Wiltshire Wildlife Trust - reserves bat surveys 2025-2026

Reserve name: Swindon Corridor

Dates of deployment: **23rd- 30th June 2026**

Introduction

Gareth Harris Ecology & Conservation was commissioned by Wiltshire Wildlife Trust in 2025-2026 to conduct acoustic bat surveys of a series of natures reserves, considered a priority for bat surveys. A short report has been produced summarising the results and recommendations for each reserve - a more detailed account of the methodology is included in the accompanying report, to avoid unnecessary repetition.

Outline of methodology

Wildlife Acoustic SongMeter Mini BatFS bat detectors are full spectrum detectors that are triggered to record ultrasonic frequencies including bat echolocation calls. They were programmed to begin recording 30 minutes before sunset until 30 minutes after sun rise. Detectors were deployed 4 metres above the ground, with microphones pointing into open space, along rides and edge habitats.

All sound data were processed using the British Trust for Ornithology's Acoustic Pipeline; this recently-launched platform enables efficient processing of large datasets, and identification of sound files to species level, with the confidence levels indicated. The output from the Acoustic Pipeline was filtered to exclude bycatch of non-target species (such as crickets) and to exclude identifications made with confidence levels below 0.6.

A full audit of the outputs was undertaken, checking all IDs of species considered rare or difficult to ID, and a lesser proportion of species considered common. The resulting data were pivot-tabled in Excel and presented as calls by species, by night.

Limitations –

Bat surveys are affected by a range of factors which affect bat activity levels, including stage of bat life cycle, weather conditions, food availability, presence of predators and moon phase (with bright full moons known to impact bat activity levels).

Weather conditions in 2026 were challenging, with record-breaking rainfall in the preceding winter, and then a series of record-breaking heatwaves and drought in spring and summer.

As with birds, each species of bat has a different level of detectability, determined by loudness of echolocation, foraging strategy and abundance in the landscape. Caution is therefore required when comparing activity of different species and upon different sites.

Deployment locations

Detectors were deployed on the 23rd June to 8 locations through Swindon, loosely following the River Ray corridor, and selected by Neil Pullen WWT. These began at Wroughton Airfield, and terminated at Tadpole Lane. These detectors were deployed for a week, collected on the 30th June.

Location 1 - Wroughton Airfield; the detector was placed at chest height, in scrub overlooking an access track, close to the boundary of Clouts Wood.

Location 2 - Wroughton Airfield; the detector was placed on the edge of a small copse, on the southern side of the airfield, close to the library.

Location 3 - Kings Farm wood - the detector was placed in a mature tree, close to the ponds, overlooking a woodland path.

Location 4 - Belmont Green - the detector was placed in a mature tree, overlooking green space.

Location 5 - Rushy Platt and the disused railway line - the detector was placed on a mature tree on the disused railway line, adjacent to Rushy Platt and the canal, to record commuting and foraging bats.

Location 6 - Rivermead - the detector was placed on a mature willow, overlooking scrub and wetland vegetation, and close to a small ditch, to record commuting and foraging bats.

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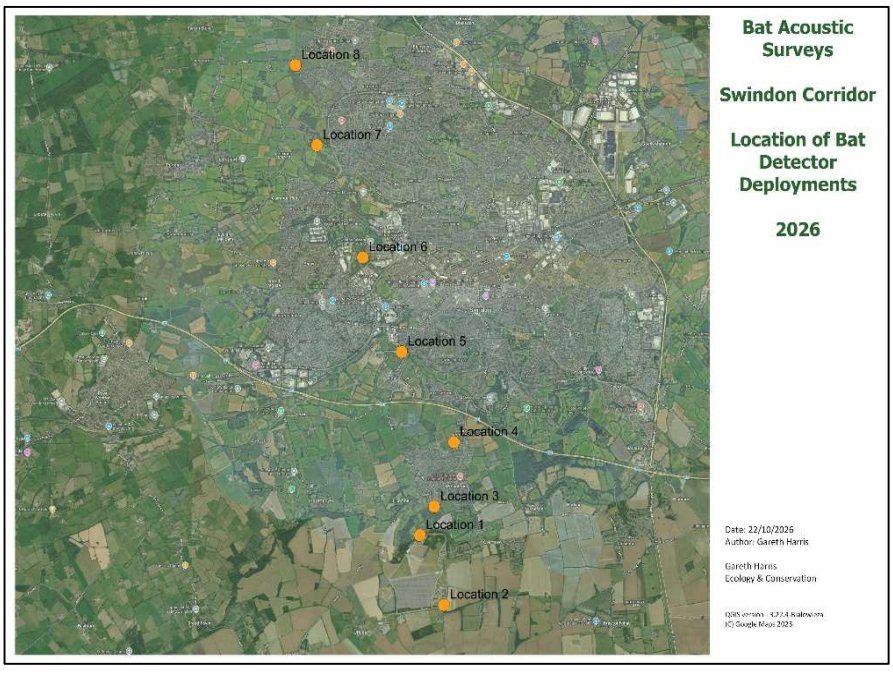
Location 7 - Moulden hill Country Park - the detector was placed in a mature tree, close to, and overlooking, the lake, to record foraging bats using the lake edge and woodland edge.

