

# A Bat Assessment Of The Bancroft Site, Greenhills Road, Tallaght



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## Summary

The bat activity on this site was low, with an individual of 1 species recorded in an active survey in May 2022 and one additional species present in May 2022 based on passive monitoring. All bats were noted commuting through the site with a low level of feeding indicated by recordings. No bats were seen entering or exiting the substation building, freight containers or trees and no swarming behaviour was recorded. The site is adjacent to some recreational areas but much of this does not offer high feeding quality for bats. There is not a wide variety of bat species in the immediate area and suitable feeding and roosting habitats. There is no evidence of bat roost loss from this proposal. There will be a very minor loss of foraging but given that there will be a line of developing trees removed, there is potential within the site for feeding. There will be a change in the lighting of the site given that it is currently unlit directly while there is some light pollution from surrounding security lights. Mitigation for this development includes roost provision in the proposed buildings by means of incorporation of purpose-built roost boxes, planting for biodiversity and lighting management.

## Introduction

Bats are a widespread element of the Irish fauna. They are known to occur from much of the rural landscape and to a lesser extent, the urban environment and here they occupy buildings and occasionally trees for short or long periods. Houses and other buildings are a vital element of the annual cycle of all Irish bat species and at no time more so than the period May to August, but many bats may also avail of buildings as hibernation sites. In sites such as the proposed development site where there are no buildings, there is still the potential for roosting within trees or within nearby houses and feeding within the site proposed for development. Changes to a site including building demolition or renovation and tree and hedge removal may reduce the options available to bats as a roosting site, place bats at risk of injury or death and may also affect their feeding and commuting activity.

Bats are protected by Irish and EU law and to prevent unlawful injury or death, it is essential that a full understanding of the site is available in advance to protect the resident bats from unintentional harm and to create a pathway by which a legal derogation and exemption may be designed in consultation with the National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage.

Development of the site at Greenhills Road, Tallaght will see the removal of the existing small electricity substation building within the site and the removal of all vegetation. Buildings provide a variety of roosting opportunities for bats for various elements of the annual cycle. Trees are also important for bats both for feeding and commuting as well as as roost sites. This assessment will address the potential for bat roosting within the site (trees and building) and identify the potential for impacts upon bat feeding and commuting within the lands that form the proposed site of construction based upon a visual assessment of the lands and a walkover bat detector survey to determine the potential for roost sites within the building and trees on site based on bat emergence and return behaviour.

Surveying in May is a suitable period to look at the early stages of the breeding season when when females are beginning to investigate maternity roost sites (the largest roost type (in the Irish context)). These roosts are typically in close proximity or within areas of good feeding. A bat detector assessment at this time can disclose the value of a site for feeding and how bats avail of a site in commuting to and from important sites including feeding sites and roosts.

## Methodology

**Survey dates**            8<sup>th</sup> and 9<sup>th</sup> May 2022

### Survey equipment

*Echometer 3 x 2*

*Songmeter Mini Bat x 2*

*Hand torches. Fibrescope. 2 x Android phones*

*Office analysis – HP Desktop PC, Kaleidoscope Pro sound analysis software.*

The building and trees were examined for the presence of bats on 8<sup>th</sup> May 2022 and again on 9<sup>th</sup> May 2022. This involved an examination externally of the building and trees (from ground level), external examination of two freight containers and a bat detector assessment of the lands, building and trees by two surveyors from prior to sunset for 1.5 hours and again prior to sunrise for 1 hour. Each surveyor walked around the site watching for the appearance of bats or for the pre-emergence behaviour associated with roosts of greater than one bat. This includes sampling of the atmospheric conditions and queueing to emerge, and bats may be noted squeaking loudly prior to emergence. Similarly, the pre-dawn evaluation sought return behaviour described as “swarming” during which bats may approach a roost entrance numerous times before returning to the roost site. This period is the best for determining roost exit points. Each surveyor noted the time and location of bat activity and the emergence or return of bats to any structure within the site.

One Songmeter Mini Bat was placed in the south-eastern corner at the substation, the second was placed towards the south-western corner at a small hillock. The two Echometer 3 monitors were held for the entirety of the active survey and covered the entire site during a walkabout of the survey by way of a transect by which each surveyor covered the opposite area to each other and included four transects along the perimeter of the car park.

