West Burton Solar Project

Environmental Statement

Appendix 9.5: Bat Survey Report

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West Burton

SOLAR PROJECT

BAT SURVEY REPORT

WEST BURTON SOLAR PROJECT

carried out by

CLARKSON & WOODS
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commissioned by

WEST BURTON SOLAR PROJECT LTD.

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BAT SURVEY REPORT

WEST BURTON SOLAR PROJECT

CONTENTS

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1 INTRODUCTION

1.1.1 Clarkson and Woods Ltd. was commissioned by West Burton Solar Project Ltd to carry out bat surveys for the West Burton Solar Scheme. The Scheme broadly comprised three sites: West Burton 1, 2 and 3 which are situated in the West Lindsey District of Central Lincolnshire. These parcels are referred to hereafter as 'the Sites', or individually as given above. Proposals comprise the development of an NSIP-scale solar park, containing solar energy production and storage components.

1.1.2 A series of automated bat detector surveys, ground-based tree inspections and daytime building inspections were carried out by Clarkson and Woods Ltd between June 2021 and June 2022. Surveys followed a scope agreed through consultation with Natural England via a Discretionary Advice Service dialogue, as well as Lincolnshire Wildlife Trust and followed survey methodology specified within the Bat Conservation Trust Bat Conservation Trust[1].

1.1.3 Unless the client indicates to the contrary, information on the presence of species collected during the surveys will be passed to the county biological records centre in order to augment their records for the area. This is in line with the CIEEM code of professional conduct[2].

1.2 Aims and Limitations

1.2.1 Given the size of the Scheme and the proposed changes to land use, bat activity surveys were recommended to ascertain a baseline of the level of use by foraging and commuting bats along with species composition and abundance. The objective of these surveys was to establish the likely value of the habitats and features within a Survey Area which encompasses all long-term development activities (solar energy and battery storage) elements of the Scheme to individual species of bats, and bats in general in the context of the wider landscape. Surveys of trees and buildings were carried out within the Zone of Influence of the Sites to assess their potential to support roosting bats. The level of roosting potential within trees and buildings will be used to determine buffers from important features during designing of Site layouts.

1.2.2 This report details the methods and results of the surveys and provides a brief overview of the potential impacts that could result from the proposals so as to inform the layout of the Scheme.

1.2.3 This information will be used within the eventual West Burton Solar Project Environmental Statement to inform the ecological evaluation of the habitats used by bats and to characterise the impacts on them considered likely to result from the Scheme.

1.2.4 While the installation of below-ground electrical cabling will be required beyond the boundaries of the Site in order to connect the disparate land parcels, both to one another and to the National Grid, relevant and proportionate ecological baseline information for this cable route element will be presented within a separate document.

1.3 Description of the Survey Area

1.3.1 Due to refinement of the Scheme extent and design following the completion of these surveys, the Survey Area covers a slightly larger area than the red line boundary of the Scheme (not including the cable route or 'external' construction access routes). However, the extent of the solar and battery elements are entirely contained within the Survey Area and so will have been fully subject to survey. It is therefore considered that the chosen Survey Area is appropriate for deriving a baseline for the Scheme. The Survey Area measures approximately 900h hectares (ha).

1.3.2 West Burton 1, 2 and 3 are located within the West Lindsey District, Lincolnshire and are situated within 8km of each other close to the settlements of Broxholme (West Burton 1), Ingleby (West Burton 2) and Brampton (West Burton 3) and are mapped in Figure 1. West Burton 1, 2 and 3 predominantly comprise large, open and generally flat arable fields characterised by winter-sown cereal crops with some fields of permanent pasture (West Burton 2), bounded by a network of managed hedgerows and ditches with narrow field margins, where present.

[1] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.
[2] Code of Professional Conduct. CIEEM, January 2019.

1.3.3 These Sites' habitats are very much typical of the surrounding landscapes which are dominated by arable farmland and occasional pasture grassland that is interspersed with small settlements and farmsteads linked by minor and single track roads. The landscape surrounding West Burton 1 – 3 is mostly flat but to the east of the Sites at the 'Lincoln Cliff', a significant north-south escarpment, located 3km east of West Burton 1. The River Trent is located west of West Burton 1 – 3 and is located 1.4km from West Burton 3 at its closest point as it flows north towards the Humber Estuary, itself some 41km north of West Burton 3. While no woodland is present within the Sites, several small stands of managed and unmanaged woodland are present adjacent and in the surrounding landscape, often the result of historical game management. Standing water is generally absent from the Sites and the surroundings following the in-filling of traditional livestock drinking ponds, save for a very small number of agricultural pools/pits, decoy ponds or managed recreational fisheries. Flowing water occurs occasionally in proximity to the Sites , with the River Till running adjacent to the eastern boundary of West Burton 2 and 0.4km west of West Burton 1 and the River Trent running 1.4km west of West Burton 3. Various feeder streams for the above watercourses are managed as agricultural drainage ditches within or adjacent to the Sites which regularly dry out.

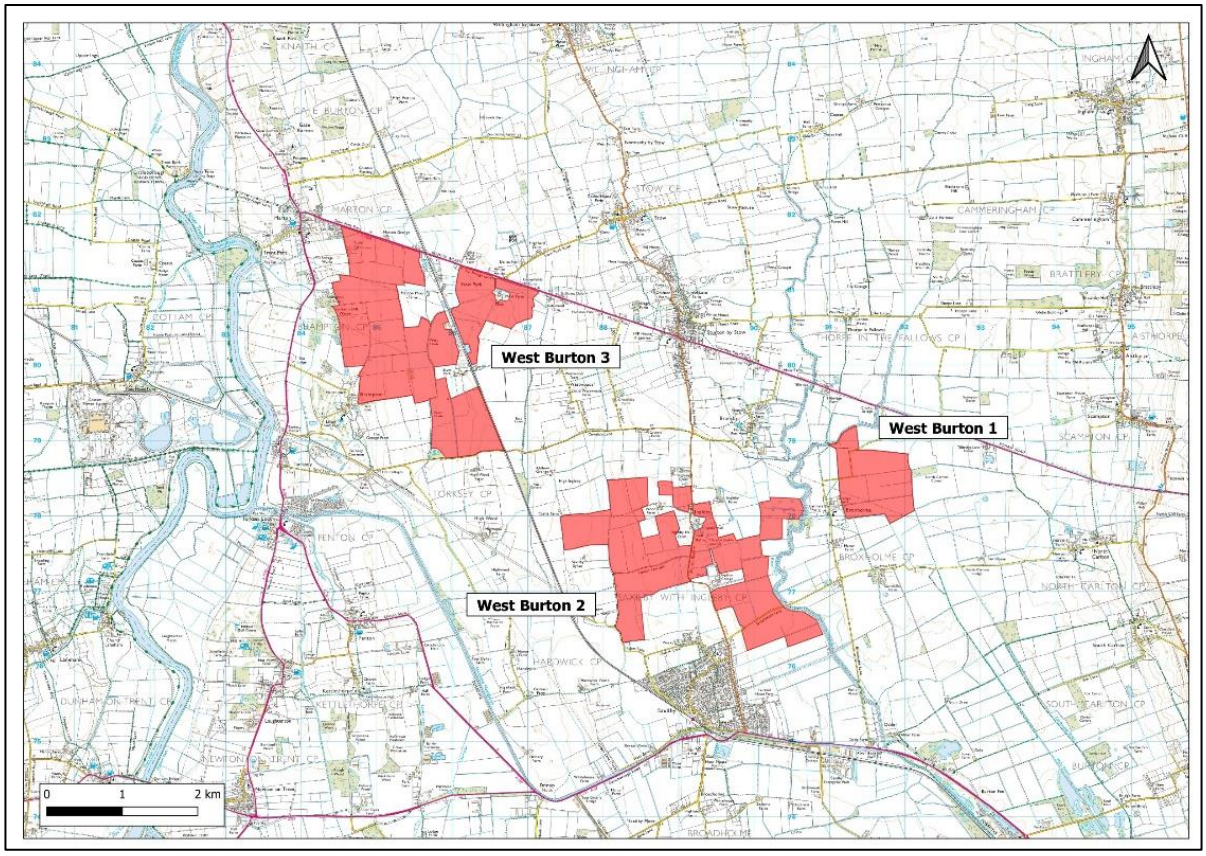

Figure 1. Locations of the Proposed Development Sites West Burton 1-3

1.4 Quality Assurance

1.4.1 All ecologists employed by Clarkson and Woods are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's Code of Professional Conduct[3] when undertaking ecological work.

1.4.2 The competence of all field surveyors has been assessed by Clarkson and Woods with respect to the CIEEM Competencies for Species Survey (CSS)[4].

1.4.3 This report has been prepared in accordance with the relevant British Standard: *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*[5]. It has been prepared by an experienced ecologist who

[3] CIEEM (2013). *Code of Professional Conduct*. [redacted]
[4] CIEEM (2013). *Competencies for Species Survey (CSS)*. [redacted]
[5] The British Standards Institution (2013*). BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*. BSI Standards Ltd.

is a member of CIEEM. The report has also been subject to a two stage quality assurance review by appropriately experienced ecologists who are full members of CIEEM.

1.5 Assessment Scope / Consultation

1.5.1 The following consultees were contacted in order to discuss and agree the appropriate scope of the bat surveys for the project.

- **Natural England** – An advisor was assigned at the onset of consultation and the Discretionary Advice Service was utilised outside of statutory consultation process. Natural England raised no concerns after discussing the scope of the bat surveys and made the following comments following the DAS *via* email on 2nd July 2022:
    - *Regarding the array sites, at this stage Natural England agree that the survey design is proportionate to the predicted level of impact at this stage. This is based on the impacts as described, where physical impacts to the commuting/foraging habitats are considered low, with no predicted severance of linear features or significant loss of foraging habitat.*
    - *We understand there are limitations around undertaking transect surveys and in particular across a wide landscape. However, transect surveys are usually used in combination with static detector surveys (in order to provide context around the number of bats and observation of how they are using the features). The justification for not doing so in this case does appear broadly reasonable, we understand that the sole use of static detectors has enabled you to acquire sufficient data to meet the aims of the survey design. Please note that should (a) licence(s) be applied for, section C3 of the method statement must detail the survey the aims and objectives. Clear justifications in the comments section will reduce the need for further queries at assessment stage.*

- **Lincolnshire Wildlife Trust (LWT)** – The LWT is the principal adviser to West Lindsey District Council on ecological matters and were consulted in relation to the scheme. The LWT did not raise any concerns regarding the scope of the bat surveys and made the following comments within their consultation letter dated 15th December 2021.
    - *We broadly accept the assumption that arrays generally have a neutral effect on foraging and commuting bats with the potential to offer enhancement where commuting and foraging habitat can be better connected and invertebrate populations can be better supported than in an arable context. We await detailed results from static detector surveys and inspections of older trees for bat potential. We support general recommendations given in the PEAs for mitigation by buffering field boundaries and through lighting design.*

2 SURVEY METHODOLOGIES

2.1 Desk Study

2.1.1 The Lincolnshire Environmental Records Centre (LERC) was consulted for records of bat species within 2km of West Burton 1 - 3.

2.1.2 Clarkson and Woods' own database of ecological records derived from past survey work was also consulted for further locally-relevant data.

2.1.3 The Natural England/DEFRA web-based MAGIC map database was also consulted for records of European Protected Species (EPS) licences issued for mitigation projects concerning bats within 30km of the Site.

2.1.4 The data presented within this report constitutes a summary of the data obtained from the local records centre. Should additional detail be required on any of the records described within this report Clarkson and Woods Ltd. should be contacted.

2.2 Field Surveys

Building Inspections for Roosting Bats

2.2.1 Efforts were made to access and inspect buildings that were immediately adjacent or deemed to be potentially affected by the scheme should they contain a roost. A number of buildings were outside of the ownership of the scheme landowners and efforts were made to contact third party owners, but access was not always granted. As such, only buildings where access was granted were inspected for roosting bats.

2.2.2 The exteriors of surveyed buildings were examined through the use of ladders, torches and binoculars for potential roosting features (PRFs). Wherever possible, these points were thoroughly investigated using ladders and a video fibrescope to determine the likelihood of their occupation and evidence of presence. Extra factors taken into consideration included the potential for noise disturbance to the potential roost feature, exposure to the elements, lighting levels, proximity/connectivity of vegetation and water and whether these PRFs led on to cavities further into the structure.

2.2.3 Internally, all accessible roof voids and accessible parts of surveyed buildings were entered where safe and possible to do so in order to describe their characteristics and to look for PRFs. A 1 million candle-power torch, ladders and a video fibrescope were used where necessary. Any signs of occupation including urine staining, prey remains, fur rubbing marks and droppings were noted where found. Droppings were compared against reference material to identify likely species, but DNA analysis may be undertaken in certain circumstances to confirm species identification

2.2.4 Following the inspections, each surveyed building was assigned a 'high', 'medium', 'low' or 'negligible' category as a guide to inform any necessary further survey effort as stipulated in the Bat Surveys Good Practice Guidelines (Bat Conservation Trust, 2016).