Location 8 - Tadpole lane - the detector was placed on a baton, protruding from dense scrub, on SBC-owned land off Tadpole lane, ideally sited to record foraging and commuting bats.

Meta data

Location	NGR	Deployment	No. nights	No. sound files	No. bat IDs
Location 1 - Airfield1	SU1400079548	23rd- 30th June 2026	7	5,405	274
Location 2 - Airfield 2	SU1454078053	23rd- 30th June 2026	7	11,125	5,629
Location 3 - Kings Farm Wood	SU1432480160	23rd- 30th June 2026	7	1,469	1,441
Location 4 - Belmont green	SU1476581545	23rd- 30th June 2026	7	1,361	1,315
Location 5 - Rushy Platt	SU1358983483	23rd- 30th June 2026	7	4,961	5,175
Location 6 - Rivermead	SU1271785510	23rd- 30th June 2026	7	4,129	5,071
Location 7 - Moulden hill Country P	SU1168487918	23rd- 30th June 2026	7	7,124	9,049
Location 8 - Tadpole lane	SU1119989636	23rd- 30th June 2026	7	1,584	1,373
Total			56	37,158	29,327

Deployment locations:



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Overall species list	
Daubenton's Bat	Common Pipistrelle
Whiskered/Brandt's Bat	Soprano Pipistrelle
Natterer's Bat	Nathusius' Pipistrelle
Noctule	Brown Long-eared Bat
Leisler's Bat	Barbastelle
Serotine	
In total, 11 species were recorded across the reserve. (NB- compare outcomes with Clouts wood, where Lesser horseshoe bat also recorded)	

Summary of total bat passes, per deployment

Deployment	Location 1	Location 2	Location 3	Location 4	Location 5	Location 6	Location 7	Location 8
Location	Airfield1	Airfield2	Kings Farm Wood	Belmont Green	Rushy Platt	Rivermead	Moulden Hill	Tadpole Lane
Daubenton's Bat	2	10	19	1	13	6	52	8
Whiskered/Brandt's Ba	2	19	18		64		15	27
Natterer's Bat	10	81	6		7	3	1	16
Noctule	22	46	101	105	242	24	477	66
Leisler's Bat	15		16					7
Serotine	24	57	43	8	4	8	43	35
Common Pipistrelle	174	5322	1139	1190	4693	2351	5447	1145
Soprano Pipistrelle	17	65	97	9	133	2661	3009	44
Nathusius' Pipistrelle		9						
Brown Long-eared Bat	8	18	2		19	18	5	25
Barbastelle		2		2				
Grand Total - Bat passe	274	5629	1441	1315	5175	5071	9049	1373
Total Nights	7	7	7	7	7	7	7	7
Total sound files recor	5405	11125	1469	1361	4961	4129	7124	1584

Total nights recorded, 56 night; Total sound files recorded, 37,158 sound files; Total bat passes recorded, 29,327.

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Summary - total by species across all sites (and %).

Species	Total by species	%
Daubenton's Bat	111	0.4
Whiskered/Brandt's Bat	145	0.5
Natterer's Bat	124	0.4
Noctule	1083	3.7
Leisler's Bat	38	0.1
Serotine	222	0.8
Common Pipistrelle	21461	73.2
Soprano Pipistrelle	6035	20.6
Nathusius' Pipistrelle	9	0.0
Brown Long-eared Bat	95	0.3
Barbastelle	4	0.0
Grand Total - Bat passes	29327	100.0

Weather conditions

During the day of equipment deployment, weather conditions were hot (>33C), dry, and still; during deployment period it remained hot (with the Red heat alert on 24th and 25th) and dry all week. The UK recorded record-breaking night-time temperatures over 20C during this week.

