ESB BAT SURVEY KILLARNEY

Bat survey of ESB office buildings, Killarney, Co. Kerry

Wetland Surveys Ireland Limited
The Shed @ The Mill, Gortamullin, Kenmare, County Kerry
05/08/2025

ESB Bat Survey

ESB Office Buildings, Killarney Co. Kerry

Prepared for:

ESB Networks

By

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1 INTRODUCTION

ESB Networks are renovating their office buildings in Tiernaboul, Killarney, County Kerry. The roof has lost some stone tiles which has allowed water and debris into the ceiling of an office, which has fallen through and needs urgent repair.

A contractor for *ESB Networks* who was undertaking renovations found a deceased bat (undetermined species) in an office below the broken ceiling and, further to that, bat droppings in the attic space where the roof is damaged.

ESB Networks commissioned *Wetland Surveys Ireland Ltd* to undertake an assessment of the bat fauna within the structure to ensure that these protected animals are considered and safeguarded within future plans for the site repairs, and to produce a plan for mitigation, if roosts are found, so that repairs can be made to the building in a timely manner without negating the bats' safety.

Development and repairs of old buildings may adversely affect bats through injury or loss of roosts and it is therefore essential that a pre-development study of the activity of these species be undertaken at such sites to identify any conflict zones and hence to avoid or reduce impacts to these protected animals through mitigation.

This report details the results of an on-site bat survey undertaken during the active bat season in the summer of 2025 and that of a desk study of extant bat records in the immediate area, assesses the survey findings, describes the bat fauna occurring on-site, discusses the likely impacts of the planned development on the building's bats and includes recommendations for necessary mitigation measures to safeguard the building's bat populations during any necessary renovation and construction works and, following these works, to retain the existing bat roosts.

1.1 STRUCTURE LOCATION AND DESCRIPTION

The *ESB Networks* depot is located on the outskirts of Killarney in an industrial estate. The site of the building itself corresponds with Buildings and artificial surfaces (BL3) (habitat codes from Fossitt 2000). A continuous mature treeline (oak *Quercus* spp., sycamore *Acer*

pseudoplatanus, hawthorn *Crataegus monogyna* and alder *Alnus glutinosa*) occurs along the northern and eastern boundary adjacent to the buildings. These treelines provide excellent connectivity to the extensive riparian woodland (WN5) of Pike Wood at National Grid Reference V 99269 90925 due east of the ESB site. The treeline and woodland provide good habitat for bats and other wildlife. The building was erected in 1981 for use as offices and that is how it has been maintained.

The building consists of two long buildings (North-South) (East-West) in a T-shape (Plate 1). They are connected at ground floor level by a short single-story corridor (Plate 2). The attic spaces of the two are not connected. Wear is evident externally but internally the rooms are sound and sealed, except where vents have been removed temporarily in offices under renovation. Ground and first floors comprise functional office rooms, empty office rooms and storage spaces with boxed goods and pulled up carpet, in preparation for moving and renovating (Plate 3 - Plate 7).

The structural damage is isolated to the main building, North-South aligned and is on the southern end of the building in Office 7 (Plate 8 and Plate 9) due to damaged roof tiles (Plate 10). The rest of the occupied spaces of the building are well sealed internally (Plate 11) with no access for bats.

2 BAT SURVEY

This report presents the results of a desktop review of local bat records and an on-site bat survey undertaken by Katy Steele on the 26th and 28th July 2025.

2.1 SURVEY METHODOLOGY

The survey methodologies were based on established national and international guidance, including the *Bat Mitigation Guidelines for Ireland* (Kelleher & Marnell, 2007; updated v2, Marnell et al., 2022, NPWS Irish Wildlife Manuals No. 134), *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Bat Conservation Trust, 3rd ed., 2016), and relevant EUROBATS publications (e.g., EUROBATS Publication Series No. 6). In accordance with these guidelines, the site inspection was undertaken during the active bat season (late July) in suitable weather conditions (dry, light winds, mild temperatures).

The internal roost inspection followed recommended methods for torch-based searches, checking for characteristic signs of bat presence (droppings, staining, prey remains, and roost crevices) with disturbance kept to a minimum. All accessible areas of the building were inspected for bats and/or their signs using a powerful torch – 4-cell Maglite. The presence of bats is often shown by grease staining, droppings, urine marks, corpses, feeding signs such as invertebrate prey remains and/or the presence of bat fly *Nycteribiidae* pupae, although direct observations are also occasionally made. Bat droppings are often identifiable to species-level based on their size, shape and content and those of certain species, for example brown long-eared (*Plecotus auritus*) and lesser horseshoe (*Rhinolophus hipposideros*) bats, are very distinctive and unmistakable.

The dusk emergence and dawn re-entry surveys followed timing and observation protocols outlined in the BCT guidelines, using heterodyne/frequency-division bat detectors (Magenta 5). Coolife Pro Night Vision Binoculars were used to monitor potential access points identified during the daytime inspection.

The site survey was supplemented by reviews of Bat Conservation Ireland's (BCIreland) National Bat Records Database and the National Parks and Wildlife Service's (NPWS) National Lesser Horseshoe Bat Roost Database.

Minor adaptations to standard protocols were made to account for restricted attic access in certain areas, including targeted visual checks around damaged roof sections and focused emergence monitoring at these points. All survey work was conducted by a licensed bat specialist, in full compliance with NPWS requirements and industry-recognised best practice.

2.2 SURVEY CONSTRAINTS

There were no seasonal or climatic constraints to survey as it was undertaken within a period of mild weather within the active bat season, with minimum temperatures of 16°C at dusk and 13°C at dawn. Winds were light and there was no rainfall.

3 SURVEY RESULTS

3.1 REVIEW OF LOCAL RECORDS

The review of existing bat records within a 10km radius of the study site (sourced from BCIreland's National Bat Records Database) showed that all nine known Irish bat species have

been observed locally. These include common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), Nathusius' pipistrelle (*P. nathusii*), Leisler's bat (*Nyctalus leisleri*), brown long-eared bat (*Plecotus auritus*), lesser horseshoe bat (*Rhinolophus hipposideros*), Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*M. nattereri*) and whiskered bat (*M. mystacinus*) as shown in Table 1 below. Roosts of five of these species have also been identified in the area, two of which are in Flesk Castle, 1.3km from the subject site (Plate 12).

Table 1: Adjudged status of Irish bat species within a 10km radius of *ESB Networks* Depot

Common name	Scientific name	Presence	Roosts	Source
Common pipistrelle	*Pipistrellus pipistrellus*	Present	None known	BCIreland
Soprano pipistrelle	*Pipistrellus pygmaeus*	Present	1 known	BCIreland
Nathusius' pipistrelle	*Pipistrellus nathusii*	Present – Rare	None known	BCIreland
Leisler's bat	*Nyctalus leisleri*	Present	1 known	BCIreland
Brown long-eared bat	*Plecotus auritus*	Present	1 known	BCIreland
Lesser horseshoe bat	*Rhinolophus hipposideros*	Present	3 known	BCIreland
Daubenton's bat	*Myotis daubentonii*	Present	1 known	BCIreland
Natterer's bat	*Myotis nattereri*	Present	None known	BCIreland
Whiskered bat	*Myotis mystacinus*	Present	None known	BCIreland

The Killarney area has prime habitat for bats and bat roosts, with proximity to the Killarney National Park, rivers, lakes, mature trees, old buildings. Further information on the Irish bat fauna is given in Appendix I and II.