Tree Assessments for Roosting Bats

2.2.5 An inspection of all trees within the Survey Area was carried out from the ground, using binoculars, to record any signs of use of the tree by bat species. Features such as frost cracks, rot cavities, flush cuts, split or decaying limbs (including hazard beams), loose bark and dense plates of ivy were inspected and recorded using the methodology set out within the Bat Tree Habitat Key[6]. Any signs of staining (from urine or fur rubbing) and scratch marks below potential access points were noted, and a search was made for droppings underneath these features.

2.2.6 All trees were categorised as having either high, moderate, low or negligible bat roost potential.

Static Detector Surveys

2.2.7 Existing habitats within the Survey Area principally comprise large arable fields, with a small number of pasture grassland fields, bounded by a network of hedgerow, ditches and small blocks of woodland. These habitat types are ubiquitous within the local landscape. In general, the most suitable habitat for foraging/commuting bats (woodland and hedgerows) are expected to remain unaffected by the development, although a small number of new field accesses are anticipated (numbers and extent not available at time of writing) to facilitate construction and operational maintenance, as well as the laying of high and low voltage cables. The large arable fields, which comprise the majority of the survey area, were considered to provide sub-optimal habitat for foraging/commuting bats due to monoculture cropping and application of agricultural pesticides, herbicides and fertilisers which are likely to limit the abundance of invertebrate prey.

2.2.8 The assessment of the suitability of the Survey Area for foraging and roosting bats was based on current guidance set out by the Bat Conservation Trust[7]. Walked activity survey transects are an alternative survey methodology for the collection of bat activity data typically used in baseline bat activity assessments. Walked activity transects involve the monthly completion of 2-3hr evening survey where a route around a site is walked by a surveyor using a bat detector to collect information on species, location and activity class. As walked transects are comparatively brief survey events, and are considered to represent poor data-collection efficiency in comparison to the longer-term deployment of passive static bat detectors, it was

[6] BTHK 2020. Bat Tree Habitat Key – 4th Edition. AEcol, Bridgwater
[7] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

concluded that a more complete and reliable bat species assemblage baseline could be derived from preferentially using automated detectors. This was considered especially appropriate when the relative homogeneity of the habitats within the Survey Area and wider landscape is taken into account, as well as the near-wholesale retention of the likely best foraging and commuting habitat inherent within the Scheme. Consequently, despite habitats being of 'Low' suitability for bats, it was considered an appropriate precautionary measure to carry out the level of static detector survey usually recommended for 'High' suitability habitats (according to BCT guidelines) in lieu of walked activity transects, thereby obtaining as robust a baseline as practically possible. As such, a total of 16 detector locations were selected and one automated detector survey was carried out per month for each deployment location from April – September.

2.2.9 Automated static detectors (Song Meter Mini, Anabat Swift) were deployed at each of the deployment locations for a minimum of seven consecutive nights per deployment between June and September 2021 and between April and May 2022. 16 detector locations covered the Sites as evenly as possible and were selected to focus on key habitat features for bats such as hedgerows and woodland edges. 8 static detectors were used for the survey and detectors would be moved from 'Location 1' to 'Location 2' within each month so that all 16 detector locations were surveyed each month. The detectors were programmed to begin recording at least 30 minutes before sunset and finish recording 30 minutes after sunrise each night.

2.2.10 The deployment dates, weather details and durations of the static detector surveys are detailed in Appendix B. Recordings made were subsequently analysed using Kaleidoscope software, and bat species and the number of bat passes recorded was identified. All identified bat calls and 'No ID' files were manually analysed using the analysis software, and a minimum of 10% of the total noise files were also manually checked.

3 LIMITATIONS

3.1 General Bat Survey Limitations

3.1.1 Bats are very small creatures, capable of secreting themselves away into extremely small spaces and it is possible that these animals, or their signs, might have been missed during the survey if they are normally present opportunistically or in small numbers for a short period of time each year.

3.1.2 Not all features in trees or buildings suitable for use by bats are visible from the ground and there can be no external evidence of use of features by bats; consequently it is only possible to make a best effort when carrying out such a survey.

3.1.3 Bat detectors are known to be more sensitive to certain bat calls than to others for reasons such as varying bat call loudness and directionality of certain calls. For example, a call from a horseshoe bat is directional and a bat detector will only be able to record the call if the bat echo-locates directly at the detector whereas a common pipistrelle call is less directional and can be recorded even when the call is aimed away from the microphone. This can result in certain bat species (notably horseshoe bats and long-eared bats) being under-recorded due to the limitations of the current bat detectors. The difference in recording efficiency may therefore bias any results and this has been taken into account where possible during any assessment of the results.

3.2 Bat Data Analysis Limitations

3.2.1 Static detector data has been analysed using the latest Kaleidoscope Pro automated analysis software. This software has been specifically designed to automatically classify the known bat calls of Britain and Ireland.

3.2.2 The program automatically identifies bat calls using various algorithms and provides statistical levels of confidence associated with each classified call. The confidence levels reflect the fact that there will be certain classification errors related to every classified bat call. With experience of using the software it appears that, on the whole, it is reliable when identifying certain bat calls (common and soprano pipistrelles, noctule, serotine, Leisler's, lesser and greater horseshoe bats) but less reliable when identifying other species (long-eared and barbastelle bat species).

3.2.3 Steps have been taken to ensure sufficient quality assurance considering the relative classification difficulty faced by the software between different species. All records of greater horseshoe, lesser horseshoe,

barbastelle, *Myotis* and long-eared species identified by the automated software have been manually verified and where appropriate the call identity corrected.

3.2.4 The software does not distinguish between the various *Myotis* species and simply classifies them to genus level (ie *Myotis sp.*). This is in line with classification that would be achieved by manual identification due to the similar nature of *Myotis* calls making species classification subject to a high degree of error.

3.2.5 Where the software is unsure of a bat call, it will classify the call as 'NoID'. Where a relatively high number of calls are classified as NoID within a deployment's dataset (more than 10% of a data set), these calls were also manually verified by an experienced ecologist. NoID results are included within this report.

3.2.6 In conclusion, the classification data produced from Kaleidoscope, along with any manual verification of certain problem/important species, is considered to provide an accurate record of the bat species recorded by a static bat detector and as such has been used with confidence within this report.

4 RESULTS

4.1 Desk Study Information

Legislation, Local Plans and Policies

4.1.1 All 17 species of bat known to breed in England and Wales, and their roost sites, are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a bat, or to deliberately disturb a bat such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of bats in their resting places, and damage to or obstruction of resting places are also offences under the Wildlife and Countryside Act 1981 (as amended). As a result, development works which are likely to involve the loss of or alteration to roost sites, or which could result in killing of or injury to bats, need to take place under licence.

4.1.2 The following bat species are listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities Act (2006) in England; barbastelle, Bechstein`s, Noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat.

4.1.3 Section 41 of the Natural Environment and Rural Communities Act (2006) in England requires all statutory authorities to produce a list of protected habitats and species, both at a national and county level. These lists continue to be revised and modified from those originally produced as UK BAPs (Biodiversity Action Plans) and detail lists of habitats and species of principal importance for conservation action (i.e. SPI or Species of Principal Importance).

4.1.4 Table 1 below includes habitats and species present within the Lincolnshire Biodiversity Action Plan (2011)[8] which are relevant to bat species in the context of the proposed scheme.

Table 1: Relevant Local BAP Priority Habitats and Species

Broad habitat type	Habitat	Species
Farmland and grassland	Arable field margins	Whiskered bat *Myotis mystacinus*, Brandt"s bat *Myotis brandti,* Natterer"s bat *Myotis nattereri*, Daubenton"s bat *Myotis daubentonii*, Noctule *Nyctalus noctula*, Leisler"s bat *Nyctalus leisleri*,
	Grazing marsh	
	Lowland calcareous grassland	
	Lowland neutral grassland	
	Lowland meadow	

[8] Lincolnshire Biodiversity Partnership (2011) *Lincolnshire Biodiversity Action Plan 2011-2020 (3rd Edition)* [online]. Available at: http://www.southkesteven.gov.uk/CHttpHandler.ashx?id=7371&p=0 [Accessed 24/11/2021]

Broad habitat type	Habitat	Species
	Lowland dry acid grassland	Common pipistrelle *Pipistrellus pipistrellus*, Soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius" pipistrelle *Pipistrellus nathusii*, Barbastelle *Barbastella barbastellus*, Brown long-eared bat *Plecotus auritus*
	Parkland and wood pasture	
Waterbodies	Ponds, lakes and reservoirs	
	Rivers, canals, drains	
Boundaries	Hedgerows and hedgerow trees	
Trees and woodlands	Lowland mixed deciduous woodland Mixed ash-dominated woodland Oak-birch woodland	
	Planted coniferous woodland	
	Wet (broadleaved) woodland	

Designated Sites

4.1.5 Taken from the local environmental data searches, Table 2 includes details of internationally designated sites situated 30km or less, nationally designated sites found within a 5km distance and local designated sites where present within 2km or less, none of which have been specifically designated for bats but are likely to support habitats of good suitability for bats.

Table 2: Summary of Designated Sites for Nature Conservation of Relevance

Protected Site Name	Closest Site	Distance and Direction from Site	Reason for Designation
Internationally Designated Sites (≤30km)			
Humber Estuary SAC & SPA	West Burton 3	SAC 28km north; SPA 39km north	The Humber is the second-largest coastal plain estuary in the UK, and the largest coastal plain estuary on the east coast of Britain. It is a muddy, macro-tidal estuary, fed by the Rivers Ouse, Trent and Hull, Ancholme and Graveney. Suspended sediment concentrations are high, and are derived from a variety of sources, including marine sediments and eroding boulder clay along the Holderness coast. The estuary supports important breeding populations of bittern, marsh harrier, avocet and little tern during summer as well as important number of overwintering geese, ducks and waders. The SAC is also designated for its populations of sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis* and grey seal *Halichoerus grypus*.
Birklands & Bilhaugh SAC	West Burton 3	23 km	This site is a remnant of the historic Sherwood Forest on freely-draining, acidic, sandy soils and contains the best remaining examples of oak-birch woodland in Nottinghamshire. Birklands and Bilhaugh is notable for its rich invertebrate fauna,

Protected Site Name	Closest Site	Distance and Direction from Site	Reason for Designation
			particularly spiders, and for a diverse fungal assemblage, including Grifola sulphurea and Fistulina hepatica.
Hatfield Moor SAC & SPA	West Burton 3	26km	Hatfield moor consists of raised bog and lies within the former floodplain of the rivers feeding the Humber estuary (Humberhead Levels). The site is designated for its breeding populations of nightjar.
Nationally Designated Sites (≤5km)			
Doddington Clay Woods SSSI	West Burton 2	4.7km south	Containing two ancient semi-natural woodlands with diverse structure and form and supporting a notable variety of ground flora and bird species.
Locally Designated Sites (≤2km)			
Torksey Common to Sykes Junction Disused Railway LWS	West Burton 2	500m west	Disused railway embankments comprising scrub, grassland and woodland supporting diverse ground flora.
Mr. Rose's Hay Meadow LWS	West Burton 3	30m southeast	A species rich meadow supporting calcareous grassland species.
Torksey Grassland LWS	West Burton 3	100m south	Floristically diverse acidic and neutral grassland bounded by mature trees, ditches, hedgerows and dry acidic banks.
Torksey Marsh LWS	West Burton 3	700m south	Supports grassland, ponds, seasonally-inundated vegetation and a diversity of plants, invertebrates and birds.
Torksey Road Verge LWS	West Burton 3	700m south	100m stretch of unmanaged verge which is mostly damp and includes drier areas containing notable grass species.
Torksey Disused Railway LWS	West Burton 3	800m southwest	Acidic grassland with notable plant species.
Trent Port Wetland LWS	West Burton 3	900m west	An unmanaged area of floodplain east of the Trent comprising coarse neutral grassland and scattered scrub surrounding shallow water and wetland vegetation.

Local Bat records

4.1.6 For **West Burton 1**, approximately 60 records for four species were recorded within the desk study data, none of which were recorded within the red line boundary and the vast majority beyond 250m of the Site. The most commonly recorded species was common pipistrelle, with the remaining three species (soprano pipistrelle, brown-long eared bat, and noctule bat) having only one record each. This represents a low diversity of species, all of which can be expected to roost within buildings and/or trees in the local area. The species present in the data were generally common and widespread. Most records were made post-2000.

4.1.7 For **West Burton 2** approximately 160 records for six species were recorded within the desk study data, none of which were recorded within the red line boundary and the vast majority beyond 250m of the Site. The

most commonly recorded species was common pipistrelle, followed by Daubenton's bat, brown long-eared, noctule bat, soprano pipistrelle and natterer's bat.

4.1.8 For **West Burton 3,** approximately 230 records for six species were recorded within the desk study data. Two records of an unidentified bat are located within the red line boundary with the vast majority of the remaining records located beyond 250m from the Site. The most commonly recorded species was common pipistrelle, followed by soprano pipistrelle, brown long-eared bat, noctule bat, Daubenton's bat and natterer's bat.

