Bat Pathfinders phase 1: Rockingham Forest (2007-2016)

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Short Wood Nature Reserve

Contents

1. Summary

The aim of the Bat Pathfinder surveys was to instigate landscape-scale monitoring of woodland linkage projects and use information on bat behaviour to monitor the success of these linkage projects. This report gives the findings of the first phase of the Bat Pathfinder project based in the Rockingham Forest Living Landscape area focusing on Short and Southwick Woods nature reserves in Northamptonshire. This first phase utilised transect surveys to cover the bulk of the existing woodland and woodland restoration/creation areas. Data gathered in the field using heterodyne bat detectors and determined through sonogram analysis of calls recorded by Anabat detectors has been used to general species lists for each site as well as looking at location of bat records within each site.

2. Introduction

The woodlands of the Rockingham Forest Living Landscape were chosen for the Bat Pathfinder surveys whose purpose was to instigate landscape-scale monitoring of woodland linkage projects. A secondary aim was to use bat behaviours (e.g. flight paths) as an information source to monitor the success of habitat creation and restoration techniques.

Bats are ideal for this type of study being highly mobile yet dependant on a network of landscape features and the condition of the connectivity within that network. Each night bats can commute several kilometres to their foraging sites, so that their activity is spread over a large area of landscape. This means that the bat populations are not affected solely by the condition of a particular reserve but also its place in the landscape. Features such as hedgerows, pockets of scrub and woodland, and developing woodlands (as part of habitat creation), could greatly influence both the success as well as the presence of certain species.

A combination of techniques was used, including automated recording of bat vocalisations from fixed points and bat flight path mapping transects. During transects some bat species could be identified in the field by their echolocation calls but all calls were also recorded for later sonogram analysis to pick up other more difficult species.

3. Method

The main method used to gather data were transect walks through the woodlands (Figure 1) pausing for three minutes at set locations, including the start and end points. Bat species were identified by their call parameters through both audible detection in the field using heterodyne bat detector units (various makes and models) and through later sonogram analysis using Anabat (SD1, SD2 and Zaicam) detectors and Analook software.

Surveys in Short & Southwick Woods began in 2007 so for most of the transects there is 10 years' worth of field data. Sonogram records are only available from 2012, 2014-16, although exact location data is missing from the 2014 records. Transects were walked around the Dodhaws woodland restoration area of Short Wood during 2012 and static recording detectors left at the hedgerows in 2015. Transects were also walked in nearby Glapthorn Cow Pastures woodland reserve 2008-2011 but no sonogram records are available.
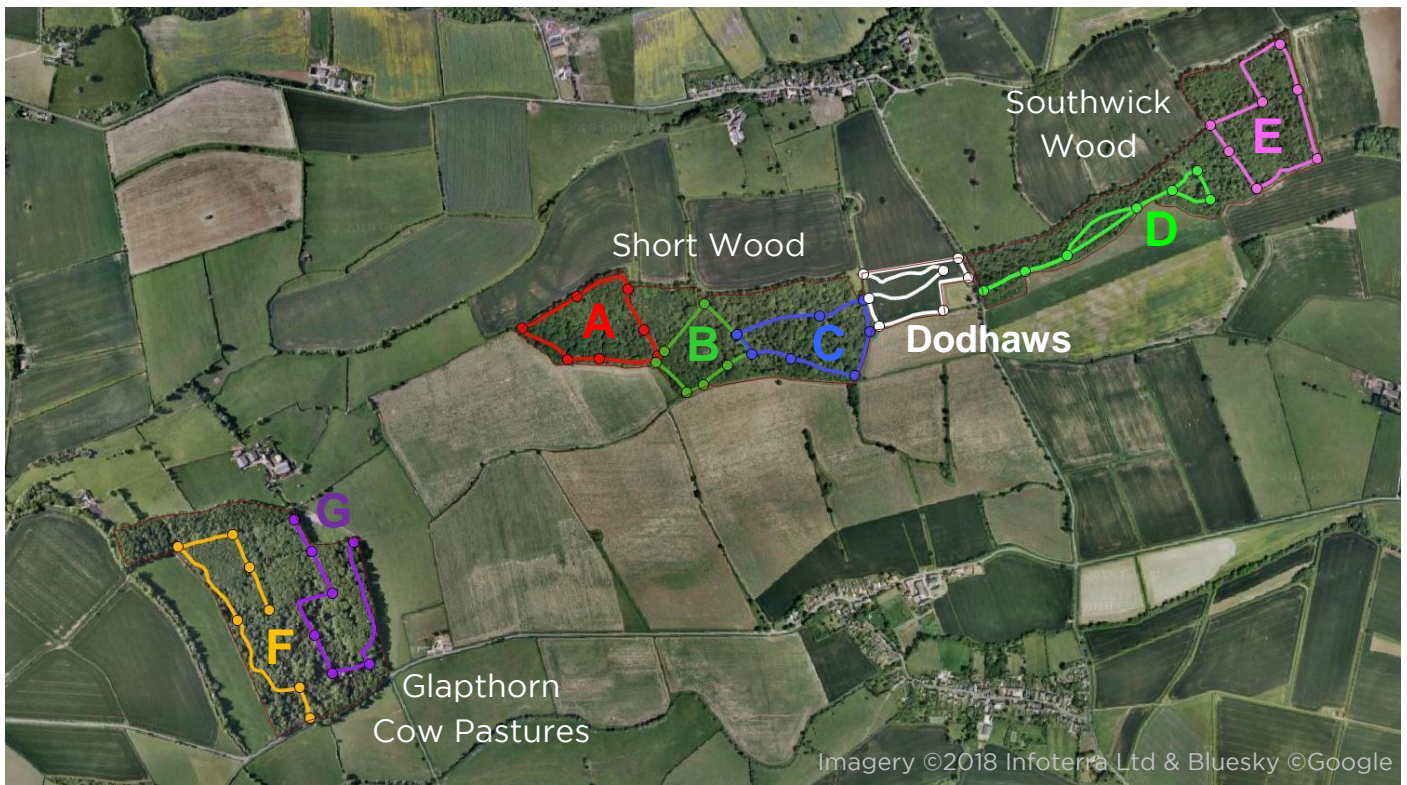
Figure 1 Aerial map showing transects around Short and Southwick Woods, Glapthorn Cow Pastures, and Dodhaws restoration area.

4. Results

4.1 Species recorded

Over the 10 years the following bat species were recorded at each reserve, the transects they were found on is given in brackets where relevant.

