gruba		Amendments following further comments

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Executive Summary

Contents	Summary
Site Location	The 'site' is located on land at Park House Farm, to the north of Lowca, in Cumbria. The site is centred at OSNGR NX 98376 23260 and comprises seven wind turbines set within grassland habitat.
Proposals	The planning application seeks to extend the life of the seven existing turbines on site until the end of March 2030.
Existing Site Information	WYG (2020) Ecological Appraisal Report.
Scope of this Survey	Outline the legislative protection given to bats; detail existing bat records and locally designated sites of relevance to bats within 5 km of the site; identify habitats and features within the site that have the potential to be used by bats; summarise the findings of the bat surveys and report on the presence or otherwise of bat species at the site; and provide an assessment of the potential ecological constraints to the proposed application and recommendations for avoidance, mitigation and enhancement where appropriate.
Results	• Low levels of foraging and commuting activity were recorded during the surveys. • The maximum count of bats observed at any one time included two individuals and the maximum pass count during a single survey was seven. Therefore, it is considered that the site is occasionally used by few individual soprano and common pipistrelle for commuting and occasional foraging. • Activity from a small number of bats was focused along the hedgerow on the east boundary, particularly in sections near the running water on the north and centre of site. This hedgerow is located at least 180m from any for the turbines at its nearest point. • Overall potential vulnerability of bat populations for the site is categorised as 'medium'; and • The site is considered to be of 'low-lowest risk'.
Recommendations	• Some clearance of scattered scrub within the land in the control of the applicant (up to 50m from the turbines) could be undertaken to further discourage bats from using the areas directly adjacent to the turbines. • Post decommissioning - the hedgerow along the access track could be enhanced for bats through infill planting with native UK hedgerow species.

Glossary

BAP	Biodiversity Action Plan
CBDC	Cumbria Biodiversity Data Centre
CIEEM	Chartered Institute of Ecology & Environmental Management
DEFRA	Department for the Environment, Food and Rural Affairs
EcIA	Ecological Impact Assessment
EPS	European Protected Species
EPSL	European Protected Species Licence
GradCIEEM	Graduate member of Chartered Institute of Ecology & Environmental Management
HAP	Habitat Action Plan
HPI	Habitat(s) of Principal Importance
HRA	Habitats Regulations Assessment
LBAP	Local Biodiversity Action Plan
LPA	Local Planning Authority
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NERC Act	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
OSNGR	Ordnance Survey National Grid Reference
SAC	Special Area of Conservation
SAP	Species Action Plan
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPI	Species of Principal Importance
W&CA	Wildlife & Countryside Act 1981 (as amended)

1.0 Introduction

1.1 Background

WYG was commissioned by Cannock Wind Farm Services Limited in June 2019 to undertake bat activity surveys at the site known as Park House Farm Wind Farm, in Lowca, Cumbria.

This report has been prepared by Monica Souza BSc (Hons) MSc GradCIEEM and the conditions pertinent to it are provided in Appendix A.

1.2 Site Location

The 'site' is located on land at Park House Farm, to the north of Lowca, in Cumbria – see Figure 1. The site is centred at Ordnance Survey National Grid Reference (OSNGR) NX 98376 23260 and comprises seven wind turbines set within grassland habitat. The west coast railway line forms the western boundary of the site, separating the site from coastal habitats and the Solway Firth. In the wider area there are arable and grassland habitats to the north, south and east.

1.3 Application

The section 73 planning application seeks to vary the planning condition, which requires the wind farm to cease operating at the end of March 2020 with the effect of extending the life of the seven existing turbines on site until 2030.

The existing planning permission was granted consent in 1998 following a successful appeal against a refusal of planning permission by Copeland Borough Council - reference no: 4/98/0486/0. Construction commenced in 1999 and the existing wind turbines are currently consented to be operational until the end of March 2020

1.4 Purpose of the Report

The purpose of this report is to:

- Outline the legislative protection given to bats;
- Detail existing bat records and locally designated sites of relevance to bats within 5 km of the site;
- Identify habitats and features within the site that have the potential to be used by bats;
- Summarise the findings of the bat surveys and report on the presence or otherwise of bat species at the site; and
- Provide an assessment of any potential ecological constraint to the proposed works at the site and recommendations for avoidance, mitigation and enhancement where appropriate.