4.1.9 Records of previously issued European Protected Species Licences for bats from within 30km of the Sites were obtained using the MAGIC website. Details of these licences are provided in Table 3 below

Table 3: MAGIC records of EPS mitigation licences issued within a 30km radius of the Sites

EPS Case reference	Licence	Species Covered	Distance from Site
EPSM2012-4798	27/09/2012	C-PIP;S-PIP;BLE;WHISK;BRAN	1.1km north
2016-24844-EPS-MIT-1	07/07/2017	C-PIP	8km west
2017-28963-EPS-MIT	22/05/2017	C-PIP	8km west
EPSM2012-4810	01/10/2012	C-PIP;WHISK;BRAN	8km west
EPSM2011-3445	29/09/2011	C-PIP;BLE	8.2km southwest
EPSM2012-5335	14/03/2013	C-PIP;S-PIP;BLE	9.3km east
2018-37966-EPS-MIT	05/11/2018	C-PIP	10.8km southeast
2018-36921-EPS-MIT	19/10/2018	C-PIP	11.3km southeast
2018-34000-EPS-BDX	01/04/2018	S-PIP	13.5km southwest
2020-50543-EPS-MIT	04/02/2021	C-PIP	14.4km southeast
EPSM2009-885	16/06/2009	C-PIP;S-PIP;BLE	14.4km south
EPSM2013-5740	29/04/2013	C-PIP;S-PIP;BLE;BARB	14.4km southeast
EPSM2012-3981	01/03/2012	C-PIP;BLE	15km south
2015-16751-EPS-MIT	03/12/2015	C-PIP,S-PIP	15.1km west
2017-28577-EPS-MIT	21/03/2017	BLE,C-PIP	15.4km west
2017-28699-EPS-MIT	01/05/2017	BLE,C-PIP	15.6km northwest
2014-2724-EPS-MIT	18/09/2014	BLE,C-PIP	16.4km west
2018-34513-EPS-MIT	16/05/2018	BLE,C-PIP,S-PIP	17.1km northwest
2016-27185-EPS-MIT	10/02/2017	C-PIP	18km southeast
2020-48466-EPS-MIT	24/09/2020	BLE,C-PIP	18km southeast
2017-31809-EPS-MIT	30/10/2017	C-PIP	18km southeast
2018-34657-EPS-MIT	18/05/2018	BLE,NATT	18km southeast
2020-49404-EPS-MIT	12/10/2020	C-PIP,S-PIP,WHISK	18.1km northwest
2016-22010-EPS-MIT	29/03/2016	BLE,C-PIP,S-PIP	18.3km northwest
EPSM2013-6485	28/10/2013	C-PIP, S-PIP; BLE; WHISK; BRAN; DAUB; NATT	18.5km northwest
EPSM2010-2636	10/01/2011	BARB;BLE;NATT	18.7km southeast
2018-33960-EPS-MIT	13/04/2018	S-PIP	19.5km southeast
2015-10822-EPS-MIT	03/07/2015	BARB,C-PIP,NATT,S-PIP	20.7km southeast
2020-48680-EPS-MIT	28/08/2020	C-PIP	20.8km northwest
2015-16457-EPS-MIT	23/11/2015	BLE,C-PIP	20.8km west
EPSM2011-3758	01/03/2013	C-PIP;S-PIP	21.3km north
2019-42799-EPS-MIT	26/09/2019	C-PIP	21.7km southeast
2014-3125-EPS-MIT	08/10/2014	BLE,C-PIP,S-PIP,WHISK	22km southwest
2019-40540-EPS-MIT	01/10/2019	BLE,C-PIP	22.8km east
EPSM2009-1407	24/11/2009	C-PIP;S-PIP;BLE;NATT	23.3km southwest
EPSM2013-6062	06/08/2013	C-PIP	23.4km southwest
EPSM2012-4148	01/04/2012	C-PIP	23.4km southwest
2014-6111-EPS-MIT	21/01/2015	BLE,S-PIP	23.5km west
2014-5803-EPS-MIT	21/01/2015	BLE,S-PIP	23.6km west
2020-49073-EPS-MIT	22/10/2020	BARB,BLE,C-PIP,DAUB,NATT	23.7km southeast
EPSM2013-6223	01/01/2014	C-PIP	23.7km northeast
2016-27215-EPS-MIT	10/01/2017	BLE,C-PIP,LEIS,NATT	23.8km east
EPSM2012-5333	21/12/2012	C-PIP;BLE;NATT	23.8km southwest
2018-36323-EPS-MIT	16/08/2018	BLE	24.3km southwest
2016-19951-EPS-MIT	24/02/2016	C-PIP	24.4km northwest
2015-18287-EPS-MIT	01/02/2016	C-PIP	24.6km southwest
2014-88-EPS-MIT	22/04/2014	C-PIP	24.8km north
2020-49749-EPS-MIT	23/11/2020	BLE,C-PIP,NATT	24.9km east
2018-36767-EPS-MIT	01/10/2018	BLE,C-PIP	25.1km northwest
2020-50282-EPS-MIT	24/11/2020	BLE	25.3km east
2016-27215-EPS-MIT	10/01/2017	BLE,C-PIP,LEIS,NATT	25.5km east

2015-16415-EPS-BDX	13/10/2015	C-PIP	25.5km north
2019-40403-EPS-MIT	26/04/2019	BLE,C-PIP	25.6km southeast
EPSM2012-4327	05/04/2012	C-PIP;BLE;NATT	25.8km southwest
2016-26369-EPS-BDX	06/10/2016	C-PIP,S-PIP	26.1km west
2015-17167-EPS-MIT	08/12/2015	S-PIP	26.1km west
2014-1437-EPS-MIT	07/07/2014	C-PIP	26.3km southwest
2015-18288-EPS-MIT	16/01/2016	BRAN,BLE,C-PIP,NATT,WHISK	26.4km southwest
2019-40209-EPS-MIT	02/04/2019	C-PIP,NATT	26.5km south
2018-33689-EPS-BDX	01/04/2018	C-PIP	26.6km southeast
2020-49144-EPS-MIT	21/08/2020	C-PIP	26.7km west
2020-48920-EPS-MIT	21/10/2020	BLE,C-PIP,S-PIP	27.2km west
2016-24538-EPS-MIT	08/07/2016	BLE,C-PIP,S-PIP	27.3km west
EPSM2013-5705	10/04/2013	S-PIP	27.4km southwest
2014-4586-EPS-MIT	09/04/2014	BLE,C-PIP,WHISK	27.6km southwest
EPSM2009-842	09/04/2008	S-PIP	28.1km northeast
2020-50680-EPS-MIT	15/02/2021	BLE,C-PIP	28.1km west
2020-44516-EPS-MIT	18/02/2020	BLE,C-PIP,S-PIP	28.2km southeast
2015-7054-EPS-MIT	09/03/2015	C-PIP	28.6km northeast
2016-21446-EPS-MIT	22/03/2016	C-PIP,S-PIP,WHISK	29.1km west
2018-36961-EPS-MIT	09/10/2018	BLE,C-PIP,S-PIP	29.2km northwest
2020-49781-EPS-MIT	11/11/2020	C-PIP	29.5km southwest
EPSM2009-1010	02/11/2009	BLE	29.6km southwest

4.2 Field Survey Results

Building Inspections for Roosting Bats

4.2.1 Surveys of buildings within the Zone of Influence of the project were carried out where access to granted, to assess their potential to support roosting bats, the results of which are presented in Table 4 and Figure 2 below. A total of 9 buildings were inspected, all of which were located outside of but in close proximity to West Burton 3.

4.2.2 No evidence of bat presence was recorded within any building that was surveyed. Of the nine buildings five were assessed as having low bat roost potential and four were recorded as having negligible bat roost potential. It is possible that a low number of bat roosts are present within buildings that are in close proximity to the Sites.

Table 4: Results of the Building Inspections

Site	Building and Grid Reference	Description	Bat Roost Potential
West Burton 3	Moat Farm (Building A) SK 86635 80912	Intact storage building constructed of reinforced concrete frame with mixed wood, brick and corrugated asbestos walls. Double pitched roof constructed of corrugated asbestos sheets. Access points present with gaps surrounding doors and roof. No evidence of roosting bats recorded.	Low
West Burton 3	Brampton Farm Buildings (Building A) SK 85976 80497	Agricultural building with lean to used for storage. The walls were constructed of concrete blockwork and asbestos sheets. Main building contained a pitched roof with lean to 1m lower on eastern aspect. Roof constructed of corrugated cement fibre board / asbestos sheets with internal metal framework.	Negligible
West Burton 3	Brampton Farm Buildings (Building B) SK 85954 80506	Old cattle shed currently used as a grain store. Metal framed farm building with corrugated metal sheet panels and low concrete block walls. Section to the east is a double pitched metal framed structure with corrugated asbestos and wood panelling. The building is open fronted with numerous panels missing.	Negligible

West Burton 3	Brampton Farm Buildings (Building C) SK 85932 80513	Large agricultural storage building. Walls constructed of concrete blockwork and asbestos sheets. Pitched roof constructed of asbestos sheets. Large sliding metal doors on front, left open at the time of survey.	Negligible
West Burton 3	Former MOD Buildings (Building A) SK 86115 80259	Disused bunker. Corrugated metal roof on brick pillars, exposed steel truss.	Negligible
West Burton 3	Former MOD Buildings (Building B) SK 86098 80249	Complex of underground bunkers with concrete blockwork walls. Entrances to bunkers bricked up and were not accessible but inspection possible due to missing bricks. No evidence of bats but suitable for individual or small numbers of bats.	Low
West Burton 3	Former MOD Buildings (Building C) SK 86052 80297	Disused industrial building. Constructed of brick walls with a pitched roof of corrugated asbestos sheets. Boarded windows which were tightly sealed. Three large metal shutters at front of building with gaps at the top providing potential access for bats. No internal access was possible. Likely to be negligible potential for roosting bats but categorised as low without an internal inspection as a precaution.	Low
West Burton 3	Former MOD Buildings (Building D) SK 86071 80254	Disused gas / services building. Small brick building with flat corrugated asbestos roof. A single wooden door that was rotting at the base. Fenced around the perimeter so only assessed externally from 2m away. Likely to be negligible potential for roosting bats but categorised as low without an internal inspection as a precaution.	Low
West Burton 3	Former MOD Buildings (Building E) SK 86096 80190	Disused single storey MOD building in poor condition. Brick walls with flat asbestos sheet roof. Boarded up windows and doors. Not accessed internally.	Low

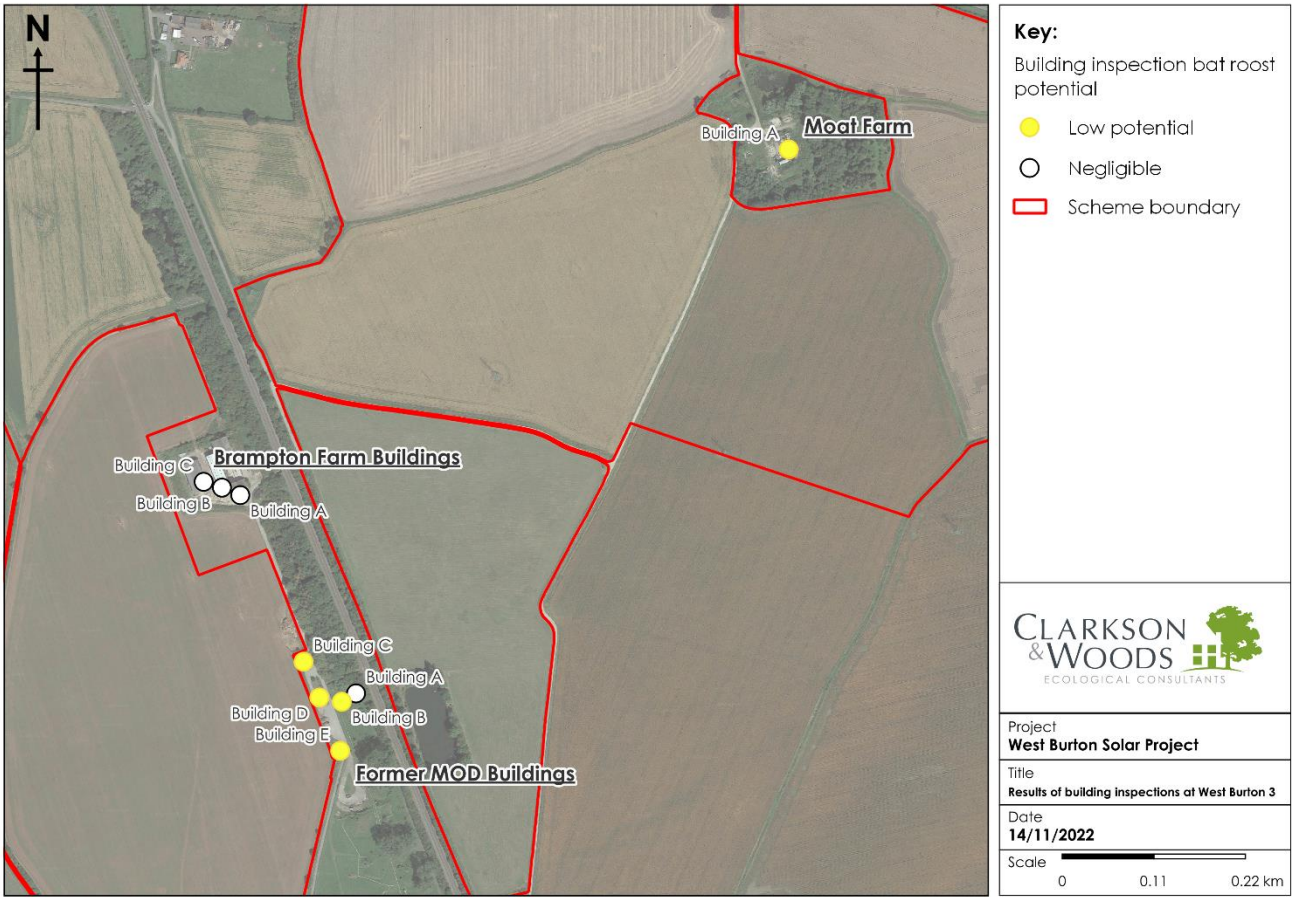

Figure 2: Results of the Building Inspections for Roosting Bats at West Burton 3

Tree Assessments for Roosting Bats

4.2.3 Surveys of all trees within the Survey Area were carried out to assess their potential to support roosting bats and were categorised as having high, moderate, low or negligible bat roost potential. The results of the surveys are presented within Figures 3 - 5.