Short Wood	Southwick Wood	Dodhaws	Glapthorn Cow Pasture
Common Pipistrelle (ABC)	Common Pipistrelle (DE)	Common Pipistrelle	Common Pipistrelle (FG)
Soprano Pipistrelle (ABC)	Soprano Pipistrelle (DE)	Soprano Pipistrelle	Soprano Pipistrelle (FG)
Myotis spp. (ABC)	Nathusius' Pipistrelle (E)	*Myotis* spp.	Noctule*
Barbastelle (AC)	*Myotis* spp. (DE)	Barbastelle	Brown Long-eared*
Noctule (ABC)	Barbastelle (D)	Noctule	
	Noctule (DE)		

*2013 harp traps

The most commonly encountered species on all transects were common *Pipistrellus pipistrellus* and soprano pipistrelles *P. pygmaeus*. A single Nathusius' pipistrelle *P. nathusii* was recorded on the north edge of Southwick Wood, as this rare species is migratory it is probably that the bat was passing by rather than using the reserve regularly.

Barbastelle bats *Barbastella barbastellus* were recorded in low numbers on three of the five transects around Short and Southwick Wood (A, C and D) and in only one or two

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years for each transect. This is of interest from a management point of view as barbastelles are woodland specialists their presence is a good indication that the wood is in good condition, the sporadic nature of the records may be due to lower number of bats in these woodlands or be due to recording technique. In order to increase the likelihood of detecting barbastelles during the transects one heterodyne detector was tuned to 33kHz (peak frequency for barbastelle).

Myotis bat species were recorded in all areas of Short and Southwick Woods and also Dodhaws restoration area, although not in every year. The sonogram records allow some *Myotis* calls to be identified to species, this indicated Daubenton's bats *M. daubentonii* in all area, except Short Wood transect A where a single Natterer's *M. nattereri* call was identified in 2013. It is likely that the unidentified *Myotis* calls are one of these two species but it is also possible that Brandt's *M. brandtii* and/or whiskered *M. mystacinus* bats are present in these woodland reserves.

"Big bats" (*Nyctalus/Eptesicus* species) were also recorded from all areas of Short and Southwick Woods and Dodhaws restoration area. In all areas noctule bats *N. noctula* were recorded but there are a few unidentified big bat calls from Short Wood which may be more noctule calls or may be from Leisler's *N. leisleri* or serotine *E. serotinus*. Noctule bats were also found at Glapthorn Cow Pastures during a trapping session in 2013 but none were recorded on the detector surveys. Big bats often forage in more open habitats so it may be they roost in the woodlands but head further away to forage.

Brown long-eared bats *Plecotus auritus* were not recorded on the detectors but were found during a trapping session at Glapthorn Cow Pastures. It is likely these bats are present at all transects but have not been picked up by the detectors as they call very faintly or not at all.

Further details of the species recorded can be found in Appendix I where the data has been split into those records written in the field, identified using heterodyne bat detectors, and species identified from sonograms analysed.

4.2 Location of records within the reserves

This section looks at the exact location of each record within the woodlands combining both the field survey identification and the sonogram analysis results. In some cases, the time of arrival at each transect stop wasn't recorded so it was impossible to match the time of record to a location, for this reason the counts are lower for the sonogram data than in the previous section. Tables showing the counts for each section are given in Appendix II.

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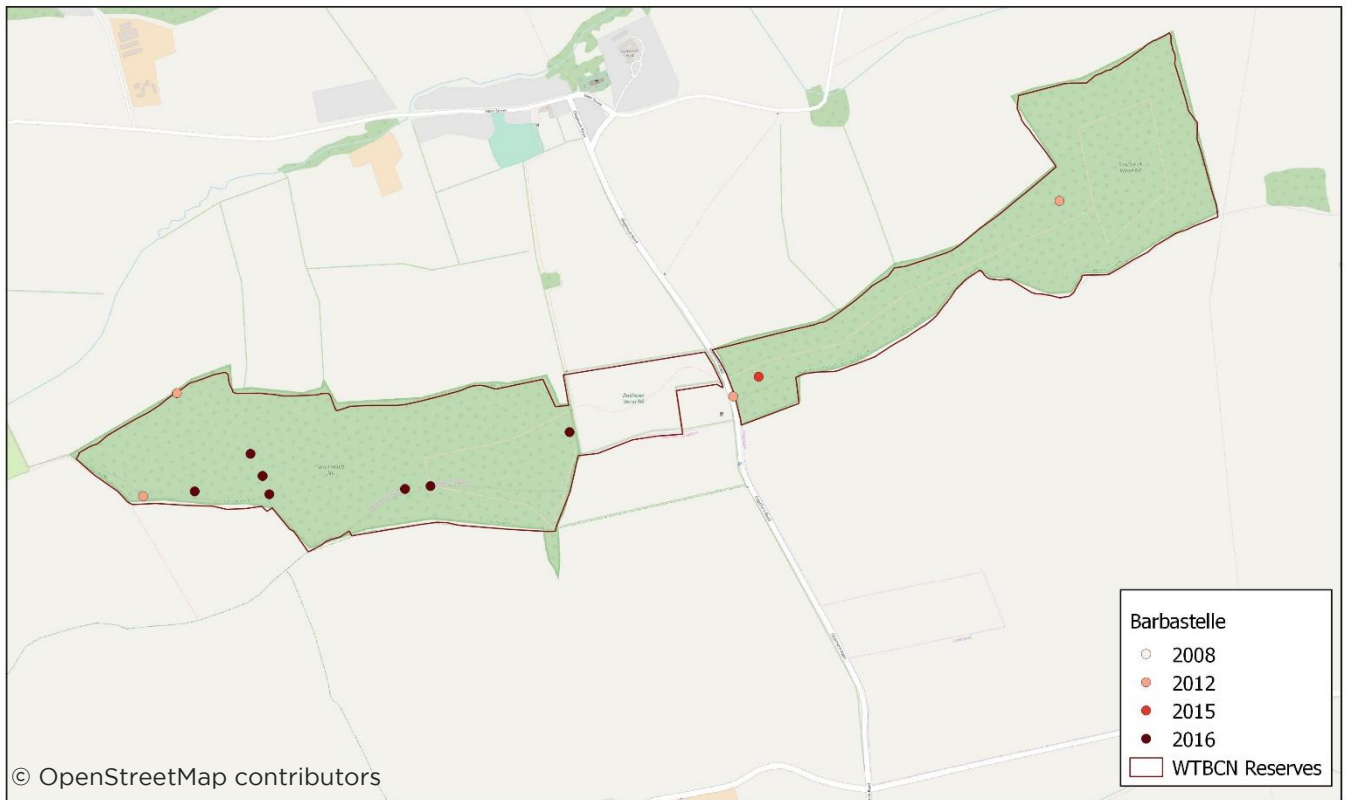
Figure 2 Barbastelle bat records (combined methods) by year

