

Wildlife (Jersey) Law 2021
Ecological and Practical Interpretation of Definitions
Disturbance, Breeding sites and Resting sites of Bats

Introduction

Jersey supports a rich diversity of plants, animals and birds, due in large measure to our variety of landscapes and habitats, whether terrestrial or marine. Many of these species are rare or under threat locally or internationally and are in need of protection from activities that can damage their conservation status or lead to their mistreatment.

The Wildlife (Jersey) Law 2021 is the main legislation that provides for the protection and conservation of wild animals, wild birds and wild plants in Jersey including its territorial waters. The Law makes it an offence to carry out deliberate or reckless acts affecting protected species, including the killing, capture of species and the disturbance or damage of nests, dens and breeding sites. Protected species include wild birds, mammals, reptiles, amphibians, invertebrates, plants, fungi, marine mammals and fish, and different levels of protection apply according to the conservation of the species in question. In addition, defences and exceptions exist for some activities.

This guidance has been developed to provide information on what some of the provisions of the law mean in relation to protected bat species, and particularly in relation to what is considered to constitute their breeding sites and resting sites and offences in terms of disturbance of these species.

Please note that this is guidance only and that ultimately it is the role of the courts to interpret and apply the law. If in doubt you should seek your own legal advice.

The Law

The Wildlife (Jersey) Law 2021 ('the Wildlife Law') sets out offences in relation to bats and the structures or places they use, this includes offences in relation to deliberate and reckless harm or disturbance of bats, as well as an offence of damaging or destroying a bat's breeding site or resting site. Also, offences relating to damage or destruction to breeding sites or resting sites, even if bats are not occupying the roost at the time, and disturbance away from these structures.

Structures and places used by bats

The structure or place a bat lives is called its roost; this includes where bats have their young or where bats overwinter, and this may be a single bat or a number of bats roosting together. Bats have different roosting requirements at different times of the year to suit their metabolic needs, and they will often move around between known roosts to find a roost that has the conditions they need. Bats have been discovered roosting in a huge variety of natural and built locations (see table 1).

Disturbance of bats

Bats are found throughout both rural and urban environments, which may demonstrate in some species a certain capacity to tolerate and opportunistically use human-dominated landscapes. However, disturbance offences can occur as a result of normal day-to-day human activities depending on the proximity to breeding sites or resting sites, the species in question and the type, duration and frequency of the activity undertaken.

Activities that could constitute an offence

Bats use different roosting sites depending on the species, time of year and changes in the local landscape. Therefore there are a huge range of structures or places in Jersey that could potentially be a breeding site or resting site for bats. Bats will often return to the same roost sites year after year, although within a year multiple roosts may be moved between by the same colony to serve their seasonal needs; some species will move regularly between roosts both within and between years. Due to the importance of these sites to the survival of a bat they are also considered protected whether bats are present in them at the time or not. Bats are highly mobile species whose foraging or commuting behaviour may be influenced by factors such as changes in the landscape that influence habitat connectivity, feeding resources and commuting opportunities. In turn, habitat changes can impact the suitability of sites for bats to use as a roost.

In addition, Jersey has a number of bat species that are considered to be data deficient or where species are difficult to tell apart and therefore a precautionary approach must always be taken when considering how bats could be impacted by a range of human activities. It is essential to understand how bats may be using the locality to avoid an offence being committed. Due to their complex needs (including roost requirements) and the fact that bats are highly mobile, responding to changes in the environment, bat survey data should ideally be from the survey season directly prior to any impacts, any bat survey data older than 18 monthsⁱ should be updated.

Expert ecological advice is required to ascertain whether proposed activities are likely to impact on bats, bat roosts or bat habitats.

Annex 1 – Breeding sites and resting sites of Jersey’s bat species

Introduction

It is an offence under the Wildlife Law (unless licensed or legally authorised) to deliberately or recklessly:-

- Take, injure or kill a wild bat, cause or permit another person to do so
- Take, damage or destroy a breeding site or resting site of a bat, or to do anything which has the effect of causing deterioration of the site at any time (even if bats are not occupying the roost at the time) unless there is evidence that the den is not regularly used or is not likely to be used in the future*
- Obstruct access for a bat to its breeding site or resting site
- Disturb a bat in a breeding site or resting site

In relation to Article 11, breeding sites and resting sites are protected even when not in use by bats and disturbance of bats also form new offences as follows—

- *“for the interference, at any time, with the dens of certain wild animals, where the same den is relied upon for breeding success from year to year*
- *for the interference with the breeding sites and resting sites of certain wild animals, such as hibernation sites*
- *for the deliberate disturbance caused to certain protected wild animals, whether or not these are within the vicinity of a den”.*

This protection of breeding sites and resting sites, whether bats are present or not, and disturbance of bats away from these structures, highlights not only the importance of certain structures to bat survival, but also the sensitivity of bats to disturbance in the wider landscape. Article 8(4) provides that *“there are exceptions for certain cases where the act in question is authorised by a licence, or (except in relation to bats) occurs within the living area of a dwelling-house.”* This higher level of protection for bat species seeks to take into account their distribution, the threats they face and their rarity.

Roosts therefore remain protected for as long as there is a reasonably high probability of bats returning to them. The assessment of whether a roost is not regularly used and is not likely to be used in the future would need to be made by a suitably experienced ecologist applying professional judgement. This assessment is species and roost-type specific but may include evidence that a roosting site has changed to the extent that it is no longer suitable for roosting bats. In the absence of changes to the roost, survey work should be carried out to establish if bats are indeed present seasonally over at least two years, as conditions between years can vary.

