



# White Cross Offshore Wind Farm ES Addendum

**Appendix H: Supplementary Bat Activity  
Survey Report (Saunton Road)**



White Cross Offshore Windfarm  
(Onshore Project)

Supplementary Bat Activity Survey Report  
(Saunton Road Hedgerow)

Revision A

June 2024

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# 1 Introduction

- 1.1 This report relates to the White Cross Offshore Windfarm (Onshore Project) in North Devon, specifically the onshore phase of the development, which involves the installation of the onshore export cabling. The report details the results of bat survey work on a 90 m section of hedgerow adjacent to Saunton Road, between Braunton and Saunton, that was carried out in summer 2023 and in spring 2024.

## Background and context

- 1.2 Bat activity survey was carried out throughout the onshore development area in 2022 (reported in EcoLogic, 2022; and submitted as an Appendix to Chapter 16 in the Environmental Statement submitted with the planning application to North Devon Council (Application Ref: 77576)). This survey work was devised with reference to industry standard guidance current at the time of survey (Collins, 2016).
- 1.3 This particular section of hedgerow was not specifically targeted when the 2022 survey method was devised as it was just outside the surveyed area and, at this point, was not part of the development area and was to remain unaffected.
- 1.4 The survey work in 2022 adopted a sampling approach (using transects and remote sampling points) to provide representative data for different areas of the Onshore Development Area, in line with the industry guidance; these data from 2022 are considered to also provide contextual information which is of some relevance when considering the hedgerow and the amended red-line boundary.
- 1.5 Due to the changes in design and site access, the section of hedgerow to be affected was subsequently included in the site boundary. During the construction phase of the Project, a section of the hedgerow will be temporarily affected to create a visibility splay around the temporary access point for construction traffic. Visibility splays are required to ensure that drivers can observe oncoming traffic and egress safely from an access. The extent of the visibility splay has been informed by considerations of the requirements of the Design Manual for Roads and Bridges and through conversations with Devon County Council Highways.
- 1.6 The affected stretch of hedgerow includes a 32m section of hedgerow which will be removed to allow construction of an access road junction (this includes 28m of hedgerow vegetation and a 4m section which currently forms the access gate), and an adjacent 78m stretch which will be coppiced rather than removed. Where growth/form allows some sections may be laid to promote reestablishment, although the current form of the hedge may limit this possibility. The section that is coppiced/ laid will remain short (40cm or less) for the duration of the construction phase before being allowed to regrow after the construction work is complete. The section that is removed will be replanted with mixed native species and will be sourced from local stock, where feasible.
- 1.7 BSG Ecology was commissioned by Royal HaskoningDHV to undertake additional bat activity survey to provide supplementary data for this specific section of hedgerow to inform the ecological impact assessment and mitigation design, following a discussion with consultees (as discussed below).

## Survey area description

- 1.8 The hedgerow is located on the south side of the B3231 Saunton Road, at OS grid reference SS 46663 37541. A field of managed species-poor grassland is to the south and the B3231 road is immediately to the north. A parallel hedgerow with a similar character is also located on the north side of the road.
- 1.9 The section of hedgerow supports several native species (English elm *Ulmus procera* is the dominant species, with goat willow *Salix caprea*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and gorse *Ulex sp.*). It also includes some gaps which support bramble *Rubus fruticosus*. The hedgerow is regularly managed by cutting and, as such, lacks a dense bushy structure and there are no trees present. Photographs are provided in Appendix 1.