Comment

56 nights of data recorded, resulting in 37,158 sound files records, from which 29,327 bat passes were extracted. No limitations to survey noted during deployment, although weather conditions during deployment were extremely hot and dry. Such hot condition likely impact prey availability, and conditions within roosting sites.

11 species recorded, including notably Barbastelle bat, Leisler's bat, Nathusius' pipistrelle and Serotine bat (all Red Listed on GB conservation red list) (Compare with outcomes for Clouts wood, where Lesser horseshoe bat was also recorded).

An interesting assemblage of species recorded, ranging from rarer species such as Barbastelle, to more common and widespread species such as Serotine, Common pipistrelle, Noctule, Brown long-eared bat and Whiskered bat.

Comment

11 species recorded during both deployments. Common pipistrelle activity accounted for almost 75% of all recorded activity, reflecting the abundance of this species in the landscape, and its detectability in acoustic surveys. It was recorded throughout the survey area, fairly evenly. Soprano pipistrelle produced a very different result, accounting for 20% of recorded bat passes, and much more focussed in specific areas. The Soprano pipistrelle bat is a wetland specialist, strongly favouring wetland habitats such as watercourses, canals and lakes (whilst Common pipistrelle are less specialised and may forage across a greater range of habitats). During these surveys, Soprano pipistrelle activity was greatest in proximity to water i.e. Rivermead and Moulden hill Country Park, and records with much less activity in other locations.

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Daubenton's bat produced a similar distribution of activity to Soprano pipistrelle (also being a wetland specialist), with the greatest activity noted at Moulden hill Country Park, and less activity recorded at other sites. Daubenton's bat is a species that often demonstrate habitat partitioning by sex, e.g. female bats occupy the best foraging habitat in order to rear their young, whilst the males may be pushed out into less optimal habitats. In this way, this species can occupy a variety of habitats in the landscape, but enabling the females to rear young in the most food-rich areas.

In comparison, Natterer's bat (which is another Myotis species closely related to Daubenton's bat, but more of a habitat generalist) demonstrated a lower activity across the survey area, demonstrating a use of a broad suite of habitats. A large peak in activity was noted at Location 2 (close to the library on Wroughton Airfield); it would be worthwhile following this up to explore the possibility of a colony occupying a nearby building.

Noctule bat is a larger bat, favouring large cavities in mature trees, often in woodland and parkland, and may forage widely over wooed landscapes, green spaces and the wider countryside. These bats are very loud, and therefore very detectable in acoustic surveys, and may therefore be easily over-represented. Noctule bats were recorded throughout the survey area, often with quite high activity particularly at sunset. The greatest activity was noted at Moulden hill Country Park but also at Kings Farm Wood, Belmont Green and Rushy Platt - this may simply reflect their preference for foraging high over green spaces and woodlands.

In contrast, Leisler's bat was recorded at 3 locations in June, with a notably lower activity. Confidence in these records is somewhat less than for other species, due to difficulties in separating Noctule, Leisler's and Serotine bats, especially in cluttered habitat - one result of this is that it is easier to identify Leisler's bat, and separate it from the other species, when foraging in open habitats. This will skew the apparent distribution of identified records.

Barbastelle bats were recorded at 2 locations - it is worth comparing this result with those outcomes of the Clouts Wood surveys, given the differences in activity, and likely presence of a roosting site at Clouts Wood. It is intriguing that such a low number of passes were recorded in proximity to Clouts Wood, despite the higher numbers recorded there.

Nathusius' pipistrelle bat activity was recorded at Location 2 (Wroughton Airfield, close to the library). This is an interesting that requires some thought and explanation. This species is a widespread bat in the UK, but poorly known and currently the subject of a lot of research, namely its migration routes. The majority of the European population breeds in northern Europe, and migrates south for the winter months, often migrating through the UK in doing so. The UK does support a small breeding population; In Wiltshire, this species is resident in the Cotswold Water Park but elsewhere in the county is considered to be migratory only (based on admittedly limited information). Away from the Cotswold Water Park, this species is sometimes recorded, especially during the spring and autumn migration periods.
Nathusius' pipistrelle prefers large wetlands in proximity to mature woodland and trees, but on migration may be encountered in other habitats too.

There is a complication during acoustic surveys, that the call parameters of Common pipistrelle (foraging in open habitats) may overlap with those of Nathusius' pipistrelle. The activity recorded at Wroughton Airfield DOES appear to be Nathusius' pipistrelle, but there is a possibility of some overlap with Common pipistrelle. My *feeling* is that it is just Common pipistrelle bat, however, I have retained the records here, in case there are future records generated by future monitoring to add further support.