It is also an offence to:-

- Deliberately disturb a bat at any time
- Sell, offer to sell, or possess or transport for the purpose of selling, any protected wild animal or any part of such an animal (dead or alive)

The statutory protection afforded to bats in Jersey is a reflection of the island's international obligations towards these species laid out in a number of multi-lateral environmental agreements ("MEAs") that have already been extended to Jersey, notably:-

- The Convention on the Conservation of European Wildlife and Natural Habitats (the "Bern Convention");
- The Convention on the Conservation of Migratory Species of Wild Animals (the "Bonn Convention") and associated Protocols and Agreements.
- The Conservation of Biological Diversity (the "Rio Convention") (CBD)

Jersey is also a signatory of the Agreement on the Conservation of Populations of European Bats (EUROBATS) and as such should be aiming to comply with recommendations within this binding International Agreement to protect bats from a range of negative impacts, for example from light pollution or wind farms.

The importance of protecting Jersey's biodiversity, including bat species, is also considered in a number of key Jersey planning and strategic documents, both current and archived;

- the Biodiversity Strategy for Jersey (2000)
- the Planning and Building (Jersey) Law 2002
- the Bat Species Action Plan (2004), the Habitat Statement: Urban (2008)
- The Bridging Island Plan 2022-2025

In considering these documents and this approach, the Wildlife Law states in Article 2 (2) "*every public body, in exercising a function conferred by an enactment, must have regard to promoting the conservation of biodiversity*".

Bats and their roosts are protected due to their sensitivity to environmental change combined with slow breeding rates which make bat populations vulnerable to rapid changes in land use. This vulnerability has been demonstrated by serious declines in their populations over the past century, predominantly due to loss of suitable roost sites and insect-rich feeding habitats due largely to intensification of agriculture and development pressure. Also, change of use of or increased disturbance to human-made structures (including buildings, mines, tunnels and bridges).

Due to the ecology of bats and the uncertainty surrounding the population status of Jersey's bat species, all species are afforded maximum levels of protection under the Wildlife Law.

Bat ecology

There are over 1400 species of bat worldwide found on all continents apart from the Antarctic and occupying a huge variety of ecological niches. Due to their sensitivity to changes in the environment, bat populations are a useful measure of how an ecosystem is functioning and are known as biodiversity indicator species. In Jersey alone there are 18 recorded bat species, 8 of which are known to be resident with breeding populations. All of Jersey's bat species are insectivorous which means they provide an important ecosystem service in pest suppression. This energy-rich food source allows them to maintain their body temperature in Jersey's temperate climate. It requires bats to fly and echolocate to hunt for their prey, both of which are energetically expensive. Echolocation has enabled bats not only to hunt their insect prey at night, outcompeting daytime insectivorous birds such as swallows, but it has also allowed bats to avoid predation by daytime raptors such as sparrowhawks

This threat of predation is key in understanding the impacts of urbanisation, such as habitat loss and light pollutionⁱⁱ in influencing bats behaviour. Bats become more exposed when flying through the modified landscape and therefore more vulnerable to being predated upon. This is particularly true for slower flying species designed to hunt in cluttered, more sheltered environments such as woodlands and in complete darkness. Slow flying species can be thought to be sensitive to lightⁱⁱⁱ because they feel the threat of predation more keenly, especially as the truly dark habitats that they require are increasingly shrinking. Away from the roost, faster flying species, such as those that hunt in edge or open habitats e.g. along treelines and out into fields, can be thought of as light opportunistic, taking advantage of areas of higher urbanisation to roost and feed where these resources are available. These bats are more able to avoid predators but the risk remains and, where areas have fewer roosting or feeding opportunities, this may be for little reward. In addition, where light impacts roost sites, all bat species will delay their emergence or may even abandon the roost.

Increased urbanisation and pressure on the landscape from human activity has seen loss of natural roosting, foraging and commuting habitats resulting in massive declines in historic bat populations. It is considered to be indicative of anecdotal losses reported on Jersey, which has suffered similar human driven impacts. These impacts can be thought of as direct or indirect; direct impacts would be through activities such as land clearance when bat habitat is physically removed or trees containing natural roosting sites are lost. Indirect impacts cause suitable bat habitat to become unsuitable without its physical removal, for example the use of insecticides that remove a feeding resource from an area, meaning it can no longer support a bat population.

To summarise, bats have therefore had to find equivalent roosting and feeding opportunities in and around the habitats that remain, which are frequently highly modified by humans. There are a number of key stages in the life cycle of a Jersey bat, which are particular to

different times of year. As a general guide, from April, females form maternity colonies and give birth to a single young (called a pup) usually between May and June. From July, mothers start to leave the nursery roosts with their young. Mating occurs from August when bats disperse into smaller groups. If the weather becomes cold enough that their food resource is not sufficient then bats can hibernate, generally in the period late November to March. However, in Jersey it is believed likely that for some species in most years true hibernation does not occur. From early March, bats are active and feeding, with females getting ready to form maternity roosts again.

