

Roostwatch JE

Pilot project for a community science scheme to gather information on the roosting sites of bats in Jersey.

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By Flynn Bell-Cook (Earthwatch Intern 2022)

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Executive Summary

Bats are an important indicator of the health of our environment and are protected under the Wildlife Law (Jersey) 2021. As a signatory to Eurobats, the Government of Jersey has an obligation under the Bat Agreement to protect bats through legislation, education, conservation measures and international co-operation. One of these responsibilities is the undertaking of monitoring and observation studies to identify population trends to facilitate the timely introduction of measures to address any problems.

Bats are notoriously challenging to monitor due to their nocturnal behaviour and ability to roost in inaccessible and well-hidden locations.

A useful tool in the monitoring of bat activity is the use of acoustic devices to record bat echolocation calls. The 10-year iBatS scheme in Jersey used such recording devices on driven transects to collect echolocation calls across the island and provided data to establish trends for one species of bat, the common pipistrelle. A report on the 10 years of iBats data carried out by the Bat Conservation Trust (BCT) recommends the development of a call library for Jersey and recommends the systematic recording of bat roost locations to provide information about bat species presence, distribution, resident status, and breeding status (where maternity roosts are identified). Previous capture studies have provided evidence of both *Pipistrellus kuhlii*, *Pipistrellus nathusii* breeding locally, the identification of maternity roosting sites for these species would provide information on the locations of these roost sites and aid the recording of known calls for a call library.

This undergraduate Earthwatch internship seeks to develop a community science scheme to increase awareness of bats and their importance to our environment while increasing the number of known roost locations. By engaging the public to report roosting sites, this project seeks to create important opportunities for education and conservation awareness and provide opportunities for the public to connect with nature.

The Roostwatch JE scheme was developed by Flynn Bell-Cook as the primary focus of an 8-week undergraduate Earthwatch internship with the Government of Jersey in 2022. Roostwatch JE aimed to provide opportunities for the public to get involved in bat conservation through discovery of roosts and encouraging these new roost guardians to observe bats emerging from their roosts. In doing so generating greater understanding of these incredible creatures and increasing their connection and interest to the wildlife sharing their home.

This Earthwatch Internship report by Flynn, details the development and piloting of this scheme and includes his recommendations for taking this work forward.

Introduction

Bats are amazing animals. The only true flying mammal (Gov.je, 2022), these charismatic creatures are largely nocturnal, and not yet fully understood. They live long, complex social lives and constitute around 25% of the mammal species of Jersey (Gov.je (b), 2022).

Bats are indicator species and can tell us a lot about the health of our ecosystems (Gov.je (a), 2022). They supply important ecosystem services: as pollinators, quashing insect populations (decreasing the need for insecticide), and dispersing nutrients across landscapes (Pierson, 1998; Boyles et al., 2011). With the common pipistrelle consuming approximately 3,000 insects in one night, they certainly have a part to play controlling the state of the environment (Gov.je (a), 2022). Additionally, bat species provide humans with a myriad of benefits, including the production of bat guano; nutritious fertiliser and food source for decomposers and scavengers (Yalden and Morris, 1975).

Bats are protected under the Jersey Wildlife Law (2021). As a signatory to numerous international and national agreements, monitoring, and conserving bat populations on the island through education, legislation, and international co-operation helps to fulfil the islands commitments under these agreements (Gov.je (a), 2022). In conjunction with this legislation, the establishment of monitoring frameworks has helped to discern population trends and implement measures to address problems when necessary. To date, these have entailed roost registers, acoustic studies, capture and ringing studies.

A vital tool helping to contribute towards the accurate monitoring of bat trends is the recording of echolocation calls made by bats via acoustic devices. Echolocation calls are the sounds bats make to navigate and to locate and capture insects: they are inaudible to the human ear. Previously, a 10-year iBats project has been undertaken in Jersey, consisting of the gathering of recordings through acoustic devices, along designated road transects across the island. This has enabled the collection of echolocation calls recorded along the length and breadth of Jersey, providing data to establish annual trends for one resident bat species, the common pipistrelle. A report published about the 10 years of iBats data conducted by the Bat Conservation Trust (BCT) advocated the need to develop a call library of Jersey resident species. The classification of echolocation calls currently are based upon recorded calls made by species on the UK (United Kingdom) mainland, and it is not yet known whether these calls differ from the calls made by the same species inhabiting Jersey. The report also stipulated the need to systematically record maternity roosts to provide information on bat species' presence, distribution, resident status, and breeding status (where maternity roosts are identified).

Encouraging engagement from the public would provide opportunities to promote awareness of Jersey's bats and to connect with nature. Historically, in many Western cultures, bats have been associated with darkness, death, witchcraft and evil (Chwalkowski, 2016), discouraging many people from engaging in their monitoring and conservation. The Bat Conservation Trust (BCT) reported that 97% of bat related crimes disclosed to the police in 2018 were the damage/destruction of bat roosts (Crimestoppers, 2022). By incentivising the public to report on and observe bats, via prompting and educating people upon the plethora of ecological and environmental benefits bats provide and their precarious status, will promote a more positive reception of people towards bats. Consistent counts of roosts, specifically maternity roosts (roosts consisting of female bats nurturing their young) can provide vital data on the structure of roosts per se, the timing of breeding and roost formation in response to climate change.

Roostwatch JE Pilot

Monitoring bat populations is challenging, these animals are small, dark and fly at night making them difficult to count. Modern methods include the use of acoustic recorders to record their echolocation calls, but further work is needed to improve the classifiers that attribute the bat calls to individual bat species. To improve these classifiers, recordings from known species of bats are required. To assist the collection of local bat calls from known species, more information is needed on where these target species are roosting.