**Aims of study**

- 1.10 Given the temporary impact on the hedgerow, the need for an automated bat detector survey during summer 2023 was discussed with North Devon Council (NDC) (25 May 2023). Following this, a requirement for additional bat survey data was raised during consultation with NDC and Natural England (NE)<sup>1</sup>.
- 1.11 The aim of the bat survey carried out in 2023 was to target the Saunton Road hedgerow and to supplement the existing bat survey data already obtained for the wider White Cross Offshore Windfarm Onshore Development Area.
- 1.12 The need for precautionary mitigation was discussed at the above meetings (in the form of a ‘fake hedge’ set back from the road in order to maintain a sheltered flight route) and was considered to be sufficient by the bat specialist (Christine Hipperson-Jervis) that attended the meeting on behalf of Natural England.
- 1.13 Given the presence of the Caen Valley Bats Site of Special Scientific Interest (SSSI), 1.7 km to the north-west, and the known presence of a greater horseshoe bat *Rhinolophus ferrumequinum* satellite roost at Saunton Farm c. 200 m to the north (NDC, pers. comm. 25 May 2023), a focus of the survey work was to consider whether the hedgerow is used by this species.
- 1.14 A key aim of the supplementary survey work was to confirm whether additional mitigation (i.e. a fake hedge to provide an alternative flight route) was likely to be required or not. The work carried out in 2023 confirmed the need for mitigation (as detailed below). Additional survey data to cover April and May 2024 was subsequently also requested by Natural England and NDC.
- 1.15 This report presents the findings of the surveys completed between June and August 2023 and during April and May 2024.
- 1.16 The aim of this report is to provide additional supporting data for the assessment provided within the White Cross Offshore Windfarm (Onshore Project) Environmental Statement (ES) Chapter 16: Onshore Ecology and Ornithology (Royal Haskoning/BSG Ecology, 2023), and to review the precautionary mitigation measures proposed within this Chapter taking into account the additional survey results.

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<sup>1</sup> White Cross OWF Onshore Ecology ETG meeting 4, 11 December 2023

## 2 Methods

- 2.1 An automated bat detector (Titley Scientific Anabat Swift), was deployed at the survey location (the field side of the hedgerow, at SS 46652 37548) in summer 2023 (June, July and August) and again in spring 2024 (April and May).
- 2.2 The microphone was mounted at 1.5m above ground level (cable tied to a branch on the hedgerow, facing west along the hedgerow).
- 2.3 In total, 22.5 nights worth of data was obtained during the combined survey periods, as follows:
- Survey period 1: 6 to 1 June 2023 (5 nights)
  - Survey period 2: 18 to 21 July 2023 (3 nights)
  - Survey period 3: 7 to 11 August 2023 (4.5 nights)
  - Survey period 4: 16 to 21 April 2024 (5 nights)
  - Survey period 5: 10 to 15 May 2024 (5 nights).
- 2.4 The detector was initially set to record two five-night periods in 2023, one in June and one in July 2023. On review of the July data, it was noted that the detector's memory card was filled after three nights' survey; this was found to be from the microphone picking up cricket calls continuously throughout the recording period. A further recording period was therefore scheduled for August 2023 (with a larger 128GB SD card); this was able to record 4.5 nights' data (until 1:30am on the final night, before the card was again filled).
- 2.5 There were no further limitations to the survey methods. The limitations in survey are not considered to significantly affect the findings of the report. Further discussion is set out below in Section 4.
- 2.6 All recorded bat passes were analysed as sonograms using Anabat Insight computer software, with reference to published call parameters (Russ, 2012). Calls were identified to species-level as far as possible, with the following exceptions:
- 2.7 Due to the similarity of call characteristics which can prevent reliable species identification, species of the genus *Myotis* were grouped together. Similarly, for *Pipistrellus* calls registering at 50KHz it is not possible to differentiate these between *P. pipistrellus* and *P. pygmaeus* and therefore these calls have been recorded as pipistrelle 50KHz (i.e. unconfirmed pipistrelle species).
- 2.8 Long-eared bats (*Plecotus* sp.): all sound files are considered most likely to relate to brown long-eared bat *Plecotus auritus*; grey long-eared bat *Plecotus austriacus* has a very restricted distribution with very few records from North Devon.

