

Riverbank Arts/Theatre/Library complex
Greatconnell
Main Street
Newbridge
Co. Kildare
Bat/bird Survey

Report by

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SUMMARY

Site:	Arts Centre, Co. Kildare
Structure;	2 storey building with metal flat roof.
Grid reference:	GR IN 80650 15242
Bat species present:	None
Bird species present:	None
Roost location:	N/A
Bat access:	N/A.
Proposed work:	Partial demolition/remodelling.
Impact on bats:	None anticipated.
Protected species present:	None
Habitats present:	1: Buildings and Artificial Surfaces (BL3)
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TABLE OF CONTENTS

Page no.

SUMMARY.....	2
1. Introduction.....	4
1.1 Site location and access	4
2. Bat survey	4
2.1 Survey methodology	5
2.1.1 Survey constraints	5
3. Brief description of Riverbank Arts Centre from the perspective of bat habitat	5
4. Results of bat survey	5
5. Indication of significance of site for bats.....	5
6. Legal status and conservation issues - bats.....	6
7. Potential impacts of proposed works on bat fauna.....	7
8. Mitigation measures.....	7
9. Predicted and Residual impact of the proposal.....	12
10. References and bibliography	13
11. Appendices.....	15
12.1 Bat ecology – general	15
12.2 Description of bat species known or expected on site	16
12.5 Photographic record	

Introduction

A proposal to undertake the partial demolition/remodelling of the Riverbank Arts Centre, Newbridge, Co. Kildare and general renovation of the building has resulted in a request for a bat/bird survey to ensure that any bats/birds currently using the site are safe guarded during proposed works. Gerard Tobin BSc. M.A. was asked by to undertake this survey to ascertain possible bat presence on-site. The possible presence of birds was also investigated.

Site location and access

The site is located on Main Street, Newbridge, Co. Kildare and is accessed from the road at front and a car park at the rear.

Table 1 Habitat Types and Bat Roosts (Andrews H & Gardener M 2016. Bat Tree Habitat Key – Database Report 2016. AEcol, Bridgwater)

PHASE 1 (JNCC 2010) HABITAT		<i>Barbastella barbastellus</i>	<i>Myotis bechsteinii</i>	<i>Myotis daubentonii</i>	<i>Myotis nattereri</i>	<i>Nyctalus noctula</i>	<i>Pipistrellus nathusii</i>	<i>Pipistrellus pipistrellus</i>	<i>Pipistrellus pygmaeus</i>	<i>Plecotus auritus</i>	<i>Rhinolophus hipposideros</i>
HABITAT	CODE										
Broadleaved semi-natural woodland	A1.1.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Broadleaved plantation	A1.1.2		✓	✓	✓						
Coniferous plantation	A1.2.2				✓						
Mixed semi-natural woodland	A1.3.1				✓					✓	
Parkland	A3			✓		✓		✓			✓
Improved grassland	A4	✓				✓					
Dry heath / acid grassland mosaic	D5				✓			✓	✓	✓	
Standing water	G1					✓					
Running water	G2			✓							
Hedge with trees	J2.3		✓	✓		✓		✓		✓	
Residential garden	J3					✓		✓			

Bat Survey

This report presents the results of a site visit by Gerard Tobin on 07th December 2023 and on 6th/7th May 2026 during which the site and structures were inspected. The bat/bird fauna occurring on the site are described and the likely impacts of the proposed works on the fauna are discussed with recommendations for mitigation measures if necessary.

The site is situated in an urban area. There are buildings on all sides of the site with a river being C.100 m distant. Street lighting and aural disturbance is present throughout the area.

Survey methodology:

A bat emergence/re-entry count and an inspection of the current built and natural infrastructure was carried out at dusk and dawn.

Survey of bat/bird fauna was carried out by means of a thorough search within the site. The walls of any buildings on site were inspected for bat use. Principally their signs, such as staining, lack of spider webs, feeding signs or droppings - indicate presence of bats though direct observations are also occasionally made. The nature and type of habitats present are also indicative of the species likely to be present.