3.2 STRUCTURE SURVEY

Internally, the buildings were visually surveyed for bats and/or their signs. All areas were inspected for bat presence, grease staining, claw marks etc. and floor areas and stored items were checked for prey remains, droppings and urine marks. Smooth-sided containers that could trap bats were also inspected for corpses.

Externally, there was little evidence of bats on the structure apart from a few scattered droppings on windowpanes (Plate 13) but this was probably due to periods of rainfall having washed away any external traces of these animals prior to survey.

The eaves and fascia at the south end of the building present several gaps that could allow for bat use but the lack of grease staining indicates any use is not regular.

Within the structure, the East-West aligned building was cleared of its contents. A small amount of mouse droppings was found in the upstairs area near an open window. Bird droppings were also present which suggest the windows had been left open for a long period.

In the main ESB building (1) (Plate 1), North-South aligned, there was no evidence of bat presence in any downstairs area. On the first floor many of the offices were in use and regularly cleaned and there was no evidence of bats in these areas, though it was in one of these a long-deceased bat was found. The ceiling of the furthest office in the southeast of the first floor (Office 7) had fallen through from obvious water ingress. Below the fallen ceiling there was no evidence of bats entering this office from above (Plate 9, Plate 16, and Plate 17).

Bat droppings were entirely concentrated in the attic and there were several small roosting sites along the length of the roof space. Many of the bat droppings were several seasons old but some were fresh and piles were concentrated in areas where the roof lining had separated (Plate 18 - Plate 22). Most evidence of bat activity was adjacent to the hole in the ceiling and southern attic wall where there are several ledges which appear to lead to the outside fascia and soffit (Plate 21).

Although the evidence would not suggest the presence of a large maternity roost, this attic is a very favourable location for bat habitation and hibernation. Three species are present: soprano pipistrelle, brown long-eared and Leisler's bats. No roosting bats were visually confirmed during this survey, though small crevices used by the species present were inaccessible without causing disturbance.

The structure survey confirmed that at least three species of bats roost in the building but it is unlikely that any of these roosts are maternity colonies. The deceased bat that had been found previously in the offices below was likely one that came in accidentally through a window and had been trapped.

3.3 DETECTOR SURVEY

Following sunset, a detector survey of the grounds and an emergence count of the structure recorded common and soprano pipistrelle, brown-long eared and Leisler's bats foraging on-site. Two Leisler's bats were observed emerging from the fascia on the southern end of the building and two brown long-eared bats emerged from the damaged area of roof tiles. One of these bats took flight while the other stayed in the entrance (Plate 19 and Plate 20).

During the dawn re-entry survey, the same three species of bats were observed re-entering the building in small numbers; soprano pipistrelle N2, Leisler's bat N3, brown long-eared bat N1. The brown long-eared bats have a preference for the opening of the damaged area of the roof while the soprano pipistrelles entered via gaps in the eaves (Plate 25).

4 DISCUSSION

4.1 LEGAL STATUS - BATS

All Irish bat species are protected under the Wildlife Act (1976) and Wildlife Amendment Acts (2000 & 2010). 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.

All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat is further listed under Annex II.

NB: Destruction, alteration or evacuation of a known bat roost is a notifiable action under current legislation and a derogation licence **has** *to be obtained from the* National Parks and Wildlife Service (NPWS) **before** *works can commence.*

It should also be noted that any works interfering with bats and especially their roosts, including for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a licence to derogate from Regulation 23 of the Habitats Regulations 1997, (which transposed the EU Habitats Directive into Irish law) issued by NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order in relation to the planning and development regulations such licences should be obtained, are set out in Circular Letter NPWS 2/07 "*Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict*

protection of certain species/applications for derogation licences" issued on behalf of the Minister of the Environment, Heritage and Local Government on the 16th of May 2007- reproduced in Appendix III.

The current status and legal protection of the known bat species occurring in Ireland is given in Table 2 below.

Table 2: Legal status and protection of the Irish bat fauna

Common and scientific name	Wildlife Act 1976 & Wildlife (Amendment) Act 2000	Irish Red List status	Habitats Directive	Bern & Bonn Conventions
Common pipistrelle *Pipistrellus pipistrellus*	Yes	Least Concern	Annex IV	Appendix II
Soprano pipistrelle *P. pygmaeus*	Yes	Least Concern	Annex IV	Appendix II
Nathusius' pipistrelle *P. nathusii*	Yes	Not referenced	Annex IV	Appendix II
Leisler's bat *Nyctalus leisleri*	Yes	Near Threatened	Annex IV	Appendix II
Brown long-eared bat *Plecotus auritus*	Yes	Least Concern	Annex IV	Appendix II
Lesser horseshoe bat *Rhinolophus hipposideros*	Yes	Least Concern	Annex II Annex IV	Appendix II
Daubenton's bat *Myotis daubentonii*	Yes	Least Concern	Annex IV	Appendix II
Natterer's bat *M. nattereri*	Yes	Least Concern	Annex IV	Appendix II
Whiskered bat *M. mystacinus*	Yes	Least Concern	Annex IV	Appendix II
Brandt's bat *M. brandtii*	Yes	Data Deficient	Annex IV	Appendix II

Furthermore, on 21st September 2011, the Irish Government published the European Communities (Birds and Natural Habitats) Regulations 2011 which include the protection of the Irish bat fauna and further outline derogation licensing requirements re: European Protected Species.

4.2 ASSESSMENT OF THE ECOLOIGCAL IMPORTANCE OF THE BUILDING

The *ESB Networks* building is highly favourable for bat use, offering as it does access and roosting potential via gaps in roofing and fascia *etc.* The location of the building adjacent to Pike Wood and the proximity of Killarney National Park, with mature deciduous trees and being within 350m of the Woodford River further increases its suitability for these animals as

it provides suitable roosting sites next to favoured foraging and commuting habitats and at least three bat species are currently using the warm, secure attic.

4.3 POTENTIAL IMPACT OF THE DEVELOPMENT ON BATS

The ESB requires two phases of works to restore the building to a safe and functional condition.

- Short-term: urgent roof repairs due to water ingress through the compromised roof, creating ceiling instability within the attic space. Hazardous condition.
- Medium-term: essential refurbishment of the attic space, involving renewal of M&E services including insulation, water tank and cabling, is proposed for next year (2026).

These works would temporarily increase noise, lighting, and human activity in the building.

Such works frequently result in the exclusion of bat colonies, as the sealing of crevices and cavities can eliminate roosting opportunities within roof spaces / attics and, at worst, they lead to bats becoming trapped or entombed.

While some evidence suggests the bats may have alternative access points, the complete sealing of the roof without mitigation could result in the loss of access to the roost site, leading to the displacement or permanent loss of some or all of the site's bat populations.

Proposed mitigation:

To prevent this, a dedicated bat access tile can be installed as part of the emergency roof repair phase. This will ensure continued access for bats during and after the short- and medium-term works, and safeguard the roost in the long term. With this mitigation in place, the predicted disturbance to bats is minimal, particularly as the repair area is limited in size and the works will avoid direct disturbance of roosting individuals.

4.4 MITIGATION MEASURES FOR THE PROTECTION OF BATS

Specific mitigation measures are required to protect the on-site bat populations and, should development works impact directly on any bat roosting sites, a derogation licence will be necessary to legally allow such works – see *Bat Mitigation Guidelines for Ireland* (Legislation and Licensing) (Kelleher and Marnell 2007 – updated v2 2022) and NPWS Circular Letter 2/07 (reproduced Appendix III).