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 Methodology

2.1 Desk Study

2.1.1 Previous Reports

The Ecological Appraisal report (WYG, 2020) was reviewed to inform the assessment.

As part of the ecological appraisal, information was requested from Cumbria Biodiversity Data Centre (CBDC) for information on bat records within 5 km of the site centroid. A search for relevant information was also undertaken on the following websites as part of the ecological Appraisal:

- MAGIC www.magic.gov.uk - DEFRA's interactive, web-based database for statutory designations and information on any European Protected Species License (EPSL) applications that have been granted in the local area.
- NBN Atlas https://nbnatlas.org/ - for records of protected and notable species.

Only records from the last 10 years have been included within this report, as records greater than 10 years old are considered to be historic and not relevant to the assessment of this site.

Note that the use of some NBN Atlas data is limited (e.g. commercial use of data provided under a CC BY-NC licence is not possible) therefore we may not be able to report full details of those records in such cases.

2.2 Field Surveys

The habitats on site are considered to be of '**low**' suitability for foraging and commuting bats as the site is predominantly cattle grazed and the site is open and exposed to coastal weather. The survey methodology was designed with reference to the recommended survey effort outlined by Scottish Natural Heritage (SNH) *Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation* (SNH, 2019) and Bat Conservation Trust *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Surveys were commissioned in June 2019, as such one bat activity survey per month was completed between June and October 2019, with the exception of the survey completed in September which comprised a back-to-back dusk and pre-dawn survey. The surveys covered the key activity periods for bats including the maternity and swarming periods. This approach was confirmed to be acceptable by Copeland Borough Council (Christopher Harrison, via email, 9th January 2020).

The transect route (refer to Figure 2) was designed to sample representative habitats within the site, utilising existing tracks within the site. The direction the transect was walked was alternated to ensure varied temporal and spatial coverage of the survey area across the year. The surveyors walked at a steady pace starting at sunset and continuing for approximately two hours during dusk surveys. The dawn transect started approximately 2 hours before sunrise and continued until sunrise. All bat activity heard and / or seen was noted down by the surveyors and all bat calls were recorded using Batlogger M detectors. All transects were completed during suitable weather conditions. Table 1 shows a summary of transect survey times and weather conditions.

Table 1: Summary of Bat Activity Transect Survey Times and Weather Conditions

Date	Type	Time			Air Temp. (ºC)**		Wind Speed (Bf)***		Cloud Cover (%)		Precipitation
		Sun*	Start	End	S	E	S	E	S	E	
26.06.19	Dusk	21:54	21:50	23:55	16	15	2	0	0	0	None
16.07.19	Dusk	21:41	21:40	23:41	17	15	2	3	30	50	None
15.08.19	Dusk	20:45	20:45	22:45	16	14	2	3	90	90	None
11.09.19	Dusk	19:42	19:40	21:42	15	16	3	2	90	100	None
12.09.19	Dawn	06:55	04:41	06:55	14	15	3	2	80	100	None
15.10.19	Dusk	18:17	18:17	19:15	13	10	1	2	90	90	None

* Sun denotes sunset or sunrise times.

** S and E denote the conditions at the Start and End of the survey, respectively.

*** Wind speeds were measured using the Beaufort Scale.

Any bats recorded were identified to species level and recorded on a field map. The calls were recorded using Batlogger M detectors and were later analysed by an experienced bat ecologist using Bat Explorer software to allow identification to species or genus level.

Heat map

The Spatial Analyst extension was used within ArcGIS to analyse Batlogger point bat data. An activity heat map was produced to highlight the density of the bat data, visually using the colour spectrum of green for low and red for high, but also statistically using quantitative outputs calculated by the kernel density spatial analysis tool.

Bat data was used with the kernel density tool in ArcGIS to quantify the density of bat results data, using the number of calls (echolocations) per record as a population statistic. The point data is converted to a square cell-based raster image by the kernel density tool, and for the purposes of the analysis for this site, a 10m cell size and search radius was defined. The kernel density tool then computed the sum of all records and calls within each 50m x 50m cell and returned a numerical value for each 10m square cell. For example, if a 50m cell contains 4 records, each with 5 calls, the analysis would return an expected counts value of 20 (4 x 5 = 20).