All bat signals were recorded to SD cards and analysed to identify the species present. Automatic identification was carried out by the software and all signals of interest were checked manually for veracity. A sample of unidentified signals were also manually checked to ensure correct identification of all species present.

Prior to this, an external inspection of the substation building, and all trees was undertaken to provide indications of likely roost areas and if bats were present, to allow a count of emerging bats.

Data from the Bat Conservation Ireland database was collated and from any previous surveys in the vicinity of the site. This assessment was undertaken with due consideration of the best practice guidance provided by NOWS - Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

### *Constraints*

There were no constraints to this assessment. Weather conditions were ideal for the summer assessment and were suitable for bat activity throughout the survey period. At sunset, the temperature was 16 degrees Celsius (21.07 hours). By 04.00 hours, this had fallen to 13 degrees Celsius. This is still highly suitable for bat activity. Sunrise was at 05.36 hours and was dry and calm.

All areas were fully accessible to the south of the car park. The car park was accessible from the perimeter and given the absence of vegetation was easily visible regarding bat activity or presence. The freight containers were visible but not accessible.

## **Existing Environment**

### **Bat roosts within the site**                      *None*

There are no roosts within the site. No bats emerged from or returned to any structure within the site. There are very limited opportunities for bats within the site. An electricity substation is fully sealed against bat access and there is no potential offered by the building, given an absence of access points. Trees within the site are very immature and there are no suitable crevices or cavities within the trees.

The trees would require time to develop suitable roost areas for bats which would come about through breaks in the limbs, bark shedding, rot from fungal infection, bird or mammal damage or mechanical stress. At present, there are no roost sites within the site.

### **Bat activity within the site**

Bat activity was extremely limited within the site. Two bat species were noted by the 4 bat detectors assembled on site; common pipistrelle and Leisler's bat. In the site, the most commonly encountered bat was Leisler's bat. Only one bat was noted during the active survey by the handheld monitors; a Leisler's bat at 21.19 hours. This bat flew high over the site and was not visible to either surveyor. This bat was also recorded by the monitor in the south-eastern corner at 21.19 hours. The following are the entire list of bat calls recorded by two handheld monitors and two static monitors

Leisler's bat signals at 21.19, 00.19 and 21.43 hours

Common pipistrelle at 23.42 hours and 01.00 hours

Leisler's bat at 00.20 hours and common pipistrelle at 23.50 hours

A data trawl from Bat Conservation Ireland database and previous surveys by Wildlife Surveys Ireland revealed that a survey by Wildlife Surveys Ireland on the site directly opposite on Airton Road and Greenhills Road corner on May 14<sup>th</sup> 2019, provided evidence of considerably greater common pipistrelle activity, a single soprano pipistrelle signal and more sustained Leisler's bat activity. A Leisler's bat noted within the current site may have been moving towards the neighbouring site and farther afield.

Assessments within the surrounding area and neighbouring property (opposite on the Airton Road corner) including a survey on 14<sup>th</sup> May 2019 indicates minor roost potential in a derelict factory (within wood panelling albeit that no bats or bat signs were noted here). Bat activity during the 2019 survey at Airton Road revealed the presence of three bat species feeding within the site: common pipistrelle, Leisler's bat and soprano pipistrelle. Of these, common pipistrelle was the most frequently encountered and most common. Leisler's bat activity was sustained over some periods of the night in specific areas of the site. A single soprano pipistrelle was present over a short period.



Bat records from the area of the site (top) and activity at the Airtion Road ruined factory in May 2019 (bottom) . All paddles indicate the presence of common pipistrelles.

## BCIreland data: search results 9 May 2022

Search parameters: Roosts Transects Ad-hoc observation sites with observations of all bats within 1000m of O0970928229.