Breeding sites and resting sites

Any place a bat lives is called its roost; this includes places bats have their young or where bats overwinter. This could be a single bat or it may be a number of bats roosting together. Bats have different roosting requirements at different times of the year, and they will often move between roosts to find a roost that has the conditions they need as detailed above. For example, several weeks in late spring / early summer, female bats gather in a warm, dry maternity roost to have their pups. In periods of cold weather in winter, bats can go into hibernation (torpor) and require roosting sites that are stable but cold and humid. Due to their vulnerability during these roosting periods and the potential for harm to individual bats but also at a population level, these are considered the times when greatest impact can occur. However, there are several other roosting types that may be present; the roost classifications are generally considered to be^{iv}:

- day roost - where individual bats, or small groups of males, rest or shelter in the day, but rarely on summer nights
- night roost - where bats rest or shelter at night, but rarely during the day
- feeding roost - where bats rest at night between feeding sessions, but rarely during the day
- transitional/occasional roost - where bats gather at a temporary site before and after hibernation
- swarming site - where bats gather in large numbers from late summer to autumn
- mating site - where males and females gather from late summer to early winter
- maternity roost - where babies are born and raised until they're independent
- hibernation roost - where bats are found during cold weather in winter
- satellite roost - where breeding females roost close to the main nursery colony in the breeding season

European Commission guidanceⁱ recognises the importance of breeding sites stating that these sites “*must be protected even when not occupied*” and that resting sites are “*areas essential to sustain an animal or group of animals when they are not active*”. These places may include structures and habitat “*essential for survival*” including those required for

resting, sleeping or recuperation and hiding, protection or refuge. This level of protection to breeding sites and resting sites is transposed into Jersey law by Wildlife Law Articles 8, 9 and 11 (see 2.2 above) and now includes whether or not bats are present in them at the time.

Roosting sites are chosen by bats because they meet specific requirements in terms of temperature, humidity, roosting surfaces, proximity to feeding grounds and safety from predation and is either naturally occurring or replicates natural features. Roosts can be split broadly into three main types; tree roosts, built overground roosts and underground roosts. Some bats roost in trees (under bark or in cavities) or in underground natural roosting sites such as cave systems, however an increasing number utilise buildings and human-made structures. This is because natural roosts are no longer as abundant through increased disturbance or loss, but also because human-made structures can be safer, warmer and more stable structures for bats to roost in, often sited next to or within feeding habitat. Features such as hanging tiles on buildings can be seen to replicate loose bark for crevice dwelling species whereas roof spaces replace hollows in veteran trees for void dwelling species. Several species may use all three types of roost at different times of year. Many bat species can now be considered to be building reliant.

Bat species do not construct roosts themselves but use structures that are already available. This means no nest material is evident to indicate a bat roost although bat droppings may be present. It is important to also note that bats in Jersey only range between 4 g and 40 g in weight and can therefore access cracks and crevices in structures and places as small as an adult's thumb. Their size, roost shifting (moving between a number of suitable roost sites depending on their survival needs) and unobtrusive behaviour all make bats extremely difficult to detect without specialist knowledge and equipment. This is especially true when bats are in small numbers or their activity is low, such as during colder weather when they can go into periods of hibernation (or torpor) for periods of time.

Jersey bat species breeding sites and resting sites

For Jersey's bats, breeding sites and resting sites may be many and varied across a huge variety of natural and human-made locations throughout rural and urban environments. Due to their ecological needs, the type of roost used varies but bat species can be thought of as belonging to four broad groups; crevice dwellers (like to be tucked away inside crack-like features), crevice and roof void dwellers (roost in voids in the open but also in crack-like features in the void), roof void dwellers (roost in the open in the void), and roof void and flying space dwellers (roost in the open in the void but also need open flight access into this space). These roost types can be in trees, overground structures and underground structures. Examples of all of these breeding or resting sites are recorded in Jersey,

demonstrating the richness of the ecological niches present for bats, and the complexity of the task of surveying for bats and taking them into account under the legislation.

There is discussion between Jersey bat workers that bat species on Jersey may occupy roosts that are smaller in density (based on observations of *Pipistrelle spp.* roosts) and that this could be due to a uniform distribution of feeding resources. However, there are also a number of large grey long-eared roosts in Jersey (Larger than those recorded in the UK) and several species are considered to be data deficient/possible vagrants. Data are also lacking for certain roost types for example there are few recorded swarming sites (where bats congregate to mate). This means bats may be present in a range of structures or features not yet recorded. Further survey work by consultants, Jersey Bat Group and researchers^v is being undertaken to understand the distribution of bat species in Jersey. Expert ecological advice should always be sought to understand how human activities could impact bats and to avoid offences being committed and to apply for licences allowing work to go ahead where required. Post-mitigation monitoring as part of any licensed works will be key in building up this knowledge base.

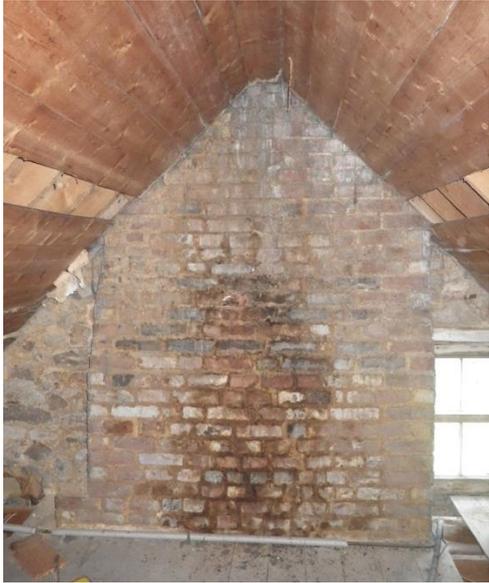
The following tables provide an overview of the 18 bat species recorded in Jersey, their ecology, roosting behaviour, the type of structures or places used for breeding and / or resting (where this information is available) and any roost examples. All photos and bats handled were done under the appropriate protected species licenses by suitability experienced bat ecologists.