Barbastelle bats have been recorded on three of the five transects within Short and Southwick Woods (Figure 2). At Southwick Wood more records of Barbastelle come from the east end and there are none from the west end. The records at Short Wood are more evenly spread suggesting a wider distribution within the wood. No barbastelles have been recorded yet at Glapthorn Cow Pastures or Dodhaws restoration area, this may because there were fewer visits to these sites. Also Dodhaws is at present an area of open grassland whilst Barbastelles tend to be recorded in mature woodland.

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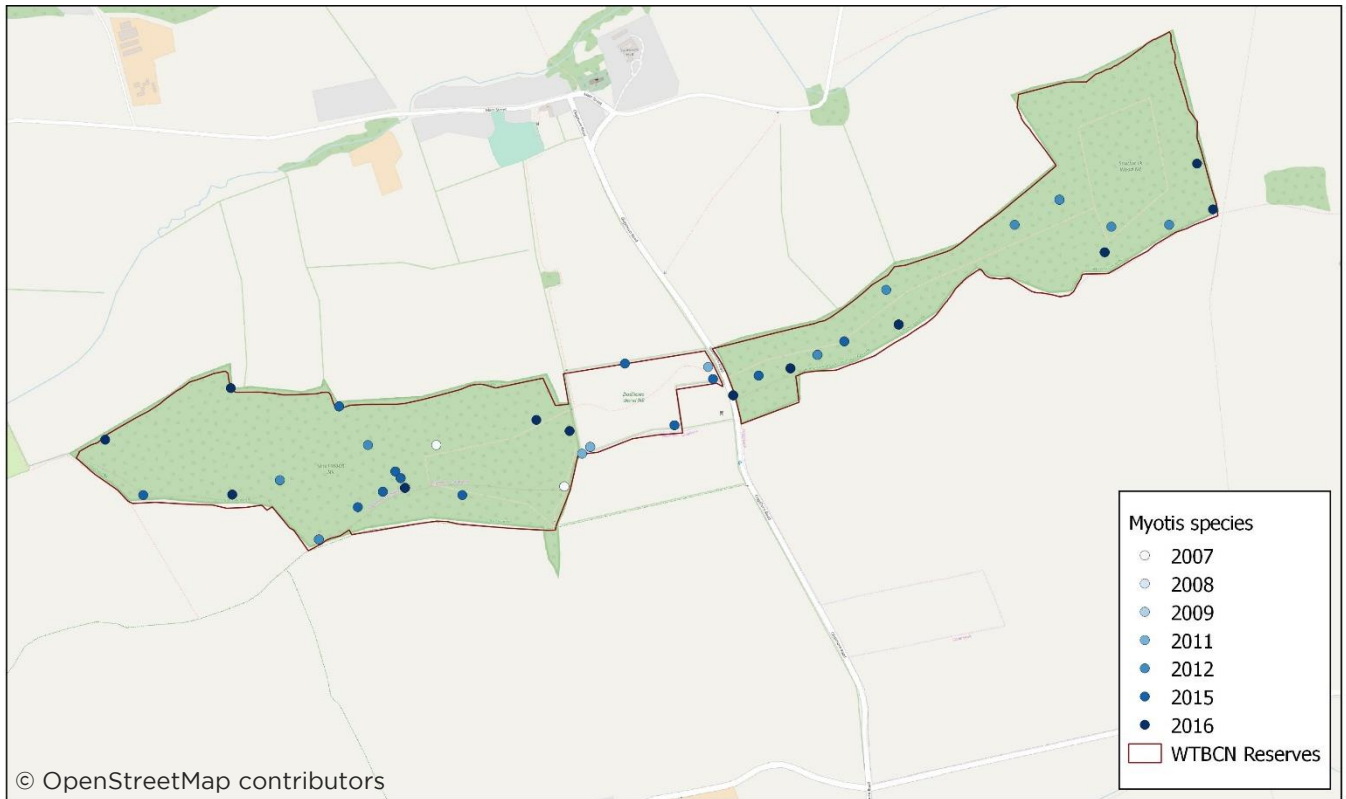
Figure 3 *Myotis* bat records (combined methods) by year