The output of the analysis is a square mosaic raster, with different coloured 10m cell squares, symbolised by the numerical outputs calculated by the kernel density analysis. An equal interval definition was given to the symbology scale range, so that the gradation of colour is directly proportionate to the increase in values.

To improve the cartography of the figure, bilinear interpolation was applied to the raster to interpolate / smooth out the edges of each 50m cell into a graded colour edge. This also introduces a small element of contingency, which will allow for small locational inaccuracies recorded by the GPS in the Batlogger.

2.3 Limitations

The surveys were undertaken in suitable weather conditions with temperatures over 10ºC at sunset and no precipitation. The SNH guidelines (SNH, 2019) state that the minimum level of pre-application survey required using is: spring (April-May), summer (June-mid-August) and autumn (mid-August-October). Due to the time of year in which the surveys were commissioned (June 2019), the surveys were undertaken between June – October on a monthly basis rather than seasonal, including a back-to-back dusk and dawn survey in September, resulting in a total of six transects being undertaken i.e. twice as many as required by the guidelines. Therefore, commission of the survey in June is not considered to be a significant limitation to the survey methodology. As surveys were conducted on a monthly basis over key activity periods is no static remote detectors were deployed. The BCT guidelines recommend one transect per season for sites with low habitat suitability for bats; therefore, monthly transect surveys constitute increased transect survey effort. Therefore, taking into account the increased transect survey effort, the lack of static recording data is not considered to be a significant limitation to the conclusions of this report.

The surveys were completed with the assistance of bat detectors. All survey techniques are subject to bias, and bat detector surveys may under-record species with weak echolocation calls, such as brown long-eared bats. However, these biases were considered when interpreting the results. During bat activity surveys bats were identified to species level when possible; however, *Myotis sp.* were identified only to genus level.

Notwithstanding the limitations highlighted above, the survey effort applied is considered sufficient to meet the aims of the survey and this report.

The details of this report will remain valid for a period of 18 months from the date of the last survey (i.e. April 2021) after which the validity of this assessment should be reviewed to determine whether further updates are necessary.

3.0 Baseline Conditions

3.1 Desk Study

An ecological appraisal was completed by WYG in September 2019 (WYG, 2020) and protected species records and information regarding non-statutory designated sites were obtained from CBDC as part of the assessment.

There were no designated sites within 5 km of the site listing bats as a reason for designation.

The NBN atlas indicated two records for common pipistrelle *Pipistrellus pipistrellus* within the 5 km grid square for the site.

CBDC returned the following records of bats within the 5 km search radius. The species of bat recorded and the closest records are summarised below:

- Daubenton's bat *Myotis daubentonii* – a count of 14 bats were observed at Rosehill Theatre Barn, 3.1 km south-east in 2012. Recorded during an emergence survey;
- Natterer's bat *Myotis nattereri* – two individuals were also recorded at Rosehill Theatre Barn, 3.1 km south-east in 2012 during an emergence survey;
- Common pipistrelle – two individuals were recorded at the same emergence survey of Rosehill Theatre Barn, in 2012. An additional common pipistrelle roost was noted at Stoneyheugh, Workington in 2013, 4.7 km north-east of the site;
- Soprano pipistrelle *Pipistrellus pygmaeus* – there were two records, from Rosehill Theatre Barn and Stoneyheugh, as noted above; and
- Brown long-eared bat *Plecotus auritus* – A single roost record at Stoneyheugh, as noted above.

In addition to the above records there were six records of maternity roosts of unidentified bat species or pipistrelle bats. The closest record to the site was at Woodbank, Common End, Distington in 2005, 2.2 km east of the site.

There were two records of EPSLs for common pipistrelle within 5 km of the site.

- 2017-31499-EPS-MIT: located approximately 4.8 km south of the site, relating to the destruction of a common pipistrelle resting place between 28.07.2017 and 31.03.2018; and
- EPSM2011-3654: located approximately 2.6 km north of the site, relating to the destruction of a common pipistrelle resting place between 11.10.2011 and 30.01.2012.