The presence or absence of cavities in the buildings, suitable for bats, was used as an indicator of likely bat presence. Where suitable cavities were found a further visual examination of the area was undertaken using infra-red imaging equipment (Bresser Digital Nightvision NightSpyDIGI Pro HD) and a Ciel Electronique CDB 301 HD/FD Bat detector and an Echo Meter Touch 2 (for Android) Bat detector with software app on Samsung Galaxy GT along with both a “V-Scope” flexible fibre borescope and a fibre optic video camera capable of looking into small cavities. A Parkside Thermal Imaging camera was also used along with a Mile 2 Pixma Thermal imaging scope. A Magellan Explorist handheld GPS unit was used to mark the location of items of interest on-site. Heavy tree cover may compromise the accuracy of GPS locations.

Digital cameras (Canon 1000D and Canon IXUS 185) were used to document items of interest.

Survey constraints

The survey was carried out by means of a thorough examination of the site. There were no climatic constraints or seasonal constraints in regard to bat survey in 2026 as it was undertaken within the active bat season. Daytime temperatures reached 11° Celsius and fell to 10° Celsius at dusk in 2023 and were 14° Celsius at dusk with temperatures falling to 10° Celsius in 2026. There had been rain throughout the previous days in 2023. There was light rain and wind during the survey field work in 2023. There was no rain during the dusk portion of the survey in 2026 with overnight rain clearing to give dry conditions at dawn in 2026.

Brief description of Riverbank Arts Centre from the perspective of bat/bird habitat

The building is situated in an urban area, near a river. There are many buildings nearby. The metal roof is unsuitable for bats as it provides little in the way of grip for roosting bats and also experiences extremes of temperature. These habitats tend not to be favourable to bats.

Results of bat/bird survey

The building, potentially, offers few opportunities for bat use, as there is no available access to cavities within the wall space or cavities within the roof voids. There is no evidence of bat droppings in the building and no evidence of bird presence.

Indication of significance of site for bats/birds

There is no evidence that bats are currently present in the building. There is equally no evidence that birds have nested in the building. Bats are discouraged by the presence of ambient street lighting and the environs of the theatre are surrounded by street lighting of all descriptions with a lot of aural disturbance also being present.

Known Bat Roost Types and Features

- **Buildings and Structures:** Often found in the crevices of stone buildings, attics, behind soffits, and fascia boards.
 - *Examples:* Old stone buildings, bridges, and in some cases, modern attics.
- **Trees:** Mature trees with cracks, fissures, or holes are heavily used, particularly by Leisler's bats.
- **Bat Boxes:** Artificial structures, such as those listed in the Bat Mitigation Guidelines, are used where natural sites are limited.

Legal status and conservation issues – bats

All Irish bat species are protected under the Wildlife Act (1976) and Wildlife Amendment Act (2000). Also, the EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species, including bats, and their habitats and requires that appropriate monitoring of populations be undertaken. Across Europe, they are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries. The Irish government has ratified both these conventions.

Section 23 of the Wildlife Act 1976 to 2021 contains several exemptions to the protection given to the species listed for protection on Schedule 5 (e.g. for agriculture or construction). In 2005 a further amendment through the European Communities (Natural Habitats) (Amendment) Regulations 2005 (S.I. No. 378 of 2005) removed all of the exemptions provided in Section 23(7) of the Wildlife Act 1976 to 2021 insofar as they relate to Annex IV species, including all species of bats. Those 2005 Regulations were revoked in 2011 except for Regulation 2 which brings about this strengthened protection for bats (and other Annex IV species). All species of bats in Ireland are listed on Schedule 5 of the 1976 Act, and are therefore subject to the provisions of Section 23, which make it an offence to:

- ☐ Intentionally kill, injure or take a bat;
- ☐ Wilfully interfere with the breeding or resting place of a bat

The Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“the Habitats Directive”) seeks to protect rare and vulnerable species, including all species of bats, and their habitats and requires that appropriate monitoring of populations be undertaken. All species of bat found in Ireland are listed on Annex IV of the Directive. Member States are required to put in place a system of strict protection (as outlined in Article 12) for species listed on Annex IV (‘European protected species’). The lesser horseshoe bat is further protected under Annex II. This Annex relates to the designation of Special Areas of Conservation (SACs). The Habitats Directive is transposed into Irish law by the