Table 1. An overview of Jersey bat species breeding sites and resting sites

Bat species	Jersey status & abundance	Ecology	Roosting behaviour	Typical roosts	Jersey roost data (where available)
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<p>Common pipistrelle <i>Pipistrellus pipistrellus</i></p>	<p>Common throughout Jersey, resident / breeding</p>	<p>Small bat (3 - 8g in size), hunts in open or edge environments faster flyer</p>	<p>Crevice dweller</p>	<p>Crevice features on external facades of buildings such as behind hanging tiles, roof tiles or fascia boards or in trees. Also in confined voids such as cavity or rubble-filled walls and flat roofs</p>	<p>In Jersey roost records include fascia boards, soffit boxes, barge boards, roof batten spaces, wooden and plastic weather boarding, window and door lintels, mortice joints, bat boxes, a flat roof (maternity roost).</p> <div style="display: flex; justify-content: space-around;">   </div> <p><i>Figure 1 Roost under fascia - Ani Binet</i> <i>Figure 2 Roost under lead flashing, plastic weather boarding and roof tiles - Ani Binet</i></p>
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					 <p><i>Figure 3 Roost in window lintel - Ani Binet</i></p>	 <p><i>Figure 4 Roost in soffit box- Ani Binet</i></p>
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					 <p><i>Figure 5 Maternity roost above sarking boards, accessed by lifted roof tile - Ani Binet</i></p>	 <p><i>6 Roost between roof tiles and insulation indicated by piles of droppings, accessed via gap in ridge tile - Amy Hall</i></p>
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<p>Kuhl's pipistrelle <i>Pipistrellus kuhlii</i></p>	<p>Uncommon, predominantly urban areas, resident / breeding</p>	<p>Small/medium bat (5 - 10g in size), hunts in open or edge environments faster flyer</p>	<p>Crevice dweller</p>	<p>Crevice features on external facades of buildings such as behind hanging tiles or in confined voids such as cavity walls and flat roofs.</p>	<p>Data possible skewed due to Kuhl's/Nathusius' pipistrelle calls being difficult to separate acoustically. It is possible more common than currently thought.*</p> <p>In Jersey the only known roost is behind fascia boards. Other sites where roosts are present but exact location is unconfirmed are all buildings with a range of suitable external crevices. Mother and juvenile bats have also been recorded in several places across Jersey indicating maternity roosts in currently unknown locations.</p>
<p>Nathusius' pipistrelle <i>Pipistrellus nathusii</i></p>	<p>Fairly common, recorded across Jersey, resident / breeding</p>	<p>Medium bat (6 - 16g in size), hunts in open or edge environments near water, faster flyer</p>	<p>Crevice dweller</p>	<p>Crevice features such as cracks in walls, under soffit boards, fissures in rocks and tree hollows. Also in confined voids such as cavity walls or flat roofs.</p>	<p>In Jersey roost records include fascia boards, soffit boxes, barge boards, roof batten spaces, wooden and plastic weather boarding, window and door lintels, mortice joints, bat boxes, tree crevices, between breeze blocks, in gaps in brick work, within firewood stacks, within piles of stacked wooden boarding, bat boxes. Skewed data as targeted trapping has taken place.*</p>

					  <p><i>Figure 7 Roosting in Kent-style bat box - Ani Binet</i> <i>Figure 8 Roost in house - Ani Binet</i></p>
Savi's pipistrelle <i>Hypsugo savii</i>	Status unknown – vagrant	Medium bat (7 - 10g in size), hunts in open or edge environments near water, faster flyer	Crevice dweller	Crevice features on external facades of buildings such as behind tiles or fascia boards,	None, only one record of this species locally.

				in trees or in cave systems.	
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Very rare, low numbers of records across Jersey, resident / breeding	Small bat (3 - 8g in size), hunts in open or edge environments, faster flyer	Crevice dweller	Crevice structures on external facades of buildings such as behind hanging tiles, roof tiles or fascia boards and accessing confined void within cavity or rubble-filled walls and flat roofs.	Data deficient due to split of the one <i>Pipistrelle</i> species in the early 1990s into common and soprano pipistrelle and therefore older records unable to be clearly allocated to either.* In Jersey roost records include roof voids, fascia boards.
Brown long-eared bat <i>Plecotus auritus</i>	Rare, low numbers of records across Jersey, resident / breeding	Medium bat (6 - 12g in size), hunts in cluttered environments, slow	Crevice and void dweller	Void structures in older buildings, barns, churches and trees in summer.	In Jersey roost records include a bat box, underground bunkers, sea cave, second world war tunnel, roof voids, bell tower of church, runner in a glass house door. Possibly being under recorded due to close acoustic similarities with grey long-eared bats. *