The field survey identified one building within the site; this was the wind farm control-switch building located 170m east from the turbine T1. The building was in good condition with no obvious potential roost feature noted, and therefore, it was considered to have 'negligible' suitability for roosting bats.

No other features that can be of suitability for roosting bats (such as buildings or trees) were recorded on site and the nearest features that may be of suitability for roosting bats included the farm building at Park House Farm which was located 500m from the nearest turbine.

The site is set within the exposed coastal location with the habitats on site comprised of grazed grassland habitats that include predominantly acid grassland, semi-improved grassland, improved

grassland and marshy grassland. There are patches of scrub and bracken within the site, but these are scattered and they do not connect with features that would be of significance for commuting / foraging bats such as blocks of woodland, hedgerows or scattered trees / parkland. Therefore, the habitats within the site were considered to provide 'low' suitability for foraging and commuting bats

It was noted that the species-poor hedgerow on site creates a linear feature and could provide some shelter for bats to forage and commute along.

3.2 Field Survey

Table 2 summarises the result of the bat activity (walked transect) surveys. Figures 3-7 illustrate the locations of the bat activity recorded. Overall most of the bat activity was focused along the hedgerow on the eastern boundary, particularly in sections near the running water in the north and centre of site (refer to the Heat Map - Figure 8).

Table 2: Bat Activity Recorded on Transect Surveys

Date	Type	Relevant Figures	Species Recorded	Activity Recorded
26.06.19	Dusk	Figure 3	Common pipistrelle and soprano pipistrelle	The species recorded during the survey included common and soprano pipistrelle. The first bat recorded was a common pipistrelle heard but not seen at 23:17 (84 minutes after sunset) along the access track, west of the turbine T4. The bat activity comprised predominantly foraging activity and was concentrated along the hedgerow adjacent to the main access track (180m east from the nearest turbine) and where the access track crosses Cat Gill. A total of seven passes were recorded but these were considered to be multiple passes of up to 2 bats foraging along the hedgerow and access track. Only two bats were observed at any one time.
16.07.19	Dusk	Figure 4	Soprano pipistrelle	The only bat species recorded during the July survey was soprano pipistrelle; the bat activity included a single pass that was recorded by the Batlogger / heard but not seen by the surveyors at 22:38 (57 minutes after sunset). The pass was recorded along the hedgerow adjacent to the main access track (260m east from the nearest turbine).
15.08.19	Dusk	Figure 5	Common pipistrelle	Common pipistrelle was recorded during the August transect. The first bat activity recorded on site included a bat foraging along the defunct hedgerow between the turbine T3 and access track at 21:18 (33

				minutes after sunset). This bat was observed foraging along the length of the hedgerow for approximately 3 minutes. A common pipistrelle pass was also recorded along the access track, approximately 210m southeast from the turbine T3 at 21:29 with another pass observed at 22:01 approximately 80m south from the former pass. Only one bat was observed at any one time and it is considered likely that all of the activity recorded comprised the same single bat as the passes were within close proximity of each other.
11.09.19	Dusk	Figure 6	Common pipistrelle and soprano pipistrelle	No bats were heard or seen during the survey; however, the Batlogger recorded a single pass of common pipistrelle at 21:14 (92 minutes after sunset) and a single pass of soprano pipistrelle at 21:29. Both passes were recorded along the 100m stretch of the hedgerow adjacent to the access track (see Figure 6) – with the nearest turbine located approximately 180m from any of these records.
12.09.19	Dawn	None	None	No bats recorded
15.10.19	Dusk	Figure 7	Soprano pipistrelle	Soprano pipistrelle was recorded during the October transect. The first bat activity recorded on site included a single pass along the hedgerow adjacent to the access track (approximately 220m southeast from the turbine T3) at 18:49 (32 minutes after sunset). Another bat activity recorded included a single soprano pipistrelle foraging along the hedgerow adjacent to the access track (approximately 210m east from the turbine T2) at 19:38; the foraging activity was constant and lasted for approximately 3 minutes. Only one bat was observed at any one time and it is considered likely that all of the activity recorded comprised the same single bat as the passes were located along the same hedgerow adjacent to the access track.