European Communities (Birds & Natural Habitats Regulations) 2011 (S.I. No. 477 of 2011) (“the Habitats Regulations”). Under the Habitats Regulations (2011), all bat species are listed on the First Schedule and Regulation 51 makes it an offence to:

- ☐ Deliberately capture or kill a bat;
- ☐ Deliberately disturb a bat particularly during the period of breeding, hibernating or migrating;
- ☐ Damage or destroy a breeding site or resting place of a bat;
- ☐ Keep, sell, transport, exchange, offer for sale or offer for exchange any bat taken in the wild.

Across Europe, bats are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (CMS, Bonn Convention 1979) was instigated to protect migrant species across all European boundaries. EUROBATs (a daughter Agreement under CMS) is of particular relevance in relation to cooperation across international borders for the conservation of bats, many of which are known to migrate long distances. The Irish government has ratified both of these conventions as well as the EUROBATs Agreement.

Legal status and conservation issues – birds

Legislation The Wildlife Acts 1976-2018 is the main Irish legislation protecting biodiversity. Almost all flora and fauna species, and the habitats in which they live and reproduce, are protected under these Acts. The European Communities (Birds and Natural Habitats) Regulations (2011-2015) transpose the EU Habitats Directive (92/43/EEC) and the EU Birds Directives (79/409/EEC) into Irish law. The EU Habitats Directive provides protection to threatened habitats, flora and fauna. The EU Birds Directive provides protection to all wild birds, their nests and eggs. What does this mean for wildlife in buildings? Breeding and resting places of protected wildlife are afforded protection under the Wildlife Acts and EU law. Therefore, disturbance to protected wildlife or their breeding/resting places may be an offence. If protected wildlife is discovered during works, activities must stop. For example if a bird’s nest is found during roof renovations, works should stop immediately to avoid committing an offence, and the advice of your local NPWS Conservation Ranger should be sought.

Potential impacts of proposed works on bat/bird fauna

The proposed works should not adversely affect bats/birds

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Mitigation measures

As there are no bats/birds present in the building there is no requirement for mitigation measures but some general mitigation measures are outlined to encourage nesting birds and promote future roosting of bats.

Application for a derogation licence

NB: It is an offence, under Regulation 51 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (‘the 2011 Regulations’) to:

- a) Deliberately capture or kill a bat in the wild;

- b) Deliberately disturb a bat particularly during the period of breeding, rearing, hibernation and migration;
- c) Damage or destroy a bat's breeding site or resting place, or;
- d) Keep, transport, sell, exchange, offer for sale or offer for exchange any bat taken in the wild, other than those taken legally before the Habitats Directive before the Habitats Directive was implemented.

A person may apply to the Minister under Regulation 54 of the 2011 Regulations for a derogation licence to carry out one or more of these prohibited activities. But, the Minister may only grant such a derogation licence if three criteria are met. Firstly the Minister may only grant a derogation licence if it is for one of the following specified reasons listed in Regulation 54:

- a) In the interests of protecting wild fauna and flora and conserving natural habitats;
- b) To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property;
- c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and the beneficial consequences of primary importance for the environment;
- d) For the purpose of research and education, of repopulating and introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plats, or;
- e) To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of bats.

Secondly, the Minister may only issue a derogation if there is no alternative to carrying out the prohibited activity. The first aim of the developer, whether from a private company or a public authority, working with professional advice, should be to entirely avoid any potential impact of a proposed development on bats and their breeding and resting places. Alternatives may involve redesigning a development so that bat roosts, and associated commuting routes and feeding areas are kept intact and that bats are not disturbed, for example by inappropriate lighting. It should be noted that the European Commission has a specific understanding of satisfactory alternative solution. "An alternative solution cannot be deemed unsatisfactory merely because it would cause greater inconvenience or compel a change in behaviour" (European Commission, 2021, page 13)¹. Decisions about what solution is satisfactory must be science-based and should solve the problem of how to strictly protect the bats in light of the development.