To increase the number of known bat roost location in Jersey, this eight-week project aimed to design and pilot a citizen science scheme to enable the public to participate in bat conservation by looking out for the signs of bat roosts and submitting their findings. Roostwatch JE was designed in partnership with the Jersey Biodiversity Centre the Government of Jersey's Natural Environment and Communications teams.

Aims:

1. To design and pilot a Roostwatch JE scheme and evaluate its suitability for Jersey
2. To increase the number of known bat roost sites
3. Link with the JBG Great Garden Bat Watch
4. To engage with the public about the importance of these roosting sites
5. To encourage those with bats roosting in their homes or property to participate in / or allow others to undertake annual emergence surveys at their roost and collect droppings
6. To assess public opinion about bats
7. To identify roost sites of key species to facilitate the recording of species-specific echolocation calls for a bat call library

Methodology

Desktop research on European bats was carried out. Information on their roost preferences, habitats and behaviour were investigated. When this was complete research was undertaken on difference citizen science schemes related to bats and how different ways information was gathered for difference schemes. Once the research was completed a design brief was sent to the Government of Jersey communication unit to help them design the infographics, we would need to promote this project (see appendix 1 and 2).

Whilst the scheme was being designed work was carried out with the Jersey Biodiversity centre to create a webpage and online form (see appendix 3 and 4) for the public to enter their data and hold all the resources created to help the public participate in the survey.

We choose the JBC's website as it is a charity and the main biological record centre for Jersey, which collates and shares information about Jersey's environment. It has promoted other similar citizen science schemes in Jersey, from Reptilewatch JE (encouraging residents to look out for native reptiles) and Pondwatch JE (incentivising residents to identify creatures present in ponds), so is likely to have a committed following base who are willing to participate in citizen science projects in Jersey.

The Roostwatch project was primarily promoted on the Government of Jersey's social media pages. These included their Facebook page, Instagram page and on their internal website OurGov. A radio advertisement was also published on Jersey's local radio station, Channel 103, and in the local Parish Magazine, explaining what the project entails and encouraging islanders to participate. Short adverts and interviews were launched on a couple of news outlets across the island, including BBC Channel Island News, its radio station, BBC Radio Jersey, and ITV Channel News. These described what Roostwatch involved, and how Islanders could get involved with the scheme.

All the adverts directed interested people to a Roostwatch JE website (see here: [Roostwatch JE | Jersey Biodiversity Centre](#)) set up on the Jersey Biodiversity Centre's (JBC) website. The website contained some background information on the Roostwatch JE scheme, encouraging islanders to get involved and how they could do this (i.e., through looking for droppings, and gaps in building structures). It aimed to incentivise residents to submit sightings on a separate form connected to the main website.

The Roostwatch JE form on the JBC's website requested islanders to specify the roost type they saw, the bat activity that took place, providing options like buildings, bat boxes and trees and the location of sighting, conducted by pinpointing the position on a spatial map of Jersey. This was implemented as it was believed by disclosing information on a potential bat roost location, this would enable the discovery of previously undetected bat roosts in Jersey. This was especially important for tree roosts as they are notoriously difficult to monitor and identify (PTES, 2022), and thought to be underrepresented in roost figures for Jersey. We also incorporated into the form details concerning any signs spotted of a bat roost (e.g., bat droppings) the number of bats seen, and the time and date. This would provide us with vital information concerning the state of maternity bat roosts and the status of their pups and if certain bat roosting sites were active or not.

It was difficult to discern the true outreach of the project, as no active numbers of people who had viewed rather than responded to the post/scheme were able to be collected. Several posts were published on the Government of Jersey's social media, on its Facebook, Twitter, and Instagram page. Other companies who promoted Roostwatch JE on their social media platforms were Climate Jersey (on their Facebook, Twitter, and Instagram) and ITV Channel News (on their Facebook and Twitter pages). The number of likes, shares/retweets and comments were collated on each social media post, with comments judged upon a positive/negative response towards the bats. These interactions were collected as it was hoped these would signify the Jersey's public perceptions towards bats, especially within the context of Jersey. It could also imply the extent and coverage of which different attitudes towards bats by islanders are held.



Government of Jersey

4d · 🌐

Our Natural Environment team is researching the Island's bat roosts, and building a clearer picture of the places bats call home in Jersey.

You can help by looking for signs like crumbly droppings on windowsills.

To log bat sightings: <https://bit.ly/3cxS0W4>



👍 10

👍 10

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➦ 7

Figure 1.1: An image of a social media post on the Government of Jersey Facebook page.

itv NEWS

Your Area

Categories



Jersey residents urged to report signs of bat roosts

CHANNEL | NATURE | ENVIRONMENT | JERSEY

🕒 Thursday 28 July 2022, 5:45am



The government is offering residents tips to spot bat roosts. Credit: ITV Channel TV

People in Jersey are being encouraged to keep an eye out for signs of bats.

The government's Natural Environment team is working alongside the Jersey Biodiversity Centre to monitor numbers in the island.

The new RoostwatchJE scheme is calling on residents to help with research into where bats live and breed in Jersey.

Figure 1.2: A news post about Roostwatch, published on ITV Channel News's website.

Results

Overall, the outreach and public perception of the Roostwatch JE programme proved to be positive. Across all social media and news outlet platforms promoting the project, it received an array of likes, comments and reshares (see Figure 1.3 below). Except for one perceived negative comment; 'no thanks, if I spotted a bat I'd freak' from one respondent, all other interactions from users were interpreted as positive and welcoming of the project. These included comments like; 'bats are beautiful to see', with additionally some users offering to disclose locations and sites in which they had either sighted bats flying or presumed they were used for roosting. Videos publicised on YouTube, promoting, and explaining the Roostwatch JE programme also turned out to be of interest.