Transects		
Name	Grid reference	Species
Newbridge Firhouse Transect; Spot 9	O1065527272	Myotis daubentonii; Myotis spp.; Unidentified bat

### TRANSECT PASS MENU

- [View transect](#)
- [View transect pass](#)
- [Transect pass observations](#)

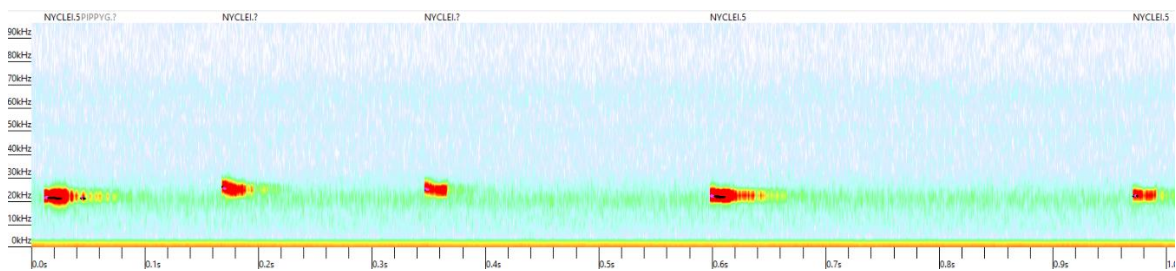
## Transect pass observations

**Transect name** Newbridge Firhouse Transect, Spot 9  
**Survey** All Ireland Daubentons Bat Waterways Survey  
**Pass date** 18 Aug 2007  
**Start time** 21:30:00  
**Duration** 1 hrs 30 mins

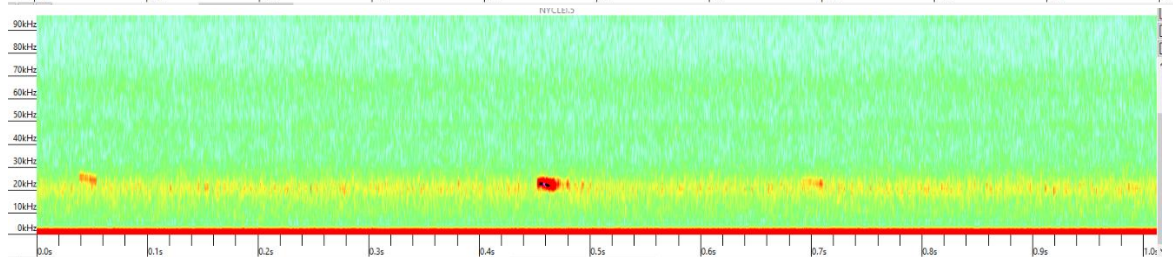
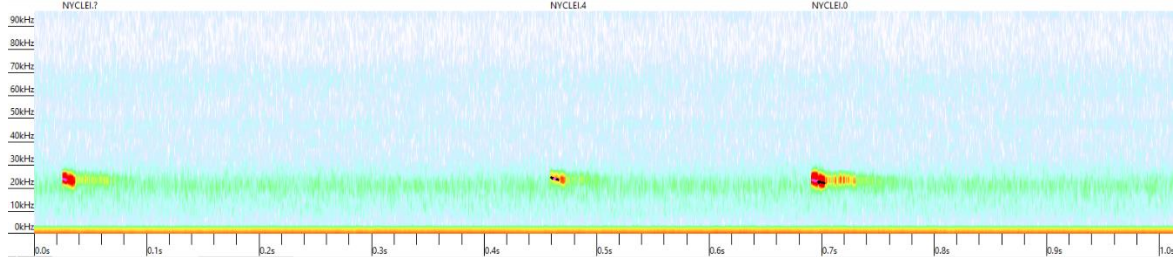
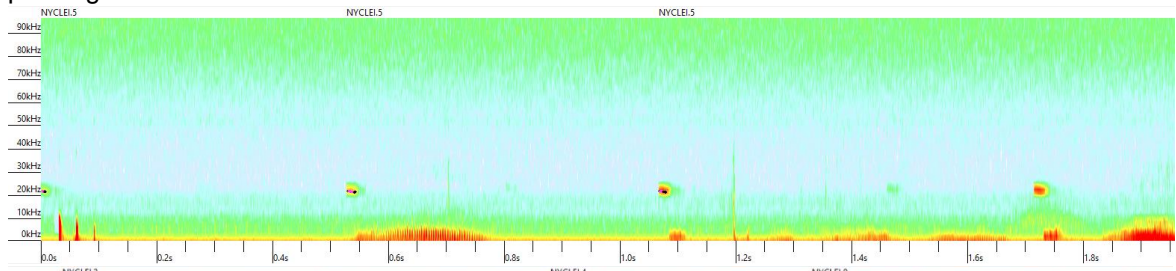
### Bat observations