4.0 Relevant Planning Policy & Legislation

4.1 Revised National Planning Policy Framework

A revised NPPF was issued on 19th February 2019 (Ministry of Housing Communities and Local Government, 2019) and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:

`*Planning policies and decisions should contribute to and enhance the natural environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The conservation and enhancement of wildlife is also specifically referenced re: development within the National Parks or the Broads.

Paragraph 174 then goes on to confirm that:

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, Paragraph 177 clarifies that:

"*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*"

Paragraph 180 is also relevant as;

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:…

c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

4.2 Biodiversity 2020: A strategy for England's Wildlife & Ecosystem Services

Biodiversity 2020 (DEFRA, 2011) replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act (see Appendix B for further details).

4.1 Habitats Regulations and W&CA

All British bat species are given special protection within England by their inclusion on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

As a result, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;

- Damage or destroy a bat's roosting place (even if bats are not occupying a roost at the time);
- Possess or advertise, sell or exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

Where development will result in damage to a roosting place where the species is known to be present or risk harming or significantly disturbing bats, a European Protected Species Mitigation licence is likely to be required from Natural England (NE) to allow the development to proceed.

4.2 NERC Act

Bats are also afforded more general protection in England (and Wales) within the Natural Environment and Rural Communities Act (NERC) 2006. This imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, "to have due regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity" [Section 40 (1)]. It notes that "conserving biodiversity includes restoring or enhancing a population or habitat" [Section 40 (3)]. Consequently, attention should be given to dealing with the modification or development of an area if aspects of it are deemed important to bats, such as roosts, flight corridors and foraging areas.

Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 habitats of principal importance and 1,150 species of principal importance.

Seven species of bats; soprano pipistrelle, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat, *Rhinolophus hipposideros* barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii* and noctule *Nyctalus noctula*, are listed under Section 41 of the NERC Act 2006.

4.3 Local Biodiversity Action Plan

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

The Cumbria Biodiversity Action Plan (BAP) was launched in 2001; SAPs were drawn up for 21 species and HAPs were drawn up for 19 habitats. Following the UKBAP review in 2007, the Cumbria BAP was reviewed in 2009 and it was decided to include all habitats and species which are listed as HPI and SPI under the NERC Act 2006. A list of all 268 SPI which occur in Cumbria (which includes all ten bat species native of Cumbria) is provided at:

https://www.cumbriawildlifetrust.org.uk/sites/default/files/cumbria%20bap%20species%20updated%20list%202009%20web.pdf

The original action plans for Cumbria were further reviewed as part of the Cumbria Biodiversity Evidence Base and detailed statements have been prepared for 11 species/species groups and 21 habitats and includes a Species Action Plan (SAP) for bats.

It should be noted that the existence of an SAP or HAP does not always infer an elevated level importance for those features. These plans may be designed to encourage an increase in these habitats/species, rather than to protect a county-scarce feature (for example).

4.4 Local Plan

The site lies within Copeland Borough. Chapter 7 of the adopted Local Plan for Copeland (LPC) (2013-2028) *Environmental Protection and Enhancement* incorporates one policy covering Biodiversity and Geodiversity.

Policy ENV3 – Biodiversity and Geodiversity

The Council will contribute to the implementation of the UK and Cumbria Biodiversity Action Plan within the plan area by seeking to:

A. Improve the condition of internationally, nationally and locally designated sites
B. Ensure that development incorporates measures to protect and enhance any biodiversity interest
C. Enhance, extend and restore priority habitats and look for opportunities to create new habitat
D. Protect and strengthen populations of priority or other protected species
E. Boost the biodiversity value of existing wildlife corridors and create new corridors, and stepping stones that connect them, to develop a functional Ecological Network
F. *Restrict access and usage where appropriate and necessary in order to conserve an area's biodiversity value*

Policy DM25 *supports this policy, setting out the detailed approach towards managing development proposals that are likely to have an effect on nature conservation sites, habitats and protected species.*

The core strategy policies are supported by Development Mitigation Polices, one of which relates to '*Nature Conservation, Habitat and Species Protection*':