Serotine bat accounted for just under 1% of the bat passes recorded (but this important bat species was just drowned out by the more abundant pipistrelle bats). Serotine bats are a building-roosting bat that favour foraging over grasslands, pastures, green spaces and downland. They are widespread in rural areas of wiltshire, often associating with livestock where they forage upon dung beetles. In these surveys Serotine activity was most notable over Wroughton Airfield and Kings Farm Wood, but also Moulden Hill Country Park. Such activity is likely associated with foraging over green spaces, but may also relate to the proximity of nearby roosting sites.

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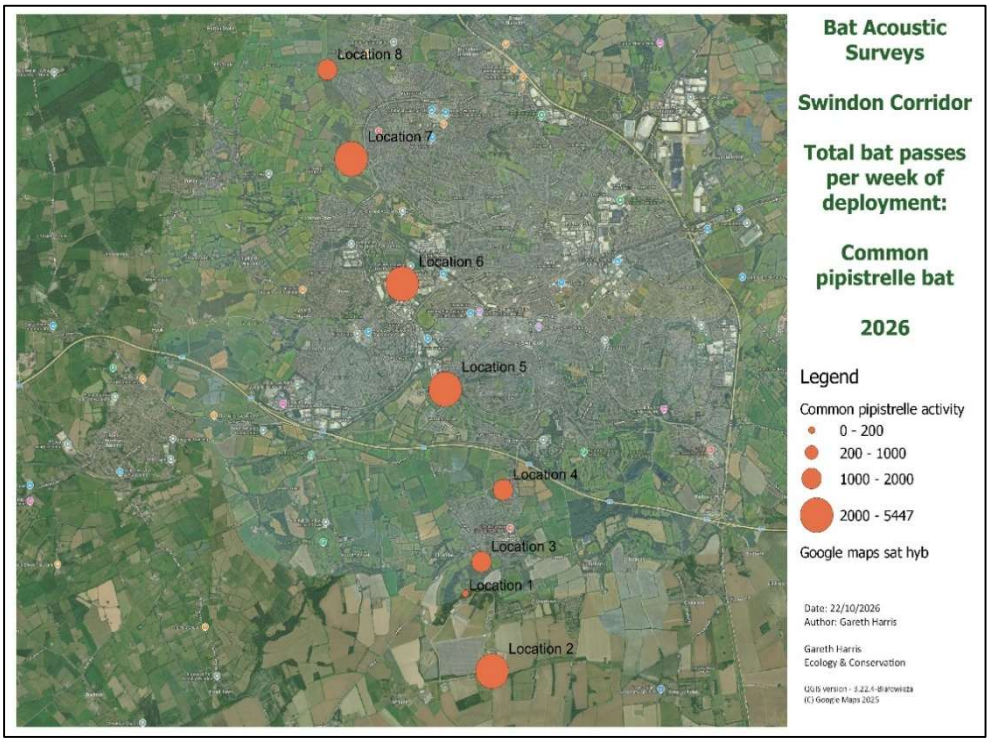
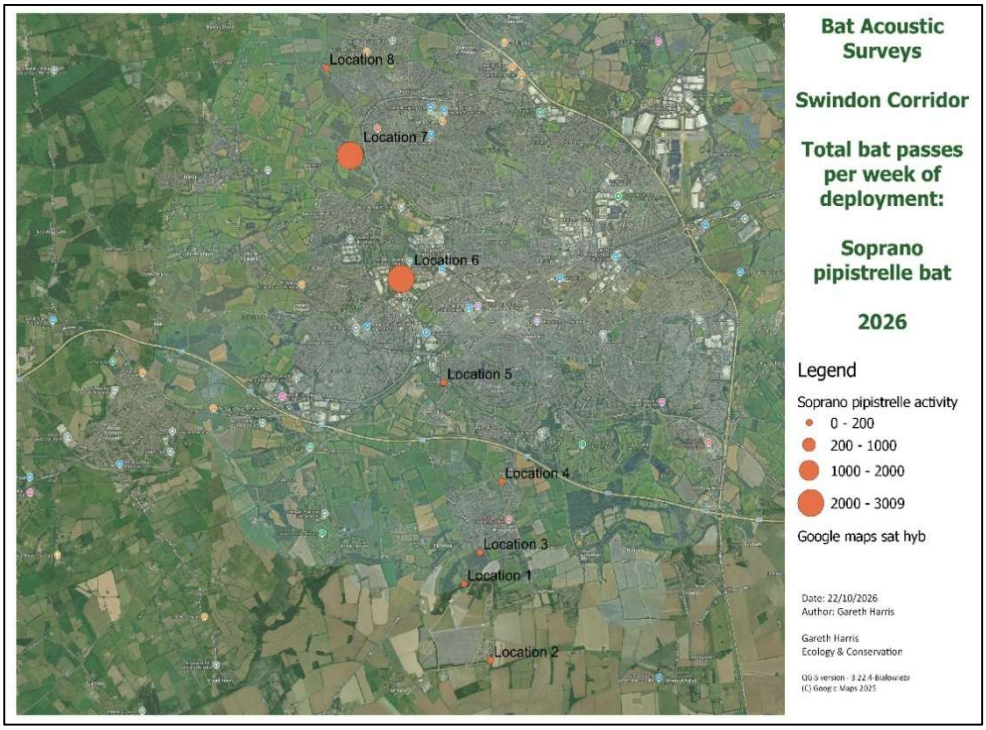
Common pipistrelle