		manoeuvrable flyer		In winter, caves, tunnels, mines, icehouses and occasionally even trees and buildings.	 <p><i>Figure 9 Roost in bat box - Ani Binet</i></p>	 <p><i>Figure 10 Roost site with multiple species including brown long-eared bats – Ani Binet</i></p>
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					 <p><i>Figure 11 Brown long-eared in hibernation behind a sheet of hardboard in batterie - Ani Binet</i></p>	 <p><i>Figure 12 Roost in bell tower with grey long-eared bats as well - Ani Binet</i></p>
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<p>Grey long-eared bat <i>Plecotus austriacus</i></p>	<p>Fairly common, recorded across Jersey, resident / breeding</p>	<p>Medium bat (7 - 12g in size), hunts over unimproved grassland, slow manoeuvrable flyer</p>	<p>Crevice and void dweller</p>	<p>Void structures in older buildings in summer. In winter, caves, mines and cellars.</p>	<p>Possible data skewing due to planning applications and surveys by ecological consultants, then follow up targeted monitoring of roosts, potentially less common than it appears.*</p> <p>In Jersey roost records include underground bunkers, sea cave, WWII tunnel, roof voids, barns, churches, fascia boards, open covered areas e.g. wooden slated porches.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Figure 13 Maternity roost - Ani Binet</p> </div> <div style="text-align: center;">  <p>Figure 14 Roost site - Ani Binet</p> </div> </div>
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					<p><i>Figure 15 Roost site with multiple species including grey long-eared bats – Ani Binet</i></p>	<p><i>Figure 16 Roost in bunker in summer - Ani Binet</i></p>

						
					<i>Figure 17 Hibernating in batterie - Ani Binet</i>	<i>Figure 18 Hibernation roost in batterie - Ani Binet</i>

					 <p><i>Figure 19 Roost in roof void - Ani Binet</i></p>	 <p><i>Figure 20 Roost in bell tower with brown long-eared bats as well - Ani Binet</i></p>
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<p>Alcathoe bat <i>Myotis alcathoe</i></p>	<p>Very rare, north-east Jersey, resident / breeding</p>	<p>Small bat (3 – 6g), hunts in clutter high in the canopy and above water, slower manoeuvrable flyer</p>	<p>Crevice dweller</p>	<p>Cavities high in trees in summer. Although there are some winter records from caves, it may also spend the winter in tree cavities.</p>	<p>In Jersey the only known roosts are in trees.</p>

Figure 21 Roost in cable car station - Ani Binet

22 Roost in roof void - Gregory Guida / JBG

Brandt's bat <i>Myotis brandti</i>	Status unknown – data deficient/vagrant	Small/medium bat (3 – 10g), hunts in clutter in the canopy and above water, slower manoeuvrable flyer	Crevice dweller	All types of houses but particularly in older buildings with stone walls and slate roofs. Found under tiles, above soffits, in cavity walls. In winter in caves and tunnels.	There are two DNA records
Daubenton's bat <i>Myotis daubentoni</i>	Very rare, west Jersey, residence status unknown	Small / medium bat (7 - 12g in size), hunts in open over water, slower manoeuvrable flyer	Crevice and void dweller	Humid sites near water; tunnels or bridges over canals and rivers, or in caves, mines and cellars. Occasionally found in buildings, usually old stone structures.	In Jersey there are currently no known roosts. A single bat was caught in the hand record at a reservoir to the west of Jersey and there are detector records from other reservoirs.

<p>Geoffroy's bat <i>Myotis emarginatus</i></p>	<p>Very rare, residence status unknown</p>	<p>Small/medium bat (6 – 9g), feeds primarily on spiders and flies</p>	<p>Crevice and void dweller</p>	<p>Cave species, but it can be found in roofs of churches, houses and abandoned buildings.</p>	<p>In Jersey roost records include in an underground WWII tunnel and a DNA record from a barn which was subsequently converted.</p>  <p><i>Figure 23 Roost site with multiple species including Geoffroy's bats – Ani Binet</i></p>
<p>Natterer's bat <i>Myotis nattereri</i></p>	<p>Uncommon, across Jersey, resident / breeding</p>	<p>Small / medium bat (7 - 12g in size), hunts in cluttered woodland, slow manoeuvrable flyer</p>	<p>Crevice and void dweller</p>	<p>Old stone buildings with large timber beams, such as castles, manor houses and churches, or large old timbered barns. Crevices in</p>	<p>In Jersey roost records include trees, apex of barn, underground tunnel, sea cave and castles</p>

				<p>beams or gaps in beam joints are common roost sites. They also roost in tunnels and under bridges.</p>	
	<p><i>Figure 24 Roost site with multiple species including Natterer's bats – Ani Binet</i></p>				
<p>Whiskered bat <i>Myotis mystacinus</i></p>	<p>Very rare, residence status unknown</p>	<p>Small/medium bat (4 – 8g), hunts along woodland edge or hedgerows, slower manoeuvrable flyer</p>	<p>Crevice dweller</p>	<p>Very low numbers in centre of Jersey</p>	<p>In Jersey the two roost records are DNA records from buildings</p>