Policy DM25 – Protecting Nature Conservation Sites, Habitats and Species

A All development proposals should:

i) Protect the biodiversity value of land and buildings
ii) Minimise fragmentation of habitats
iii) Maximise opportunities for conservation, restoration, enhancement and connection of natural habitats and creation of habitats for species listed in UK and Cumbria Biodiversity Action Plans. Special consideration should also be given to those European habitats that lie outside the boundaries of European designated sites

B Development proposals that would cause a direct or indirect adverse effect on locally recognised sites of biodiversity and geodiversity importance, including County Wildlife Sites, Local Nature

Reserves and Regionally Important Geological/Geomorphological Sites or protected species will not be permitted unless:

i) The benefits of the development clearly outweigh the impacts on the features of the site and the wider network of natural habitats, and;

ii) Prevention, mitigation and/or compensation measures are provided. An appropriate long-term management plan will be sought and arrangements to provide adequate funding will be made in accordance with a formal planning agreement or obligation

C Where compensatory habitat is created, it should be of equal or greater size than the area lost as a result of the development

D Development proposals where the principal objective is to conserve or enhance biodiversity or geodiversity interests will be supported in principle

E Where there is evidence to suspect the presence of protected species any planning application should be accompanied by a survey assessing their presence and, if present, the proposal must be sensitive to, and make provision for, their needs

F All development proposals must take into account any likely significant effects on the internationally important sites both within the Borough and within a 20 km radius of the Borough boundary as well as those that are hydrologically linked to the development plan area

5.0 Discussion

Only two bat species were recorded using the site during 2019 bat activity surveys at Park House Farm Wind Farm; these were common pipistrelle and soprano pipistrelle. Both of these species are common and widespread across the British Isles with increasing or stable populations.

The levels of bat activity recorded at Park House Farm Wind Farm during the duration of the study were low and comprised individual bat passes or short periods of foraging activity along the linear features (i.e. hedgerows) on site. The maximum count of bats observed at any one time was two individuals and the maximum pass count during a single survey was seven. Therefore, it is considered that the site is occasionally used by a few individual soprano and common pipistrelle bats for commuting and occasional foraging. The bats were recorded usually relatively late after sunset (no sooner than 32 minutes after sunset) which is likely to be a indication that there are no roosts within the immediate vicinity of the wind farm and bats had to commute after emergence before reaching the wind farm site.

The bat activity was exclusively focused along the hedgerow adjacent to the access track on the eastern boundary (particularly along sections near the running water in the north and centre of the site). Since the habitats on site comprise predominantly grassland and are set within an exposed costal location, this hedgerow is likely to be of some significance as a connectivity feature for local populations of common bat species linking the site with other hedgerows and small farms / residential buildings to the south, east and north.

This hedgerow is part of the site but is located away from the turbines (180m from any of the turbines at its nearest point).

Impacts

The SNH wind farm bat survey guidelines state that the vulnerability of bat populations to wind farms is based upon the following factors:

- Relative abundance;
- Collision risk; and
- Bat activity recorded at the site.

Common pipistrelle and soprano pipistrelle bats are considered to be common species with high collision risk (SNH guidelines (SNH 2019)), due to their flight heights therefore the overall potential vulnerability of bat populations for the site is categorised as '**medium**'.

However, the site is considered to be of '**low/lowest risk'** (SNH guidelines (SNH 2019)) based on the absence of potential roost features on site, low quality of foraging habitat which is being used by a small number of bats and the fact that the site is quite isolated, with no prominent linear features which link it up to the wider landscape; and because the site is a small wind farm development (≤10 turbines).

Mitigation

The habitats within 50m from the turbine comprised predominantly coastal grassland with some scattered scrub, small watercourses and defunct hedgerow along the access track to turbine T3; the survey evidence indicates that these features were of negligible importance to commuting and

foraging bats. It is recommended that some clearance of scattered scrub within the land in the control of the applicant (up to 50m from the turbines) could be undertaken to further discourage bats from using the areas directly adjacent to the turbines

The main commuting feature on site appears to be the hedgerow along the access track (which is located at least 180m from any of the turbines at its nearest point), post-decommissioning, this feature can be enhanced for bats through infill planting with native UK hedgerow species.