Recorder name	Species	Sampling method	Count	
Daubenton's Volunteer	Myotis daubentonii	Heterodyne bat detector	5	<a href="#">Remove</a>
Daubenton's Volunteer	Unidentified bat	Heterodyne bat detector	4	<a href="#">Remove</a>
Daubenton's Volunteer	Myotis spp.	Time-expansion bat detector		<a href="#">Remove</a>

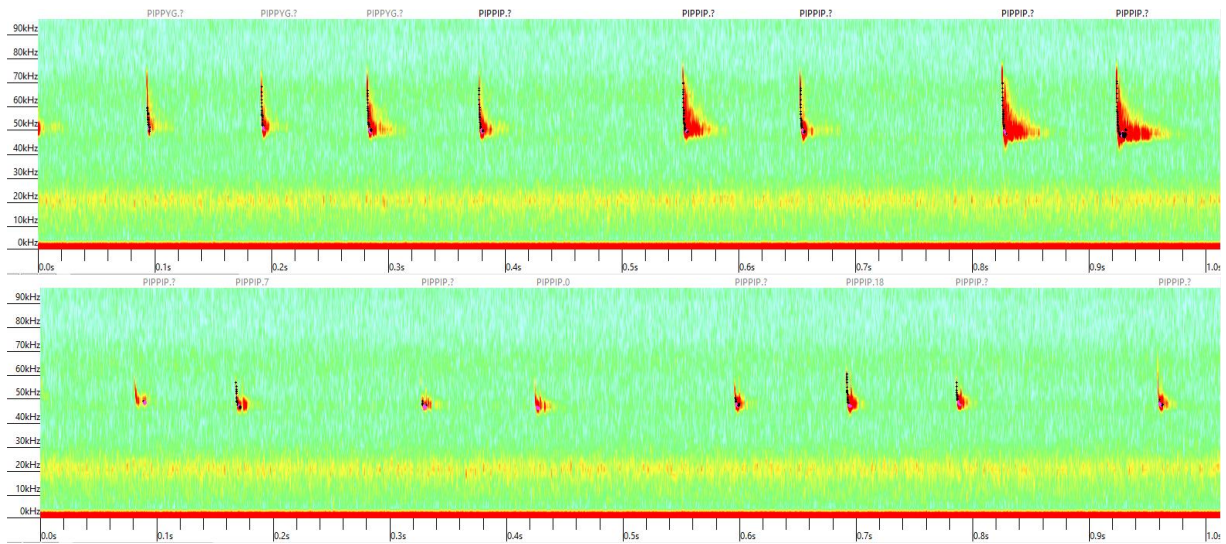
## Bat Conservation Ireland records from within 1 km of the site