<p>Serotine <i>Eptesicus serotinus</i></p>	<p>Rare, resident / breeding</p>	<p>Large bat (15 – 35g), hunts beetles around tree-top height (to about 10 m) often close to vegetation, fast flying</p>	<p>Void dweller</p>	<p>Mainly in older buildings with high gables and cavity walls. Access to the roost is usually at or near the gable apex or the lower eaves.</p>	<p>In Jersey roost records include houses and churches. Increasingly recorded in the wider landscape but not recording more roosts – but could be due to increased survey effort.*</p>  <p><i>Figure 25 Roost inside old Methodist church with common pipistrelle and grey long-eared bats - Ani Binet</i></p>
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Leisler's bat <i>Nyctalus leisleri</i>	Very rare, residence status unconfirmed	Large bat (12 – 20g), hunts by flying high and fast in the open, frequently at or below tree top level, with shallow dives	Crevice and void dweller	Mainly tree roosts but also buildings, both old and new around the gable ends in lofts, between tiles and underfelt, under ridge tiles, above large soffit boards, behind hanging tiles and in disused chimneys	None – juvenile male caught in 2002, few acoustic records.
Noctule <i>Nyctalus noctula</i>	Data deficient - residence status unknown	Large bat (18 – 40g), powerful, direct flight in the open, with steep dives chasing insects.	Crevice and void dweller	Primarily tree dwellers and live mainly in rot holes and woodpecker holes. They occur rarely in buildings.	In Jersey roost records include a few acoustic records only and these are predominantly from static monitoring devices where survey data from ecologists on the ground cannot be used to ground truth results.*

<p>Greater horseshoe bat <i>Rhinolophus ferrumequinum</i></p>	<p>Very rare, residence status unconfirmed</p>	<p>Large bat (17 – 34g), insects are taken in flight or occasionally from the ground, slow manoeuvrable flyer</p>	<p>Void and flying space dwellers</p>	<p>Originally cave dwellers, but few now use caves in summer – most breeding females use buildings, choosing sites with large entrance holes with access to open roof spaces. In winter caves, disused mines, cellars and tunnels are used.</p>	<p>In Jersey roost records include two tunnels and a cave.</p>  <p><i>Figure 26 Roost site with multiple species including greater horseshoe bats – Ani Binet</i></p>
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<p>Lesser horseshoe bat <i>Rhinolophus hipposideros</i></p>	<p>Very rare, residence status unknown</p>	<p>Small/medium bat (5 – 9g), feeds amongst vegetation in sheltered lowland valleys, slow manoeuvrable flyer</p>	<p>Void and flying space dwellers</p>	<p>Originally cave dwellers, but few now use caves in summer – most use open roofs of larger rural houses and stable blocks offering a range of roof spaces and a nearby cellar, cave or tunnel where the bats can go torpid in inclement weather</p>	<p>In Jersey roost records in a tunnel.</p>  <p><i>Figure 27 Roost site with multiple species including lesser horseshoe bats – Ani Binet</i></p>
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* Pers. comms Amy Hall, Chair of Jersey Bat Group

Offences in relation to breeding sites and resting sites

A precautionary approach must be taken when considering how bat species in Jersey could be impacted by a number of human activities that could compromise the ecological functionality of a site (*i.e.* meaning that it cannot or will not be used for breeding or as a resting site) and

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therefore could constitute an offence if carried out as a deliberate or reckless act or without a licence to do so. For clarity, an offence is unlikely to be committed where ‘accidental’ harm is caused, despite having recognised and taken into account the risks through taking reasonable precautions to avoid harm. A ‘deliberate’ action, in which someone has weighed the risks, has concluded that there is a ‘serious risk’ of harm prohibited by the Law occurring, and then, despite their awareness of that serious risk, has proceeded to act in a way which actually causes harm, is likely to commit an offence. Expert ecological advice should be sought for advice on the likely impacts, on the recommended precautionary measures to avoid such impacts including any licences needed under the Law.

The table below provides an overview of the link between the type of offence, what activities could cause an offence when carried out deliberately or recklessly and therefore requiring a licence and the relationship to breeding sites and resting sites. This is an overview only and is indicative of the types of activities that could cause an offence but by no means exhaustive.

Table 2 - An overview of offences under the new legislation in relation to breeding sites and resting sites

Structure	Legal definition	Offence	Examples of activities that could constitute an offence (unless under licence)
Tree roost	Breeding site or resting site	Deliberately or recklessly disturb a bat in a breeding site or resting site	<ul style="list-style-type: none"> • Felling • Removal of limbs • Removal of dead wood • Addition of lighting • Noise of vegetation removal nearby
		Deliberately or recklessly take, damage or destroy a breeding site or resting site of a bat, or do anything	<ul style="list-style-type: none"> • Felling • Removal of limbs • Removal of dead wood

		which has the effect of causing deterioration of the site at any time (even if bats are not occupying the roost at the time)	<ul style="list-style-type: none"> • Addition of lighting • Noise of vegetation removal nearby • Haloing
		Deliberately or recklessly obstruct access for a bat to its breeding site or resting site	<ul style="list-style-type: none"> • Addition of lighting • Vegetation / tree clearance in locality
		Deliberately or recklessly take, injure or kill a wild bat, cause or permit another person to do so	<ul style="list-style-type: none"> • Felling • Removal of limbs • Removal of dead wood
Overground built roosts (including buildings, bat boxes etc.)	Breeding site / resting site	Deliberately or recklessly disturb a bat in a breeding site or resting site	<ul style="list-style-type: none"> • Building maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or fascias ○ Cavity wall insulation ○ Addition of loft insulation ○ Adding solar panels ○ Adding roofing membrane ○ Addition of lighting ○ Timber treatment ○ Pest control

			<ul style="list-style-type: none"> • Building development work <ul style="list-style-type: none"> ○ Demolition ○ Conversion ○ Reroofing ○ Extensions
		<p>Deliberately or recklessly take, damage or destroy a breeding site or resting site of a bat, or do anything which has the effect of causing deterioration of the site at any time (even if bats are not occupying the roost at the time)</p>	<ul style="list-style-type: none"> • Building maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or fascias ○ Cavity wall insulation ○ Adding roofing membrane ○ Adding solar panels ○ Addition of lighting ○ Addition of loft insulation ○ Pest control • Building development work <ul style="list-style-type: none"> ○ Demolition ○ Conversion ○ Reroofing ○ Extensions • Loss\impairment of flight lines to \from roost