RoostWatch Report:

Facebook:

- Posted = 5 times since launch
- Likes = 33 (in total)
- Shares = 23
- Comments = people are commenting on where they have previously seen bats around Jersey/where they have spotted bats round their house before.
- 2 posts have NO engagement at all

Instagram:

- Posted = 2 times since launch
- Likes = 35 (in total)
- Comments = only one comment on Instagram stating that bats scare people

Twitter:

- Posted = 4 times since launch
- Likes = 22 (in total)
- Retweets: 17
- Comments: 0

Youtube:

- 3 videos posted
- 62 views in total
- Likes = 1

Climate Jersey:

Facebook:

8 likes. 3 shares.

Instagram:

6 likes. 1 comment= positive one!

Twitter: 3 likes. 1 retweet.

ITV Channel News:

Facebook: 5 likes, 3 hearts, 1 share.

Twitter: 1 like, 1 comment (positive, pointing out locations of possible bat roosts).

Jersey Biodiversity Centre:

Facebook: 2 likes.

Figure 1.3: A digital performance analysis of the social media posting's relating to Roostwatch JE as of 19 August 2022.

In terms of roost records noted on the Roostwatch JE website, the scheme turned out to be an interesting citizen science project for the island. In total, 22 roost records were collated on the Jersey Biodiversity Centre's website (as of 22nd August 2022), with records accumulated from a range of locations and roost features in Jersey (see Figure 1.4 below). Although the bulk of records were gathered primarily from the south-east corner of the island, vital records were also obtained from other areas of Jersey (see Figure 1.4 below). Respondents recorded sightings of bats exiting a plethora of locations, including from trees, under roof facia, horse stables and even sea walls (see Figure 1.5 below).

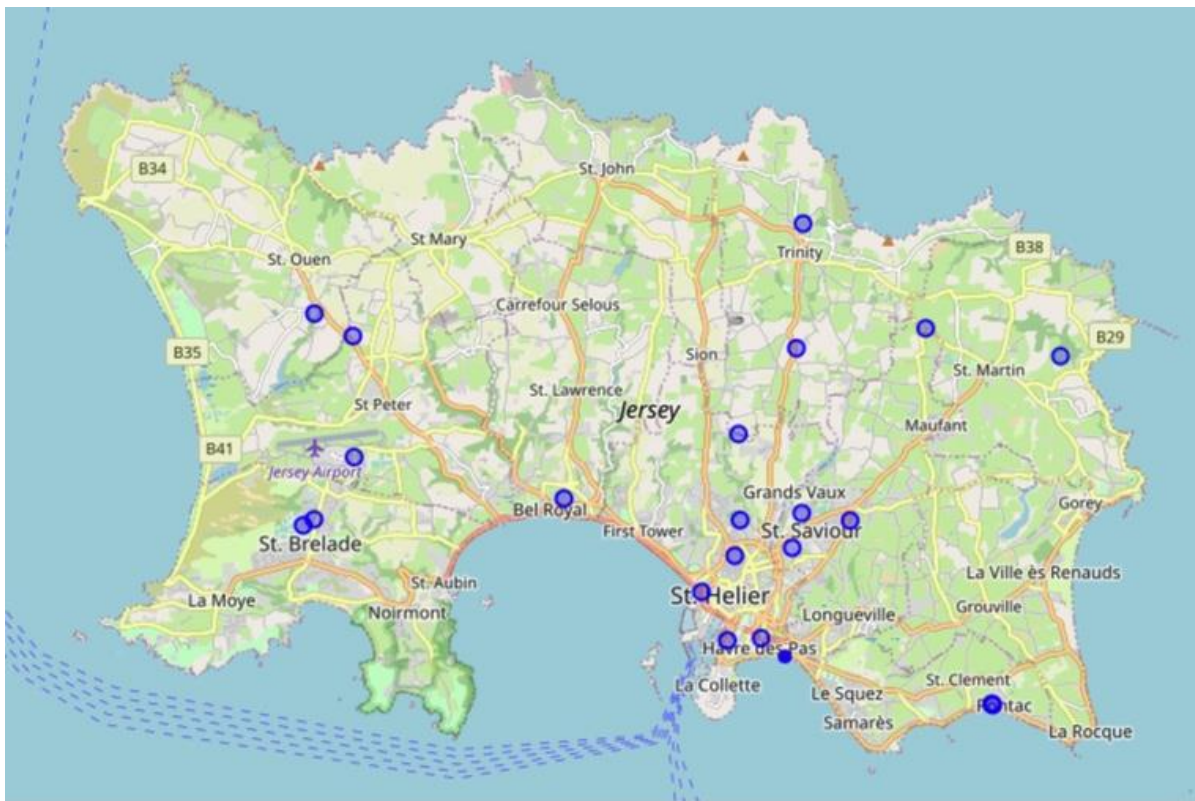


Figure 1.4: a map displaying the locations of recorded roost locations for Roostwatch JE, registered via the JBC's website (22 in total).