4.2.4 This information was then used to assist in determining the most appropriate size of development-free buffer to impose from the site-ward edge of the field boundary feature, in conjunction with other factors such as botanical species richness and presence of other protected species. The highest bat roost potential class ascribed to any tree within a particular field boundary was used for this purpose. In the absence of other protected species or conservation criteria, where a low potential tree was present a minimum 8m buffer was recommended, with buffers of 10m for moderate and 12m for high also. In addition, all in-field trees were surveyed, recorded and mapped.

4.2.5 A total of 26 high bat roost potential trees, 49 moderate bat roost potential trees, 73 low bat roost potential and 82 negligible bat roost potential trees were recorded within the Sites. It is likely that a large number of bat roosts are present within trees that are located within the Sites from a range of different species.

Figure 3: Bat Roost Potential of Trees at West Burton 1 (Red: High Potential, Orange: Moderate Potential, Yellow: Low Potential, Green: Negligible Potential)

Figure 4: Bat Roost Potential of Trees at West Burton 2 (Red: High Potential, Orange: Moderate Potential, Yellow: Low Potential, Green: Negligible Potential)

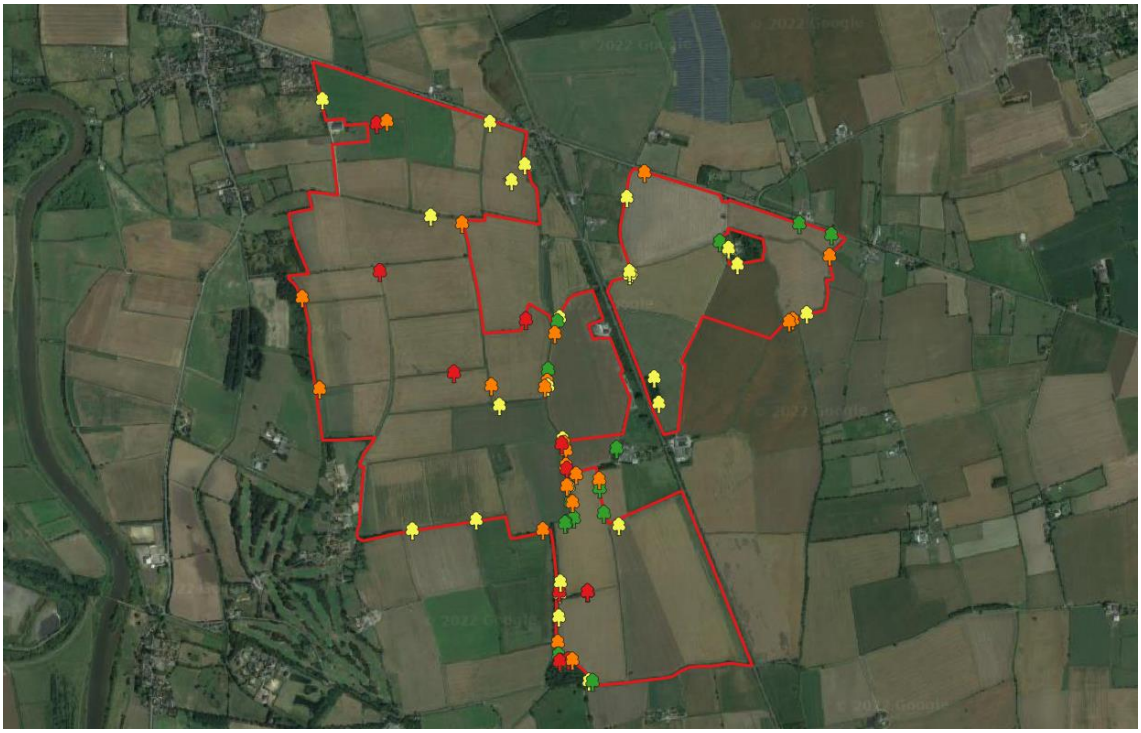

Figure 5: Bat Roost Potential of Trees at West Burton 3 (Red: High Potential, Orange: Moderate Potential, Yellow: Low Potential, Green: Negligible Potential)

Static Detector Surveys

4.2.6 Table 6 below provides a summary of the number of passes, average number of passes per night and percentage of activity for each species at each of the Sites. A summary of the passes per night for each species at each deployment location is presented in Table 7. A visual representation of the data is presented Figures 6 – 8, which shows the percentage of passes by species and overall passes per night at each deployment location. A full set of results of the static detector survey are provided in Appendix D.

Species Richness

4.2.7 Overall, at least 8 species of bat were recorded during the static detector surveys comprising the following species:

- Barbastelle
- *Myotis sp* (an aggregation of common *Myotis* species is likely to include one or more of Natterer's bat *Myotis nattereri*, Daubenton's bat *Myotis daubentonii*, Brandt's bat *Myotis brandtii* and whiskered bat *Myotis mystacinus*
- Noctule
- Leisler's
- Nathusius' pipistrelle
- Common pipistrelle
- Soprano pipistrelle
- Brown long-eared

4.2.8 *Myotis Sp* are likely to constitute more than one species but these species are grouped due to the similar nature of their calls making classification subject to a high degree of error.

4.2.9 Table 5 shows the rarity of the species recorded during the static detector surveys, or possibly recorded in the case of *Myotis* species, using the definition of relative rarity of bat species within England produced by

Wray et al[9] and the current estimated UK population size based on information provided by the Bat Conservation Trust. Species with populations estimated to be under 10,000 were categorised as 'rarest', populations between 10,000 and 100,000 'rarer' and populations over 100,000 'common'.

Table 5: Rarity of the species recorded during the static detector surveys

Species	Rarity within England[10]	UK status (current estimated UK population size)[11]
Barbastelle	Rarest	Very rare, found in southern and central England and Wales. UK estimated population 5,000.
Nathusius' pipistrelle	Rarer	Rare but widespread, migratory. No population estimate for UK.
Leisler's bat	Rarer	Uncommon but widespread in UK, more common in Ireland. Estimated England population 9,500 (28,000 in UK).
Brant's bat	Rarer	Uncommon but widespread in England. UK population of 30,000
Noctule	Rarer	Fairly common and widespread (50,000). UK BAP Priority Species
Whiskered bat	Rarer	Uncommon but widespread in England, UK population of 64,000
Natterer's bat	Rarer	Locally common and widespread throughout Britain with a UK estimated population of 148,000 (70,000 in England)
Daubenton's bat	Rarer	Relatively common and widespread throughout Britain with a UK estimated population of 560,000 (95,000 in England)
Brown long-eared	Common	Common and widespread (245,000). UK BAP Priority Species
Soprano pipistrelle	Common	Common and widespread (1,300,000). UK BAP Priority Species
Common pipistrelle	Common	Common and widespread (2,430,000)

4.2.10 The Sites are located at the northern edge of the range for barbastelle, which are listed as uncommon in Lincolnshire according to the Lincolnshire BAP. This species is considered to be most closely linked with woodland edge habitats and tree roosts although they will occasionally roost in buildings. A significant colony of barbastelle bats is known in Norfolk and it is considered possible that members of this population would periodically disperse and migrate at least as far as into neighbouring counties.

4.2.11 The level of species richness was considered to be relatively high for a Site within Lincolnshire as 8+ species were recorded out of the 11 known resident species in Lincolnshire. The 11 known resident species are listed in Table 5 above. The species that have been recorded within Lincolnshire but not identified during the static detector survey are the four individual *Myotis* species which have not been identified to species level during this assessment but may all be present within the Sites.

[9] Wray, S., Wells, D., Long, E. and Mitchell-Jones, T. (2010). Valuing Bats in Ecological Impact Assessment. In Practice, December 2010. Chartered Institute of Ecology and Environmental Management.
[10] Wray, S., Wells, D., Long, E. and Mitchell-Jones, T. (2010). Valuing Bats in Ecological Impact Assessment. In Practice, December 2010. Chartered Institute of Ecology and Environmental Management.
[11] Based on information provided by the Bat Conservation Trust [redacted]

4.2.12 The level of species richness was the same across the Sites with 8+ species being recorded at each Site.

Bat Activity Analysis

4.2.13 A total of 139,245 bat passes were recorded over 1254 recording nights at 16 deployment locations. This equates to an average of 111 bat passes per recording night. This is considered to represent a moderate level of bat activity in comparison to other sites Clarkson and Woods have undertaken bat surveys at throughout England.

4.2.14 When taken individually the Sites had the following level of bat activity and are ordered highest to lowest in terms of recorded bat activity:

- West Burton 2 – an average of 159.91 passes per night (considered to be a moderate level of activity)
- West Burton 3 – an average of 86.34 passes per night (considered to be a low level of activity)
- West Burton 1 - an average of 41.88 passes per night (considered to be a low level of activity)

4.2.15 West Burton 2 had the highest average passes per night for six species including barbastelle, noctule, Leisler's Nathusius' pipistrelle, common pipistrelle and soprano pipistrelle. West Burton 3 had the highest average passes per night for two species including *Myotis sp.* and brown long-eared bat. West Burton 1 did not have the highest average passes per night for any species recorded during the surveys.

4.2.16 The induvial deployment locations with the highest levels of bat activity were BRA1B at West Burton 3 (337.15 passes per night), ING1C at West Burton 2 (336.91 passes per night) and ING2C at West Burton 2 (329.63 passes per night). BRA1B had the highest average passes per night for three species including *Mytois* bats, noctule and Leisler's bat and was located adjacent to a moderately sized decoy pond that was lined with trees and bordered a field of pasture grassland.

4.2.17 Temporally, the average number of bat passes per night was moderate in May (120.44), July (180.73), August (126.56) and September (108.76) with lower levels of activity being recorded during April (27.80) and June (85.75).

4.2.18 Relative activity rates by each species are given in the paragraphs below in order of highest activity to lowest.

Common pipistrelle

4.2.19 A high level of activity was recorded from common pipistrelle, which was unsurprisingly by far the most recorded species overall, and the most recorded species at every individual deployment location, accounting for 75.34% of all passes with an average of 84 passes per night across the deployment locations. Average passes per night for common pipistrelle ranged from 38.53 (West Burton 1) to 137.55 (West Burton 2). Very high levels of activity were recorded at deployment locations ING2C (313.36 passes/night) which was located within a strip of mixed woodland and ING1C (245.55 passes/night) which was located within a treeline with adjacent wet ditch.

Soprano pipistrelle

4.2.20 Soprano pipistrelle was the next highest recorded species, accounting for 11.91% of all passes and had an average of 13.22 passes per night across the deployment locations, which was considered to be a moderate level of activity. Soprano pipistrelle passes per night ranged from 1.41 (West Burton 1) to 15.05 (West Burton 3). Significantly higher levels of activity were recorded at deployment locations ING1C (74.49 passes/night) and BRA1B (66.80 passes/night), ING1C was located within a hedgerow with trees and adjacent to a wet ditch and BRA1B was located next to a pond. Soprano pipistrelle is a species known to be closely associated with watercourses and waterbodies and, as such, it is unsurprising to see higher levels of activity close to water features.

Myotis Bats

4.2.21 Across the Sites, moderate levels of activity were recorded from *Myotis sp* (10.28 passes / night) although this ranged from 0.62 passes per night (West Burton 1), considered to be very low levels of activity to 20.18 passes per night(West Burton 3) which was considered to be a moderate level of activity. *Myotis* bats were recorded

at all of the 16 deployment locations. Significantly higher levels of *Myotis* sp activity was recorded at deployment location BRA1B (114.29 passes/night) which is located adjacent to a large pond. Daubentons's bat are strongly associated with foraging above watercourses and waterbodies and it is considered likely that recordings at this location is from regular foraging activity of this species above the pond.