As all bat species are protected under existing legislation and a bat roosting site or resting place is protected whether bats are present or not, an application for a derogation licence, accompanied by a copy of this report, should be made to the Licensing Department of the *National Parks and Wildlife Service* when the repairs are to commence.

The following mitigation measures are proposed to avoid and reduce potential impacts on the local bat population.

4.4.1 Timing of works

Any works within roof areas should be undertaken within the period from the start of August to the end of February, a period which avoids both the peak maternity season and the core hibernation period for the species involved. During this timeline all bats, including any young, are able to fly and fewer animals are expected to be in the building. This will minimise any potential disturbance to roosting bats.

4.4.2 Retention of bat roosts

For the purposes of repairing the roof and office ceiling (Plate 26), retention of the current roosting bat populations is advised by the provision of a new external roof access for the bats. Photographic examples of this roof access are provided in Plate 27, Plate 28 and Plate 29. Such an entrance can be provided while maintaining the water seal of the building. Another option is the use of a bat friendly tile which can be fitted to provide access through the roof by bats (Plate 30).

Exploring alternative mitigation measures, the installation of bat boxes would not be accepted due to the species' specific roosting requirements and the nature of the existing attic space. However, in the event of necessity, retaining a dedicated, enclosed section of the attic as a bat roost, while maintaining external access, could be considered a suitable mitigation measure. This approach would require careful design, ecological supervision, and NPWS licensing to ensure suitability and ongoing use by the bats.

Retention and facilitation of bat access remain the preferred and most practical approach in relation to the short-term works phase. For the medium-term works, the full scope of works has not yet been finalised and additional mitigation may be needed.

4.4.3 Timber treatment

If required, timber treatment operations within roof areas, should be carried out during the winter months–- November to March–- when bats are absent or torpid. Bat safe chemicals should be used throughout and any bats discovered during spraying operations should not be sprayed directly. Should bats be discovered during spraying operations, then the work should cease immediately and an experienced bat specialist should be consulted. A list of bat-safe chemicals for use in such situations is given in Appendix IV.

4.4.4 On-site water tanks and other containers

Any on-site water tanks or other liquid containers, temporary or permanent, should be permanently covered to prevent the accidental drowning of and contamination by bats and / or other wildlife.

4.4.5 Lighting

In general, artificial light creates a barrier to commuting bats and it can also result in roosts being abandoned therefore on-site lighting should be avoided. Where absolutely necessary, directional lighting (i.e. lighting which only shines downwards on targeted areas and not nearby countryside) should be used to prevent overspill. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvers and shields to direct the light to the intended area only.

4.4.6 Further survey and works monitoring

The scope of the medium-term works has not yet been finalised and will need to be discussed with NPWS. These works are planned for early 2026. Regardless of the nature of the medium-term works additional surveys by a bat specialist will be required, either to:

- determine the current location of bats in the building at the time of any proposed works as, due to the passage of time, different areas of the structure will be used by these animals at different times and the presently identified bat roosting areas may change, or
- if bat relocation is necessary, to ensure that this is carried out at the proper time of year and that all bats are unharmed

Contractors need to be in constant communication and forward photographs etc. of their work to ensure that they are fulfilling their obligations under any derogation licence.

4.5 PREDICTED IMPACT OF DEVELOPMENT ON BATS

The *ESB Networks* building is an important bat site and as long as the proposed mitigations are in place and a bat access entrance is provided, the short-term repairs should not have any direct negative impacts on the site's bat populations and the existing roosts within the building's roof should continue to be used.

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Appendix I

Bat Ecology

Introduction

The bat is the only mammal that is capable of true flight using modified hands and arms which are covered by a supple membrane of skin. This ability has allowed bats to exploit aerial insect prey and avoid predation. As the largest mammalian group after the rodents (to which they are not related), bats are very successful and have diversified into over 1,800 species worldwide, representing almost a quarter of all mammal species. Within such diversification, they have evolved a range of hunting strategies, means of reproduction, roosting behaviours and social interactions (Kunz 1982). They are found throughout the world and in every continent apart from Antarctica. Bats are classified within the Order Chiroptera (meaning 'Hand-wing') and this is further divided into two Superfamilies: the Megachiroptera and Microchiroptera. The former are mainly fruit-eaters while the latter are predominantly insectivorous. Of these, 54 bat species are currently known in Europe.

Irish bat species

In Ireland, nine species of bat are currently known to be resident with the residency of the tenth recorded species yet to be proven. These are classified into two Families: the Rhinolophidae (Horseshoe bats) and the Vespertilionidae (Common bats). The lesser horseshoe bat *Rhinolophus hipposideros* is the only representative of the former Family in Ireland. All the other Irish bat species are of the latter Family and these include three pipistrelle species: common *Pipistrellus pipistrellus*, soprano *P. pygmaeus* and Nathusius' *P. nathusii*, four *Myotids*: Natterer's *Myotis nattereri*, Daubenton's *M. daubentonii*, whiskered *M. mystacinus*, Brandt's *M. brandtii*, the brown long-eared *Plecotus auritus* and Leisler's *Nyctalus leisleri* bats. Individual species accounts with distribution maps are given in Appendix 2.

Hunting with sound

The microbats are unique as they use a type of sonar, called echolocation, by which they hunt their prey. This is a stream of sound produced at high frequencies which allows the animal to build-up a complete 'sound picture' of their surroundings. These sounds are produced well beyond the range of human hearing. Using these sounds, the bats are able to detect the clutter of nearby leaves, hear an insect, know how fast it is travelling, how fast its wings are beating, whether it is hard or soft bodied etc. before closing in for the catch. Although bats use this method to find their way around, they also use their eyes to see in low light levels.

All the European bat species feed exclusively on insects and/or spiders and a pipistrelle, weighing only 4 to 8 grams, will eat up to 3,500 insects every night. This allows the bat to increase its body weight by 50% each night but this is immediately burned off through calorie consumption while flying. Such feeding ensures a build up of fat in the form of brown adipose tissue between the shoulder blades of the bat which acts as a winter fuel store to keep the animal alive while in hibernation.

Roosting behaviour

Bats naturally roost in caves and trees but some species have recently adapted to using man-made structures for roosting. Being social animals, these roosts can reach substantial numbers in the peak period of bat activity in mid-summer and especially

if the roost has been selected as a maternity site. These nursery roosts are mainly composed of breeding females but often they include some non-breeding females and males that may be the previous season's young still with their mother. Males are more solitary and form smaller roosts apart from the females. For summer roosting, bats seek warm temperatures but, for hibernation in winter, they require constant temperatures of only 5° or 6°C and humid surroundings to keep from dehydrating. In mild winters, bats will emerge from such sites to hunt should insects be on the wing.

Breeding and longevity

In autumn, male bats attract females by song flights and form harems with up to 20 females being defended by a male. After mating, the males take no further part in the rearing of the young. Irish bats can produce one young per year but, more usually, only one young is born in spring every two years (Boyd and Stebbings 1989). There is no fixed pregnancy period and gestation is governed by ambient temperature. The slow rate of reproduction by bats 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. The survival of the young is closely linked to climate and poor weather in spring and summer can result in high infant mortality.

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 and 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.

