

14th Meeting of the Standing Committee
23rd Meeting of the Advisory Committee

Tallinn, Estonia, 14 – 17 May 2018

Draft Resolution 8.5
Conservation and Management of Important Overground Sites for Bats



The Meeting of the Parties to the Agreement on the Conservation of Populations of European Bats (hereafter "the Agreement"),

Recalling Resolution No. 4.9, Element 3 (a) on the protection of roost sites other than underground sites;

Further recalling Resolution No. 5.7, Guidelines for the Protection of Overground Roosts, with particular reference to roosts in buildings of cultural heritage importance;

Recognising the importance of overground man-made structures (Annex 1) as roost sites for many species of bats, both for hibernation and breeding in different parts of their ranges;

Recognising that overground roosts, including man-made structures, are threatened by a wide variety of anthropogenic factors and that active management of such sites is often required;

Noting further the work being carried out in the framework of the EU Habitats Directive, in particular the establishment of the Natura 2000 network, and in the framework of the Bern Convention, in particular the establishment of the Emerald network;

1. *Confirms* the importance of a EUROBATS list of overground roosts as a contribution to the maintenance of populations of European bats;
2. *Endorses* the guidance on site selection prepared by the Advisory Committee;
3. *Strongly encourages* Parties and Range States to identify their most important overground roosts considering the guidance on site selection referred to above and using the national database established following Resolution No. 5.7;
4. *Urges* Parties and encourages non-Party Range States to submit information about each selected site before MoP9 and update this information at least before

every alternate MoP (according to an 8 year cycle, with the next revisions due before MoP 11), using a data format provided by the Secretariat (Annex 1);

5. *Urges* Parties and encourages non-Party Range States to ensure listed sites are managed so as to maintain their importance for bats;
6. *Urges* Parties and encourages Range States to inform the Secretariat of listed sites that have been damaged or destroyed and the reasons for this loss;
7. *Instructs* the Secretariat to investigate cases of loss or damage to listed sites that are brought to its attention, initially by correspondence with the Party involved. Such investigations should be reported by the Secretariat at each MoP;
8. *Instructs* the Secretariat to investigate ways of making the site data more accessible and useful whilst respecting the confidentiality of detailed site information.

Guidance on Site Selection of Overground Roosts of European importance

“As their metabolic and social requirements vary throughout the year, most bats will use a variety of roosts of different types. Some species are particularly closely associated with tree roosts, but the majority use a range of roosts, which includes trees, buildings and underground sites.

Man-made structures regularly used by bats across Europe include bridges, castles, churches, houses, blocks of flats, barns and stables. Some species have come to rely on such structures, e.g. *Eptesicus* and *Pipistrellus* species usually roost in buildings; *Myotis daubentonii* is, in some countries, particularly associated with bridges and will form roosts in suitable cracks in both old and new structures; *Myotis myotis* can be found roosting in churches over much of its range in the northern part of Europe, while *Plecotus* species have come to rely more and more on man-made roost sites in some countries due to the successive loss of suitable natural habitat.

Bats can be found in buildings all year round. In late spring, maternity roosts are formed in the roofs of buildings to take advantage of the heat provided by the sun, as during this phase of their life-cycle breeding females are seeking warm areas to minimise the energy cost of maintaining a high body temperature. Some species, such as *Pipistrellus* spp. show a clear preference for confined roost sites, such as soffit boxes, eaves or under hanging tiles, whereas others, such as the *Rhinolophus* spp. are more typically associated with open roof voids that they can fly in. There are many exceptions and many species have been recorded from a wide variety of situations. In winter, bats of most species have been recorded hibernating in various parts of buildings, such as inside cavity walls, around window frames, under ridge tiles and in cooler areas with stable temperatures such as cellars and basements. These latter are covered by the Eurobats report on underground roosts and are not considered further here.” (Marnell & Presetnik 2010 *Eurobats Publication Series* n°4)

What is an overground habitat?

As in many countries roosts of tree dwelling bats are unknown or often used for few days, the list of overground habitats of European importance will only include man-made structures: churches, castles and fortifications, other buildings, houses/blocks of flats, barns and stables, abandoned buildings and ruins, mills and water towers, bridges, with particular reference to monuments of cultural heritage.

Usage of overground sites

Sites can be classified according to the main season of use by bats or by the use bats make of them. In general, the latter classification is probably more useful as it relates to the biological requirement: A suitable classification, based on the **main** use of the site is: maternity site, hibernation site, swarming site, transient site (a transient site is one that is used only for passage and not one occupied by individuals which are still in their hibernation or their nursery roost). This classification may depend on the species of bat.