Noctule

4.2.22 Noctule were recorded at low levels overall (2.7 passes per night) and at each Site, with the exception of West Burton 1, where very low levels of activity were recorded. Noctule was recorded at each of the 16 deployment locations. Passes per night for this species ranged from 0.56 (West Burton 1) to 3.26 (West Burton 2). The level of activity from this species was relatively even across the deployment locations with a peak of 11.62 passes per night at BRA1B which was located adjacent to a moderately sized decoy pond on the edge of a pasture grassland field.

Brown long-eared bat

4.2.23 Very low levels of brown long-eared bat were recorded overall (0.58 pass per night) and were recorded relatively evenly throughout the Sites, with average passes per night ranging from 0.46 (West Burton 1) to 0.68 (West Burton 3). Brown long-eared bat was recorded at each of the 16 deployment locations. The deployment locations with the highest level of brown long eared activity were BRA2A (1.80 passes per night) and BRA1A (1.15 passes per night). These locations were within managed hedgerows adjacent to arable fields and the close proximity of these deployment locations with comparatively elevated levels of brown long-eared activity suggest that a roost for this species may be nearby.

Barbastelle

4.2.24 Barbastelle were recorded at very low levels overall (0.12 passes per night) and at each Site with passes per night ranging from 0.004 (West Burton 3) to 0.26 (West Burton 2). This species was recorded at 10 of 16 deployment locations. Significantly higher levels of barbastelle were recorded at deployment locations ING1B and ING2B with an average of 0.79 and 0.69 passes per night respectively. ING1B is located along a strip of broadleaved woodland adjacent to an arable field and ING2B is located within a mature treeline adjacent to an arable field. The close proximity of these deployment locations with comparatively higher levels of brown long-eared activity suggest that a roost for this species may be nearby.

Leisler's bat

4.2.25 Leisler's bat was recorded at very low levels overall (0.06 passes per night) and at each Site ranging from 0.02 (West Burton 1) to 0.08 passes per night (West Burton 2). This species was recorded at 10 of 16 deployment locations. The deployment locations ING2C (0.29 passes per night) and BRA1B (0.30 passes per night) recorded the highest levels of activity from Leisler's bat which were located next to an unmanaged treeline adjacent to a wet ditch and adjacent to a decoy pond within a pasture grassland field respectively.

Nathusius pipistrelle

4.2.26 Nathusius' pipistrelle was recorded at very low levels overall (0.04 passes per night) and at each Site with passes per night ranging from 0.01 (West Burton 1 and 3) to 0.08 (West Burton 2). This species was recorded at 7 of the 16 deployment locations. Nathusius' pipistrelle was recorded at significantly higher levels during the deployment at ING1B (West Burton 2) in June when 2.3 passes per night were recorded. Nathusius' pipistrelle bats are known to migrate long distances and in the UK it appears that a small summer breeding population is supplemented by migratory individuals during the autumn and winter for hibernation. Breeding strongholds occur in the east and south east of England. The peak of activity at West Burton 2 towards the start of the survey season suggests that this area may constitute a migration commuting route for a larger number of Nathusius' pipistrelle with very low levels of activity occurring during the main breeding period.

Table 6: Summary of the Static Bat Detector Survey at West Burton 1 - 3 (Highlighted Orange at Site with highest passes per night for each species)

Site	Total no. bat species / passes recorded	Species	No. passes	Average no. of passes per night	% of activity
	8 species (at least)	Barbastelle	16	0.10	0.23

Site	Total no. bat species / passes recorded	Species	No. passes	Average no. of passes per night	% of activity
West Burton 1	6994 passes 167 nights 41.88 (av. passes per night)	*Myotis sp*	104	0.62	1.49
		Nyctalus sp	26	0.16	0.37
		Noctule	93	0.56	1.33
		Leisler's	3	0.02	0.04
		Nathusius' pipistrelle	1	0.01	0.01
		Common pipistrelle	6435	38.53	92.01
		Soprano pipistrelle	235	1.41	3.36
		Brown long-eared	76	0.46	1.09
West Burton 2	8 species (at least) 83471 passes 522 nights 159.91 (av. passes per night)	Barbastelle	134	0.26	0.16
		Myotis sp	1387	2.66	1.66
		Nyctalus sp	224	0.43	0.27
		Noctule	1704	3.26	2.04
		Leisler's	43	0.08	0.05
		Nathusius' pipistrelle	43	0.08	0.05
		Common pipistrelle	71802	137.55	86.02
		Soprano pipistrelle	7855	15.05	9.41
		Brown long-eared	264	0.51	0.32
West Burton 3	8 species (at least) 48780 passes 565 nights 86.34 (av. passes per night)	Barbastelle	2	0.004	0.00
		Myotis sp	11402	20.18	23.37
		Nyctalus sp	125	0.22	0.26
		Noctule	1639	2.90	3.36
		Leisler's	31	0.05	0.06
		Nathusius' pipistrelle	4	0.01	0.01
		Common pipistrelle	26668	47.20	54.67
		Soprano pipistrelle	8488	15.02	17.40
		Brown long-eared	387	0.68	0.79

Table 7: Summary of the passes per night for each species at each deployment location

Site	Location	Survey Nights	Species (at least)	Passes per night									Passes	Av. Passes per night
				Barbastelle	*Myotis Sp*	*Nyctalus Sp*	Noctule	Leislers	Nathusius Pipistrelle	Common pipistrelle	Soprano pipistrelle	Brown Long-eared		
West Burton 1	BRO1A	76	8	0.04	0.76	0.21	0.64	0.01	0.01	54.83	1.87	0.46	4477	58.91
West Burton 1	BRO2A	91	7	0.14	0.51	0.11	0.48	0.02	0.00	24.92	1.02	0.45	2517	27.66
West Burton 2	ING1A	75	7	0.03	1.39	0.33	6.43	0.03	0.00	21.57	2.08	0.32	2418	32.24
West Burton 2	ING2A	99	6	0.01	0.83	0.14	1.38	0.00	0.00	40.72	3.77	0.18	4656	47.03
West Burton 2	ING1B	75	8	0.79	1.48	0.80	3.53	0.15	0.51	28.89	2.27	0.31	2905	38.73
West Burton 2	ING2B	99	8	0.69	0.84	0.13	0.95	0.01	0.04	146.94	7.36	0.49	15591	157.48
West Burton 2	ING1C	75	6	0.01	9.48	1.13	5.35	0.00	0.00	245.55	74.49	0.88	25268	336.91
West Burton 2	ING2C	99	8	0.03	2.99	0.27	3.28	0.29	0.01	313.36	8.48	0.85	32633	329.63
West Burton 3	BEL1A	83	5	0.00	2.18	0.32	1.48	0.00	0.00	35.80	6.09	0.63	4236	51.04
West Burton 3	BEL2A	55	6	0.01	0.73	0.35	1.32	0.00	0.00	11.83	1.80	0.35	1229	22.35
West Burton 3	BEL1B	91	5	0.00	1.21	0.08	0.45	0.00	0.00	32.31	3.73	0.15	3453	37.95
West Burton 3	BEL2B	75	7	0.01	3.01	0.25	1.15	0.00	0.01	34.17	5.27	0.64	3340	44.53
West Burton 3	BRA1A	34	6	0.00	0.91	0.50	3.18	0.03	0.00	24.79	17.50	1.15	1635	48.09
West Burton 3	BRA2A	61	7	0.00	1.75	0.16	0.90	0.02	0.02	7.95	1.69	1.80	872	14.30
West Burton 3	BRA1B	91	7	0.00	114.29	0.14	11.62	0.30	0.02	143.20	66.80	0.54	30681	337.15
West Burton 3	BRA2B	75	6	0.00	3.67	0.05	0.77	0.03	0.00	35.48	3.84	0.59	3334	44.45

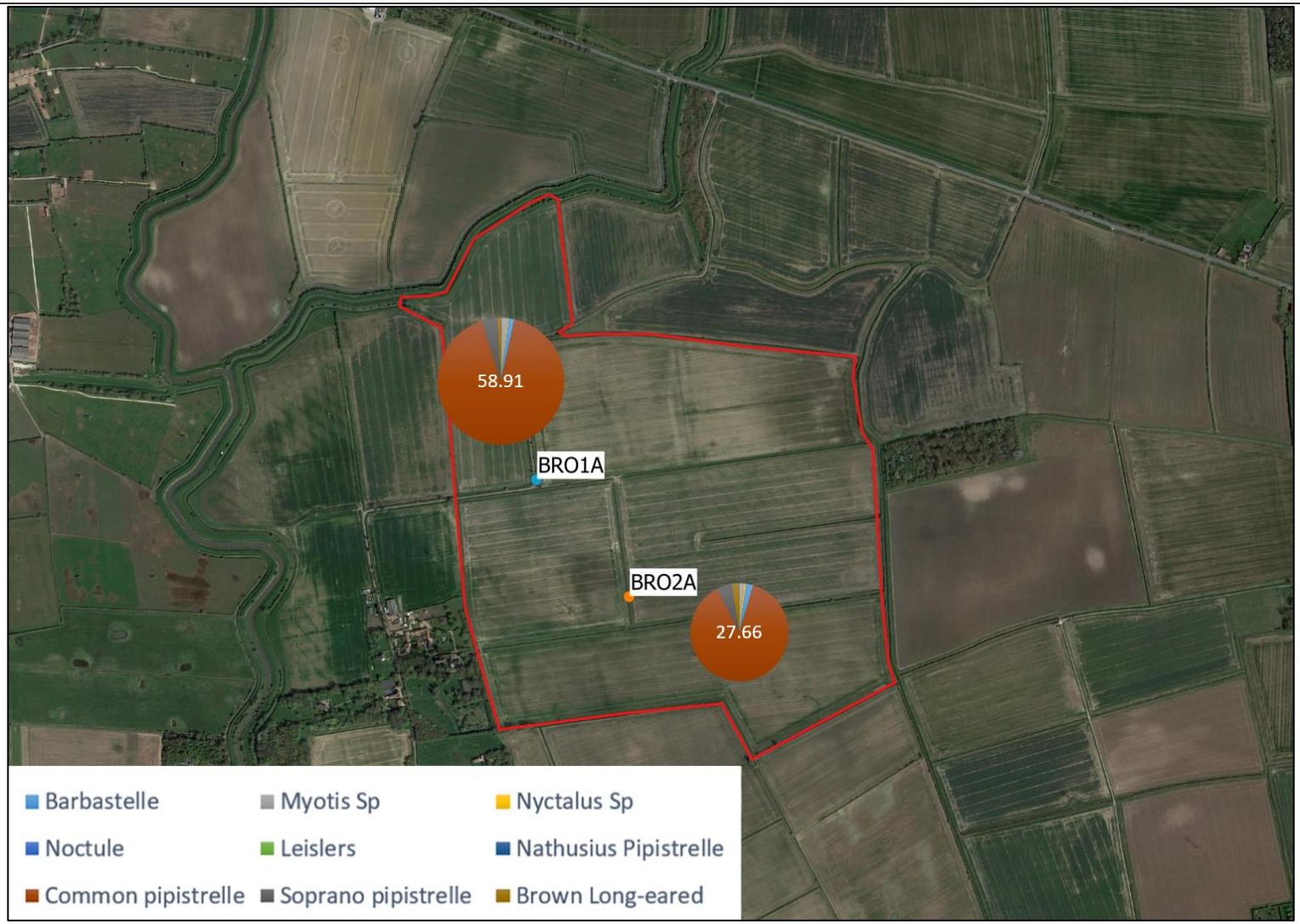

Figure 6: Charts showing West Burton 1 percentage passes by species at each deployment location (with overall passes per night in brackets)