### *Personnel*

- 2.9 Detector deployment and call analysis was undertaken by Consultant Ecologist Becky Prudden MCIEEM who has more than 20 years' experience as a consultant ecologist. Becky holds a Bat Survey Class Licence WML-CL18-Level 2 and is a registered consultant under the Bat Mitigation Class Licence WML-CL21 Annex B.
- 2.10 This report was written by Principal Consultants Anna Senior MCIEEM, who has 17 years' experience working as a consultant ecologist, with technical input from Guy Miller CEcol MCIEEM, who has more than 20 years' experience as a consultant ecologist, who holds a Bat Survey Class Licence WML-CL18-Level 2 and has public inquiry and planning appeal experience relating to bats.
- 2.11 Technical advice on the survey design, assessment and mitigation has been provided by Dr Peter Shepherd MCIEEM who is a bat expert. Until recently he was a member of Natural England's Bat Expert Panel, he holds a Level 3 survey licence for consultancy work, and co-authored previous



editions of the bat survey guidelines. Peter has extensive project experience with greater horseshoe bat, including an award-winning mitigation project on bats associated South Hams Special Area of Conservation (Landscope Holiday Park, Devon; CIEEM Large Scale Mitigation Awards 2020).

### **3 Results and Evaluation**

- 3.1 The results of the surveys are provided for each survey month in Tables 1-5 below. Tables 6 and 7 below summarise the total number of passes for each species, and a summary of total passes each month during the survey period.

**Table 1: Bat passes recorded between June 6-11 2023 (5 nights) & distribution over night-time period**

Species	Time Intervals											Total	Average no. bat passes per night (B/n)	Average bat passes per hour <sup>2</sup> (B/h)
	21-40 mins after sunset	41-60 mins after sunset	61-80 mins after sunset	81-100 mins after sunset	101-120 mins after sunset	Night Period	120-101 mins before sunrise	100-81 mins before sunrise	80-61 mins before sunrise	60-41 mins before sunrise	40-21 mins before sunrise			
<i>Myotis</i> sp.		1	5			7		2				15	3.0	0.43
Pipistrelle 50KHz <i>Pipistrellus</i> sp.		1				3						4	0.8	0.11
Common pipistrelle <i>Pipistrellus pipistrellus</i>	3	4	4	6	1	47	3	2	3	4		77	15.4	2.20
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>					1	2			3	2		8	1.6	0.23
Serotine <i>Eptesicus serotinus</i>		25	31	33	24	68		1				182	36.4	5.20
Greater horseshoe <i>Rhinolophus ferrumequinum</i>						6	1	1	1	7	1	17	3.4	0.49
Lesser horseshoe <i>Rhinolophus hipposideros</i>			1	1		44	9	29	32			116	23.2	3.31
Barbastelle <i>Barbastella barbastellus</i>				1		5						6	1.2	0.17
Leisler's bat <i>Nyctalus leisleri</i>		1	3	1		4						9	1.8	0.26
Noctule <i>Nyctalus noctula</i>	7	7		1		1						16	3.2	0.46
Long-eared bat <i>Plecotus</i> sp.				1	2	1		1				5	1.0	0.14
<b>Grand Total</b>	<b>10</b>	<b>39</b>	<b>44</b>	<b>44</b>	<b>28</b>	<b>188</b>	<b>13</b>	<b>36</b>	<b>39</b>	<b>13</b>	<b>1</b>	<b>455</b>		

<sup>2</sup> Based on 7-hour night-time period

**Table 2: Bat passes recorded between July 18-21 2023 (3 nights) & distribution over night-time period**

Species	Time Intervals												Grand Total	Average no. bat passes per night (B/n)	Average bat passes per hour <sup>3</sup> (B/h)	
	0-20 mins after sunset	21-40 mins after sunset	41-60 mins after sunset	61-80 mins after sunset	81-100 mins after sunset	101-120 mins after sunset	Night Period	120-101 mins before sunrise	100-81 mins before sunrise	80-61 mins before sunrise	60-41 mins before sunrise	40-21 mins before sunrise				20-0 mins before sunrise
<i>Myotis</i> sp.					3	1	14		1					19	6.33	0.79
Pipistrelle 50KHz							2							2	0.67	0.08
Common pipistrelle	6	54	67	32	10	25	123	15	7	12	14	20	1	386	128.67	16.08
Soprano pipistrelle			6	2		2	1							11	3.67	0.46
Serotine				3			1							4	1.33	0.17
Greater horseshoe			1			1	5			3	3	1		14	4.67	0.58
Lesser horseshoe			3	7	3	1	2				2			18	6.00	0.75
Barbastelle							18							18	6.00	0.75
Noctule		2	1											3	1.00	0.13
Long-eared bat			1	1	3	1	7		2					15	5.00	0.63
<b>Grand Total</b>	<b>6</b>	<b>56</b>	<b>79</b>	<b>45</b>	<b>19</b>	<b>31</b>	<b>173</b>	<b>15</b>	<b>10</b>	<b>15</b>	<b>19</b>	<b>21</b>	<b>1</b>	<b>490</b>		