		<p>Deliberately or recklessly obstruct access for a bat to its breeding site or resting site</p>	<ul style="list-style-type: none"> • Building maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or fascias ○ Cavity wall insulation ○ Adding roofing membrane ○ Adding solar panels ○ Addition of lighting ○ Addition of loft insulation ○ Timber treatment ○ Pest control • Loss\impairment of flight lines to \from roost
		<p>Take, injure or kill a wild bat, cause or permit another person to do so</p>	<ul style="list-style-type: none"> • Building maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or fascias ○ Cavity wall insulation ○ Adding roofing membrane ○ Adding solar panels ○ Addition of lighting ○ Addition of loft insulation ○ Timber treatment ○ Pest control

			<ul style="list-style-type: none"> • Building development work <ul style="list-style-type: none"> ○ Demolition ○ Conversion ○ Reroofing ○ Extensions • Windfarms in the landscape
Underground roosts (including caves, tunnels, mines, ice houses etc.)	Breeding site / resting site	Deliberately or recklessly disturb a bat in a breeding site or resting site	<ul style="list-style-type: none"> • Structural maintenance work <ul style="list-style-type: none"> ○ Surveying sites ○ Repointing brickwork ○ Replacing missing bricks ○ Resealing brickwork • Caving / potholing access inc. tunnels and bunkers • Addition of lighting • Opening up public access • Preventing access / gating entrances
		Deliberately or recklessly take, damage or destroy a breeding site or resting site of a bat, or do anything which has the effect of causing deterioration of the site at any time	<ul style="list-style-type: none"> • Structural maintenance work <ul style="list-style-type: none"> ○ Surveying sites ○ Repointing brickwork ○ Replacing missing bricks ○ Resealing brickwork

		(even if bats are not occupying the roost at the time)	<ul style="list-style-type: none"> • Caving / potholing damage inc. tunnels and bunkers • Addition of lighting • Opening up public access • Preventing access / gating entrances • Loss\impairment of flight lines to \from roost
		Deliberately or recklessly obstruct access for a bat to its breeding site or resting site	<ul style="list-style-type: none"> • Structural maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing missing bricks ○ Resealing brickwork • Caving / potholing damage inc. tunnels and bunkers • Addition of lighting • Preventing access / gating entrances • Loss\impairment of flight lines to \from roost
		Take, injure or kill a wild bat, cause or permit another person to do so	<ul style="list-style-type: none"> • Structural maintenance work <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing missing bricks ○ Resealing brickwork • Caving / potholing damage inc. tunnels and bunkers



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			<ul style="list-style-type: none">• Preventing access / fitting a gate
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Annex 2 – Disturbance of Jersey’s bat species

Introduction

The Wildlife Law provides that it is an offence (unless licensed or legally authorised) to:-

- Deliberately or recklessly disturb a bat in a breeding site or resting site
- Deliberately disturb a bat at any time

These offences are covered in the Wildlife Law Article 8 (1) (d) and (2) (b), Article 11 (1) (b) and Article 13 (1).

Article 1(1) of the Law defines “disturb” to mean “*do any act, or carry out any activity, which in fact does, or might reasonably be foreseen to – (a) impair the ability of the wild animal in question – (i) to survive, to breed or reproduce, to rear or nurture offspring, or – (ii) in the case of a hibernating or migratory species, to hibernate or migrate; or (b) affect significantly the local distribution or abundance of a species.*”

Bat ecology and disturbance

When considering bat ecology in Annex 1 it becomes clear that there are a number of direct and indirect impacts that could constitute the offence of disturbance to bats. For example, when bats are disturbed during hibernation and heat up as a consequence to take flight, there is a high loss of energy reserves that can’t be replaced due to the lack of prey species availability, which may mean bats can’t survive the winter.

Different species will have different sensitivities or reactions to the same type of disturbance. Factors causing disturbance for one species might not create disturbance in the same way for another. For example, slower flying species are more light sensitive than fast flying species when predation is a risk and therefore the impacts of the addition of lighting to an area will differ in severity depending on the species present. However, lighting most severely impacts bats at the roost site where they are most vulnerable and those the impacts are to all bat species similarly^{vi}, the worst-case scenario being roost abandonment. This is an example of how the sensitivity of an impact might depend on where the activity is taking place. It is also why there is a specific offence focussing on deliberate or reckless disturbance of a bat in a breeding site or resting site.

The intensity, duration and frequency of any disturbance are also important factors to be considered when assessing their impact on a bat species. In order to assess a disturbance, consideration must be given to its effect on the conservation status of the species at

population level. Because Jersey has a number of species considered to be data deficient a precautionary approach should be taken.

Therefore, expert ecological advice must be sought to understand not only what species are present, but the habitat that supports them, what potential activities could impact upon that resource and what can be done to avoid those impacts.