Myotis bats are difficult to identify to species from their calls so here have been lumped together for analyses, although 14 sonograms have been identified as Daubenton's and one as Natterer's. *Myotis* bats have been heard throughout both Short and Southwick Woods and Dodhaws restoration area (Figure 3), the Natterer's was recorded in the south-east of Short Wood (transect A) and Daubenton's recorded in the centre of Short Wood and the east of Southwick Wood (transects B, C, D). Some *Myotis* bats are woodland specialists but many will also utilise other habitats. To discover more about the Myotis using the woodland trapping surveys would be needed.
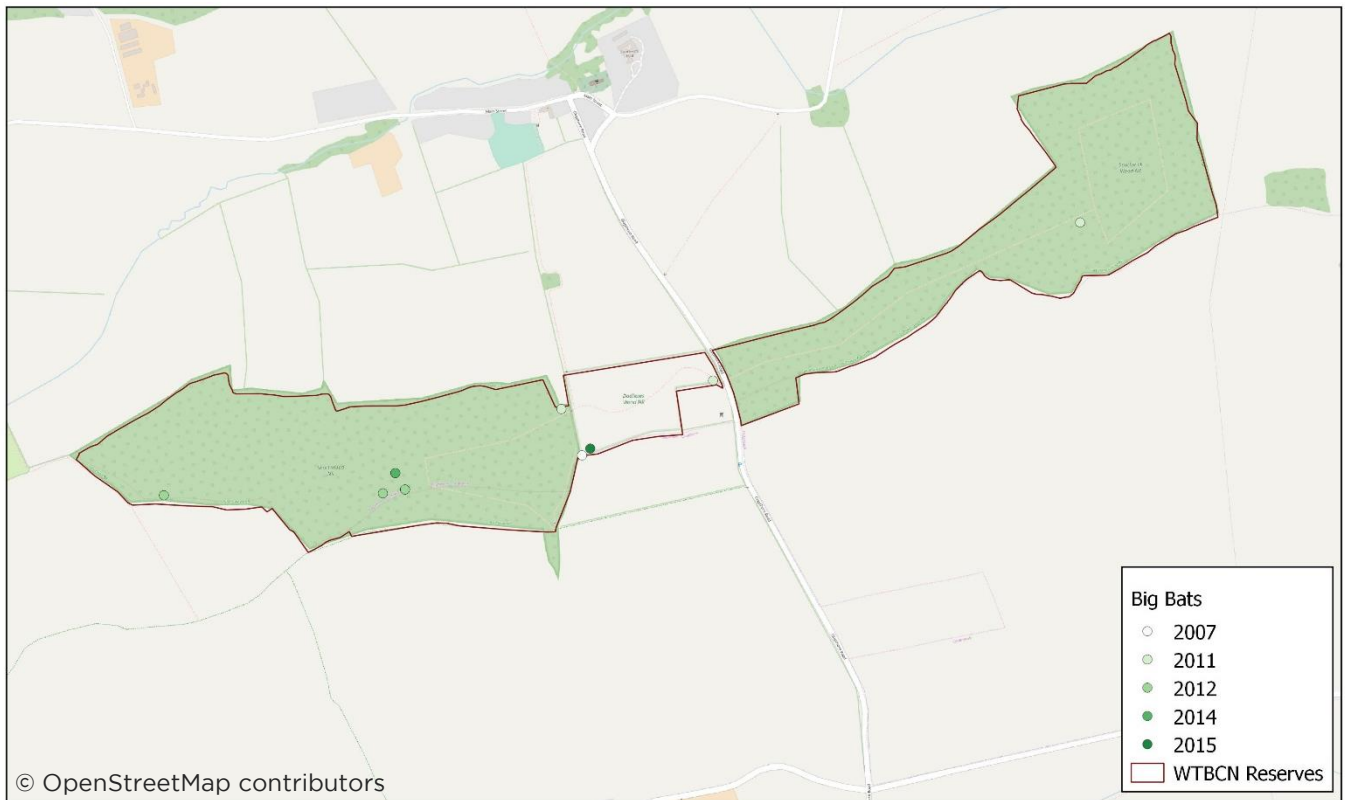
Figure 4 *Nyctalus/Eptesicus* **bat records (combined methods) by year**

The "big bats" (*Nyctalus/Eptesicus* species) were again recorded throughout Short and Southwick Woods with a few records from Dodhaws restoration area (Figure 4) but even less frequently. These species forage in more open habitats and often leave their roosts earlier in the evening than other species. All the big bat calls identified to species were noctules but it is possible some of the unidentified calls were Leisler's or serotine bats.