<sup>3</sup> Based on 8-hour night-time period

**Table 3: Bat passes recorded between August 7-11 2023 (4.5 nights) & distribution over night-time period**

Species	Time Intervals												Grand Total	Average no. bat passes per night (B/n)	Average bat passes per hour <sup>4</sup> (B/h)
	0-20 mins after sunset	21-40 mins after sunset	41-60 mins after sunset	61-80 mins after sunset	81-100 mins after sunset	101-120 mins after sunset	Night Period	120-101 mins before sunrise	100-81 mins before sunrise	80-61 mins before sunrise	60-41 mins before sunrise	40-21 mins before sunrise			
<i>Myotis</i> sp.						1	2			1			4	0.89	0.10
Pipistrelle 50KHz		2	5		2		1						10	2.22	0.25
Common pipistrelle		30	49	113	167	100	698	42	34	47	73	22	1375	305.56	33.95
Soprano pipistrelle		9	15	4	7	3	14	1	2	1	8		64	14.22	1.58
Serotine		6	11	11	12	3	6						49	10.89	1.21
Greater horseshoe		2		1	1		24	3			7		38	8.44	0.94
Lesser horseshoe			4	1	1		9		2	1			18	4.00	0.44
Barbastelle				1	2	2	37		0	1			43	9.56	1.06
Leisler's					1								1	0.22	0.02
Noctule	36	78	63	48	16	1	10				2		254	56.44	6.27
Long-eared bat				1	1		6	1	1				10	2.22	0.25
<b>Grand Total</b>	<b>36</b>	<b>127</b>	<b>147</b>	<b>180</b>	<b>210</b>	<b>110</b>	<b>807</b>	<b>47</b>	<b>39</b>	<b>51</b>	<b>90</b>	<b>22</b>	<b>1866</b>		

<sup>4</sup> Based on 9-hour night-time period

**Table 4: Bat passes recorded between April 16-21 2024 (5 nights) & distribution over night-time period**

Species	Time Intervals												Grand Total	Average no. bat passes per night (B/n)	Average bat passes per hour <sup>5</sup> (B/h)
	Before sunset	21-40 mins after sunset	41-60 mins after sunset	61-80 mins after sunset	81-100 mins after sunset	101-120 mins after sunset	Night Period	120-101 mins before sunrise	100-81 mins before sunrise	80-61 mins before sunrise	60-41 mins before sunrise	40-21 mins before sunrise			
<i>Myotis</i> sp.				1	6	6	48		1				62	12.4	1.24
Common pipistrelle	1	10	6	7	4	8	15			1			52	10.4	1.04
Soprano pipistrelle					1		1						2	0.4	0.04
Greater horseshoe		11	2	10	11	7	21	2			2	2	68	13.6	1.36
Lesser horseshoe							1						1	0.2	0.02
Long-eared bat			1				1						2	0.4	0.04
<b>Grand Total</b>	<b>1</b>	<b>21</b>	<b>9</b>	<b>18</b>	<b>22</b>	<b>21</b>	<b>87</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>187</b>		