Thirdly the Minister may only grant a derogation if it is not detrimental to the maintenance of the populations of bats at a favourable conservation status (FCS) in their natural range. There is case law from the Court of Justice of the European Union (CJEU) to back this up. One example is the Finnish Wolf Case C-674/17. The ruling establishes that the Member State must "clearly and precisely" identify in the derogation what the objectives of the derogation are. It must also establish that the derogation is capable of achieving those objectives and demonstrate that there is no satisfactory alternative. Cumulative effects of derogations must be taken into account when issuing derogations. The maximum number of all derogations must not be detrimental to the

maintenance or restoration of the population at FCS. Consideration must be given to other human causes of mortality. Any risk to FCS must be ruled out by detailed conditions based on the level of population, its conservation status and its biological characteristics. The conditions must be precisely defined and they must be monitored to ensure they are implemented.

If any of these three criteria are not satisfied, the Minister cannot issue a derogation licence. It must never be assumed that a derogation licence will automatically be granted.

In summary, it is clear that a developer must first look to avoid all impacts on bats.

This may mean looking at alternative solutions and redesigning the project accordingly. If this is not possible, the developer needs to check whether there are grounds to apply for a derogation licence, based on the reasons given in Regulation 54 of the Habitats Regulations. When applying for a derogation licence the developer must clearly state the reason and describe in detail all alternative solutions which were given serious consideration. Any mitigation intended to ensure that there is no impact or minimal impact on the bats must be clearly described in detail, giving examples of how it worked in other places.

If a derogation licence has been refused by the Minister, any aspect of the development for which the derogation licence was sought, must not go ahead, no matter what other permissions are in place.

A derogation licence is required when on the basis of survey information and specialist knowledge, it appears that:

- ☐ The site in question is a breeding site or resting place for bats and/or;
- ☐ The proposed activity could impact on a breeding site or resting place of a bat.

No licence is required if the proposed activity is unlikely to result in an offence. The advice given in this document (and see also Mullen et al. 2021) should assist the proponent, or those acting on their behalf, in arriving at a decision on this matter, though it must be recognised that determining whether a particular site is used as a breeding or resting place can be problematic for such mobile animals as bats.

Determining whether an activity undertaken near to a roost might impact on that roost (e.g. by removing important flight lines or foraging areas) will also require specialist assessment. Note that if the proposed activity can be timed, organised and carried out so as to avoid committing an offence then no licence is required.

Examples of works that are likely to need a licence because they may result in the destruction of a breeding or resting place and/or disturbance of bats include:

- ☐ Demolition of buildings known to be used by bats;
- ☐ Conversion of barns or other buildings known to be used by bats;
- ☐ Restoration of ruined or derelict buildings;
- ☐ Maintenance and preservation of heritage buildings;
- ☐ Introduction of artificial lighting inside a roost or near a roost entrance;
- ☐ Change of use of buildings resulting in increased ongoing disturbance;
- ☐ Removal of trees known to be used by bats;
- ☐ Significant alterations to roof voids known to be used by bats.

Examples of works that, if carefully planned, may not need a licence include:

- ☐ Works near to or at roosts (e.g. re-roofing) if carried out while bats are not

present and the access points and roosting area are not affected;
☐ Remedial timber treatment, carried out with the correct (non-toxic to bats) chemicals while bats are not present.

A licence is not required in this instance.

Measure 1: timber treatments

Where chemical treatment of new roof timbers in the building is necessary then only bat safe compounds may be used and a list of suitable chemicals is given in the appendix.

Measure 2: demolition

Any demolition of the roof shall be done carefully with the possibility that individual bats may be found. If discovered, the animals shall be retained in a box until dusk and released on site. A qualified ecologist shall be contacted and the NPWS wildlife ranger shall be notified.

Measure 3: water tanks

Any water tanks sited within the roof space of the building shall be permanently covered to prevent future accidental drowning of and contamination by bats.

Measure 4: enhancement of bat roosts in the renovated building

Four bat boxes (plans in the attachments) shall be erected in the vicinity of the building.