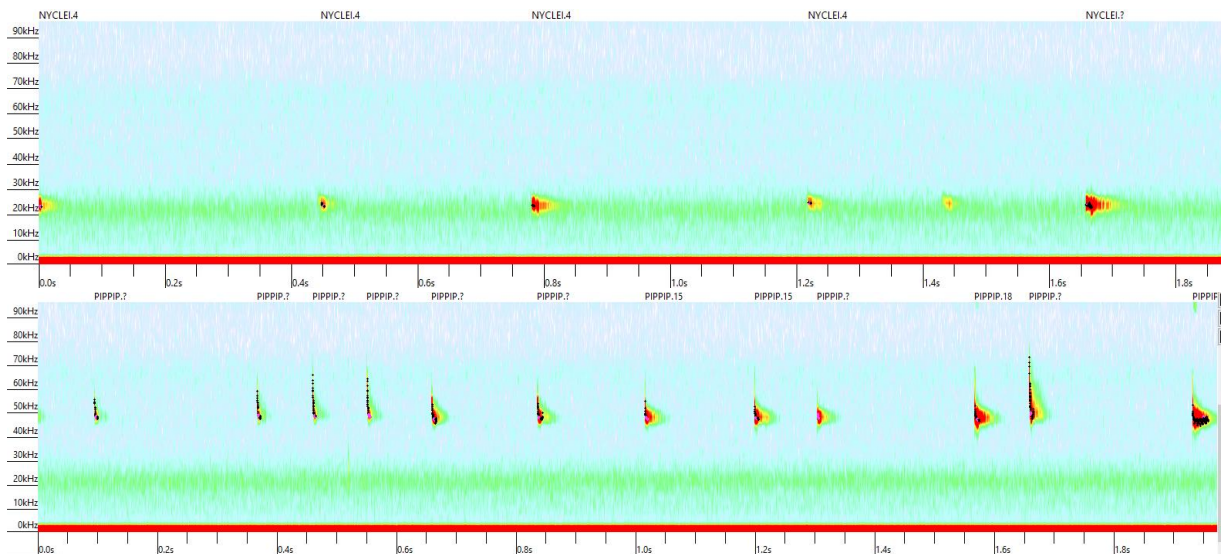
**Leisler's bat at 21.19 hours, the only signal recorded by the active survey.** This bat was noted passing over the site 12 minutes after sunset and did not feed within the site.



**Leisler's bat signals at 21.19, 00.19 and 21.43 hours (very faint) in the south-eastern corner of the Greenhills Road site 8<sup>th</sup> May**



**Common pipistrelle at 23.42 hours and 01.00 hours**  
 These are ALL of the signals recorded by the overnight static monitor



**Leisler's bat at 00.20 hours (top) and common pipistrelle at 23.50 hours recorded at the south-western corner of the site**



**Structures within the site: electricity substation and freight containers and immature tree cover and scrub within the site**



## Potential Impacts

### Loss of trees

While no tree offers roost potential at present, the loss of future mature trees through removal for the proposed development prevents any tree roost occurring within the site. There is the potential for roost establishment within the buildings in the future. Overall, this is a permanent negligible to slight negative impact.

### Disturbance from lighting

Lighting will be utilised for two different functions:

1) Access and safety and 2) Security and policing. The former is to allow ease of use at night. The latter is to ensure a perceived higher security level. This may affect light-intolerant bat species during foraging and if directed at emergence points would affect all bat species, even those that will feed in illuminated areas. Species such as common pipistrelle, Leisler's bat (and neighbouring soprano pipistrelles) are less affected than almost all other Irish bat species.

At worst, it would be a permanent moderately negative impact in the absence of mitigation.

### Reduced Feeding

Reduced vegetation including the removal of all (immature) trees may lead to reduced insect abundance. Vegetation removal and increased building density will reduce bat feeding opportunities.

This is likely to be a permanent slightly negative impact.

## Mitigation



2 FR Bat tube



Ans-6-bat box

(1) **Incorporation of bat boxes into the buildings.**

4 x 2FR Schwegler bat tubes or 4 x Ans-6-bat boxes (as shown above) shall be incorporated into the buildings to provide bat roost sites. These should be away from windows or balconies and the majority should face southerly to increase the likelihood of usage in summer. Boxes must be above 2.5 metres but may be placed at any point above this.

(2) Native shrubs and trees shall be used within the new development. Where other climbers and shrubs are required, they should be taken from the approved list from the All-Ireland Pollinator Plan – [All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf](https://pollinators.ie/wp-content/uploads/2021/03/All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf) ([pollinators.ie](https://pollinators.ie)). (<https://pollinators.ie/wp-content/uploads/2021/03/All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf>)

- (3) Light spillage and light pollution shall be kept to a minimum with the use of cowls, caps, and low-level bollard lighting where possible.

Lighting design will be in accordance with:

[Bats and Lighting](#) – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010);

[Bats and Lighting in the UK](#) – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018).

[Guidance Notes](#) for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2011);

## **Impacts After Mitigation**

There is no impact upon bat conservation predicted from the proposed construction. The mitigation, if implemented in full, will reduce any impacts to a short-term to medium term slight loss of feeding. The measures proposed will prevent impacts from lighting and from vegetation loss and from any potential roost loss. The incorporation of bat boxes into the building will provide long-term bat roost sites.