<sup>5</sup> Based on 10-hour night-time period

**Table 5: Bat passes recorded between May 10-15 2024 (5 nights) & distribution over night-time period**

Species	Time Intervals											Grand Total	Average no. bat passes per night (B/n)	Average bat passes per hour <sup>6</sup> (B/h)
	21-40 mins after sunset	41-60 mins after sunset	61-80 mins after sunset	81-100 mins after sunset	101-120 mins after sunset	Night Period	120-101 mins before sunrise	100-81 mins before sunrise	80-61 mins before sunrise	60-41 mins before sunrise	40-21 mins before sunrise			
<i>Myotis</i> sp.			1	1	1	3	1					7	1.4	0.16
Pipistrelle 50KHz	1				1	4						6	1.2	0.14
Pipistrelle 40KHz		1										1	0.2	0.02
Common pipistrelle	3	28	12	22	22	124	1	4	5	25	8	254	50.8	5.98
Soprano pipistrelle		7			3	6						16	3.2	0.38
Serotine		11	33	15	20	89	1					169	33.8	3.98
Greater horseshoe		1				5		1	1	9		17	3.4	0.40
Lesser horseshoe						4		1	1			6	1.2	0.14
Barbastelle			1									1	0.2	0.02
Noctule	4	3	2		2							11	2.2	0.26
Long-eared bat			1	1		3	1	1	3	1		11	2.2	0.26
Unconfirmed Noctule/ Leisler's/ Serotine		8	1		5	1						15	3	0.35
<b>Grand Total</b>	<b>8</b>	<b>59</b>	<b>51</b>	<b>39</b>	<b>54</b>	<b>239</b>	<b>4</b>	<b>7</b>	<b>10</b>	<b>35</b>	<b>8</b>	<b>514</b>		

<sup>6</sup> Based on 8.5-hour night-time period

3.2 Table 6, below, shows the total number of passes during remote monitoring surveys. Table 7, bottom, shows the species recorded and the total number of passes during each recording period.

**Table 6: Total bat passes recorded**

Species	Total number of passes	% of all activity	Average passes per night (B/N)
<i>Myotis</i> sp.	107	3.05	4.76
Pipistrelle 50KHz	22	0.63	0.98
Pipistrelle 40KHz	1	0.03	0.04
Common pipistrelle	2144	61.05	95.29
Soprano pipistrelle	101	2.88	4.49
Serotine	404	11.50	17.96
Greater horseshoe bat	154	4.38	6.84
Lesser horseshoe bat	159	4.53	7.07
Barbastelle	68	1.94	3.02
Leisler's	10	0.28	0.44
Noctule	284	8.09	12.62
Long-eared bat	43	1.22	1.91
Unconfirmed Noctule/ Leisler's/ Serotine	15	0.43	0.67



**Table 7: Total bat passes by species during each recording period**

Species	June 23		July 23		August 23		April 24		May 24	
	Total number	% of all activity	Total number	% of all activity	Total number	% of all activity	Total number	% of all activity	Total number	% of all activity
<i>Myotis</i> sp.	15	3.3	19	3.9	4	0.2	62	33.2	7	1.4
Pipistrelle 50KHz	4	0.9	2	0.4	10	0.5			6	1.2
Pipistrelle 40KHz									1	0.2
Common pipistrelle	77	16.9	386	78.8	1375	73.7	52	27.8	254	49.4
Soprano pipistrelle	8	1.8	11	2.2	64	3.4	2	1.1	16	3.1
Serotine	182	40.0	4	0.8	49	2.6			169	32.9
Greater horseshoe	17	3.7	14	2.9	38	2.0	68	36.4	17	3.3
Lesser horseshoe	116	25.5	18	3.7	18	1.0	1	0.5	6	1.2
Barbastelle	6	1.3	18	3.7	43	2.3			1	0.2
Leisler's	9	2.0			1	0.1				
Noctule	16	3.5	3	0.6	254	13.6			11	2.1
Long-eared bat	5	1.1	15	3.1	10	0.5	2	1.1	11	2.1
Unconfirmed Noctule/ Leisler's/ Serotine									15	2.9
<b>Total</b>	<b>455</b>		<b>490</b>		<b>1866</b>		<b>187</b>		<b>514</b>	

3.3 Over the course of the surveys at least ten species<sup>7</sup> were recorded. The range of species is very similar to those recorded during the survey in 2022 from other areas of the Onshore Development Area.