ID	Source	Grid ref	Date	How many bats were seen?	Roost type term	Dropping details term	First bat seen
19973802	JBC Jersey Roostwatch	49.226N, 2.199W	18/08/2022	20	Tree		21:00
19928421	JBC Jersey Roostwatch	49.192N, 2.094W	16/08/2022	2	Other		20:00
19927895	JBC Jersey Roostwatch	49.170N, 2.051W	17/08/2022	3	Building	Droppings seen outside	20:30
19854980	JBC Jersey Roostwatch	49.196N, 2.082W	08/08/2022	1	Tree		21:00
19830735	JBC Jersey Roostwatch	49.179N, 2.109W	04/08/2022	1	Tree		21:25
19829020	JBC Jersey Roostwatch	49.196N, 2.201W	07/08/2022	8	Building		21:10
19828079	JBC Jersey Roostwatch	49.196N, 2.199W	07/08/2022	2	Building		20:30
19804108	JBC Jersey Roostwatch	49.205N, 2.190W	04/08/2022	25	Building	Droppings seen outside	21:15
19788602	JBC Jersey Roostwatch	49.186N, 2.114W	04/08/2022	1	Other		
19778274	JBC Jersey Roostwatch	49.223N, 2.190W	28/07/2022	1	Building	Droppings seen outside	
19773528	JBC Jersey Roostwatch	49.221N, 2.094W	02/08/2022	6	Other		20:50
19772875	JBC Jersey Roostwatch	49.197N, 2.092W	02/08/2022	12	Tree		19:00
19769848	JBC Jersey Roostwatch	49.191N, 2.107W	01/08/2022	1	Other		20:00
19765584	JBC Jersey Roostwatch	49.239N, 2.092W	01/08/2022	2	Tree		22:00
19749933	JBC Jersey Roostwatch	49.196N, 2.106W	31/07/2022	2	Building		18:30
19741177	JBC Jersey Roostwatch	49.199N, 2.144W	30/07/2022	1	Building		21:00
19723764	JBC Jersey Roostwatch	49.220N, 2.036W	29/07/2022	2	Building	Droppings seen inside	21:15
19723456	JBC Jersey Roostwatch	WV65984773	28/07/2022	4	Other		21:00
19716459	JBC Jersey Roostwatch	49.180N, 2.101W	28/07/2022	3	Tree	Droppings seen outside	21:00
19695300	JBC Jersey Roostwatch	49.224N, 2.065W	26/07/2022	5	Other		21:00
19693583	JBC Jersey Roostwatch	49.209N, 2.106W	26/07/2022	1	Other		22:02
19621796	JBC Jersey Roostwatch	49.170N, 2.051W	24/07/2022		Building		10:00

Figure 1.5: A table displaying the location, type, and details of bat roost observations for the 22 records submitted by members of the public.

Recommendations

Although the initial publication and perception of Roostwatch JE in Jersey seemed to be successful overall, a few key suggestions may help to improve any future projects. The Roostwatch JE scheme overall proved to be a positive citizen science project that could be used periodically in the future to garner information concerning the status of Jersey's roost sites.

However, to obtain a more reliable and wider ranging record log from Roostwatch in future, it would be advisable to promote the scheme on a wider range of social media platforms, and over a more prolonged timeframe. Despite the project being advertised on numerous social media platforms by various bodies like the Government of Jersey, Climate Jersey and ITV Channel News, the public's interaction with the posts proved to be more limited than expected. In total, the Government of Jersey's social media posts only produced 89 likes, with a handful of comments, with 2 posts providing no further engagement at all (see Figure 1.3). Even the record log of Roostwatch JE on the The JBC's website amassed 22 recordings as of the 25th of August 2022 a month after its launch, which was fewer than was envisaged or hoped for, although records may continue to filter in at later dates. In future, it would be more beneficial to promote Roostwatch JE on a wider array of companies' social media sites and news outlets, for example, BBC News Jersey or the Jersey Bat Group. Existing companies could share the project on their social media platforms in a more effective way, like via the publication of a DIY walkthrough of Roostwatch. Or this could be done through more prolonged, habitual social media posts, that could commence at an early stage in the project, and last longer, for example every few weeks between May-September, concurrent with increased bat behaviour and activity in the summer months (Bat Conservation Trust, 2022). It is

likely that the increased presence of information relating to Roostwatch JE on social media would raise awareness of the project to more islanders, and a more targeted publication approach via companies' social media platforms would extend the project's reach.

One drawback identified via the initial public perception of Roostwatch JE 's focus was the view that the scheme was too niche. The project encouraged islanders to; 'look out for signs that bats might be using spaces around your home and garden or outbuildings' rather than recording sightings of bats in general. Some residents interested in the scheme contacted us directly expressing their desire to add records to the project's log of bats flying about, often near their property. Reporting general sightings of bats in flight was not included in the Roostwatch scheme as this is an activity captured by the Jersey Bat Group's [The Great Garden Bat Watch scheme¹](#), which Roostwatch sought to compliment.

A further way to make the identification of bat roosts more accessible to wider audiences could be through education, for example providing DIY vlog walkthroughs of Roostwatches or step-by-step guides of how to conduct Roostwatches in PDF format with annotated photos. This could be advertised on social media and attached to the Roostwatch website. Although some of these resources were accessible through the Roostwatch page on the JBC's website, such as a general advice guide and bat dropping identification guide, it may have appeared to some residents that these were too lengthy or incomprehensible. By compressing such information into smaller posters or advisory photos and DIY vlogs, this may make such relevant information more accessible and attention grabbing to residents.

One additional consideration that could be seized upon when undertaking Roostwatch could be the collection of extra datasets, undertaken in unison with the main project to maximise the project's wider impact. One of the opening aims for the Roostwatch JE project was; 'To assess public opinion about bats,' and with limited time provided for the internship (8 weeks), we did not have adequate scope to fulfil this aim. Previous research has shown that in some cultures, particularly Western ones, bats are associated with malevolence, death, and witchcraft (Chwalkowski, 2016). The awareness and importance of bat roosts may be underreported or non-pervasive as a result, as it has been previously reported that 97% of bat crimes collated by the Bat Conservation Trust in 2018 were related to the damage/destruction of bat roosts. It would be ideal to publicise a measure to collate islanders' opinions and perception towards bats, which could have been undertaken through a questionnaire or survey accessible online. This could be addressed by asking residents to answer a set of questions (see Appendix 1), including if respondents knew bats' contributions to the environment, the threats facing them and how willing they were to help conserve bat populations on the island. A draft of a potential questionnaire has been added to the appendix section in the hope this questionnaire may be utilised at another time, to gain vital data relating to islanders' perception towards bats in advance of any project.