6.0 Summary

- Small numbers of common and soprano pipistrelles were recorded on site during the bat activity surveys conducted at Park House Farm Wind Farm between June and October 2019.
- The maximum count of bats observed at any one time included two individuals and the maximum pass count during a single survey was seven. Therefore, it is considered that the site is occasionally used by few individual soprano and common pipistrelle for commuting and occasional foraging.
- Bat activity was focused along the hedgerow adjacent to the main access track on the eastern boundary, particularly along sections near the running water in the north and centre of site. This hedgerow is part of the site but is located away from the turbines (180m from any of the turbines at its nearest point).
- With reference to SNH guidelines (SNH, 2019), overall potential vulnerability of bat populations for the site is identified as 'medium'.
- With reference to SNH guidelines, the site is considered to be of 'low-lowest risk'.
- Some clearance of scattered scrub within the land in the control of the applicant (up to 50m from the turbines) could be undertaken to further discourage bats from using the areas directly adjacent to the turbines
- Post-decommissioning, the hedgerow along the access track can be enhanced for bats though infill planting with native UK hedgerow species.

7.0 References

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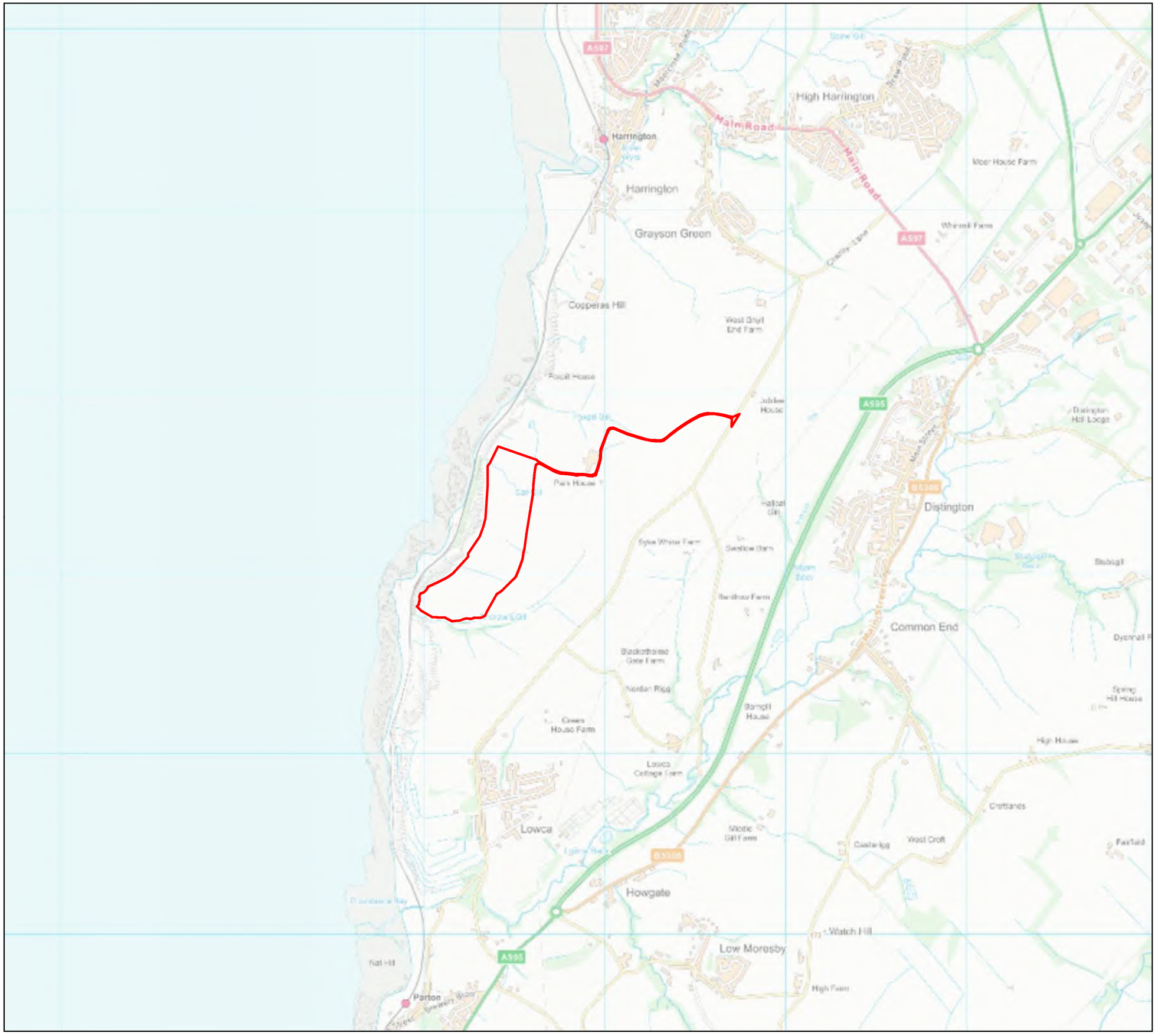
FIGURES