Measure 5: enhancement of bird habitat in the renovated building

Four swift boxes (plans in the attachments) shall be erected under the eaves in the vicinity of the building. A swift caller will also be erected (details in attachment).

Measure 6: roofing membranes

No membranes shall be used under roofing materials. These can cause bats to become entangled and trapped. Bituminous felt may be used as it allows bats to grip.

Measure 7 : lighting

Lighting has increased dramatically over the last number of years as a result of many new developments. This includes aesthetic lighting of bridges, monuments and buildings, flood lighting of sports grounds, street and road lighting and security lighting of urban and rural areas to name but a few. Lighting can impact on bats' roosting sites, commuting routes and foraging areas. Contrary to common belief, bats are not blind. While bats tend to rely on a type of sonar, known as echolocation, for orientation and hunting during the hours of darkness, vision is still an important sense for bats. When bats emerge from roosts early in the evening, they tend not to echolocate but rely on eyesight to fly from the roost to adjoining treelines or hedgerows. Various studies have shown that bats' eyesight works best in dim light conditions. Where there is too much luminance, bats' vision can be reduced resulting in disorientation. While light sensitivity varies between species, bats tend to have a higher tolerance for red visual light than white light. Short wave frequency (UV) light is most disturbing for bats. This is due to the fact that bats have a higher proportion of rods in their retina compared to cones. The rods allow greater absorption of light

in dim conditions. Too much luminance at bat roosts may cause bats to desert a roost. Light falling on a roost exit point can delay bats from emerging and miss peak levels of insect activity at dusk. Any delays of emergence can reduce feeding periods. Lighting can also disturb bats' feeding behaviour. Many night flying insects are attracted to lights especially those lamps that emit UV light. A single source of light in a dark area can cause local insect populations to congregate in concentrations around the light source. While some Irish bat species such as Leisler's bats will opportunistically feed on such insect gatherings, the majority of Irish bat species are too sensitive to such light sources and suffer from insect populations being reduced in traditional feeding areas. In addition, artificial lighting can increase the chances of bats being preyed on. Lighting can be particularly harmful to bat populations along river corridors, woodland edges, along hedgerows and treelines and at lake edges.

Measure 8: Types of light

Low Pressure Sodium (SOX) – this light (typically orange light) is emitted at a single wavelength with a very low amount of UV. Therefore very few insects are attracted to this light source and it has a minimal effect on bats. High Pressure Sodium (SON) – this light (typically pinkish-yellow light) is emitted over a slightly broader wavelength spectrum. It is a more intense light so attracts more insects and has a greater impact on bats. Metal Halide & Mercury vapour– these are white light sources that emits light at wavelengths across the colour spectrum and emits high levels of UV. These light types can attract high levels of insects and because it is a close match to daylight has a greater impact on bats. Metal halide typically comes in three types: Quartz arc tube; Ceramic arc tube and Cosmo ceramic. Luminary (Light) accessories Shields – these can be mounted at the front or back of luminaire. Masking – by painting a section of the luminaire protectors, light will be blocked from penetrating through. Louvres – these can be either internal or external rows of slates angled to block light in a certain direction.

Avoid lighting along rivers, lakes and canals. Avoid lighting along important commuting routes. Avoid the use of mercury or metal halide lamps Minimise light spills using shields, masking & louvres Keep light columns as low as possible Restrict lights to ensure that there are dark areas Restrict lights to ensure that there are dark hours.

Measure 9. Sensor lighting to reduce energy wastage

Measure 10. Use of planting to reduce impacts of lighting

Measure 11. Use of demountable columns

Measure 12. Screening to reduce impacts of lighting

Measure 13. Assessment of lighting regime after installation

Measure 14. Greater use of the solar clock to control timing of lighting

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Potential impact of work on bird fauna

There should be no negative impact on bird species. Swift (*Apus apus*) nesting can be encouraged in the renovated building.

Predicted and Residual impact of the proposal

No major bat roosts should be lost due to the proposed works if the recommended mitigation measures are implemented.

The impact on avian species can be minimised if the recommended mitigation measures are followed.