It is essential that the collection of data associated with the status of bat roosts should be fulfilled and promoted for years to come. Bats are subject to a precipitously expanding threats, like foraging habitat loss, and climate change (Racey, 2009). The collation of active bat roosts and species will be imperative in future years due to their ecological significance Pierson, 1998; Boyles et al., 2011). Tentative research in the UK has discerned that Britain's most common bat, the Common Pipistrelle, has seen its numbers on the increase since at least 1999, believed to be in part due to increased legal protection and conservation efforts (Bat Conservation Trust, 2022). Scant data exists for comparisons to be drawn in the context of Jersey, however an interim report published in 2016

¹ <https://www.jerseybatgroup.org/2021/06/02/great-garden-bat-watch-2021/>

identified Jersey's pipistrelle species had expanded in numbers between 2011-2015, concurrent with the picture in the UK (Gov.je (a), 2022). Ensuring schemes like and including Roostwatch JE persist into the future will provide valuable data concerning bat roosts and numbers in the face of continuing environmental threats, while promoting conservation of such populations through education provided to residents involved in the citizen science project.

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Appendix 1: Roostwatch Guide (accessible through the JBC’s website, captured on the 28/8/2022):

The image is a poster for 'Roostwatch, je' with a dark purple background. At the top left is an illustration of a bat hanging upside down. The title 'Roostwatch, je' is written in a white, handwritten-style font. In the top right corner, there are two logos: 'Wild about Jersey' with a leaf icon and the Jersey coat of arms. Below the title, the subtitle 'Looking for roosts' is written in a light purple, handwritten-style font. The main text explains that bats need safe dark spaces to rest, unlike birds and rodents. The poster is divided into two columns: 'Where to look' and 'What to look for'.

Roostwatch, je

Looking for roosts

Bats need to find safe dark spaces to rest, unlike birds and rodents they don't make nests but use existing cracks and crevices. They find these spaces in a wide variety of places from buildings to trees and underground places such as caves and bunkers.

Where to look

> Buildings
Look for places with small gaps as bats only need a gap of a few centimetres to hide away in. There are many places on buildings new and old that might be used by bats, the following illustration shows just a few examples.

> Trees
Bats can use a variety of features on trees in which to roost. These include holes such as woodpecker holes and rot holes, cracks in branches that have split or even just behind ivy or lifted bark. These roosts are difficult to find, and bats often switch between these roosts, so may not roost in the same place every day.
A good way to see if bats are roosting in a tree is to watch the tree at dusk or dawn and look out for bats flying in or out of a hole.

What to look for

> Droppings
Bats often leave droppings as they leave or return to their roost, so these are a great way to look for signs of a roost.
The droppings are similar to another small mammal dropping, those of mouse and shrew. Bat droppings are made of insects remains and will easily crumble and sometimes have a slightly sparkly appearance when crumbled. Mouse droppings are usually very hard and do not crumble.
Outside, look for dropping on walls, windowsills and on the ground under a suspected roost site.

> Staining
Where the bats gather or squeeze in and out of a roost space, oil from their fur can leave dark marks or stains which provide a clue that the space might be used by bats.



Accessible at:

<https://jerseybiodiversitycentre.org.je/sites/default/files/resources/school/Roostwatch%20Guide.pdf>

Appendix 2: Places and signs to look for bat roosts guide (accessible via the Roostwatch JE page on the JBC's website, capture 28/8/2022):






Looking for roosts



Roostwatch JE is a scheme to find the places bats use to rest in Jersey so that we can better understand these fascinating creatures and to assist with future research.

The scheme looks for the signs of bat resting spaces and encourages you to look at buildings and trees at dusk to see if any bats can be seen emerging from these spaces.

To help you see bats at dusk, this guide provides some examples of the signs to look for and spaces bats are known to use.

Bats and their resting places are protected by law, so look for the signs of bat roosts and watch them emerge from a distance rather than looking for bats within a roost. If you are in a loft space or barn and see a bat, withdraw quietly leaving them to rest .


Bat Roosting sites

Bats need to find safe dark spaces to rest, unlike birds and rodents they don't make nests but use existing cracks and crevices. They find these spaces in a wide variety of places from buildings to trees and underground places such as caves and bunkers.

Where to look - Buildings

Look for places with small gaps as bats only need a gap of a few centimetres to hide away in.

There are many places on buildings new and old that might be used by bats, the following are just a few examples.



- Under ridge tiles or under flashing around dormers or chimneys
- Under loose, lifted or missing tiles
- Behind cladding or barge boards
- Chimneys
- Window and door lintels or old frames
- Behind facias and gutters
- Behind ivy

Where to look - Trees

Bats can use a variety of features on trees in which to roost. These include holes such as woodpecker holes and rot holes, cracks in branches that have split or even just behind ivy or lifted bark.

These roosts are difficult to find, and bats often switch between these roosts, so may not roost in the same place every day.



A good way to see if bats are roosting in a tree is to watch the tree at dusk or dawn and look out for bats flying in or out of a hole.

What to look for - Droppings

Bats often leave droppings as they exit or return to their roost, so these are a great way to look for signs of a roost. Bat droppings are similar to other small mammal droppings like those of mice and shrews however they are made of insect remains and will easily crumble and sometimes have a slightly sparkly appearance when crumbled. Mouse droppings are usually very hard and do not crumble.



Outside, look for droppings on walls, windowsills and on the ground under a suspected roost site



Inside an outbuilding, barn or attic look on the ground or on other surfaces and on the walls or beams below potential bat resting places.