Soprano pipistrelle



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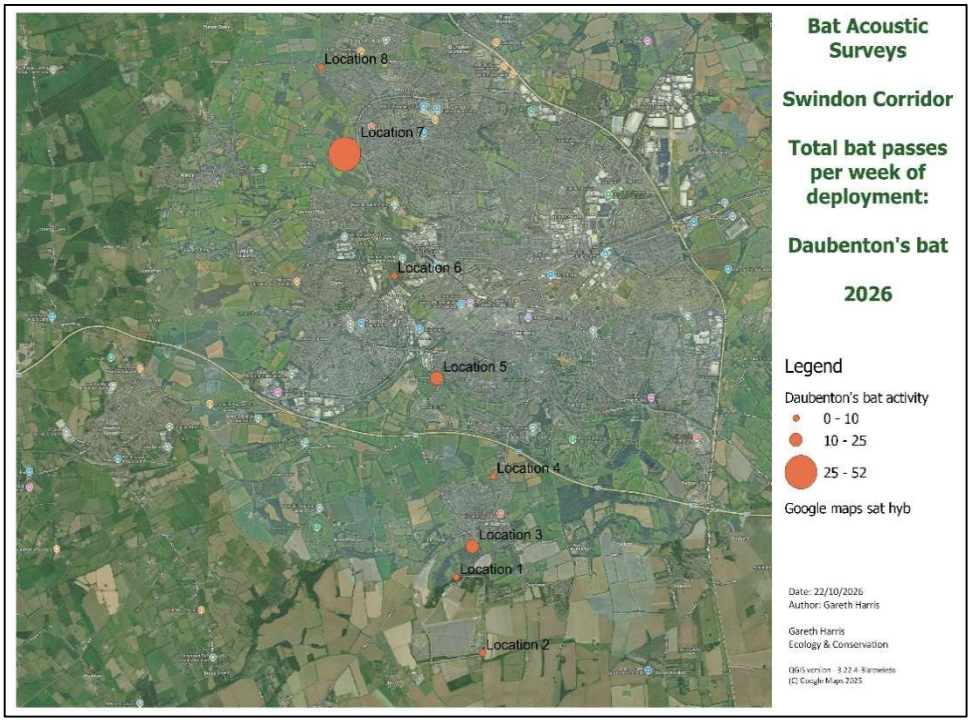
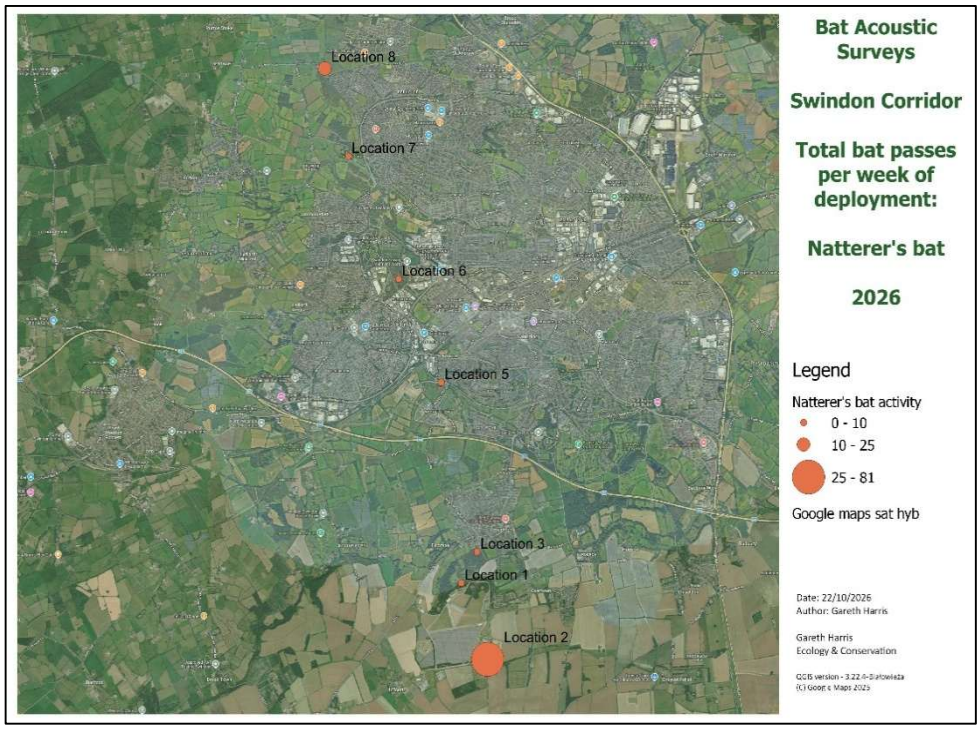
Daubenton's bat