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

Site boundary

0 200 400 800 Meters

N

Site Location Plan

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:20,000	A108663	Figure 1	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

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Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Site boundary
- Transect route
- Intact hedge - native species-poor
- Running water
- Turbine

0 50 100 200 Meters

N

Transect Route

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 2	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

Rev	Date	Notes
A	04/03/20	Initial map production

T1
T2
T3
T4
T5
T6
T7
Cat Gill
Andrew's Gill

Legend

- Site boundary
- Transect route
- Common pipistrelle, *Pipistrellus pipistrellus*
- Soprano pipistrelle, *Pipistrellus pygmaeus*
- Pipistrelle sp., *Pipistrellus species*
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

June bat transect survey results

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 3	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

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Rev	Date	Notes
A	04/03/20	Initial map production

T1
T2
T3
T4
T5
T6
T7
Cat Gill
Andrew's Gill

Legend

- Site boundary
- Transect route
- Common pipistrelle, *Pipistrellus pipistrellus*
- Soprano pipistrelle, *Pipistrellus pygmaeus*
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

July bat transect survey results

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 4	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

G:\GIS Southampton\A108663_Lowca\MXD\Batts\figure4_JulySurveyResults_20200304.mxd

Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Site boundary
- Transect route
- Common pipistrelle, *Pipistrellus pipistrellus*
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

August bat transect survey results

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 5	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

Rev	Date	Notes
A	04/03/20	Initial map production

T1
T2
T3
T4
T5
T6
T7
Cat Gill
Andrew's Gill

Legend

- Site boundary
- Transect route
- Common pipistrelle, *Pipistrellus pipistrellus*
- Soprano pipistrelle, *Pipistrellus pygmaeus*
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

September bat transect survey results

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 6	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

Rev	Date	Notes
A	04/03/20	Initial map production

T1
T2
T3
T4
T5
T6
T7
Cat Gill
Andrew's Gill

Legend

- Site boundary
- Transect route
- Soprano pipistrelle, *Pipistrellus pygmaeus*
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

October bat transect survey results

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 7	A
Drawn by:	**Drawn date:**	**Approved by:**	
Maddie Errington	04/03/2020	Patryk Gruba	

Rev	Date	Notes
A	04/03/20	Initial map production

T1
T2
T3
T4
T5
T6
T7
Cat Gill
Andrew's Gill

Legend

- Site boundary
- Transect route

Expected number of calls

- 0
- 1 - 42
- 43 - 84
- 85 - 127
- 128 - 169
- 170 - 212
- 213 - 255
- 256 - 297
- 298 - 341
- Turbine
- Intact hedge - native species-poor
- Running water

0 50 100 200 Meters

N

Heat map

Park House Farm Wind Farm
Cannock Wind Farm Services Limited

Scale at A3:	Project No:	Drawing No:	Revision:
1:4,000	A108663	Figure 8	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	04/03/2020	Patryk Gruba

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Appendix A – Report Conditions

This Report has been prepared using reasonable skill and care for the sole benefit of Cannock Windfarm Services Limited ("the Client") for the proposed uses stated in the report by WYG Environment Planning Transport Limited ("WYG"). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

ecology@wyg.com

WYG Environment Planning Transport Limited.

Registered in England & Wales Number: 3050297
Registered Office: 3 Sovereign Square, Sovereign Street, Leeds, LS1 4ER