Accessible at:

<https://jerseybiodiversitycentre.org.je/sites/default/files/resources/school/Find%20dropping%20guide%20with%20examples.pdf>

Appendix 3: The homepage of the Roostwatch JE project on the JBC's website (captured 28/8/2022):



Roostwatch JE

Roostwatch JE

Welcome to Roostwatch JE!

Find out more about the wildlife around your home and garden by taking part in Roostwatch JE.

You can do this by looking out for signs that bats might be using spaces around your home and garden or outbuildings while enjoying the summer evenings, looking for bats as they emerge to feed for the night.

Why take part in Roostwatch JE?

Bats are fascinating animals. The only true flying mammal, 18 species of bat have been recorded in Jersey, some of which are known to be breeding locally.

Bats and humans have lived in tandem for many tens of thousands of years, and provide humans with a plethora of benefits, from the pollination over 500 plant species to producing guano in their dropping, a highly effective fertiliser to the consumption of insect pests, decreasing the needs for pesticides. For example, a common pipistrelle can eat up to 3000 insects a night, mostly midges and mosquitoes!

Bats are protected internationally through Multilateral Environmental Agreements, and locally under the Jersey Wildlife Law (2021). Protecting and monitoring bats is becoming increasingly pertinent, as bats are subject to an expanding number of threats, varying from climate change, light pollution, decreasing insect numbers, and loss of roosting sites.

Roostwatch JE aims to increase our knowledge of the places bats in Jersey choose to use for resting and breeding. This information will help us to learn more about these fascinating creatures and will help us to assess their conservation status in Jersey.



Roost
watch, je

How to get involved

Bats are such quiet house guests, most of us have no idea they are living close by. To find where bats hangout we need to look out for a few clues:

- Look around the outside of buildings, garages, barns or outbuildings you have access to.
- Look for gaps where bats might squeeze in (e.g., under roof tiles, behind cladding, fascia boards etc).
- Look for holes in trees, e.g., woodpecker holes, cracks in branches or lifted bark.
- Look on the ground, windowsills, and walls for droppings, and look for dark stains just below a gap where bat roosts may be present.
- If you are going into an open space like a barn or attic, keep an eye out for piles of droppings and insect wings on the floor.

Remember bats are protected by law from disturbance, so don't go searching for bats themselves, keep light and noise to a minimum if you are heading into a loft space and withdraw if you see any signs of presence.

Bat droppings

Bat droppings are small and look similar to mice droppings. The 'crumble test' can be used to tell them apart. Roll the dropping in a piece of tissue, in-between your finger and thumb, if it disintegrates to a dust, it is a bat dropping. The droppings are made of insect parts and are generally dry and odourless. They can have a glittery look when crushed.

Places to keep an eye out for bat droppings include windowsills, attics, balconies, virtually anywhere close to an entry point (a point of access into a bat roost).

How to Roostwatch

One of best ways to discover if a building, bat box or tree has active bat roosts is to sit back on a clear evening at dusk and watch. It is a wonderful way to enjoy a warm summer evening and contribute to science at the same time!

Set aside an hour or two on a nice summers evening. 15 minutes before sunset, find a good spot with an unobstructed view where you think bats might be flying in and out of their roost then sit back, relax, and watch until it gets too dark to see the roost site or bats.

Try and pick a spot that is far enough away from the bat roost that you do not disturb or agitate them, but you still have a view of them flying in and out of their roost. As much as possible, try and count them as they leave, but also make a note of any that return. Although it may be tempting to use a torch or light to get a better view, please don't as bats need the cover of darkness to feel safe.

Take photos of where the bats are flying in and out of, even if the bats are not in the photo.

Submit your sighting record [Roostwatch.JE form](#)

Resources

General advice and information guide: [Roostwatch guide](#)

Places and signs to look for bat roosts: [Looking for bat roosts](#)

Bat dropping identification guide: [Bat dropping identification guide](#)

Bat Conservation Trust & Mammal Next Door guide to [How trees are important to bats](#)

[Click here](#) to see videos of bats emerging from a selection of different roosts



Pipistrellus pipistrellus © Miranda Collett



Appendix 4

Roostwatch JE - survey form

Welcome to Roostwatch JE

Have you seen bats entering a property, building or tree? If you have, please use the following form to record the roost, and any bats you have seen.

What you need to do

- Check the building, property or tree between June and September.
- Visually search noting any signs of bats (e.g., droppings) then at sunset (or sunrise) spend one hour observing to see if any bats leave or enter the structure.
- Take photos of any signs of bats (e.g., droppings) and the areas you have seen bats enter or exit even if the bats are not in the picture.
- Fill in the form below.

Remember that Jersey's bats and other wildlife are protected by law, and should not be harmed, taken or possessed, nor should their breeding or resting sites be disturbed.

For more information and examples of what to look for please see the [Get Involved / Roostwatch JE page](#).

Recorder Name:

Roost type:

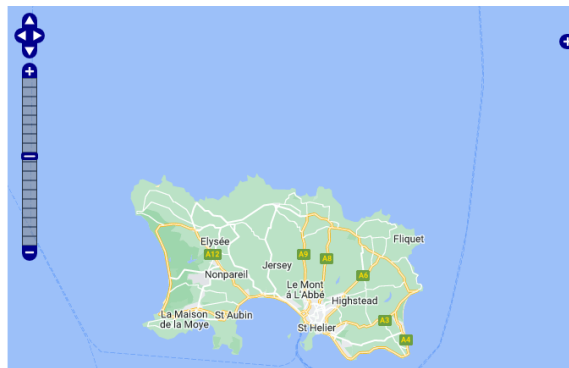
- Building
- Bat box/bat house
- Barn/shed
- Garage
- Tree
- Church
- Other

Site Name:

Please give a location name e.g., a house/building name, postcode or street name.