Natterer's bat



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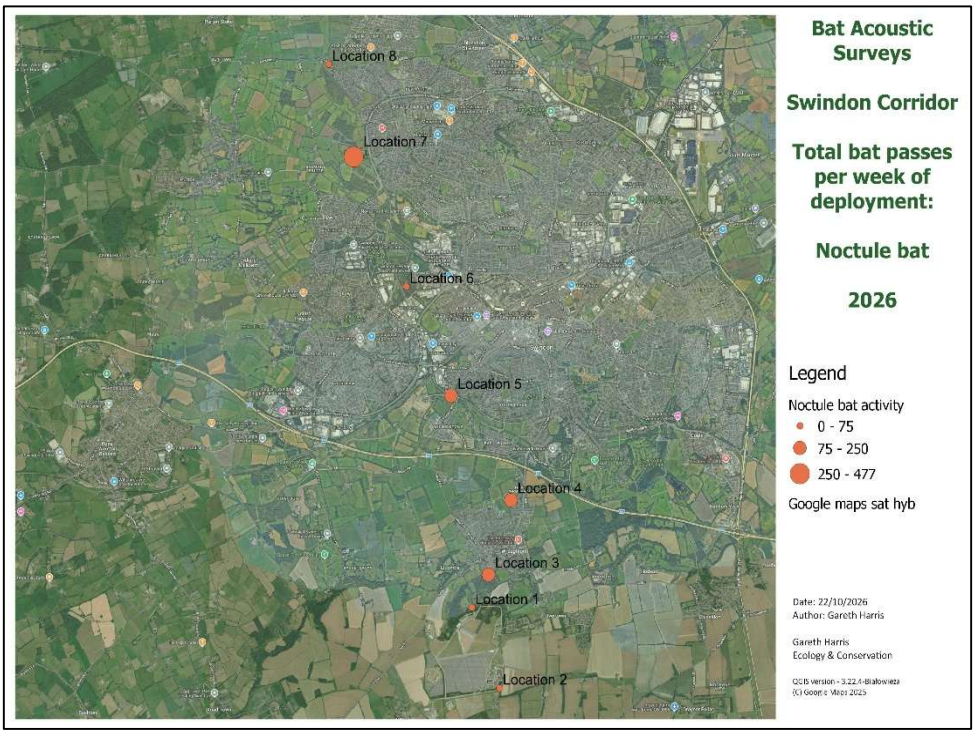
Noctule Bat



Leisler's bat



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Recommendations

Eleven bat species were recorded on the reserve, ranging from rarer species/species of conservation concern such as Leisler's bat, Barbastelle, Nathusius' pipistrelle and Serotine bat, through to species considered common and widespread in the county. For reasons already explained, Nathusius' pipistrelle will not be discussed further. Given the close proximity of Clouts Wood, please compare these results, with the results of surveys there, to compare the differences in activity recorded for Lesser horseshoe bat and Barbastelle bat.