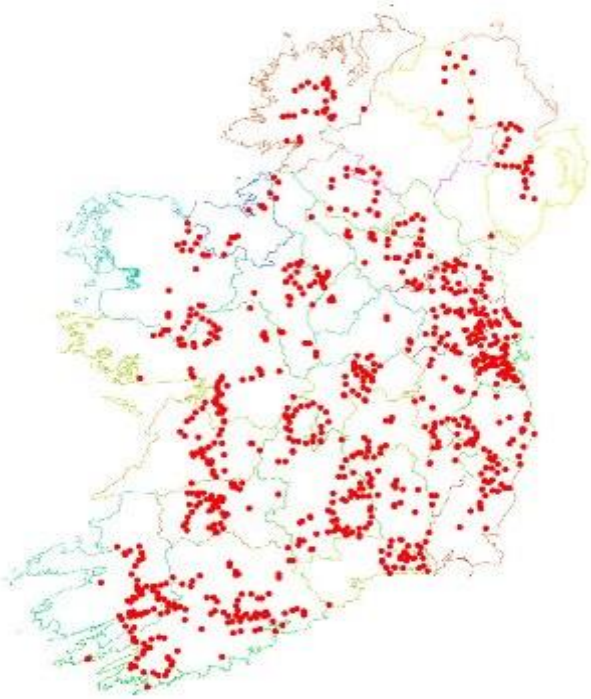
Appendix II

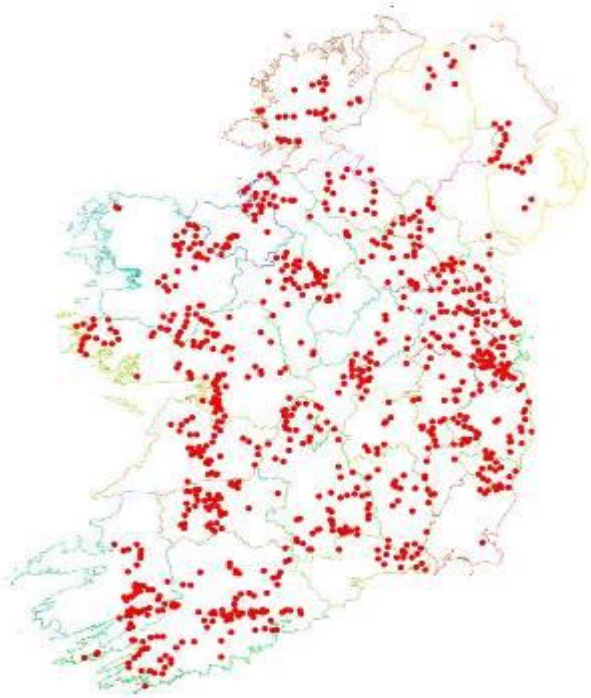
Distribution and Status of Irish Bat Species

Brief species accounts and current known distribution (maps from *Bat Conservation Ireland*)

Common pipistrelle (*Pipistrellus pipistrellus*)

This species was only recently separated from its sibling, the soprano or brown pipistrelle *Pipistrellus 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.



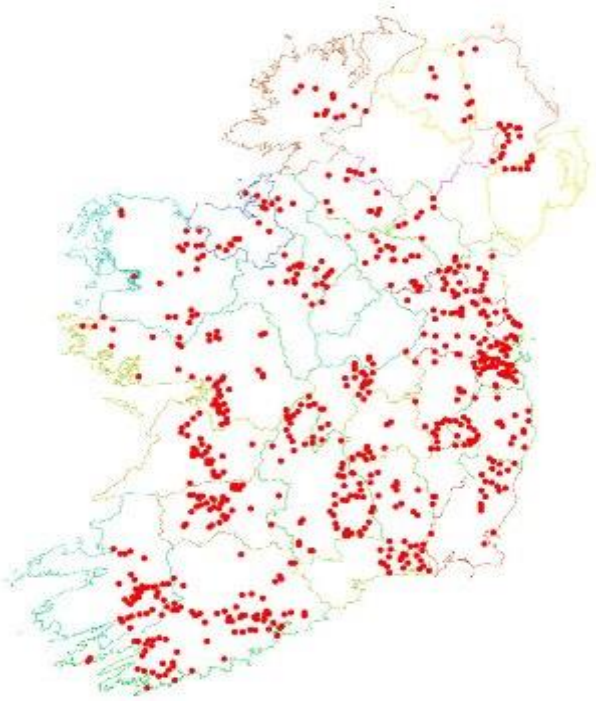


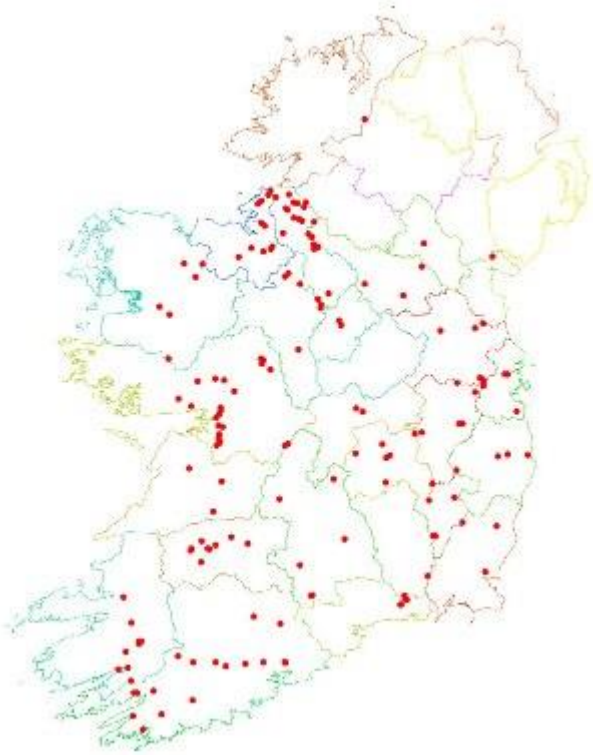
Soprano pipistrelle (*Pipistrellus pygmaeus*)

The soprano pipistrelle's echolocation calls peak at 55 kHz, which distinguishes it readily from the common pipistrelle. 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 1500 animals in mid-summer.

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, caddisflies, 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 Ireland holds the largest national population. The species is considered as *Near Threatened.*