*Greater horseshoe bat*

3.4 Greater horseshoe bat was recorded using the hedgerow; levels of activity are assessed to be low. This species accounted for 4.38% of bat activity across the surveys; 154 passes were recorded in total; activity levels recorded ranged between 3 and 14 bat passes per night (B/N); the average was 6.84 B/N.

3.5 For context, mean greater horseshoe bat activity levels from the Onshore Development Area (as a whole) in 2022 was 7.1 B/N, although this varied across the survey area. A sample point that was set at the edge of arable fields at Sandy Lane Farm (SS463366), which is the closest monitoring point to the Saunton Road hedgerow, and in the most similar habitat, recorded similar (slightly higher) levels of activity; at this point mean activity levels during the same survey period were 7.5 B/N.

3.6 Generally, during the majority of monitoring periods, little greater horseshoe bat activity was recorded during the period after dusk; and relatively little in the period before dawn; the majority of passes recorded were during the night period. This suggests that the majority of passes recorded are most likely to originate from foraging bats.

3.7 The data from April 2024 includes some early activity close to the period when greater horseshoe bats emerge from roosts (c. 25 minutes after sunset), and during this survey period it is likely that some of these passes are from bats from a nearby roost (e.g. East Saunton Farm). The number of passes during April 2024 was slightly higher than other months surveyed, it is possibly linked to seasonal use of East Saunton Farm. Overall, however, the data do not suggest that the hedgerow is part of a regularly used/important commuting route.

*Other species*

3.8 The most frequently recorded species across the combined surveys was common pipistrelle, with a total of 2144 passes (61% of all activity recorded); with an average 95 B/N, with a high of 306 B/N during August 2024.

3.9 Of the other species, serotine (404 passes in total; 17.96 B/N) and noctule (284 passes in total; 12.62 B/N) were the next most frequently recorded, accounting for c. 12% and 8% of overall activity respectively; although levels of activity were very variable across the survey period.

3.10 Lesser horseshoe bat accounted for 4.53% of bat activity across the survey period. Generally low activity levels were recorded (7.07 B/N), with slightly higher levels of activity in June. The majority of passes recorded were during the night period. This suggests that the passes are most likely to be from foraging bats; the results do not suggest that the hedgerow is part of a regularly used commuting route used by bats travelling to and from a nearby roost.

3.11 Barbastelle passes were recorded (68 passes; 3.02 B/N), again the passes were typically recorded were during the night period. This suggests that the passes recorded are most likely to be from foraging bats, and does not suggest that the hedgerow is part of a regularly used commuting route used by bats travelling to and from a nearby roost.

3.12 The other species (*Myotis* sp., Leisler's bat, and brown long-eared bat) were recorded infrequently.

3.13 Numbers of bat passes were generally low in April 2024 compared to the other monitored months, with most species being absent or showing reduced rates of activity, with the exception of *Myotis* sp. and greater horseshoe bats. The reduced activity rates are consistent with expectations in April as some bats are likely to remain in hibernation for longer than others. It is possible the increased rate

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<sup>7</sup> Noting that *Myotis* bat calls have been grouped together, so calls may originate from more than one species.

of *Myotis* sp. activity can be explained by seasonal use of nearby roosts, similar to greater horseshoe as discussed at Section 3.7.