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Appendices

Bat ecology – general

The bat is the only mammal that is capable of true flight. There are over 1,100 species worldwide, representing almost a quarter of all mammal species. There are 47 species in Europe - in Ireland, ten species of bat are currently known to exist, which are classified into two families, the Rhinolophidae (Horseshoe bats) and the Vespertilionidae (Common bats).

Prey

All the European bat species feed exclusively on insects. A Pipistrelle, weighing only 4 to 8 grammes, will eat up to 3000 insects every night, ensuring a build up of fat in the bat's body to allow it to survive the winter deep in hibernation.

Breeding and longevity

Irish bats can produce one young per year but, more usually, only one young is born every two years (Boyd & Stebbings, 1989). This slow rate of reproduction inhibits repopulation in areas of rapid decline. Although bats have been known to live for twenty or more years, this is rare as most die in their first and the average lifespan, in the wild, is four years.

Threats

All bat species are in decline as they face many threats to their highly developed and specialised lifestyles. Many bats succumb to poisons used as woodworm treatments within their roosting sites (Racey & Swift, 1986). Agricultural intensification, with the loss of hedgerows, treelines, woodlands and species-rich grasslands have impacted bat species also. Habitual roosting or hibernation sites in caves, mines, trees and disused buildings are also often lost to development. Summer roosts are prone to disturbance from vandals. Agricultural pesticides accumulate in their prey, reaching lethal doses (Jefferies, 1972). Chemical treatments in cattle production sterilise dung thus ensuring that no insects can breed within it to be fed upon by bats. Likewise, river pollution, from agricultural runoff, reduces the abundance of aquatic insects. Road building, with the resultant loss of foraging and roosting sites is a significant cause in the reduction of bat populations across Europe.

Extinction

As recently as 1992, the greater mouse-eared bat *Myotis myotis* became the first mammal to become extinct in Britain since the wolf in the 18th century.

Description of bat species known or expected from the area

Common pipistrelle *Pipistrellus pipistrellus*

This species was only recently separated from its sibling, the soprano or brown pipistrelle *P. pygmaeus*, which is detailed below (Barratt *et al*, 1997). The common pipistrelle's echolocation calls peak at 45 kHz. The species forages along linear landscape features such as hedgerows and treelines as well as within woodland.

Soprano pipistrelle *Pipistrellus pygmaeus*

The soprano pipistrelle's echolocation calls peak at 55 kHz, which distinguishes it readily from the common pipistrelle on detector. The pipistrelles are the smallest and most often seen of our bats, flying at head height and taking small prey such as midges and small moths. Summer roost sites are usually in buildings but tree holes and heavy ivy are also used. Roost numbers can exceed 1,500 animals in mid-summer.

Nathusius' pipistrelle *Pipistrellus nathusii*

Nathusius' pipistrelle is a recent addition to the Irish fauna and has mainly been recorded from the north-east of the island in Counties Antrim and Down (Richardson, 2000) and also in Fermanagh, Longford and Cavan. It has also recently been recorded in Counties Cork and Kerry (Kelleher, 2005). However, the known resident population is enhanced in the autumn months by an influx of animals from Scandinavian countries. The status of the species has not yet been determined.

Leisler's bat *Nyctalus leisleri*

This species is Ireland's largest bat, with a wingspan of up to 320mm; it is also the third most common bat, preferring to roost in buildings, although it is sometimes found in trees and bat boxes. It is the earliest bat to emerge in the evening, flying fast and high with occasional steep dives to ground level, feeding on moths, caddis-flies and beetles. The echolocation calls are sometimes audible to the human ear being around 15 kHz at their lowest. The audible chatter from their roost on hot summer days is sometimes an aid to location. This species is uncommon in Europe and as Ireland holds the largest national population the species is considered as Near Threatened here.

Brown long-eared bat *Plecotus auritus*

This species of bat is a 'gleaner', hunting amongst the foliage of trees and shrubs, and hovering briefly to pick a moth or spider off a leaf, which it then takes to a sheltered perch to consume. They often land on the ground to capture their prey. Using its nose to emit its echolocation, the long-eared bat 'whispers' its calls so that the insects, upon which it preys, cannot hear its approach (and hence, it needs oversize ears to hear the returning echoes). As this is a whispering species, it is extremely difficult to monitor in the field as it is seldom heard on a bat detector. Furthermore, keeping within the foliage, as it does, it is easily overlooked. It prefers to roost in old buildings.