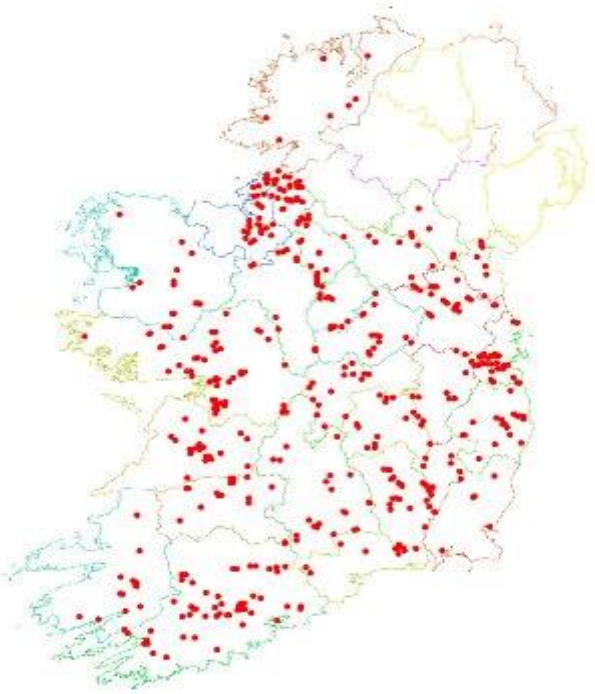


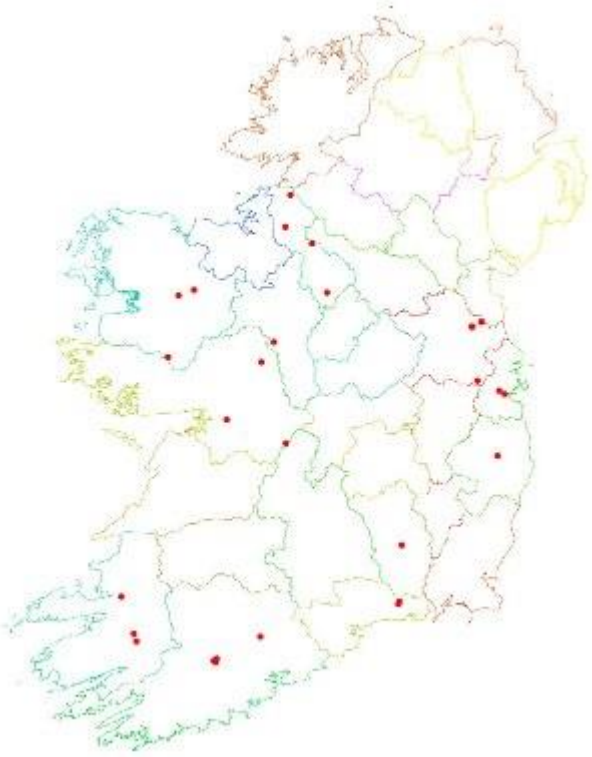
Natterer's bat (*Myotis nattereri*)

This species has a slow to medium flight, usually over trees but sometimes over water. They follow hedges and treelines to their feeding sites, consuming flies, moths and caddis-flies. Natterer's bats are frequently recorded in hibernation sites in winter but there are few records of summer roosts. Those that are known are usually in old stone buildings but they have been found in trees and bat boxes.

Daubenton's bat (*Myotis daubentonii*)

This bat species feeds close to the surface of water, either over rivers, canals, ponds, lakes or reservoirs, but can also be found foraging in woodlands. Flying at 15 kilometres per hour, it gaffs insects with its over-sized feet as they emerge from the surface of the water - feeding on caddis flies, moths, mosquitoes, midges etc. It is often found roosting beneath bridges or in tunnels and also makes use of hollows in trees.



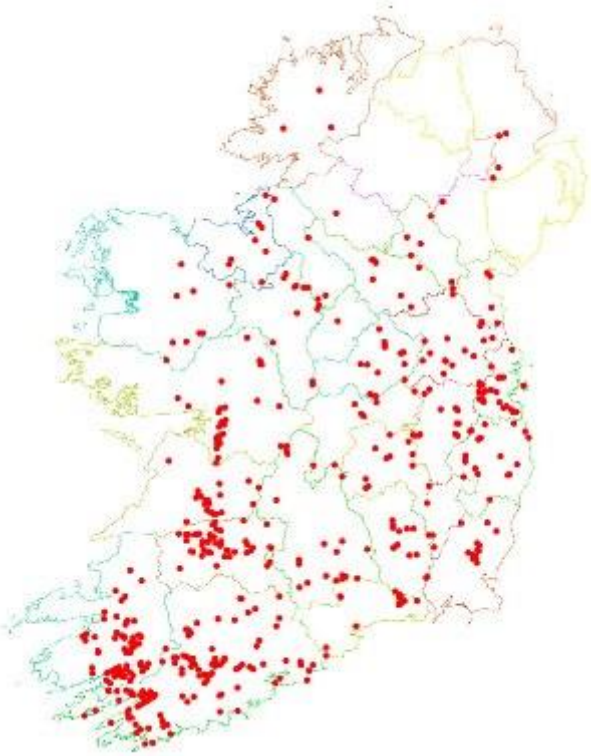


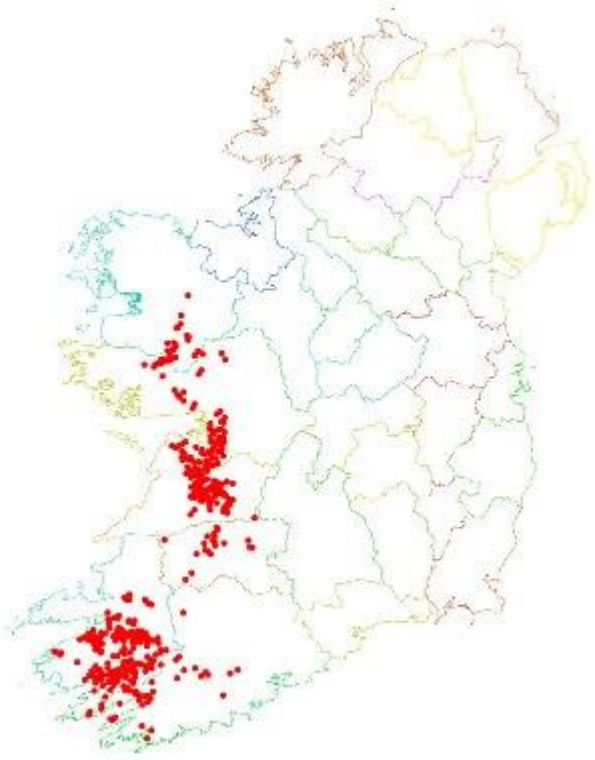
Whiskered bat (*Myotis mystacinus*)

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.

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.





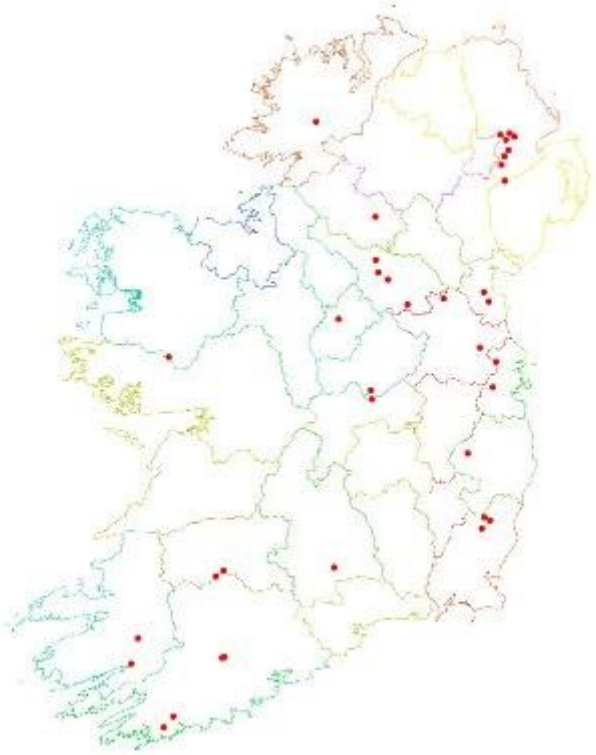
Lesser horseshoe bat (*Rhinolophus hipposideros*)

This species is the only representative of the Rhinolophidae family in Ireland. It differs from our other species in both habits and looks, having a unique nose leaf with which it projects its echolocation calls. It is also quite small and, at rest, wraps its wings around its body. Lesser horseshoe bats feed close to the ground, gleaning their prey from branches and stones. They often carry their prey to a perch to consume, leaving the remains beneath as an indication of their presence. The echolocation call of this species is of constant frequency and, on a bat detector, sounds like a melodious warble. Its distribution is restricted to the western Atlantic seaboard counties of Mayo, Galway, Clare, Limerick, Kerry and Cork (Kelleher 2004). However, single specimens have recently been discovered in Lough Key, near Boyle, Co. Roscommon in 2004 (B. Keeley pers. comm.) and in Tobercurry, Co. Sligo in 2008 (pers. obs.), two counties where their low numbers may have caused their presence

to be overlooked in the past. This species is an Annex II species under the *EC Habitats Directive 1992*.