Offences in relation to disturbance of bats species by habitat type

A precautionary approach must be taken when considering how bat species in Jersey could be impacted by a number of human activities that could constitute an offence if carried out as a deliberate or reckless act or without a licence to do so. For clarity, an offence is unlikely to be committed where ‘accidental’ harm is caused, despite having recognised and taken into account the risks through taking reasonable precautions to avoid harm. A ‘deliberate’ action, in which someone has weighed the risks, has concluded that there is a ‘serious risk’ of harm prohibited by the Law occurring, and then, despite their awareness of that serious risk, has proceeded to act in a way which actually causes harm, is likely to commit an offence. Expert ecological advice should be sought for advice on the likely impacts, on the recommended precautionary measures to avoid such impacts including any licences needed under the Law.

The table below provides an overview of the link between the type of offence, what activities could cause an offence (therefore requiring a licence) and disturbance of a particular key bat habitat type. This is an overview only and is indicative of the types of activities that could cause an offence but is by no means an exhaustive list. Expert ecological advice will be needed to determine the exact impacts on the bat species concerned, how to avoid impacts as a first course of action and then if required the licensing process needed.

However it is important to note that bats may occasionally be found roosting in unexpected locations that by their nature may become disturbed accidentally through no deliberate or reckless act on the part of the person discovering the bat. For example, bats have been recorded hibernating in log piles on Jersey that are then accidentally uncovered. Bats may also fly through open windows, in these type of instances to avoid an offence being committed and the bats becoming harmed, please follow advice set out by Jersey Bat Group: <https://www.jerseybatgroup.org/bat-welfare-form/>

Table 3 - An overview of offences under the new legislation in relation to disturbance of bats species by habitat type

Habitat impacted	Legal definition	Offence	Examples of activities that could constitute an offence (unless under licence)
Roost site (breeding sites and resting sites)	Disturbance	Deliberately or recklessly disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species	<ul style="list-style-type: none"> • Habitat clearance in proximity • Removal of trees / limbs / deadwood in proximity • Addition of lighting on or in proximity • Surveying built structure or underground site • Building maintenance work in proximity <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or facias ○ Cavity wall insulation ○ Adding roofing membrane ○ Adding solar panels ○ Addition of lighting ○ Addition of loft insulation ○ Timber treatment ○ Pest control • Building development work in proximity <ul style="list-style-type: none"> ○ Demolition ○ Conversion ○ Reroofing ○ Extensions • Caving / potholing inc. tunnels and bunkers

			<ul style="list-style-type: none"> • Opening up public access • Running events in proximity • Preventing access / gating entrances • Use of machinery such as generators producing exhaust fumes under\close to roost entrances
		Deliberately or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection	<ul style="list-style-type: none"> • Habitat clearance in proximity • Removal of trees / limbs / deadwood in proximity • Addition of lighting on or in proximity • Surveying built structure or underground site • Building maintenance work in proximity <ul style="list-style-type: none"> ○ Repointing brickwork ○ Replacing tiles ○ Repairing soffits or fascias ○ Cavity wall insulation ○ Adding roofing membrane ○ Adding solar panels ○ Addition of lighting ○ Addition of loft insulation ○ Timber treatment ○ Pest control

			<ul style="list-style-type: none"> • Building development work in proximity <ul style="list-style-type: none"> ○ Demolition ○ Conversion ○ Reroofing ○ Extensions • Caving / potholing inc. tunnels and bunkers • Opening up public access • Running events in proximity • Preventing access / gating entrances • Use of machinery such as generators producing exhaust fumes under\close to roost entrances
Foraging grounds	Disturbance	Deliberately or recklessly disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species	<ul style="list-style-type: none"> • Habitat clearance • Removal of trees / limbs / deadwood • Addition of lighting in or nearby • Use of insecticides
Commuting habitat	Disturbance	Deliberately or recklessly disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species	<ul style="list-style-type: none"> • Habitat clearance / severance • Addition of lighting in or nearby • Addition of windfarm



Useful contacts

- Bat Conservation Trust: <https://www.bats.org.uk/>
- Jersey Biodiversity Centre: <https://jerseybiodiversitycentre.org.je/>
- Jersey Bat Group: <https://www.jerseybatgroup.org/>
- New Era Vets: <https://neweravets.co.je/>

ⁱ Chartered Institute of Ecology and Environmental Management *On the lifespan of ecological reports & surveys* (2019) <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

ⁱⁱ Voigt, C.C, C. Azam, J. Dekker, J. Ferguson, M. Fritze, S. Gazaryan, F. Hölker, G. Jones, N. Leader, D. Lewanzik, H.J.G.A. Limpens, F. Mathews, J. Rydell, H. Schofield, K. Spoelstra, M. Zagmajster (2018): Guidelines for consideration of bats in lighting projects. EUROBATS Publication Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62 pp. https://www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

ⁱⁱⁱ Voigt, C.C, C. Azam, J. Dekker, J. Ferguson, M. Fritze, S. Gazaryan, F. Hölker, G. Jones, N. Leader, D. Lewanzik, H.J.G.A. Limpens, F. Mathews, J. Rydell, H. Schofield, K. Spoelstra, M. Zagmajster (2018): Guidelines for consideration of bats in lighting projects. EUROBATS Publication Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62 pp. https://www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

^{iv} Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn) The Bat Conservation Trust, London ISBN-13 978-1-872745-96-1

^v Glynn, W. H. and Jones, K. E. (2020) *Jersey Bat Survey - Understanding the potential of an island-wide static acoustic monitoring system to generate bat population trends*. Centre for Biodiversity and Environment Research, University College London

^{vi} Institute of Lighting Professionals (2018) *Guidance Note 08 / 18: Bats and artificial lighting in the UK: Bats and the Built Environment series* <https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?mtime=20181113114229&focal=none>