## 4 Assessment and Recommendations

- 4.1 Surveys of the hedgerow (and surrounding area) have recorded a variety of bat species; the species assemblage recorded is similar to that recorded from work from other parts of the Onshore Development Area.
- 4.2 Since some of the species recorded (such as noctule, Leisler's bat, serotine, and also to a lesser extent, barbastelle and both pipistrelle species recorded) often forage in open habitats above vegetation, it is likely that some of the passes recorded are from bats flying well above the hedgerow, over the adjacent field or in the general vicinity, rather than along the hedgerow. Given the number of common pipistrelle passes recorded, it is also likely that some foraging also occurs up and down this hedgerow.
- 4.3 The early records for noctule, greater horseshoe bat, serotine, common and soprano pipistrelle suggest that there are likely to be roosts nearby, although it should be noted that there are no suitable roosting features within the hedge (no buildings are present and the hedgerow does not include trees).
- 4.4 In terms of the rarer species, particularly greater horseshoe bat (and also lesser horseshoe bat and barbastelle) while some use has been recorded, the level of use is not considered to be high. The passes recorded are considered mainly to be from bats (in low numbers/individuals) flying along the hedgerow as a flight path. The data do not suggest that the hedgerow is part of an important or regularly used commuting route (used by bats regularly travelling between a nearby roost and foraging area), and they do not suggest that the hedgerow is used as a foraging habitat (which is not unexpected, given the lack of mature vegetation/structure that could provide feeding perches or more complex habitat for foraging bats).
- 4.5 Given that the hedgerow is used by bats, mitigation will be provided during the construction phase. When considering mitigation, the following observations have been taken into account:
- i) the hedgerow does not have a complex structure with dense vegetation and mature trees (which could provide roosts, including feeding roosts and a variety of foraging conditions); this is considered to limit its current value to bats;
  - ii) the parallel hedgerow (on the north side of Saunton Road) will be unaffected and will continue to provide habitat connectivity along length of the road (east-west);
  - iii) there is an existing network of hedgerows, and other hedgerows along the adjacent field edges, of which there are several (including north-south and east-west connections), will remain connected and will also therefore continue to provide alternative flight routes in this area;
  - iv) given the above points, there is unlikely to be a risk of habitat fragmentation.
- 4.6 The mitigation design is precautionary; this has been designed to temporarily replace the function of the hedgerow during the construction phase, during the period when the existing hedgerow is unavailable. It will provide an alternative sheltered connecting feature that bats can fly along that will maintain connection points to adjacent hedgerows,
- 4.7 Detail on mitigation for the hedgerow is outlined in **ES Chapter 16: Onshore Ecology and Ornithology** (Royal Haskoning/BSG Ecology, 2023), and summarised as follows:
- The hedgerow section requiring removal for provision of visibility splays will be coppiced rather than removed, and the vegetation will be maintained at a height of below 0.4m for the duration of the construction works. There will therefore still be a (very) low hedgerow and verge in this area during the course of the work.
  - A temporary 'fake hedge' (i.e. double Heras fencing panels covered with netting) will be installed in lieu of the hedgerow gap. It will be positioned to provide the linear-shelter-navigable

flight lines function of a hedge, but will be set back from the road to allow sufficient visibility/access for vehicles. A 2m-wide buffer of vegetation on either side of the fake hedge will remain uncut to provide foraging habitat. The fake hedge will be in place throughout the construction period during the active period for bats (April to October). The fake hedge will remain unlit.

- The coppiced hedgerow will be allowed to regenerate following completion of construction phase. The reinstated hedgerow will also be enhanced through supplementary planting (local/native hedgerow species), where there are currently gaps. Since the hedgerow will be coppiced rather than removed it is likely to regenerate fairly rapidly.
- It is considered likely that some bats will continue to fly and forage along the grassland verge and coppiced hedgerow base during the period when it is cut short. Some of its value as a feature will be retained during the course of the work.

4.8 The mitigation measures outlined above are considered in further detail within a supporting document **Appendix H: Approach to Bat Mitigation at Saunton Road** (Royal Haskoning/BSG Ecology (2024)) which will be provided to NDC. These details will also subsequently be set out in a Construction Environment Management Plan (CEMP) prior to any construction work occurring.

#### **Consideration of survey period and survey guidance**

4.9 The survey periods have been in spring, early summer and mid-summer, periods when bats are active.

4.10 The survey work has confirmed that the hedgerow is used by bats; and that mitigation is required, which was a key aim of the surveys. The mitigation, as detailed above, has been designed on a precautionary basis (i.e. it assumes the hedgerow could be used by a variety of species, including greater horseshoe bat, at various times of year).