Nathusius' pipistrelle (*Pipistrellus nathusii*)

Nathusius' pipistrelle is a recent addition to the Irish fauna and, so far, has only been recorded from the north of the island in Cos. Antrim, Down and Longford but is assumed to be spreading as the known resident population is enhanced in the autumn months by an influx of animals from Scandinavian countries. There is a likelihood, therefore, that this species may occur in the area as a vagrant especially in the autumn months. However, it was not observed during the present survey. The status of the species has not been determined.

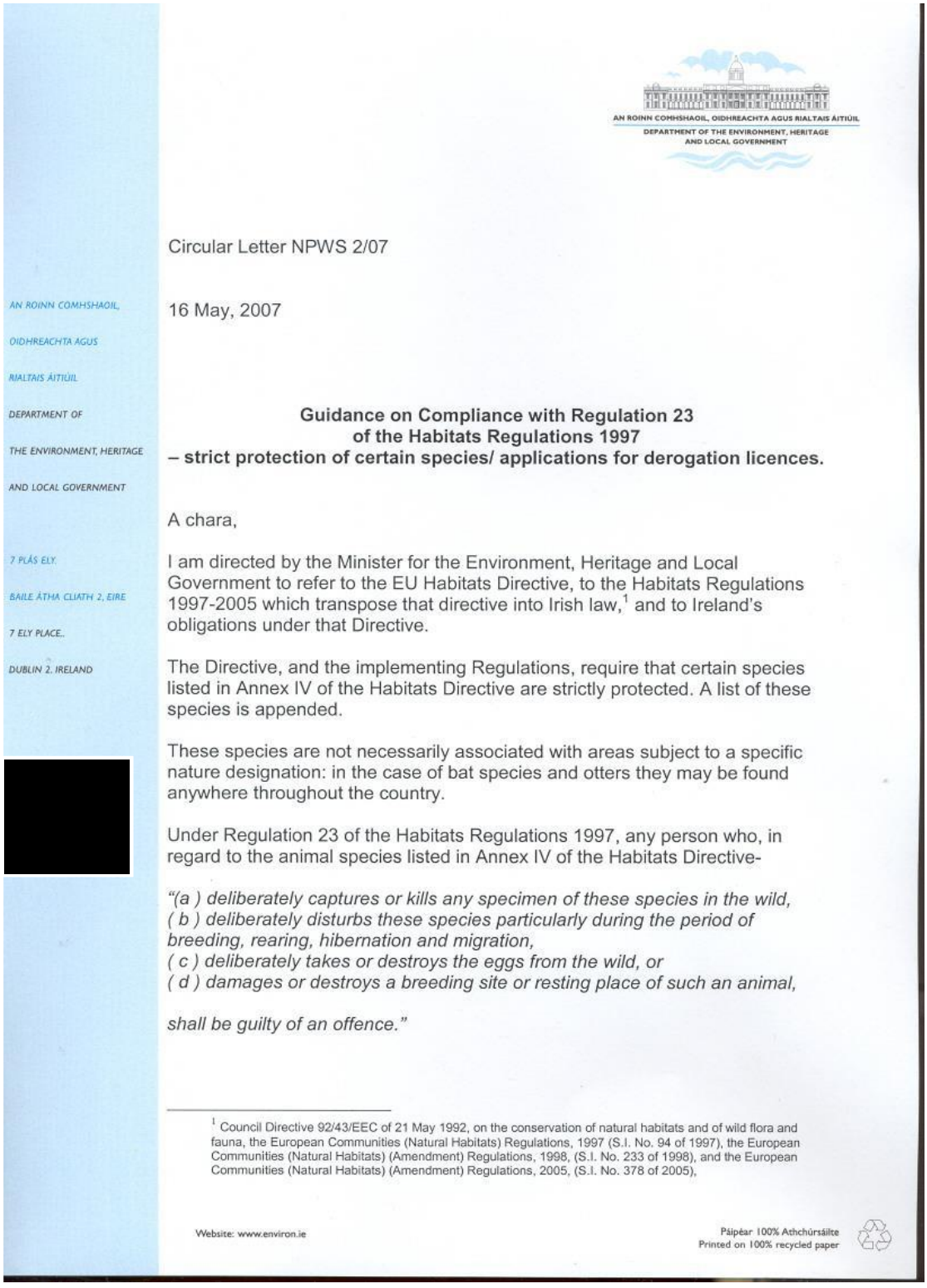


Brandt's bat (*Myotis brandtii*)

This sibling species to the whiskered bat is known from four specimens found to date in Cos. Wicklow (Mullen 2007), Cavan, Clare (B. Keeley pers. comm.) and Tipperary (Kelleher 2006b). Its status is unknown – no map shown.

Appendix III

NPWS Circular Letter 2/07



AN ROINN COMHSHAOIL, OIDHREACHTA AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT

AN ROINN COMHSHAOIL,
OIDHREACHTA AGUS
RIALTAIS ÁITIÚIL
DEPARTMENT OF
THE ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT

7 PLÁS ELY
BAILE ÁTHA CLIATH 2, ÉIRE
7 ELY PLACE,
DUBLIN 2, IRELAND

[redacted]

Circular Letter NPWS 2/07

16 May, 2007

Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/ applications for derogation licences.

A chara,

I am directed by the Minister for the Environment, Heritage and Local Government to refer to the EU Habitats Directive, to the Habitats Regulations 1997-2005 which transpose that directive into Irish law,[1] and to Ireland's obligations under that Directive.

The Directive, and the implementing Regulations, require that certain species listed in Annex IV of the Habitats Directive are strictly protected. A list of these species is appended.

These species are not necessarily associated with areas subject to a specific nature designation: in the case of bat species and otters they may be found anywhere throughout the country.

Under Regulation 23 of the Habitats Regulations 1997, any person who, in regard to the animal species listed in Annex IV of the Habitats Directive-

"(a) deliberately captures or kills any specimen of these species in the wild,
(b) deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,
(c) deliberately takes or destroys the eggs from the wild, or
(d) damages or destroys a breeding site or resting place of such an animal,

shall be guilty of an offence."

[1] Council Directive 92/43/EEC of 21 May 1992, on the conservation of natural habitats and of wild flora and fauna, the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997), the European Communities (Natural Habitats) (Amendment) Regulations, 1998, (S.I. No. 233 of 1998), and the European Communities (Natural Habitats) (Amendment) Regulations, 2005, (S.I. No. 378 of 2005),

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Regulation 21 provides corresponding protection for Annex IV plant species.

The carrying out of any work that has the potential to disturb these species, and for which a derogation licence has not been granted, may constitute an offence under Regulation 21 or 23 of the Habitats Regulations.

It should be noted that in the case of Regulation 23 (d), it is not necessary that the action should be deliberate for an offence to occur. This places an onus of due diligence on anyone proposing to carry out an action or project that might result in such damage or destruction.

A particular concern arises regarding works carried out by or on behalf of local authorities themselves, including works of maintenance or repair.

Examples of cases that are likely to require assessment are the removal of trees and other habitat during the construction of roads or other infrastructure, the modification of the courses of rivers, drainage and discharge of water, and even the re-pointing or replacement of masonry in bridges, walls and other structures where bats are likely to roost, etc.