The eight locations selected for survey represent a variety of habitat types, from young woodland, mature scrub, hedgerows, country parks with lake margins, damp meadows to green spaces. They loosely followed the river Ray corridor, to explore how bats maybe utilising this corridor to forage and commute through Swindon town.

In general, these surveys demonstrated that a diverse assemblage of bat species are utilising Swindon, especially when these results are collated with those for Clouts Wood. That any of these bat species may be common and widespread, or perhaps not of conservation concerns concern, misses the point, Swindon is home to multiple bat species, species that have adapted to occupy more human-adapted landscapes, to adapt to habitat impacted by light spill, pollution associated with areas of human habitation and industry etc. Swindon retains multiple green spaces, such as country parks, nature reserves and local parks, and connected habitats, such as river corridors, the canal corridor, disused railway line etc, to ensure that there remains some landscape connectivity through the town, and remains connected to the surrounding landscape. An extreme example this, are the occasional records of Bechstein's bat in Swindon, individuals likely originating from the Braydon Forest woodlands.

Going forwards, there are many opportunities to improve habitats for bats, whilst benefitting other species in doing so.

Roosting sites - it would worth targeting the tree-roosting bats, such as Barbastelle, Noctule, and Brown long-eared bat, by considering the roosting sites of the future, e.g. planning for the ancient trees of the future. For the building-roosting species, such as Lesser horseshoe bat, Serotine bat, and pipistrelle bats, awareness-raising with residents to increase roosting provision, and awareness of roosting sites when delivering building repairs and maintenance may sustain existing roosting sites. Provision of new roosting sites, through carefully-considered roost creation projects to produce sustainable, long-lasting roosts is strongly-encouraged. Simply putting bat boxes on buildings is not enough. Consider the creation of Lesser horseshoe roosts on the edge of town in areas with greatest activity.

Commuting routes and foraging areas - develop and/or expand awareness-raising of wildlife friendly gardening and management of green spaces. Gardens as a whole will comprise the largest area of land available to wildlife and so such areas may yield the greatest gains, for species such as pollinators, hedgehogs, bats and songbirds. Identifying key commuting routes and working to reduce the impacts of light spill will increase the permeability of the landscape for a greater range of bat species. Assess how existing areas of foraging habitat and commuting routes can be better linked up, and better linked to the surrounding landscapes.

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Considerations of notable species

Leisler's bat is a poorly-studied, and poorly-known bat species in much of the UK, including in Wiltshire. At present, there are no known roosting sites in the county, and only a single in-the-hand record. This difficulty is partly because of overlap in the acoustic parameters with Noctule bat and Serotine bat, making acoustic study of this species more difficult, especially in areas of southern England where all three species may occur together. That said, with an increase in landscape-scale acoustic survey in Wiltshire in recent years, there HAS been an increase in accepted records of this species. A number of these records are for the Swindon area. Difficulties in acoustic identification ensure that any ID is undertaken conservatively, so where Leisler's bat has been identified, it is likely under-recorded by some margin. It is also likely that some sound files are incorrectly attributed to Serotine bat. This is unavoidable to some degree, but is minimised by focussing upon records of bats foraging in open settings (e.g. High above woodland and pastures) which are easier to identify and verify, and ignoring those records where they are foraging in clutter (such as within woodland, along hedgerows and watercourses).

Leisler's bat favour foraging over grasslands, pastures, green spaces and parkland, and in Wiltshire some records are associated with foraging over chalk downland, town parks etc. Leisler's bat are likely to be roosting in a house (since suitable features in trees with likely be occupied by the larger Noctule bat, with which they compete), so it is always worth following up reports of roosting bats in the Wroughton area - one day, a Leisler's bat roost may be discovered.

Leisler's bat are well known in other parts of the UK for roosting in towns and cities (e.g. London and Bristol) and foraging over town parks. This species should not be discounted from Swindon. Conversely, Serotine bats appear to be a more rural species, for although they also roost in buildings and forage over grassland and green spaces, they appear to be more of a rural bat. Improvements in the management of green spaces, including grazing with cattle, may benefit Serotine bat, as well as rewilding efforts of green spaces that benefit insects.

Other species recorded (note that these records have already been submitted to WSBRC)

Various records submitted including Common shrew, Muntjac, Brown hare.