4.11 Although the survey period has not covered the autumn period, further survey in this period is not considered necessary since: i) the need for mitigation has already been established; ii) carrying out additional survey work will not give any additional certainty, and iii) the mitigation proposed will not differ regardless of the results of additional survey, as it already assumes that the hedgerow is used throughout the year by the species recorded, and has been designed to function as a replacement feature that will avoid an adverse effect on bats, and is based on current industry best practice (see 4.14 below).

4.12 Although industry survey guidance (Collins, 2023) makes a general recommendation for surveys in spring, summer and autumn, it also stresses the need to apply expertise and professional judgement when applying the survey guidance, stating:

*1.1.3 The guidelines do not aim to either override or replace knowledge and experience;*

*1.1.4 It is accepted that departures from the guidelines are often appropriate;*

*1.1.10 The guidelines should be interpreted and adapted on a case-by-case basis according to site specific factors and professional judgement of an experienced bat ecologist. The question should not be whether the guidelines were followed, but were the defined objectives of the surveys met?*

*7.2.35 Increasing the survey effort generally increased the likelihood of discovering bats. However, surveys should always be proportionate to the circumstances which can only be assessed using professional judgement.*

4.13 Given the conclusions and statements set out above (in paragraphs 4.11 and 4.12), the survey work and assessment is considered to be in line with the industry guidance: i.e. professional judgement, by an experienced team has been applied throughout, when devising the survey, carrying out this assessment, and when devising the mitigation response; it has answered the question that it set out

to, with adequate certainty; the approach is considered to be proportionate in relation to the likely impact; and additional work would not alter the mitigation approach.

#### **Consideration of mitigation guidance**

- 4.14 This precautionary mitigation approach has been devised to be consistent with the approach recommended in the latest Bat Mitigation Guidelines (Reason & Wray, 2023) (further information is set out on pages 110-111 of the mitigation guidelines - *creating fake hedgerows and alternative flightlines*)<sup>8</sup>.

#### **Detailed design and monitoring**

- 4.15 There is some flexibility in the design of the “fake hedge” and it is recommended that the design is agreed in consultation with NDC. Further details on the proposed design are set out in **Appendix H: Approach to Bat Mitigation at Saunton Road** (Royal Haskoning/BSG Ecology (2024)).
- 4.16 It is recommended that, as good practice, monitoring of bat activity along the fake hedge is carried out during the course of the work.

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<sup>8</sup> <https://cieem.net/resource/uk-bat-mitigation-guidelines-2023/>

## 5 References

Royal Haskoning/BSG Ecology (2023) *White Cross Offshore Windfarm Environmental Statement; Chapter 16 Onshore Ecology and Ornithology*.

Royal Haskoning/BSG Ecology (2024) *White Cross Offshore Windfarm Further Environmental Information Appendix I: Approach to Bat Mitigation at Saunton Road*.

Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good practice guidelines* 3rd edition. Bat Conservation Trust, London.

Collins, J. (2023) *Bat Surveys for Professional Ecologists: Good practice guidelines* 4th edition. Bat Conservation Trust, London) (NB This was published in September 2023, mid-way through the survey work)

EcoLogic (2022) (*White Cross Windfarm Bat Activity Survey Report 2022; White Cross Offshore Windfarm Environmental Statement, Appendix 20.C*)

Jones, G. & Rydell, J. (1994) *Foraging strategy and predation risk as factors influencing emergence time in echolocating bats*. Phil. Trans. R. Soc. B: Biological Sciences **346**: 445-455

Reason, P.F. & Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Version 1.1. Chartered Institute of Ecology and Environmental Management, Ampfield.

Russ, J. (2012) *British Bat Calls: A guide to Species Identification*. Pelagic Publishing.

## Appendix 1: Photographs



*Figure 1: Saunton Road hedgerow (viewed looking west); the parallel hedgerow on the north side of the road is visible on the right.*



*Figure 2: Saunton Road hedgerow (viewed looking east) with existing access point.*