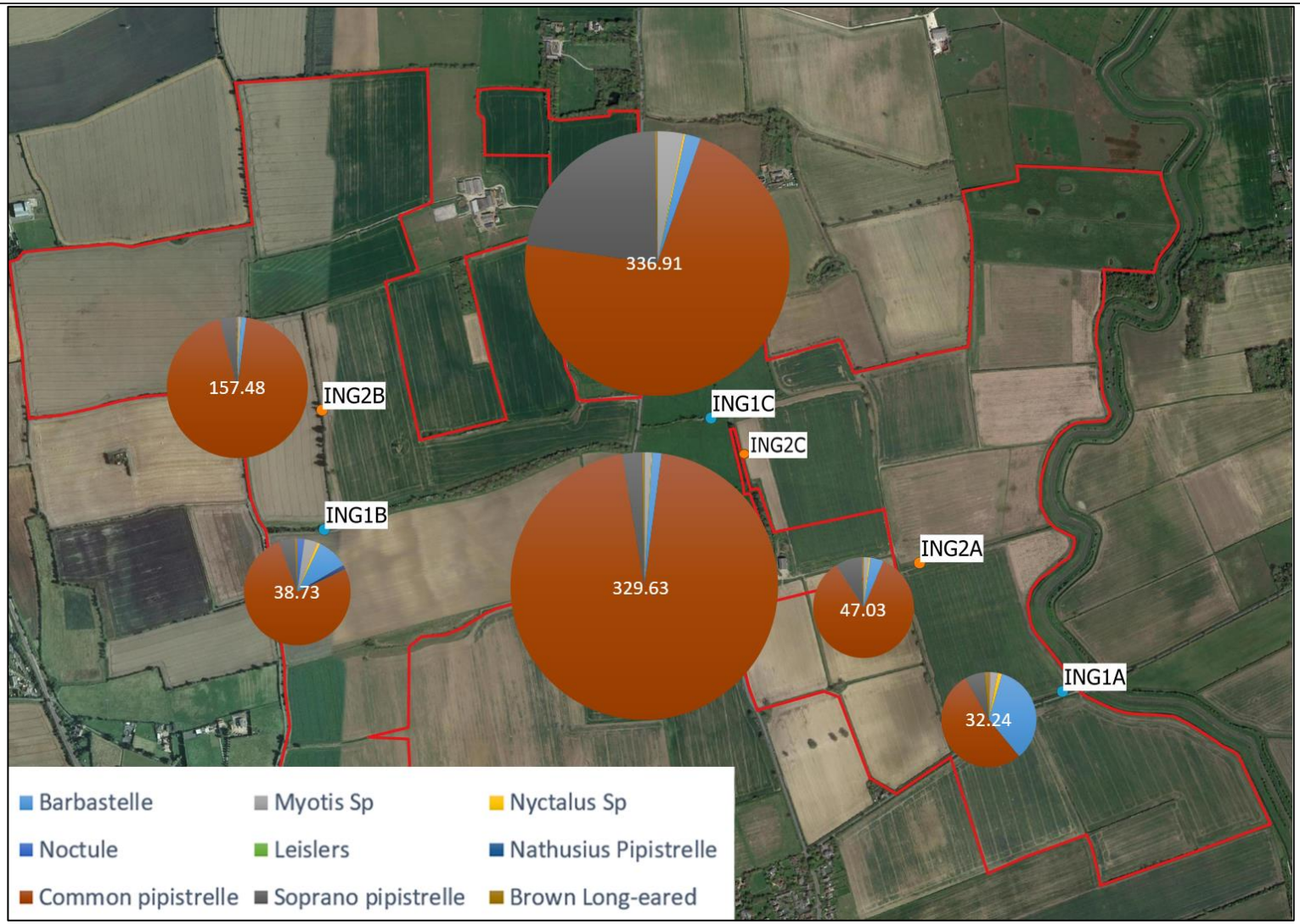

Figure 7: Charts showing West Burton 2 percentage passes by species at each deployment location (with overall passes per night in brackets)

Figure 8: Charts showing West Burton 3 percentage passes by species at each deployment location (with overall passes per night in brackets)

5 ECOLOGICAL EVALUATION

5.1.1 This section provides an analysis of the value of ecological receptors (bats) identified as occurring within or in proximity of the site. The valuation of the receptor reflects the rarity and conservation status of each species as well as its relative abundance and activity levels on site.

5.1.2 At least 8 species of bat were recorded within the Sites during the static detector survey. Table 8 below provides the status of each bat species recorded and also the importance of the site to each species based on the combined survey results.

Table 8: Ecological Evaluation

Bat species	UK status (current estimated UK population size)[12]	County status[13]	Level of activity on site	Ecological Importance
Barbastelle	Very rare, found in southern and central England and Wales. UK estimated population 5,000.	Uncommon and widespread.	Very low activity, average of 0.12 passes per night. Recorded at 10 of 16 deployment locations. Likely one or two individuals at Sites they were recorded.	District
Myotis sp	Daubenton's - relatively common and widespread throughout Britain with a UK estimated population of 560,000 (95,000 in England)	Common and widespread wherever wetland habitat is present	Moderate level of activity, average of 10.28 passes per night. Recorded at all deployment locations. Likely small number of individuals	Local
	Natterer's - locally common and widespread throughout Britain with a UK estimated population of 148,000 (70,000 in England)	Local, more common along the western edge of the county		
	Whiskered - uncommon but widespread in England, UK population of 64,000	Fairly common and widespread		
	Brant's -uncommon but widespread in England. UK population of 30,000	Not known possibly quite widespread		

[12] Based on information provided by the Bat Conservation Trust [redacted]
[13] Based on information provided by the Lincolnshire Biodiversity Action Plan (2011) https://www.nelincs.gov.uk/wp-content/uploads/2016/02/201110-LincolnshireBAP-3rd-edition.pdf

Bat species	UK status (current estimated UK population size)[12]	County status[13]	Level of activity on site	Ecological Importance
Noctule	Fairly common and widespread (50,000). UK BAP Priority Species	Thought to be declining in some areas, although relatively common in the northern half of the county.	Low activity, average of 2.74 passes per night. Recorded at all deployment locations. Likely small number of individuals.	Local
Leisler's bat	Uncommon but widespread in UK, more common in Ireland. Estimated England population 9,500 (28,000 in UK).	Rare, but thought to be under-recorded.	Very low activity, average of 0.06 passes per night. Recorded at 10 of 16 deployment locations. Likely one or two individuals at Sites they were recorded.	Local
Nathusius' pipistrelle	Rare but widespread, migratory. No population estimate for UK.	Rare. A strongly migratory species.	Very low activity, average of 0.04 passes per night. Recorded at 7 of 16 deployment locations. Likely one or two individuals at Sites they were recorded.	District
Common pipistrelle	Common and widespread (2,430,000)	Common and widespread	High activity, average of 83.66 passes per night. Recorded at all deployment locations. Likely large number of individuals.	Local
Soprano pipistrelle	Common and widespread (1,300,000). UK BAP Priority Species	Common, (but less so than common pipistrelles) and widespread	Moderate activity, average of 13.22 passes per night. Recorded at all deployment locations. Likely moderate number of individuals.	Local
Brown long-eared	Common and widespread (245,000). UK BAP Priority Species	Common, with nationally important colonies in the centre and north	Very low activity, average of 0.58 passes per night. Recorded at all deployment locations. Likely small number of individuals at Sites they were recorded.	Local

6 SUMMARY

6.1.1 A large number of trees within the Sites have the potential to support roosting bats. A small number of buildings adjacent to the Sites were assessed as having potential to support roosting bats.

6.1.2 It is considered that the general assemblage and rate of activity recorded was typical for the habitats present on the Sites. The presence of barbastelle and Nathusius' pipistrelle is notable but not unexpected and these species can be considered as being of **District Importance** in the context of the Site. The remaining assemblage of bat species is considered to be of **Local Importance** in terms of their conservation status and activity rates.

APPENDIX A: WILDLIFE LEGISLATION & SPECIES INFORMATION

BATS

All 17 species of bat known to breed in England and Wales, and their roost sites, are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a bat, or to deliberately disturb a bat such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of bats in their resting places, and damage to or obstruction of resting places are also offences under the Wildlife and Countryside Act 1981 (as amended). Under UK law a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time. Penalties for offences against bats or their roosts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of or alteration to roost sites, or which could result in killing of or injury to bats, need to take place under licence. Works which could disturb bats may also be licensable, though this needs to be assessed on a case by case basis, as bats' sensitivity to disturbance varies depending on normal background levels, and the definition of disturbance offences under the Habitats Regulations is complex. In practice this means that works involving modification or loss of roosts (typically in buildings, trees or underground sites) or significant disturbance to bats in roosts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of bats in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

PLANNING POLICY IN RELATION TO BIODIVERSITY

The National Planning Policy Framework (NPPF), was published in March 2012 and revised in July 2021. Additional guidance can be found online at http://planningguidance.planningportal.gov.uk/blog/guidance/. The NPPF simplifies and collates a number of previous planning documents and outlines the government's objective towards biodiversity.

The NPPF identifies ways in which the planning system should contribute to and enhance the natural and local environment (Paragraph 174), including:

- (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;
- (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. protecting and enhancing valued landscapes, geological conservation interests and soils;

It also emphasises the importance of conserving biodiversity and areas covered by landscape designations (Paragraph 176):

Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

When determining planning applications, the NPPF states that local planning authorities should aim to conserve and enhance biodiversity (Paragraph 175) by applying principles including:

- (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[6] and a suitable compensation strategy exists; and
- (d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate..

The following should be given the same protection as habitats sites:

- (a) potential Special Protection Areas and possible Special Areas of Conservation;
- (b) listed or proposed Ramsar sites7; and
- (c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

There is a general presumption in favour of sustainable development within the NPPF. It is noted in Paragraph 182 that this presumption does not apply where the plan or project is likely to have a significant effect on a habitat 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.

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them".

ECOLOGICAL ENHANCEMENTS

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity can include restoring or enhancing a population or habitat"".

In England, the National Planning Policy Framework (NPPF), issued in July 2021, states that the planning system should contribute to "*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*. It also states that "*opportunities to incorporate biodiversity in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*".

UK BIODIVERSITY ACTION PLANS

The UK Biodiversity Action Plan (UK BAP) 2011 is a policy first published in 1994 to protect biodiversity and stems from the 1992 Rio Biodiversity Earth Summit. The policy is continuously revised to combine new and existing conservation initiatives to conserve and enhance species and habitats, promote public awareness and contribute to international conservation efforts. Each plan details the status, threats and unique conservation strategies for the species or habitat concerned, to encourage spread and promote population numbers.

Species or habitats identified as priorities under the UK Biodiversity Action Plan receive some status in the planning process through their identification as Species/Habitats of Principal Importance in England and Wales, under the Natural Environment and Rural Communities (NERC) Act 2006 (as amended).

Current planning guidance in England, the National Planning Policy Framework, does not specifically refer to Species or Habitats of Principal Importance, though it includes guidance for conservation of biodiversity in general. Supplementary guidance is available online at http://planningguidance.planningportal.gov.uk/blog/guidance/ and this guidance indicates that it is '*useful to consider*' the potential effects of a development on the habitats or species on the Natural Environment and Rural Communities Act 2006 section 41 list.

APPENDIX B: STATIC DETECTOR DEPLOYMENT DATES AND WEATHER CONDITIONS

Table 9: Static detector deployment dates and weather conditions for West Burton 1

Locations	Deployment Number	Deployment Date	No of Nights Surveyed	Overnight Weather Conditions Summary
BRO1A	1	15/06/2021	15	Max overnight temp: 11˚c - 20˚c. Min overnight temp: 6˚c - 15˚c. Largely dry with light rain occurring on 16/06, 17/06, 19/06, 24/06, and heavier rain occurring on 18/06. Max wind 4 – 14mph.
BRO2A	2	30/06/2021	6	Max overnight temp: 16˚c - 22˚c. Min overnight temp: 11˚c - 17˚c. Largely dry with light rain occurring on 04/07, 05/07 and heavier rain occurring on 06/07. Max wind 4 – 10mph
BRO1A	3	20/07/2021	8	Max overnight temp: 14˚c - 21˚c. Min overnight temp: 13˚c - 16˚c. Largely dry with light rain occurring on 27/07. Max wind 5 – 14mph.
BRO2A	4	28/07/2021	9	Max overnight temp: 13˚c - 16˚c. Min overnight temp: 10˚c - 13˚c. Largely dry with light rain occurring on 29/07. Max wind 5 – 11mph
BRO1A	5	06/08/2021	12	Max overnight temp: 14˚c - 19˚c. Min overnight temp: 11˚c -15˚c. Largely dry with light rain occurring on 08/08. Max wind 5 – 14mph
BRO2A	6	18/08/2021	19	Max overnight temp: 14˚c - 18˚c. Min overnight temp: 11˚c - 15˚c. Largely dry with light rain occurring on 20/08 and 21/08. Max wind 5 – 12mph
BRO1A	7	07/09/2021	13	Max overnight temp: 13˚c - 21˚c. Min overnight temp: 11˚c - 17˚c. Dry throughout the survey period. Max wind 5 – 10mph
BRO2A	8	20/09/2021	15	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 9˚c - 16˚c. Dry throughout the survey period. Max wind 5 – 18mph
BRO1A	9	07/04/2022	20	Max overnight temp: 6˚c - 16˚c. Min overnight temp: -1˚c - 9˚c. Cold period 7th – 9th April with temperatures getting down to freezing each night. Dry throughout the survey period. Max wind 5 – 18mph
BRO2A	10	27/04/2022	22	Max overnight temp: 8˚c - 22˚c. Min overnight temp: 8˚c - 12˚c. Largely dry with light rain occurring on 6th, 15th, 18th May. Max wind 5 – 17mph
BRO1A	11	18/05/2022	8	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 2˚c - 13˚c. Largely dry with light rain occurring on 22nd and 23rd May. Max wind 7 – 17mph.
BRO2A	12	26/05/2022	20	Max overnight temp: 11˚c - 21˚c. Min overnight temp: 5˚c - 13˚c. Largely dry with light rain occurring on 30th and 31st May and 5th and 7th June. Max wind 5 – 18mph.