Procedure to be followed
Local authorities must ensure that they, their staff and their agents comply fully with the requirements of the Directive and the Regulations as follows:

1. In advance of any works, an appropriate initial assessment should be carried out by a person competent to identify where a risk of damage or disturbance to an Annex IV species may exist (e.g. by an appropriately qualified ecologist). The fact that such an assessment has been carried out should be recorded and kept with the papers associated with the project.

2. Projects where a risk is identified should be subject to an appropriate scientific assessment. It will be necessary to identify alternatives or modifications that will avoid that risk.

3. Where it is not possible to identify a means of avoiding the risk completely, the question of seeking a derogation licence from the Minister under Regulation 23 of the Habitats Regulations should be considered if it is desired, notwithstanding, to proceed with the action or project.

4. The Minister is empowered, within strict parameters, to grant a license for derogation from complying with the requirements of the provisions of section 21 of the Wildlife Act 1976 and Regulations 23 and 24 of the Habitats Regulations. The scope of the Minister's powers to grant derogation licences is set out in Regulation 23, as follows:

Where there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range, the Minister may, in respect of those species, grant a licence to one or more persons permitting a

derogation from complying with the requirements of the provisions of section 21 of the Principal Act and Regulations 23 and 24 where it is—

(a) in the interests of protecting wild fauna and flora and conserving natural habitats, or

(b) to prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property, or

(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 beneficial consequences of primary importance for the environment, or

(d) for the purpose of research and education, of repopulating and re-introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plants,

(e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent (if any) specified therein, which are set out in the First Schedule.

6. Any application for a derogation licence (to be submitted to Mr Jamie Mulleady of this Department at: Species and Regulations Unit, National Parks and Wildlife Service, 7 Ely Place, Dublin 2 email: Jamie.mulleady@environ.ie) should address the criteria referred to in the above paragraph as well as proposed scientifically-based mitigation measures to address any potential impact on the identified Annex IV species. A decision on an application will be made on the basis of the information and proposals submitted and best scientific knowledge.

7. An application for such a derogation licence should be made in advance of seeking approval under Part 8 or 10 of the Planning and Development Regulations, 2001, as amended, or seeking planning permission for works. This will ensure that full consideration can be given to the impacts of the proposed project on the species and to avoid the possibility of delay to the proposed project or of a refusal of a derogation licence which would prevent the works being carried out as planned.

8. The obligation to obtain a derogation licence is additional to the requirement to notify the Minister of a proposed development which may have an impact on nature conservation to the Minister under article 82(3)(n) and others of the Planning and Development Regulations, 2001 (as amended). Local authorities should notify the Minister (Development Applications Unit) in any case where it appears that a proposed development may pose a risk to Annex IV species.

9. Should a problem be identified regarding Annex IV species in the course of works, this should be reported immediately to the National Parks and Wildlife Service. No further work that might impact on such species should take place unless a derogation licence has been obtained.

Applications for planning permission
Issues concerning damage or disturbance to Annex IV species also arise in the context of applications for planning permission for proposed development, e.g. proposals to renovate older houses. The responsibility of avoiding disturbance or damage to Annex IV species, or of obtaining an appropriate derogation licence, rests with the developer.

However, planning authorities should note that in any case where it appears that a proposal may pose a risk to Annex IV species, the planning application should be referred to the Minister under article 27(1)(n) of the Planning and Development Regulations 2001 (as amended). This referral should be done in the appropriate manner for applications having impacts on nature conservation sites. Planning authorities could also take the opportunity afforded by any pre-application discussions to alert prospective applicants to the requirements in relation to Annex IV species.

Further information
Species Action Plans, which set out specific measures for the monitoring and protection of these species, have been or are being prepared. They are published on www.npsw.ie or can be obtained from Species Unit [redacted]
Guidelines in regard to bats are available at www.npsw.ie.

General questions in relation to the protection of Annex IV species or require any further information on an application for a derogation licence should be referred to Species Unit (01 8883214). Specific queries regarding a proposed project, location or species should be referred to the appropriate National Parks and Wildlife Service Divisional Ecologist or to the Regional Manager (contact details http://www.npws.ie/media/Media.4976.en.pdf).

If you have any questions in relation to the referral of a planning application, please contact Development Applications Unit [redacted]

Is mise le meas,

Peter Carvill,
Assistant Principal Officer.

To: all County and City Managers, Directors of Services for Planning, Town Clerks

Appendix IV

List of bat-safe timber treatment products

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 3 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 3: Insecticides and fungicides suitable for use in bat roosts

Insecticides	Permethrin Cypermethrin Boron compounds
Fungicides and decorative finishes	Tri(bexylene glycol) biborate 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.

Appendix V

Photographic Record

Plate 1: Aerial view of T-shaped office building (1), North – South and (2) West – East

Plate 2: The corridor joining the two office buildings

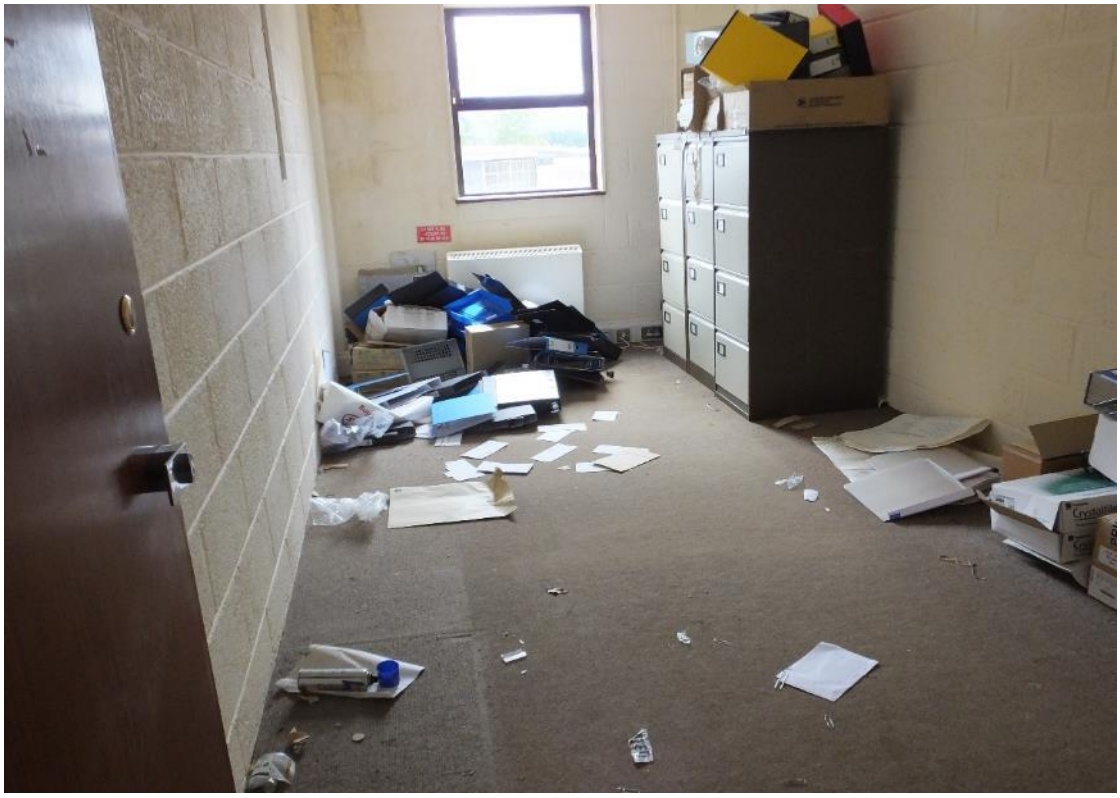

Plate 3: Office spaces turned over for moving (2)