Unsurprisingly common pipistrelle and soprano pipistrelle were recorded in large numbers throughout all areas: Short Wood, Southwick Wood, Dodhaws and Glapthorn Cow Pastures (Figure 5a). The single record of a Nathusius' pipistrelle from the July 2011 field records is shown on the north edge of Southwick Wood, both other species are found throughout all three woods (Figure 5b).
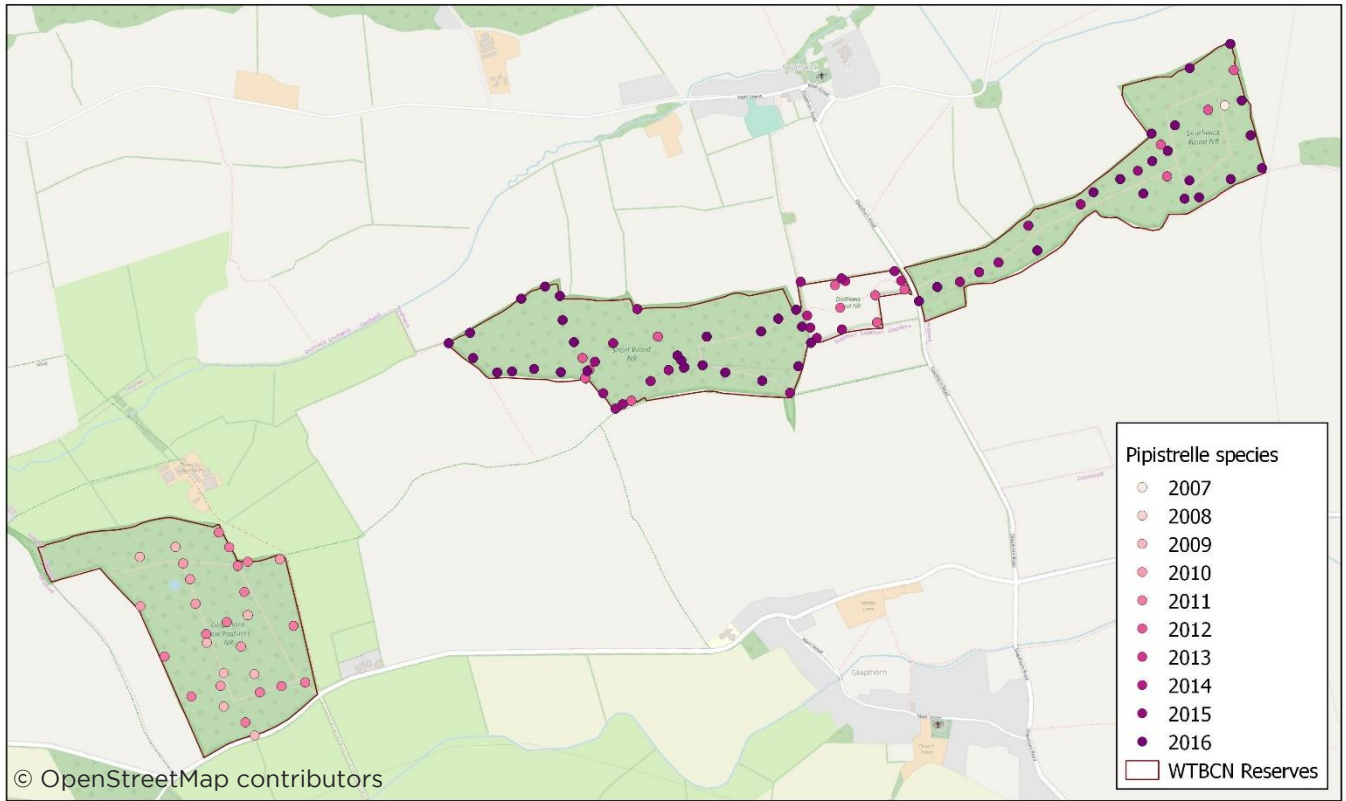
Figure 5a Pipistrelle bat records (combined methods) by year
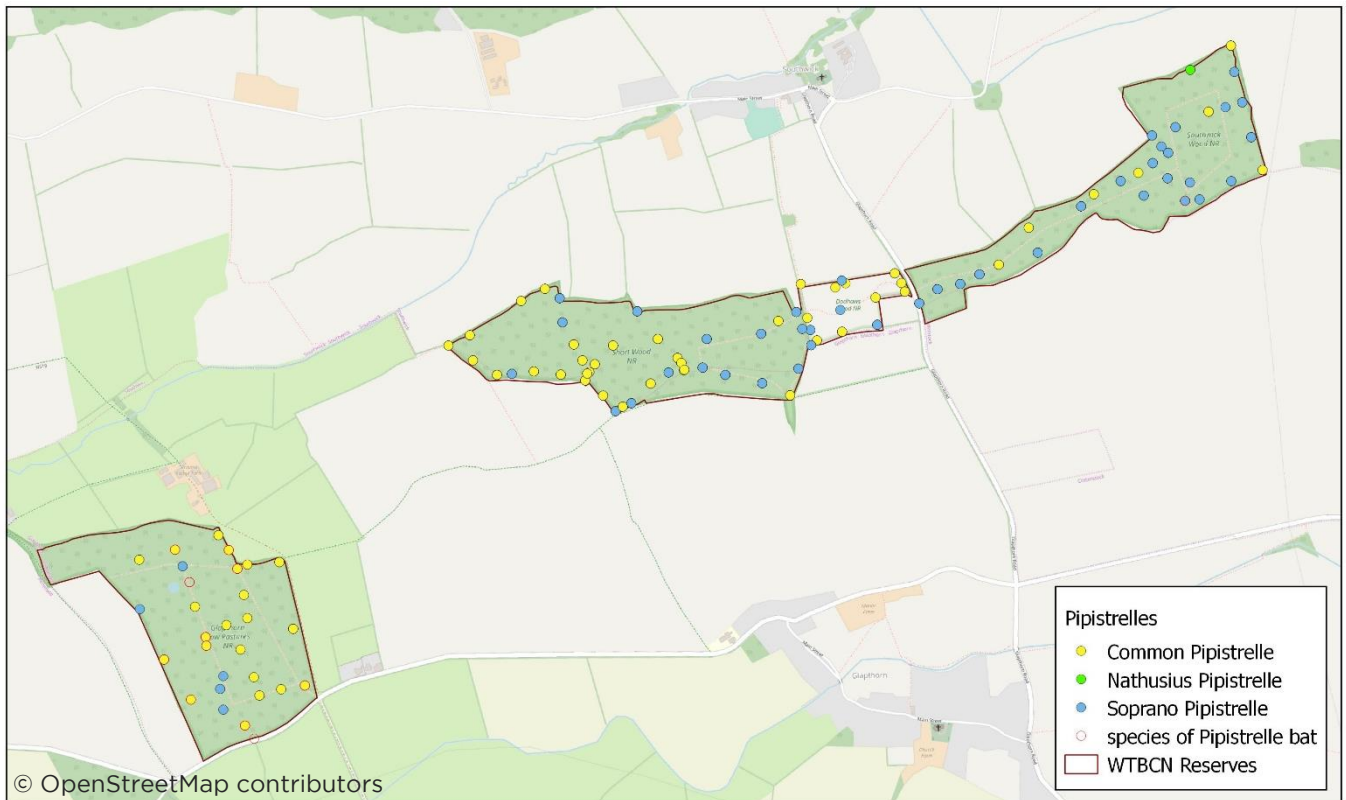
Figure 5b Pipistrelle bat records (combined methods) by species.

For all species, the lowest number of records comes from the eastern end of Southwick Wood. Dodhaws restoration area between Short and Southwick woods has most records from the south and east edges for pipistrelles and *Myotis* suggesting this may be the preferred route between the two.

5. Future work

Further analysis of this data could be to look for trends in numbers/species in relation to any habitat or management changes.

Current surveying effort is looking at the hedgerow linkages between these and other local woodlands. Surveyors are staking out each hedgerow connecting our woods for an hour after sunset and recording flight paths where possible (Figure 6). The aim is to identify which hedges are most important in linking the landscape for bats and also to identify potential hedgerow restoration projects where gaps occur.
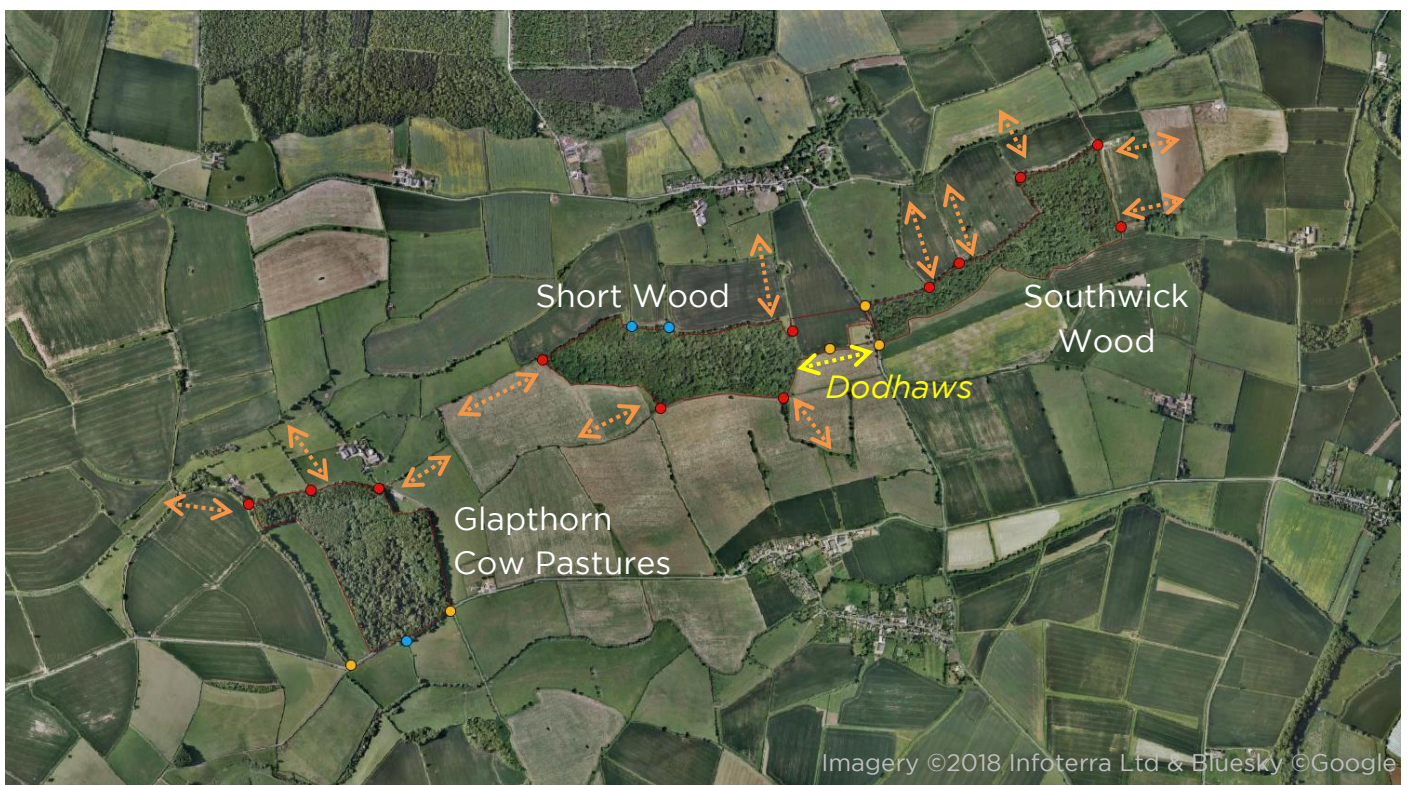
Figure 6 Aerial map showing main hedgerow linkages between woodlands. Red points and arrows show main routes to monitor, orange points are extras in resources allow, blue points are inaccessible.