Table 10: Static detector deployment dates and weather conditions for West Burton 2

Locations	Deployment Number	Deployment Date	No of Nights Surveyed	Overnight Weather Conditions Summary
ING1A – 1C	1	14/06/2021	16	Max overnight temp: 11˚c - 20˚c. Min overnight temp: 6˚c - 15˚c. Largely dry with light rain occurring on 16/06, 17/06, 19/06, 24/06, and heavier rain occurring on 18/06. Max wind 4 – 14mph.
ING2A – 2C	2	30/06/2021	20	Max overnight temp: 16˚c - 22˚c. Min overnight temp: 11˚c - 17˚c. Largely dry with light rain occurring on 04/07, 05/07, 10/07, 12/07, and heavier rain occurring on 06/07. Max wind 4 – 10mph.
ING1A – 1C	3	20/07/2021	8	Max overnight temp: 14˚c - 21˚c. Min overnight temp: 13˚c - 16˚c. Largely dry with light rain occurring on 27/07. Max wind 5 – 14mph.

ING2A – 2C	4	28/07/2021	8	Max overnight temp: 13˚c - 16˚c. Min overnight temp: 10˚c - 13˚c. Largely dry with light rain occurring on 29/07. Max wind 5 – 11mph
ING1A – 1C	5	05/08/2021	12	Max overnight temp: 14˚c - 19˚c. Min overnight temp: 11˚c -15˚c. Largely dry with light rain occurring on 05/08 and 08/08. Max wind 5 – 14mph
ING2A – 2C	6	17/08/2021	14	Max overnight temp: 14˚c - 18˚c. Min overnight temp: 11˚c - 15˚c. Largely dry with light rain occurring on 20/08 and 21/08. Max wind 5 – 12mph
ING1A – 1C	7	07/09/2021	12	Max overnight temp: 13˚c - 21˚c. Min overnight temp: 11˚c - 17˚c. Dry throughout the survey period. Max wind 5 – 10mph
ING2A – 2C	8	20/09/2021	15	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 9˚c - 16˚c. Dry throughout the survey period. Max wind 5 – 18mph
ING1A – 1C	9	07/04/2022	19	Max overnight temp: 6˚c - 16˚c. Min overnight temp: -1˚c - 9˚c. Cold period 7th – 9th April with temperatures getting down to freezing each night. Dry throughout the survey period. Max wind 5 – 18mph
ING2A – 2C	10	26/04/2022	22	Max overnight temp: 8˚c - 22˚c. Min overnight temp: 8˚c - 12˚c. Largely dry with light rain occurring on 6th, 15th, 18th May. Max wind 5 – 17mph
ING1A – 1C	11	18/05/2022	8	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 2˚c - 13˚c. Largely dry with light rain occurring on 22nd and 23rd May. Max wind 7 – 17mph.
ING2A – 2C	12	26/05/2022	20	Max overnight temp: 11˚c - 21˚c. Min overnight temp: 5˚c - 13˚c. Largely dry with light rain occurring on 30th and 31st May and 5th and 7th June. Max wind 5 – 18mph.

Table 11: Static detector deployment dates and weather conditions for West Burton 3

Locations	Deployment Number	Deployment Date	No of Nights Surveyed	Overnight Weather Conditions Summary
BEL1A – 1B BRA1A – 1B	1	14/06/2021	29	Max overnight temp: 11˚c - 20˚c. Min overnight temp: 6˚c - 15˚c. Largely dry with light rain occurring on 16/06, 17/06, 19/06, 24/06, 04/07 and heavier rain occurring on 18/06, 05/07. Max wind 4 – 14mph.
BEL2A – 2B BRA2A – 2B	2	13/07/2021	7	Max overnight temp: 16˚c - 22˚c. Min overnight temp: 11˚c - 17˚c. Dry throughout the survey period. Max wind 4 – 10mph.
BEL1A – 1B BRA1A – 1B	3	20/07/2021	9	Max overnight temp: 14˚c - 21˚c. Min overnight temp: 13˚c - 16˚c. Largely dry with light rain occurring on 28/07. Max wind 5 – 14mph.
BEL2A – 2B BRA2A – 2B	4	29/07/2021	7	Max overnight temp: 13˚c - 16˚c. Min overnight temp: 10˚c - 13˚c. Largely dry with light rain occurring on 29/07. Max wind 5 – 11mph
BEL1A – 1B BRA1A – 1B	5	05/08/2021	12	Max overnight temp: 14˚c - 19˚c. Min overnight temp: 11˚c -15˚c. Largely dry with light rain occurring on 05/08 and 08/08. Max wind 5 – 14mph
BEL2A – 2B BRA2A – 2B	6	17/08/2021	10	Max overnight temp: 14˚c - 18˚c. Min overnight temp: 11˚c - 15˚c. Largely dry with light rain occurring on 20/08 and 21/08. Max wind 5 – 12mph
BEL1A – 1B BRA1A – 1B	7	07/09/2021	14	Max overnight temp: 13˚c - 21˚c. Min overnight temp: 11˚c - 17˚c. Dry throughout the survey period. Max wind 5 – 10mph
BEL2A – 2B BRA2A – 2B	8	21/09/2021	9	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 9˚c - 16˚c. Dry throughout the survey period. Max wind 5 – 18mph
BEL1A – 1B BRA1A – 1B	9	07/04/2022	19	Max overnight temp: 6˚c - 16˚c. Min overnight temp: -1˚c - 9˚c. Cold period 7th – 9th April with temperatures getting down to freezing each night. Dry throughout the survey period. Max wind 5 – 18mph
BEL2A – 2B BRA2A – 2B	10	26/04/2022	22	Max overnight temp: 8˚c - 22˚c. Min overnight temp: 8˚c - 12˚c. Largely dry with light rain occurring on 6th, 15th, 18th May. Max wind 5 – 17mph

BEL1A – 1B BRA1A – 1B	11	18/05/2022	8	Max overnight temp: 13˚c - 18˚c. Min overnight temp: 2˚c - 13˚c. Largely dry with light rain occurring on 22nd and 23rd May. Max wind 7 – 17mph.
BEL2A – 2B BRA2A – 2B	12	26/05/2022	20	Max overnight temp: 11˚c - 21˚c. Min overnight temp: 5˚c - 13˚c. Largely dry with light rain occurring on 30th and 31st May and 5th and 7th June. Max wind 5 – 18mph.