## APPENDICES

### Appendix 1: Desktop Survey results

#### Bat Conservation Ireland Data



Distribution of Common pipistrelles (left), soprano pipistrelles (middle) and Leisler's bat in Dublin

### Appendix 2

#### Bat Biology

Female bats gather in groups known as maternity roosts in summer to have their young. They generally have one baby each year, so are slow to reproduce, and disturbance of a maternity roost can be catastrophic. Due to the deep torpor into which bats enter, demolition and tree felling may have significant consequences where appropriate measures are not built into a project to prevent bat fatalities.

In winter bats move to old stonework, trees and caves to hibernate (in addition to a considerable proportion for which no hibernation site is known). They are especially vulnerable here as they are slow to awaken, and if tree felling is carried out, they can easily be killed.

#### Legislation;

Bats are protected under the 1996 Wildlife Act, the 2000 Wildlife (Amendment) Act, Stat Ist 94 of 1997, Stat Ist 378 of 2005, The Habitats Directive, The Bonn and Bern Convention, and the Euro bats agreement.

The European Community (Natural Habitats) Regulations S.I. No 94 of 1997 states:

23(1) The minister shall take the requisite measures to establish a system of strict protection for the fauna consisting of the animal species set out in Part 1 of the First Schedule prohibiting –

a) All forms of deliberate capture or killing of specimens of those species in the wild.

1. The deterioration or destruction of breeding sites or resting places of those species.

#### The EU Habitats Directive

Article 12(1) of the 'Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora (Habitats Directive) states:

"Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV(a) and their natural range, prohibiting:

- a) all forms of deliberate capture or killing of specimens of these species in the wild;
- b) deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration;
- c) deliberate destruction or taking of eggs from the wild;
- d. deterioration or destruction of breeding sites or resting places."

The EU Habitats Directive (92/43/EEC) lists all Irish bat species in Annex IV and one Irish species, the lesser horseshoe bat (*Rhinolophus hipposideros*), in Annex II. Annex II includes animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation (SACs) because they are endangered, rare, vulnerable or endemic. Annex IV includes various species that require strict protection. Article 11 of the Habitats Directive requires member states to monitor all species listed in the Habitats Directive and Article 17 requires States to report to the EU on the findings of monitoring schemes.

#### The Bern and Bonn Conventions

Ireland is also a signatory to a number of conservation agreements pertaining to bats such as the Bern and Bonn Conventions. The European Bats Agreement (EUROBATS) is an agreement under the Bonn Convention. Ireland and the UK are two of the 31 signatories. The Agreement has an Action Plan with priorities for implementation. Devising strategies for monitoring of populations of selected bat species in Europe is among the resolutions of EUROBATS.

##### 1.3.1 The Bern Convention

Article 6 of the "Convention on the Conservation of European Wildlife and Natural Habitats' (Bern Convention) reads:

"Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the special protection of the wild fauna species specified in Appendix II. The following will in particular be prohibited for these species:

- a) all forms of deliberate capture and keeping and deliberate killing;
- b) the deliberate damage to or destruction of breeding or resting sites;

- c) the deliberate disturbance of wild fauna, particularly during the period of breeding, rearing and hibernation, insofar as disturbance would be significant in relation to the objectives of this Convention; ...

Appendix II lists strictly protected fauna species and this list includes "Microchiroptera, all species except *Pipistrellus pipistrelles*".

#### The EUROBATS Agreement

The 'Agreement on the Conservation of Populations of European Bats' (EUROBATS) was negotiated under the 'Convention for the Conservation of Migratory Wild Species' (Bonn Convention) and came into force in January 1994. The legal protection of bats and their habitats are given in Article III as fundamental obligations:

"1. Each Party shall prohibit the deliberate capture, keeping or killing of bats except under permit from its competent authority

2. Each Party shall identify those sites within its own area of jurisdiction which are important for the conservation status, including for the shelter and protection, of bats. It shall, taking into account as necessary economic and social considerations, protect such sites from damage or disturbance. In addition, each Party shall endeavour to identify and protect important feeding areas for bats from damage or disturbance."

The Agreement covers all European bat species.