Enter a spatial reference:

Or search for a place on the map:



Appendix 5: Bat dropping identification guide (produced by the Bat Conservation Trust), accessible via the Roostwatch JE page on the BCT's website (captured 28/8/2022):

Bat Conservation Trust
Bat Droppings
 A Field Identification Summary
 www.bats.org.uk

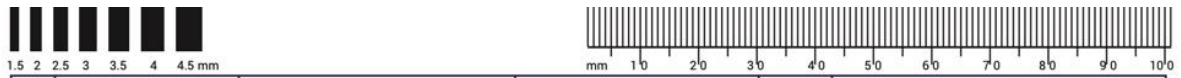
Typical size and texture - to scale

Description

Ends	Shape/Twists	Outline
Taper	3-parts	Smooth
Blunt	Oval	Knobbly
Round	Twists	

Indicative details

Whilst the information on this card is a useful guide, bat species identification should be definitively confirmed via other means such as identification in the hand, by echolocation calls (not suitable for all species) or by DNA analysis of the droppings.
 This field ID summary was compiled by Nick Kelly and North Bucks Bat Group using data from: Stebbings R. *et al*, Which Bat Is It, 1986; Bat Conservation Trust, *Bat Droppings: foundation course for ecological consultants*; Shepherd P. *Bat Dropping Analysis*
 The Bat Conservation Trust is a registered charity in England and Wales (1012361) and in Scotland (SC040116). Company Limited by Guarantee, Registered in England No. 2712823. Registered office: Suite 15, Cloisters House, Cloisters Business Centre, 8 Battersea Park Road, London SW8 4BG. Vat Reg No: 877158773.



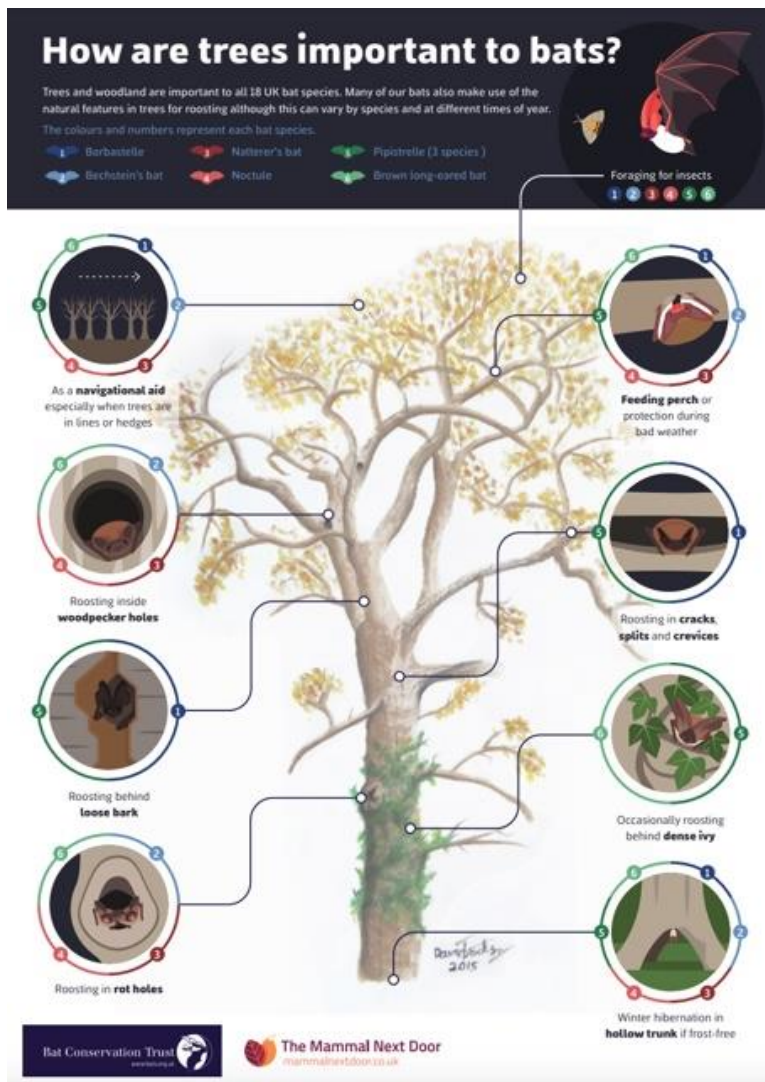
SPECIES	Length					Description					Width					Texture	Found		Location (buildings)	Pattern
	5-7	7-9	9-11	11-13	13-15	Outline	Shape	Ends	Twists	Colour	Ass. Insects	1.5-2	2-2.5	2.5-3	3-3.5		3.5-4	Int. rare/usual		
Pip						sm		taper				1.5-2.0					F	r	below access	
LHS	6-8		freq. ovoids 3-4mm			sm	clumps			occ. ging. l/w		1.5-2.0					F	u	below ridge/low beams	circular cluster
Daub		8-9				sm	clumps					1.5-2.3					F	u	tunnels/bridges/churches	
Wh/Br/Al		6-9						no taper				2.0-2.3					M	u	below ridge/vert. structure	circular cluster
Barb		8-11				sm/kn	3 parts					2.1-2.7					M	u	general scatter	
GHS			9-13							silv. speck w		2.2-2.7					C	u	below ridge/hip	patches
Natt			8-11				3 parts		yes	w		2.3-3.3					M	u	below timber joints & timber/stone crevices	circular patches
BLE		8-10				kn				oft. 2 w		2.5-3.0					M	u	walls	scatter
GLE			9-11			kn						2.5-3.0					M	u	below ridge/hip	line
Leis	6-9									bla=fresh		2.5-3.0					M	u		
Bech			9-12									2.5-3.5					M	u		
Noct				11-15				blunt		bro=fresh		3.0-3.5					M	r		
Sero		8-11				oval	round					3.5-4.0					C	u	below ridge/around chimney	circular cluster general scatter

Pip = Pipistrelle spp. LHS = Lesser horseshoe bat. Daub = Daubenton's bat. Wh/Br/Al = Whiskered/Brandt's/Alcathoe bat. Barb = Barbastelle. GHS = Greater horseshoe bat. Natt = Natterer's bat. BLE = Brown long-eared bat. GLE = Grey long-eared bat. Leis = Leisler's bat. Bech = Bechstein's bat. Noct = Noctule. Sero = Serotine.