A Wildlife Trust BCN project licence is being applied for to catch bats using harp traps and mist nets which will allow us to:

- Identify cryptic *Myotis* species using our reserves.
- More accurately record the presence and distribution of brown long-eared bats.
- Determine breeding condition and age of the bats present on site, this could lead to the identification of key breeding areas.

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Appendix I: Bat species records by year

Table 1a Bat species at Short Wood - field records

Short Wood	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
A										
Common Pipistrelle		7	3	11	7	6	25	6	14	18
Soprano Pipistrelle		1	2	8	2	4		16	8	9
Nathusius Pipistrelle										
Pipistrellus spp.		13	5	6		7		2		9
Myotis spp.						1				
Barbastelle										2
Noctule										
Nyctalus spp.										
unidentified bat	2	9	4	3	1	2	2	3		
TOTAL COUNT	*2*	*30*	*14*	*28*	*10*	*20*	*27*	*27*	*22*	*38*
NUMBER OF SPECIES	*1*	*2*	*2*	*2*	*2*	*3*	*1*	*2*	*2*	*3*
B										
Common Pipistrelle	6	11	20	27	33	20	18	13	3	
Soprano Pipistrelle	1	1	2		3	13	14	12	29	
Nathusius Pipistrelle										
Pipistrellus spp.	3	4	8	10	9	13	3		11	
Myotis spp.	1									
Barbastelle										
Noctule						1				
Nyctalus spp.					1					
unidentified bat	17		5	3	16	4	6	9		
TOTAL COUNT	*28*	*16*	*35*	*40*	*62*	*51*	*41*	*34*	*43*	*-*
NUMBER OF SPECIES	*3*	*2*	*2*	*1*	*3*	*3*	*2*	*2*	*2*	*-*
C										
Common Pipistrelle		22			5			44	31	28
Soprano Pipistrelle	8	2				2	1	9	13	13
Nathusius Pipistrelle										
Pipistrellus spp.	3	15			1	2		8	1	1
Myotis spp.	3	1			1					
Barbastelle		1								
Noctule								3		
Nyctalus spp.	1				1					
unidentified bat	1	6					8	5	2	1
TOTAL COUNT	*16*	*47*	*-*	*-*	*8*	*4*	*9*	*69*	*47*	*43*
NUMBER OF SPECIES	*3*	*4*	*-*	*-*	*3*	*1*	*1*	*2*	*2*	*2*

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Table 2b Bat species at Southwick Wood and Dodhaws restoration area- field records

Southwick Wood	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
D										
Common Pipistrelle	12	17	4	5	46	17	14	32	23	2
Soprano Pipistrelle		9	17	15	8	3	7	25	13	26
Nathusius Pipistrelle										
Pipistrellus spp.	1	2	2	5	5	7	27	6	1	2
Myotis spp.		1	1							
Barbastelle										
Noctule					1					
Nyctalus spp.										
unidentified bat			8	1	22	6	16	1	11	8
TOTAL COUNT	*13*	*29*	*32*	*26*	*82*	*33*	*64*	*64*	*48*	*38*
NUMBER OF SPECIES	*1*	*3*	*3*	*2*	*3*	*2*	*2*	*2*	*2*	*2*
E										
Common Pipistrelle					2	10	2		5	2	1
Soprano Pipistrelle	12			2	6	1	1	1	6	6	2
Nathusius Pipistrelle						1				
Pipistrellus spp.		6	3	1			14	7	13	2	9
Myotis spp.										
Barbastelle										
Noctule										
Nyctalus spp.										
unidentified bat	3			3	2	3	1	4		12
TOTAL COUNT	*15*	*6*	*5*	*12*	*14*	*20*	*9*	*28*	*10*	*24*
NUMBER OF SPECIES	*1*	*1*	*1*	*2*	*3*	*2*	*1*	*2*	*2*	*2*
Dodhaws	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Common Pipistrelle					10	12	4	34	66	
Soprano Pipistrelle					8	4	16	2	18	
Nathusius Pipistrelle										
Pipistrellus spp.					10			6		
Myotis spp.					10				6	
Barbastelle										
Noctule									2	
Nyctalus spp.					2					
unidentified bat					10	8	2	12	6	
TOTAL COUNT	*-*	*-*	*-*	*-*	*50*	*24*	*22*	*54*	*98*	*-*
NUMBER OF SPECIES	*-*	*-*	*-*	*-*	*4*	*2*	*2*	*2*	*4*	*-*