Plate 4: Office spaces in moving stages

Plate 5: Office rooms with empty air vents (access outdoors)

Plate 6: Office rooms (2)

Plate 7: East-West aligned building cleared (2), no viable attic loft

Plate 8: South end of main building (1)

Plate 9: Damage in Office 7, 2nd floor at South end of building (1)

Plate 10: The damaged tiles at the south end of the building (1)

Plate 11: Offices well sealed in other areas below the main attic (1)

Plate 12: Flesk Castle (known roosts present: BCIreland) south of the site, additionally favourable out-buildings on site for temporary roosting

Plate 13: Bat dropping on outside of windowpane at the south end of building (1)

Plate 14: Some gaps in the eaves appear large enough for bats to enter at south end (1)

Plate 15: South facing fascia is weather worn and has potential to host bats

Plate 16: Fallen ceiling in office 7: Debris but no bat droppings present (1)

Plate 17: Fallen ceiling of office 7 (1)

Plate 18: Dark shape in centre of rafters is loose ceiling felt, in which bats had been roosting (1)

Plate 19: Accumulation of Leisler's bat droppings: mixture of fresh and old

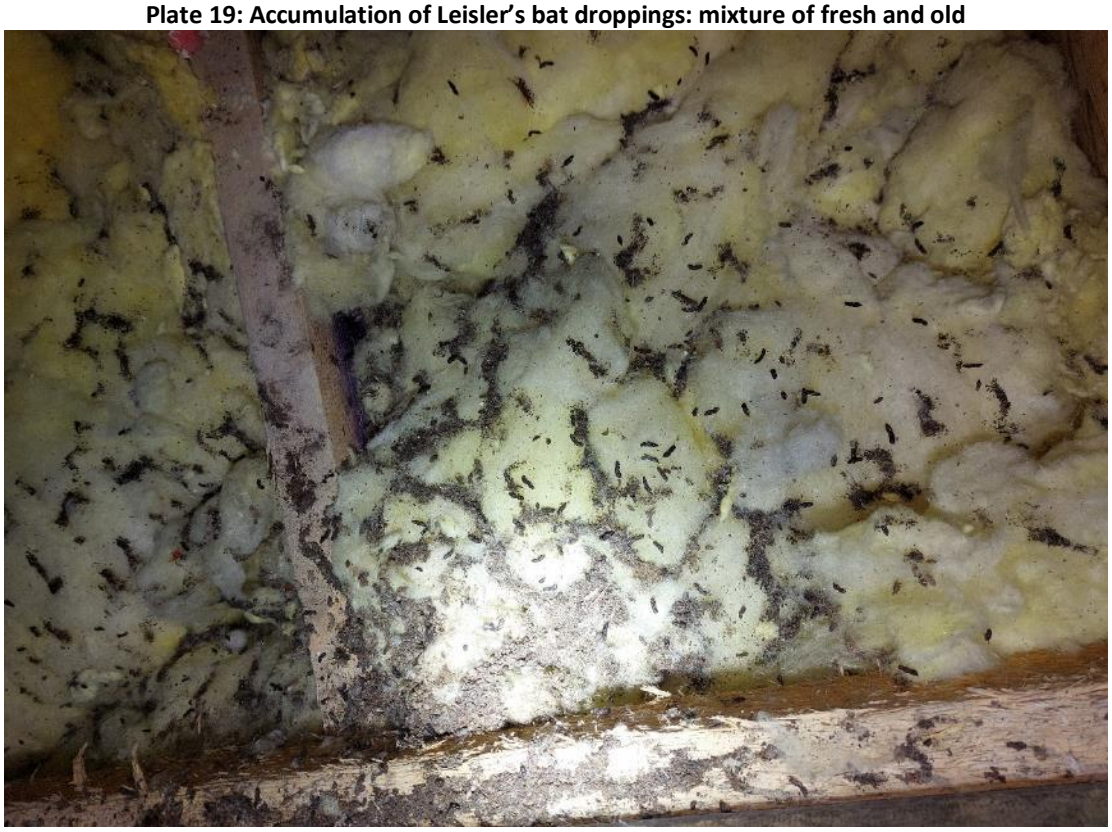

Plate 20: Bat droppings, both old and fresh, from brown long-eared bats

Plate 21: Fresh bat droppings on blocks which appear to connect to the external fascia

Plate 22: Bat droppings on insulating material in the building roof

Plate 23: Leisler's bat emerging from roof (left-centre)

Plate 24: Brown long-eared bat eye-shine at roof entrance

Plate 25: Soprano pipistrelle entering through gap in the roof eaves 5.35am, dawn survey

Plate 26:Internal view of the area which needs repairing of both roof and ceiling

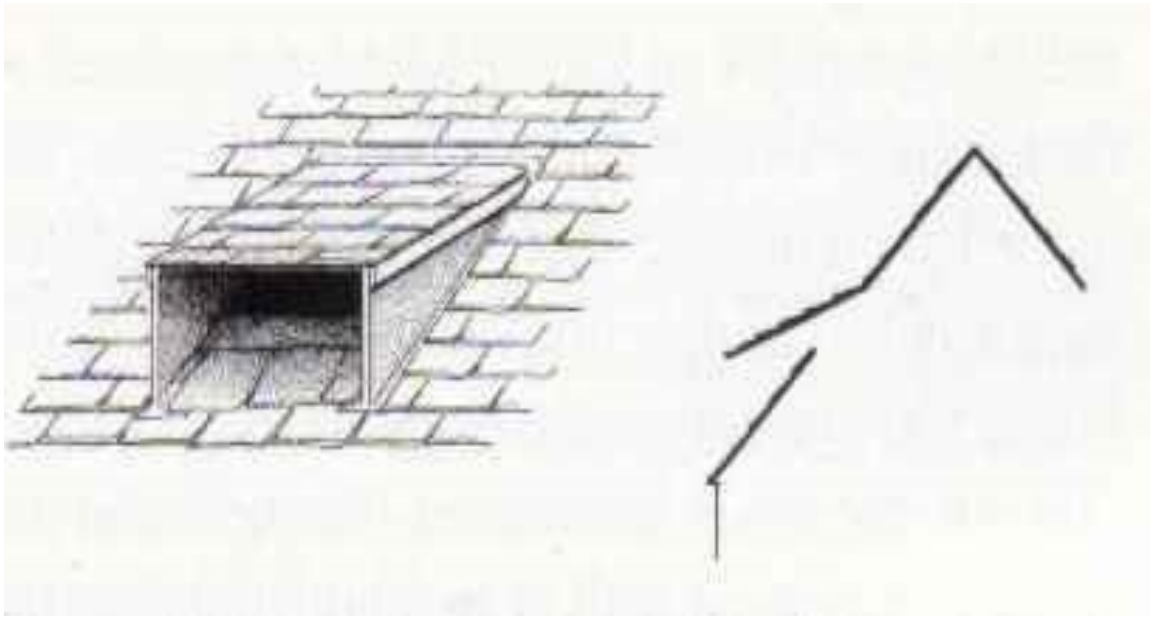

Plate 27: Proposed new bat roof entrance at site of damaged tiling

Plate 28: Example of constructed bat roost entrance

Plate 29: Example of constructed bat roost entrance

Plate 30: Bat friendly tile