Accessible at:

<https://jerseybiodiversitycentre.org.je/sites/default/files/resources/school/Bat%20Droppings.pdf>

Appendix 5: The Bat Conservation Trust and Mammal Next Door Guide to how trees are important to bats (accessed by the Roostwatch JE site page on the JBC’s website, captured on 28/8/2022).



Accessible at: <https://cdn.bats.org.uk/uploads/pdf/Bats-Trees-Poster-BCT-MND.pdf>

Appendix 6: Roostwatch JE survey form (accessed via the Roostwatch JE page on the JBC's website, captured 28/8/2022):

Roostwatch JE - survey form

Welcome to Roostwatch JE

By joining Roostwatch JE, you will be able to submit records to the **Jersey Biodiversity Centre**. This can be done without logging in to the website, but if you are interested in wildlife you might like to consider registering an account with the Jersey Biodiversity Centre which would have advantages including easier recording options and the ability to access your records in the future. We hope you will visit us again making additional biological records

If you would like to create a personal account before submitting your record, please follow this link: <https://jerseybiodiversitycentre.org.je/user/register>.

Have you seen bats entering a property, building or tree? If you have, please use the following form to record the roost, and any bats you have seen.

What you need to do

- Check the building, property or tree between June and September.
- Visually search noting any signs of bats (e.g., droppings) then at sunset (or sunrise) spend one hour observing to see if any bats leave or enter the structure.
- Take photos of any signs of bats (e.g., droppings) and the areas you have seen bats enter or exit even if the bats are not in the picture.
- Fill in the form below.

Remember that Jersey's bats and other wildlife are protected by law, and should not be harmed, taken or possessed, nor should their breeding or resting sites be disturbed.

For more information and examples of what to look for please see the [Get Involved / Roostwatch JE page](#).

Email:

Please provide your email address so that we can contact you if necessary about your submission.

Recorder Name:

Roost type:

- Building
- Bat box/bat house
- Barn/shed
- Garage
- Tree
- Church
- Other

Site Name:

Please give a location name e.g., a house/building name, postcode or street name.

Enter a spatial reference:

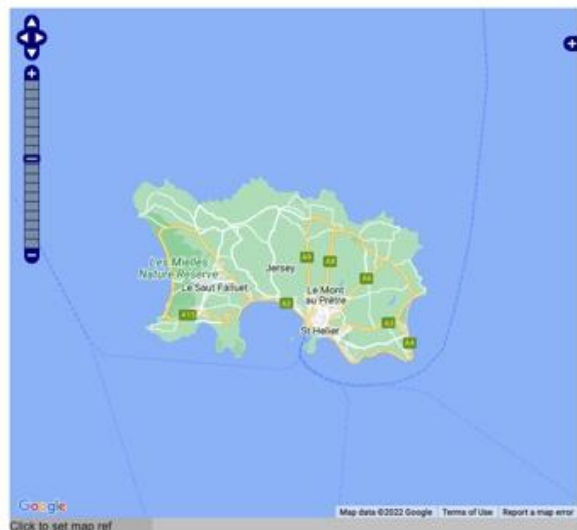
WGS84 (decimal lat, long)

Or search for a place on the map:

Search

Or simply click on your roost location on the map.

Roostwatch date:



Signs of roost seen:

- Droppings
- Dead bat(s) found
- Grounded bats have been seen in house or garden
- Bats seen flying from (or returning to) the roost feature

Dropping details:

- Droppings seen inside
- Droppings seen outside

If droppings were seen, were they seen inside (e.g., barn, attic space) or outside (e.g., windowsills, on ground under fascia etc)?

If bats have been seen

What time was the first bat seen?

Where did it come from?

How many bats were seen?

Add photos

Drop files here...

Overall comment:

Please provide any further information, e.g. species of bat if known, if a bat detector was used, if the JSPCA, Jersey Bat group or the vets were contacted about a grounded bat etc.

Thank you for submitting your Roostwatch findings. This record is being submitted to the Jersey Biodiversity Centre, which will be stored by the UK Biological Records Centre. We are asking for contact details in case we need to contact you when verifying your record. Your details will not be used for any other purpose. Full terms and conditions are available from: <https://jerseybiodiversitycentre.org.je/terms-and-conditions>.

Accept terms and conditions:

Please tick this box to confirm you have read and accepted the terms and conditions.

[Contact](#) [Terms and conditions](#)

Accessible at: <https://jerseybiodiversitycentre.org.je/roostwatch/survey-form>

Appendix 7: Public's perception of bats draft questionnaire:

Potential to publicised at a later date to get an understanding of people's opinions of bats:

- a) What is your general perception of bats?
- b) How would you feel if bats were living in your home/garden?
- c) Can you name any of the 18 bats species recorded on the island?
- d) Have you ever seen/ come across a bat(s) in Jersey?
- e) List as many threats to the well-being of bat populations in Jersey as you can.
- f) List all the ways you think bats are helpful to the environment.
- g) How likely are you to do the following things on a scale of 0 (never) to 5 (extremely likely) to help in the conservation of bats in Jersey:
 - i) Put up a bat box:
 - ii) Attend, donate or participate in events and volunteering opportunities for the JBG.
 - iii) Get involved in a bat monitoring survey/event.