Further information

Gareth Harris, Gareth Harris Ecology & Conservation. Drafted 23rd October 2026

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Bat passes by Deployment, Location and night surveyed, as follows:

Location 1 Wroughton Airfield1

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	1						1	2
Whiskered/Brandt's Bat		1		1				2
Natterer's Bat	1	1		1		4	3	10
Noctule	6	4	7	0	3	0	2	22
Leisler's Bat	9	1	0	2	0	1	2	15
Serotine	21	3						24
Common Pipistrelle	40	26	25	20	25	9	29	174
Soprano Pipistrelle	4	1	3	2		3	4	17
Brown Long-eared Bat	4	1			2		1	8
Grand Total	86	38	35	26	30	17	42	274

Location 2 - Wroughton Airfield 2 (near Library)

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	3	2	2	2	1			10
Whiskered/Brandt's ba	2	3		5	3	4	2	19
Natterer's Bat	5	1	1	5	20	25	24	81
Noctule	5	23		14		3	1	46
Serotine	23	12	8	5	5	2	2	57
Common Pipistrelle	816	813	657	623	678	825	910	5322
Soprano Pipistrelle	11	6	6	13	4	4	21	65
Nathusius' Pipistrelle	9							9
Brown Long-eared Bat	6		2	2	3	4	1	18
Barbastelle	1				1			2
Grand Total	881	860	676	669	715	867	961	5629

Location 3 - Kings Farm Wood

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	2	5	3	3	2	3	1	19
Whiskered/Brandt's bat			1	4	3	5	5	18
Natterer's Bat		1		2	1	1	1	6
Noctule	5	19	59		15	2	1	101
Leisler's Bat	1	6	3	5			1	16
Serotine	6	12	10	2	8	5		43
Common Pipistrelle	140	132	189	172	140	234	132	1139
Soprano Pipistrelle	9	15	26	13	16	13	5	97
Brown Long-eared Bat	2							2
Grand Total	165	190	291	201	185	263	146	1441

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Location 4 - Belmont Green

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat				1				1
Noctule	19	47	13	1	13	4	8	105
Serotine	1		5		2			8
Common Pipistrelle	61	71	170	106	326	311	145	1190
Soprano Pipistrelle	2	1	1		1	1	3	9
Brown Long-eared Bat	1	1						2
Grand Total	84	120	189	108	342	316	156	1315

Location 5 - Rushy Platt

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	4	7			1		1	13
Whiskered/Brandt's Ba	18	2	5	11	7	11	10	64
Natterer's Bat	2	1	1			2	1	7
Noctule	73	10	18	14	95	9	23	242
Serotine		2	1		1			4
Common Pipistrelle	537	413	422	443	1037	1388	453	4693
Soprano Pipistrelle	5	20	19	37	12	29	11	133
Brown Long-eared Bat	2	4	6	5	1		1	19
Grand Total	641	459	472	510	1154	1439	500	5175

Location 6 - Rivermead

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	2			2			2	6
Natterer's Bat		1	1	1				3
Noctule	20	3					1	24
Serotine		4	1	3				8
Common Pipistrelle	221	268	442	498	285	340	297	2351
Soprano Pipistrelle	279	240	247	472	351	430	642	2661
Brown Long-eared Bat	4	5	1	2	1	3	2	18
Grand Total	526	521	692	978	637	773	944	5071

Location 7 - Moulden hill Country Park

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	12	3	1	26	5	3	2	52
Whiskered/Brandt's Ba	1		3	2		9		15
Natterer's Bat					1			1
Noctule	81	31	87	106	60	81	31	477
Serotine	3	4	6	8	15	0	7	43
Common Pipistrelle	392	645	562	610	969	1679	590	5447
Soprano Pipistrelle	255	243	205	398	576	920	412	3009
Brown Long-eared Bat	1		1	1	1		1	5
Grand Total	745	926	865	1151	1627	2692	1043	9049

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Location 8 - Tadpole Lane

	23/06/2026	24/06/2026	25/06/2026	26/06/2026	27/06/2026	28/06/2026	29/06/2026	Grand Total
Daubenton's Bat	1	1	2	2			2	8
Whiskered/Brandt's ba	8	10	6	3				27
Natterer's Bat	3	4	1	3	1	1	3	16
Noctule	26	10	6	4	4	9	7	66
Leisler's Bat	3	1		3				7
Serotine	5	9	8	5	5	1	2	35
Common Pipistrelle	155	251	243	162	106	113	115	1145
Soprano Pipistrelle	5	9	7	9	9	1	4	44
Brown Long-eared Bat	5	5	4	3	2	2	4	25
Grand Total	211	300	277	194	127	127	137	1373