APPENDIX C: STATIC DETECTOR DEPLOYMENT LOCATIONS

Figure 9: Static Detector Deployment Locations at West Burton 1

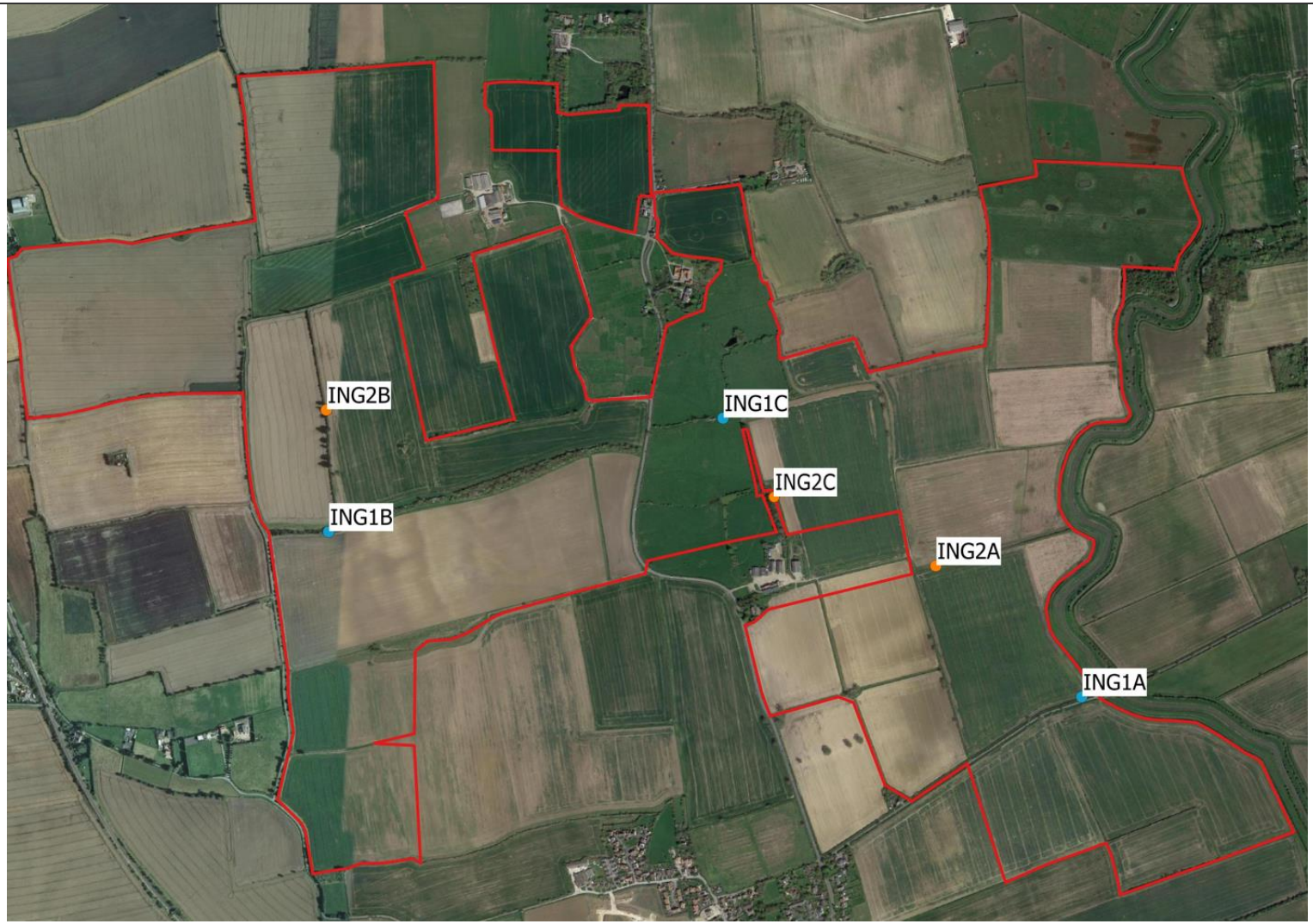

Figure 10: Static Detector Deployment Locations at West Burton 2

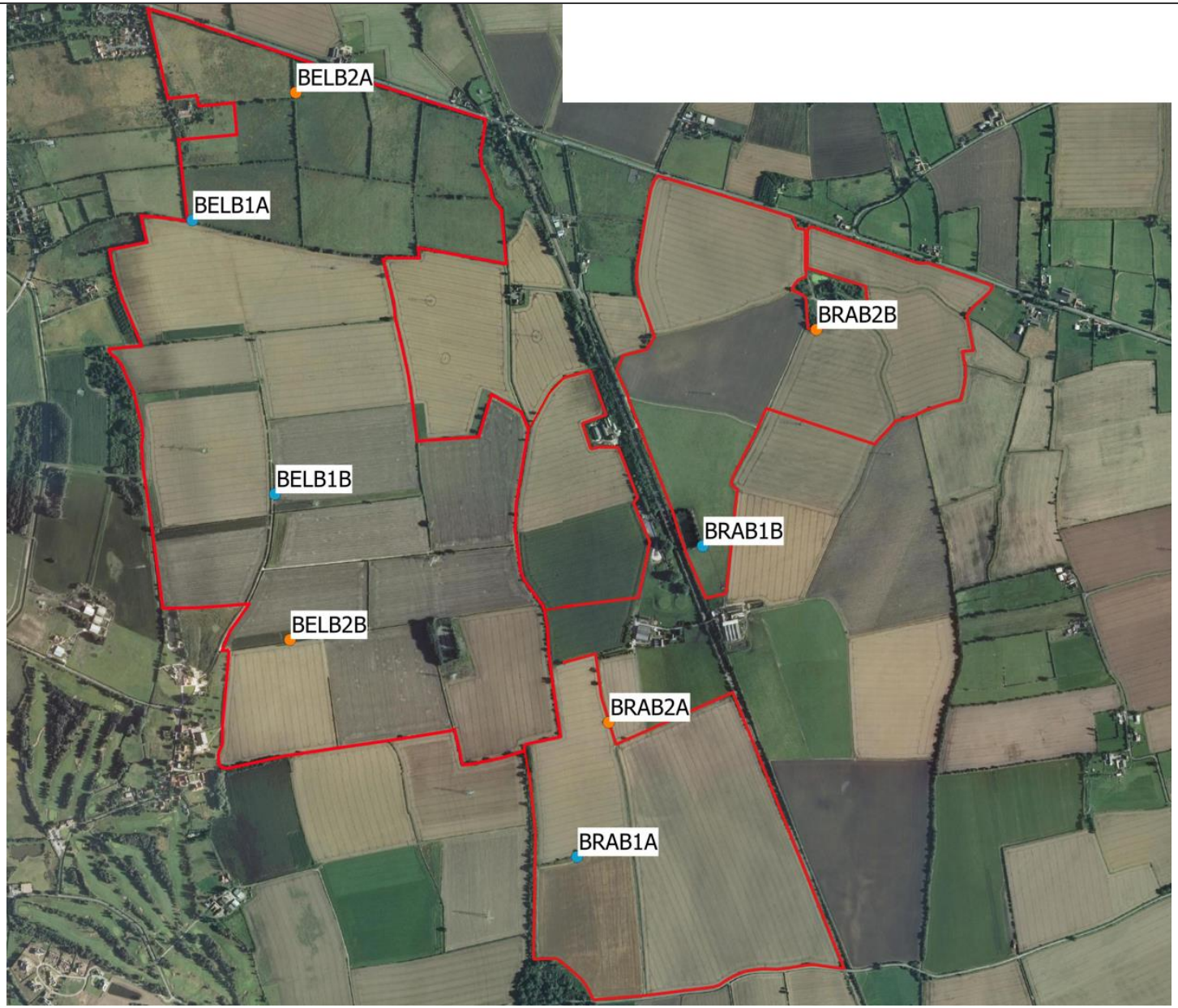

Figure 11: Static Detector Deployment Locations at West Burton 3

APPENDIX D: STATIC DETECTOR RESULTS

Table 12: Results of Static Detector Survey at West Burton 1

Location	Month	Deployment Number	Survey Nights	Barbastelle	*Myotis Sp*	*Nyctalus Sp*	Noctule	Leislers	Nathusius Pipistrelle	Common pipistrelle	Soprano pipistrelle	Brown Long-eared	Total Passes	Passes per night
BRO1A	April	9	20	0	2	0	0	0	0	86	2	2	92	4.60
BRO1A	May	11	8	0	5	7	1	1	0	967	3	3	987	123.38
BRO1A	Jun/Jul	1	15	0	18	1	3	0	0	1085	18	3	1128	75.20
BRO1A	July	3	8	0	5	1	3	0	0	938	19	7	975	121.88
BRO1A	Aug	5	12	2	16	6	10	0	0	699	20	7	762	63.50
BRO1A	Sep	7	13	1	12	1	32	0	1	392	80	13	533	41.00
TOTAL	**N/A**	**N/A**	76	3	58	16	49	1	1	4167	142	35	4477	58.91
BRO2A	April	10	22	12	20	1	6	0	0	448	5	0	492	22.36
BRO2A	May	12	20	0	2	0	2	1	0	457	10	2	474	23.70
BRO2A	Jun/Jul	2	6	0	0	1	4	0	0	244	16	1	266	44.33
BRO2A	July	4	9	0	4	1	4	0	0	598	25	0	632	70.22
BRO2A	Aug	6	19	0	12	6	23	0	0	487	30	31	589	31.00
BRO2A	Sep	8	15	1	8	1	5	1	0	34	7	7	64	4.27
TOTAL	**N/A**	**N/A**	91	13	46	10	44	2	0	2268	93	41	2517	27.66
OVERALL TOTAL	**N/A**	**N/A**	167	16	104	26	93	3	1	6435	235	76	6994	41.88

Table 13: Results of Static Detector Survey at West Burton 2

Location	Month	Deployment Number	Survey Nights	Barbastelle	*Myotis Sp*	*Nyctalus Sp*	Noctule	Leislers	Nathusius Pipistrelle	Common pipistrelle	Soprano pipistrelle	Brown Long-eared	Total Passes	Passes per night
ING1A	April	9	19	0	43	2	6	0	0	611	40	3	705	37.11
ING1A	May	11	8	0	29	4	32	2	0	327	29	3	426	53.25
ING1A	Jun/Jul	1	16	1	2	5	255	0	0	324	30	5	622	38.88
ING1A	July	3	8	0	5	0	63	0	0	333	42	9	454	56.75
ING1A	Aug	5	12	0	9	14	96	0	0	7	3	3	132	11.00
ING1A	Sep	7	12	1	16	0	30	0	0	16	12	1	79	6.58
TOTAL	**N/A**	**N/A**	75	2	104	25	482	2	0	1618	156	24	2418	32.24

ING2A	April	10	22	0	21	1	11	0	0	777	65	1	876	39.82
ING2A	May	12	20	0	17	0	15	0	0	1043	81	4	1160	58.00
ING2A	Jun/Jul	2	20	0	12	4	44	0	0	1450	110	3	1623	81.15
ING2A	July	4	8	0	4	0	9	0	0	557	41	0	611	76.38
ING2A	Aug	6	14	0	14	8	39	0	0	13	0	0	74	5.29
ING2A	Sep	8	15	1	14	1	19	0	0	191	76	10	312	20.80
TOTAL	**N/A**	**N/A**	99	1	82	14	137	0	0	4031	373	18	4656	47.03
ING1B	April	9	19	No data									0	0.00
ING1B	May	11	8	0	2	36	8	9	0	78	39	2	174	21.75
ING1B	Jun/Jul	1	16	55	39	4	59	0	34	1519	94	17	1821	113.81
ING1B	July	3	8	0	14	2	84	2	4	505	31	2	644	80.50
ING1B	Aug	5	12	4	10	10	54	0	0	21	3	0	103	8.58
ING1B	Sep	7	12	0	46	8	60	0	0	44	3	2	163	13.58
TOTAL	**N/A**	**N/A**	75	59	111	60	265	11	38	2167	170	23	2905	38.73
ING2B	April	10	22	2	17	3	7	0	0	1728	35	5	1797	81.68
ING2B	May	12	20	59	28	0	3	0	4	6366	438	24	6922	346.10
ING2B	Jun/Jul	2	20	0	20	3	16	0	0	1920	30	2	1992	99.60
ING2B	July	4	8	0	4	0	12	0	0	3218	184	2	3422	427.75
ING2B	Aug	6	14	2	8	5	22	1	0	963	31	2	1034	73.86
ING2B	Sep	8	15	5	6	2	34	0	0	352	11	14	424	28.27
TOTAL	**N/A**	**N/A**	99	68	83	13	94	1	4	14547	729	49	15591	157.48
ING1C	April	9	19	0	31	1	1	0	0	1015	110	5	1163	61.21
ING1C	May	11	8	0	21	33	10	0	0	2505	826	1	3396	424.50
ING1C	Jun/Jul	1	16	0	10	3	14	0	0	1880	269	10	2186	136.63
ING1C	July	3	8	0	21	47	261	0	0	2288	95	8	2720	340.00
ING1C	Aug	5	12	0	64	1	29	0	0	5302	3512	9	8917	743.08
ING1C	Sep	7	12	1	564	0	86	0	0	5426	775	33	6886	573.83
TOTAL	**N/A**	**N/A**	75	1	711	85	401	0	0	18416	5587	66	25268	336.91
ING2C	April	10	22	1	60	0	11	0	0	2202	83	6	2363	107.41
ING2C	May	12	20	0	22	0	7	29	0	3427	121	7	3613	180.65
ING2C	Jun/Jul	2	20	1	79	0	133	0	0	7099	145	12	7470	373.50
ING2C	July	4	8	0	12	27	53	0	0	7482	122	6	7703	962.88

ING2C	Aug	6	14	0	22	0	55	0	0	7703	170	7	7957	568.36
ING2C	Sep	8	15	1	101	0	66	0	1	3110	199	46	3527	235.13
TOTAL	**N/A**	**N/A**	99	3	296	27	325	29	1	31023	840	84	32633	329.63
OVERALL TOTAL	**N/A**	**N/A**	522	134	1387	224	1704	43	43	71802	7855	264	83471	159.91

Table 14: Results of Static Detector Survey at West Burton 3

Location	Month	Deployment Number	Survey Nights	Barbastelle	*Myotis Sp*	*Nyctalus Sp*	Noctule	Leislers	Nathusius Pipistrelle	Common pipistrelle	Soprano pipistrelle	Brown Long-eared	Total Passes	Passes per night
BEL1A	April	9	19	0	6	0	3	0	0	60	19	3	91	4.79
BEL1A	May	11	0	No data									0	
BEL1A	Jun/Jul	1	29	0	65	21	59	0	0	1205	199	13	1565	53.97
BEL1A	July	3	9	0	15	0	17	0	0	412	65	7	516	57.33
BEL1A	Aug	5	12	0	60	4	24	0	0	1166	129	13	1396	116.33
BEL1A	Sep	7	14	0	52	4	32	0	0	415	142	21	668	47.71
TOTAL	**N/A**	**N/A**	83	0	198	29	135	0	0	3258	554	57	4236	51.04
BEL2A	April	10	22	1	10	4	10	0	0	440	41	1	507	23.05
BEL2A	May	12	0	No data									0	
BEL2A	Jun/Jul	2	7	0	8	9	13	0	0	123	3	2	158	22.57
BEL2A	July	4	7	0	9	0	15	0	0	297	66	3	390	55.71
BEL2A	Aug	6	10	0	15	10	49	0	0	0	7	3	84	8.40
BEL2A	Sep	8	9	0	13	3	12	0	0	27	18	17	90	10.00
TOTAL	**N/A**	**N/A**	55	1	55	26	99	0	0	887	135	26	1229	22.35
BEL1B	April	9	19	0	1	1	0	0	0	9	7	1	19	1.00
BEL1B	May	11	8	0	4	3	1	0	0	441	66	2	517	64.63
BEL1B	Jun/Jul	1	29	0	71	0	2	0	0	1579	145	4	1801	62.10
BEL1B	July	3	9	0	0	0	1	0	0	5	17	1	24	2.67
BEL1B	Aug	5	12	0	27	2	17	0	0	603	40	2	692	57.67
BEL1B	Sep	7	14	0	7	1	20	0	0	303	64	4	400	28.57
TOTAL	**N/A**	**N/A**	91	0	110	7	41	0	0	2940	339	14	3453	37.95
BEL2B	April	10	22	0	56	3	6	0	0	334	40	4	443	20.14
BEL2B	May	12	20	0	60	0	7	0	0	487	69	14	637	31.85
BEL2B	Jun/Jul	2	7	0	4	2	6	0	0	180	16	8	216	30.86

BEL2B	July	4	7	0	8	3	3	0	0	408	43	5	470	67.14
BEL2B	Aug	6	10	0	56	11	58	0	1	650	153	11	941	94.10
BEL2B	Sep	8	9	1	42	0	6	0	0	504	74	6	633	70.33
TOTAL	**N/A**	**N/A**	75	1	226	19	86	0	1	2563	395	48	3340	44.53
BRA1A	April	9		no data									0	
BRA1A	May	11	8	0	13	5	0	1	0	18	87	5	129	16.13
BRA1A	Jun/Jul	1	0	No data									0	
BRA1A	July	3	0	No data									0	
BRA1A	Aug	5	12	0	6	3	4	0	0	206	129	8	357	29.75
BRA1A	Sep	7	14	0	12	9	104	0	0	619	379	26	1149	82.07
TOTAL	**N/A**	**N/A**	34	0	31	17	108	1	0	843	595	39	1635	48.09
BRA2A	April	10	22	0	6	2	2	0	0	56	7	3	76	3.45
BRA2A	May	12	20	0	60	0	5	1	0	261	17	71	415	20.75
BRA2A	Jun/Jul	2	0	No data									0	
BRA2A	July	4	0	No data									0	
BRA2A	Aug	6	10	0	32	7	34	0	0	138	71	33	315	31.50
BRA2A	Sep	8	9	0	9	1	14	0	1	30	8	3	66	7.33
TOTAL	**N/A**	**N/A**	61	0	107	10	55	1	1	485	103	110	872	14.30
BRA1B	April	9	19	0	58	0	0	0	0	29	4	0	91	4.79
BRA1B	May	11	8	0	2876	5	3	13	0	609	225	3	3735	466.88
BRA1B	Jun/Jul	1	29	0	33	0	267	11	2	2968	606	7	3894	134.28
BRA1B	July	3	9	0	2742	1	204	0	0	1338	186	9	4486	498.44
BRA1B	Aug	5	12	0	92	0	231	3	0	3408	921	16	4679	389.92
BRA1B	Sep	7	14	0	4599	7	352	0	0	4679	4137	14	13796	985.43
TOTAL	**N/A**	**N/A**	91	0	10400	13	1057	27	2	13031	6079	49	30681	337.15
BRA2B	April	10	22	0	110	0	3	0	0	890	106	0	1109	50.41
BRA2B	May	12	20	0	39	0	6	1	0	769	24	6	845	42.25
BRA2B	Jun/Jul	2	7	0	7	0	7	1	0	217	17	14	263	37.57
BRA2B	July	4	7	0	57	0	8	0	0	265	19	8	359	51.29
BRA2B	Aug	6	10	0	39	0	17	0	0	370	83	7	516	51.60
BRA2B	Sep	8	9	0	23	4	17	0	0	150	39	9	242	26.89
TOTAL	**N/A**	**N/A**	75	0	275	4	58	2	0	2661	288	44	3334	44.45

OVERALL TOTAL	**N/A**	**N/A**	565	2	11402	125	1639	31	4	26668	8488	387	48780	86.34

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