Table 3c Bat species at Glapthorn Cow Pastures - field records

Glapthorn Cow Pasture	2008	2009	2010	2011
F	20	26	31	66
Common Pipistrelle	9	3	12	1
Soprano Pipistrelle	4	6	7	
Nathusius Pipistrelle				
Pipistrellus spp.	3	5	7	11
Myotis spp.				
Barbastelle				
Noctule				
Nyctalus spp.				
unidentified bat	4	12	5	54
TOTAL COUNT	*20*	*26*	*31*	*66*
NUMBER OF SPECIES	*2*	*2*	*2*	*1*
G	32	32	16	44
Common Pipistrelle	21	14	11	21
Soprano Pipistrelle	2		3	
Nathusius Pipistrelle				
Pipistrellus spp.	7	7	1	5
Myotis spp.				
Barbastelle				
Noctule				
Nyctalus spp.				
unidentified bat	2	11	1	18
TOTAL COUNT	*32*	*32*	*16*	*44*
NUMBER OF SPECIES	*2*	*1*	*2*	*1*

Table 3 Bat species recorded at Short and Southwick Woods – sonogram data

Short Wood A

	2013	2014	2015	2016
Common Pipistrelle	25	24	31	30
Soprano Pipistrelle	8	23	22	9
unidentified *Pipistrellus* spp.		1	3	
Daubenton's				
Natterer's				1
Myotis spp.		3	3	3
Barbastelle	2			4
Noctule		1		
unidentified *Nyctalus* spp.	1	1		
unidentified bat		1		
TOTAL COUNT	36	54	59	47
NUMBER OF SPECIES	4	4	3	4

Short Wood B

	2013	2014	2015	2016
Common Pipistrelle	13		16	
Soprano Pipistrelle	32		13	
unidentified *Pipistrellus* spp.			1	
Daubenton's	3			
Natterer's				
Myotis spp.	6		4	
Barbastelle				
Noctule	2			
unidentified *Nyctalus* spp.				
unidentified bat	1		2	
TOTAL COUNT	57	-	36	-
NUMBER OF SPECIES	4	-	3	-

Short Wood C

	2013	2014	2015	2016
Common Pipistrelle	11		18	31
Soprano Pipistrelle	1		16	28
unidentified *Pipistrellus* spp.				
Daubenton's			2	
Natterer's				
Myotis spp.			4	4
Barbastelle				3
Noctule	3			1
unidentified *Nyctalus* spp.				1
unidentified bat				
TOTAL COUNT	15	-	40	68
NUMBER OF SPECIES	3	-	3	5

Southwick D

	2013	2014	2015	2016
Common Pipistrelle	17		20	10
Soprano Pipistrelle	21		22	19
unidentified *Pipistrellus* spp.				1
Daubenton's	8			1
Natterer's				
Myotis spp.	12		12	6
Barbastelle	2		1	
Noctule				1
unidentified *Nyctalus* spp.				
unidentified bat	2			
TOTAL COUNT	62	-	55	38
NUMBER OF SPECIES	4	-	4	4

Southwick E

	2013	2014	2015	2016
Common Pipistrelle	8			11
Soprano Pipistrelle	24			27
unidentified *Pipistrellus* spp.				
Daubenton's	2			
Natterer's				
Myotis spp.	3			2
Barbastelle				
Noctule				2
unidentified *Nyctalus* spp.				
unidentified bat				1
TOTAL COUNT	37	-	-	43
NUMBER OF SPECIES	3	-	-	4

Dodhaws

	2013	2014	2015	2016
Common Pipistrelle	13		4	
Soprano Pipistrelle	9		7	
unidentified *Pipistrellus* spp.				
Daubenton's	4			
Natterer's				
Myotis spp.	1			
Barbastelle				
Noctule	1			
unidentified *Nyctalus* spp.				
unidentified bat	3			
TOTAL COUNT	31	-	11	-
NUMBER OF SPECIES	4	-	2	-

Table 4 Single year fix point Anabat detectors at Dodhaws – sonograms

Dodhaws: South	
	2015
Common Pipistrelle	13
Soprano Pipistrelle	17
Daubenton's	10
Myotis spp.	3
Barbastelle	2
unidentified bat	1
TOTAL COUNT	46
NUMBER OF SPECIES	4
Dodhaws: North	
	2015
Common Pipistrelle	1
Soprano Pipistrelle	
Daubenton's	
Myotis spp.	
Barbastelle	
unidentified bat	
TOTAL COUNT	1
NUMBER OF SPECIES	1
Dodhaws: Road hedge west	
	2015
Common Pipistrelle	10
Soprano Pipistrelle	4
Daubenton's	
Myotis spp.	
Barbastelle	
unidentified bat	
TOTAL COUNT	14
NUMBER OF SPECIES	2

Appendix II: Bat location data tables

Table 1a: Locations of bat species within Short Wood from field records

	Common Pipistrelle	Soprano Pipistrelle	Nathusius Pipistrelle	Pipistrellus spp.	Myotis spp.	Barbastelle	Noctule	Nyctalus spp.	unidentified bat	Grand Total
Short Wood										
A	92	47	0	39	1	2	0	0	25	206
1	19	9		7					4	39
1.5	3	3		1		1			2	10
2	5	2		3		1			5	16
2.5	6	7		7						20
3	7	6		2						15
3.5	4			2					1	7
4	7	1		4					1	13
4.5	6	2		3					3	14
5	7	1		1					2	11
5.5	3	1		2					1	7
6	8	1		2						11
6.5	2	1		3					2	8
7	6	8		2					1	17
7.5	9	5			1				3	18
B	143	72	0	59	1	0	1	1	58	335
1	14	16		5				1	8	44
1.5	23	5		11					3	42
2	25	9		3	1				6	44
2.5	15	3		5					3	26
3	5	2		1					2	10
3.5	6	2		2					3	13
4	18	7		7					5	37
4.5	6	2		3					4	15
5	7	6		8					7	28
5.5	7	4		5					4	20
6	9	5		2					4	20
6.5	1	2		2					2	7
7	6	7		3			1		5	22
7.5	1	2		2					2	7
C	124	43	0	31	5	1	3	2	23	232
1	14	4		6		1	1		2	28
1.5	13	2		3						18
2	23	11							1	35
2.5	16	3		4					1	24
3	6	1		1					2	10
3.5	3	1		2	2					8
4	3	4			1			1	2	11
4.5	1	1		1	1				3	7
5	8							1	2	11
5.5	6	4		2						12
6	9	2		4					2	17
6.5	9	2		2	1				4	18
7	12	6		4			2		4	28
7.5	1	2		2						5