Natterer's bat *Myotis nattereri*

This species has a slow to medium flight, usually over trees but sometimes over water. It usually follows hedges and treelines to its feeding sites, consuming flies, moths, caddis-flies and spiders. Known roosts are usually in old stone buildings but

they have been found in trees and bat boxes. The Natterer's bat is one of our least studied species and further work is required to establish its status in Ireland.

Whiskered bat *Myotis mystacinus*

This species, although widely distributed, has been rarely recorded in Ireland. It is often found in woodland, frequently near water. Flying high, near the canopy, it maintains a steady beat and sometimes glides as it hunts. It also gleans spiders from the foliage of trees. Whiskered bats prefer to roost in buildings, under slates, lead flashing or exposed beneath the ridge beam within attics. However, they also use cracks and holes in trees and sometimes bat boxes. The whiskered bat is one of our least studied species and further work is required to establish its status in Ireland.

Brandt's bat *Myotis brandtii*

This species is known from five specimens found in Counties Wicklow (Mullen, 2007), Cavan, and Clare in 2003, a specimen in Kerry in 2005 (Kelleher, 2006b) and another in Tipperary in 2006 (Kelleher, 2006a). No maternity roosts have yet been found. It is very similar to the whiskered bat and cannot be separated by the use of detectors. Its habits are similar to its sibling.

List of Irish bat species and adjudged status on site

Bats		Status on site
<i>Chiroptera</i> ¹		
Common Pipistrelle ²	<i>Pipistrellus pipistrellus</i>	Potential
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Potential
Nathusius' Pipistrelle	<i>Pipistrellus nathusii</i>	Potential
Brown Long-eared	<i>Plecotus auritus</i>	Potential
Leisler's	<i>Nyctalus leisleri</i>	Potential
Lesser Horseshoe	<i>Rhinolophus hipposideros</i>	Absent
Whiskered	<i>Myotis mystacinus</i>	Potential
Natterer's	<i>Myotis nattereri</i>	Potential
Daubenton's	<i>Myotis daubentonii</i>	Potential
Brandt's	<i>Myotis brandtii</i>	Potential

¹ Bat distribution records from O'Sullivan (1994) and Richardson (2000).

² Two common species of pipistrelle bat are present in Ireland, recent taxonomic revision. The species are identified by the frequency they use for echolocation (46Hz [Common] and 55Hz [Soprano]), and both occur in similar habitats. Roosts occur in buildings and trees.

Timber treatment list

Products suitable for use in a bat roost can be described in terms of the active ingredients (biocides) that they contain.

Any products containing active ingredients listed in the following Table 1 are suitable for use in a bat roost. Products intended for remedial timber treatment may also carry a British HSE number indicating that they have received approval under the UK Control of Pesticides Regulations (COPR) 1986, but decorative finishes usually contain such low levels of biocides that they are exempt from this requirement (in the UK).

Table 1: Insecticides and fungicides suitable for use in bat roosts

Insecticides	Permethrin Cypermethrin Boron compounds
Fungicides and decorative finishes	Tri(bexylene glycol) bborate Disodium octoborate Borester 7 Dodecylbenzyltrimethyl ammonium chloride Alkyl(benzyl)dimethylammonium chloride (= Benzalkonium chloride) Copper naphthenate Acypetacs copper Zinc naphthenate Acypetacs zinc Zinc octoate Sodium 2-phenylphenoxide Diclofluanid 3-iodo-2propynyl-N-butyl carbamate (Polyphase/IPBC) Propiconazole

Adapted from English Nature's Species Conservation Handbook

Photographic Record

Plate 1 Building view from front



Plate 2 Rear view



Plate 3 – Roof void



Plate 4 Hollow pre stressed concrete floor of roof void



Plate 5 Internal Roof Void



Plate 6 Internal Roof Void