Table 1b: Locations of bat species within Southwick Wood and Dodhaws from field records

	Common Pipistrelle	Soprano Pipistrelle	Nathusius Pipistrelle	Pipistrellus spp.	Myotis spp.	Barbastelle	Noctule	Nyctalus spp.	unidentified bat	Grand Total
Southwick Wood										
D	158	111	0	49	2	0	1	0	66	387
1	9	16		4	1				9	39
1.5	6	2		2			1		7	18
2	10	12		9					5	36
2.5	1	2								3
3	19	29		3					6	57
3.5	3	8		3					2	16
4	8	5		4					6	23
4.5	2	2		2					2	8
5	12	2		9					10	33
5.5	15	11		5					3	34
6	23	9		2					4	38
6.5	14	1		3					7	25
7	29	9		3	1				4	46
7.5	7	3							1	11
3-1	1	1							1	3
E	22	31	1	53	0	0	0	0	28	135
1		4		11					5	20
1.5		1		1					2	4
2				3					3	6
2.5	2	2		6					5	15
3	2			4					2	8
3.5	3	3		6					1	13
4	2	2		2					1	7
4.5	1			1					1	3
5	2			4					3	9
5.5	1	3	1	6						11
6	4	5		4					2	15
6.5		2		2						4
7	5	9		2					3	19
7.5				1						1
4-6		2								2
Dodhaws										
Dodhaws	54	24	0	8	8	0	1	1	19	115
1	1	2		2					1	6
1.5	1									1
2										
2.5		1							2	3
3	1	1							4	6
3.5	1	4								5
4	6	3			3			1	3	16
4.5	14	1		1					2	18
5	12	5		3	2					22
5.5	2									2
6	5	2		1	1			1	3	13
6.5	2				1				2	5
7	6	3							2	11
7.5	3	2		1	1					7

Table 1b: Locations of bat species within Glapthorn Cow Pastures from field records

	Common Pipistrelle	Soprano Pipistrelle	Nathusius Pipistrelle	Pipistrellus spp.	Myotis spp.	Barbastelle	Noctule	Nyctalus spp.	unidentified bat	*Grand Total*
Glapthorn Cow Pastures										
F	25	16	0	21	0	0	0	0	72	134
1				1					8	9
1.5	2			2						4
2		1		1					4	6
2.5	1			1					7	9
3	4	1		1					3	9
3.5		1							1	2
4	5	1		3					9	18
4.5	4								5	9
5	1			3					6	10
5.5	1	3							4	8
6				4					7	11
6.5	3								3	6
7	4	5		5					10	24
7.5		4							5	9
G	59	5	0	20	0	0	0	0	28	112
1	7			3					3	13
1.5	1			4					2	7
2	8	1		4					2	15
2.5	2								1	3
3	3	2							1	6
3.5	5								2	7
4	2	1		1					2	6
4.5	2	1								3
5	6			2					3	11
5.5	4									4
6	6			1					4	11
6.5	8			4					3	15
7	4								4	8
7.5	1			1					1	3

Table 2a: Locations of bat species within Short Wood from sonograms

Row Labels	Common Noctule	Common Pipistrelle	Daubenton's Bat	Natterer's Bat	Soprano Pipistrelle	species of Noctule/ Serotine bat	species of Myotis bat	species of Pipistrelle bat	unidentified species of bat	Western Barbastelle	Grand Total
Short Wood	7	199	5	1	152	3	27	5	4	9	412
A	1	110		1	62	2	9	4	1	6	196
1		11			1					1	13
1.5		2								2	4
2		2			1						3
2.5		2			2						4
3		8			2		1				11
3.5		3			1						4
4		4								1	5
4.5		2					1				3
5		2			1						3
5.5		1									1
6		5			3		1			1	10
6.5					1	1					2
7		7			1					1	9
7.5		10		1	2		1				14
(blank)	1	51			47	1	5	4	1		110
B	2	29	3		45		10	1	3		93
1		1			2						3
1.5		1			6		1				8
2		4	2		6		1				13
2.5		3			1						4
3		1			1		2				4
3.5		1									1
4		1			4						5
4.5		1			1						2
5		6			8			1			15
5.5		3			6		2				11
6					3						3
6.5		6			3		1				10
7	1				4		2		2		9
7.5	1		1				1				3
(blank)		1							1		2
C	4	60	2		45	1	8			3	123
1		12			7		3			1	23
1.5		5			5					1	11
2		6			6		1				13
2.5		4			7						11
3		2									2
3.5		4			1						5
4		2			2						4
4.5					1		1			1	3
5		4			3						7
5.5		2					1				3
6	1	6			4	1					12
6.5		2			4						6
7		6	2		4						12
7.5		1					2				3
(blank)	3	4			1						8
Dodhaws	2	52	18		47		6		4	2	131
Dodhaws		4			4						8
5					4						4
5.5			3								3
6		1									1
North					1						1
Road Hedge West		10			4						14
South		13	10		17		3		1	2	46
(blank)	2	25	8		21		3		3		62

Table 2b: Locations of bat species within Southwick Wood from sonograms

Row Labels	Common Noctule	Common Pipistrelle	Daubenton's Bat	Natterer's Bat	Soprano Pipistrelle	species of Noctule/ Serotine bat	species of *Myotis* bat	species of Pipistrelle bat	unidentified species of bat	Western Barbastelle	Grand Total
Southwick Wood	3	66	11		113		35	1	3	3	235
D	1	47	9		62		30	1	2	3	155
1		4			13		3			1	21
1.5		2			1						3
2		3			5		3	1			12
2.5		1			4						5
3		5			2		1				8
3.5		3			2						5
4		6			2						8
4.5		1	1								2
5	1	1			3		2				7
5.5		2	2		5		4		2		15
6		3	2		2		4				11
6.5		4	1		2		1			1	9
7		3	2		2		2			1	10
7.5		3	1		2		6				12
(blank)		6			17		4				27
E	2	19	2		51		5		1		80
1		2			19						21
1.5					1		1				2
2					3				1		4
2.5		1			3		1				5
3	1	2			4		1				8
3.5		2			8		1				11
4		1			1						2
4.5		1			1						2
5	1	2			2						5
5.5		2			1						3
6		4			2						6
6.5		1			1						2
7		1			3						4
7.5					1						1
(blank)			2		1		1				4