Criteria for identifying overground habitats of European importance

The most important overground habitats in a territory may include single-species and multi-species sites, both of which make an important contribution to bat conservation. The national conservation importance of underground sites has often been assessed on two basic criteria: Species present (or number of species present) and Number of bats. These two criteria have been applied in various ways across Europe and several national classification schemes have been developed. However, the conservation status issued from regional IUCN redlists and the dependence of species on overground roosts support to weigh these criteria.

Bats are unevenly distributed across Europe, so there may be species that are rare in a country and/or for which there is an international obligation to identify and protect sites (e.g. EU Habitats Directive Annex II). If all sites were ranked only at the European scale, the result would be a list of sites heavily biased towards those countries that still have the richest bat populations. Then schemes are adapted in order to provide a list of the main sites for each species highly dependent of overground roosts.

1. Species richness schemes

Species richness schemes may be applied to sites used by multiple species. These take into consideration both the number of bats using the site and the number of species recorded there (both recorded in a variety of ways). A simple weighted scheme has been agreed. The weight for each species is 1 or 2 (table 1), without threshold in order to be adapted to each country.

2. Single species schemes

Overground roosts are often occupied by single species. A threshold scheme based on the number of bats using the site can be weighed for species that are considered to be of particularly high conservation value.

3. How many sites in each country?

Setting the number of sites for each country presents a particular challenge. Where the number of sites used by the species is large, either ranking or threshold systems should be applied to select a subset of sites as nationally important (raising up the threshold).

4. Data collecting

Data about species and numbers in overground habitats have been collected by researchers in a variety of formats and at varying intervals. For some sites (rather few) long data series are available over periods of many years, but for the majority of sites data are fragmented and incomplete, consisting of perhaps only a few observations. If the selection of important sites is limited to only those with long runs of data it seems certain that many sites, perhaps even some of the most important, would be excluded from consideration. This suggests that ranking or selecting sites should use as much of the available information as possible and that very simple measures of value should be used. The maximum number of individuals counted at the site within the previous 10 years is a simple measure that has the advantage of including all sites and does not require any complex assessment of numbers. It does not, however, take into account any possible declines in numbers that may have occurred in the 10-year period and we leave it to individual countries to modify their selection if adequate data on declines are available.

Sites for Habitats and Species Directive Annex II species (Natura 2000 sites) should all be included.

5. Implementation

For this project, where there is little prior knowledge of the number of sites across Europe, we propose collecting information about species and numbers in a selection of the best sites in each country.

In order to make progress, data are now required from each Party or Range State wishing to participate. For the initial stage, sites for inclusion in the draft lists should be selected at the national level

The following data are required for each site:

- Name of roost / site (or code number if the national authority considers the name to be confidential)
- Location (latitude, longitude, at least 1 x 1)
- Type of structure / site (church, castle/fortification, etc.)

- Use by bats (all-year, maternity, other summer colony, hibernation, swarming, transient)
- Number of species recorded in the last 10 years
- Maximum number of bats of each species recorded on a single survey in the last 10 years
- Year of the last survey
- Physical protection of the roost / site or other means of preventing unauthorised entry
- Type of the legal protection of the roost / site if relevant (natural reserve, Natura 2000,...)
- Criteria used for listing this roost / site
- Threats to the roost / site (demolition and natural deterioration, renovation of structures, insulation of buildings, change of use of buildings, light pollution, intensification of human habits (e.g. change of land use), disturbance (including tourism), interspecific competition, others.

Table 1. Weight of European bat species for listing overground habitats of importance, based on European / Mediterranean IUCN lists, and dependence on buildings.

	European IUCN red list	Mediterranean IUCN red list	Dependence on overground roosts	Weight
<i>Rousettus aegyptiacus</i>	-	NT	-	0
<i>Taphozous nudiventris</i>	-	LC	-	0
<i>Rhinolophus blasii</i>	VU A4c	NT	-	0
<i>Rhinolophus euryale</i>	VU A2c	VU A2ac	+	1
<i>Rhinolophus ferrumequinum</i>	NT	NT	++	2
<i>Rhinolophus hipposideros</i>	NT	NT	++	2
<i>Rhinolophus mehelyi</i>	VU A4c	VU A4c	-	0
<i>Taphozous nudiventris</i>	LC	LC	-	0
<i>Tadarida teniotis</i>	LC	LC	+	0
<i>Miniopterus schreibersii</i>	NT	NT	+	1
<i>Barbastella barbastellus</i>	VU A3c+4c	NT	++	2
<i>Barbastella darjelingensis</i>	-	NA		
<i>Eptesicus bottae</i>	-	LC	++	1
<i>Eptesicus nilssonii</i>	LC	NA	+	0
<i>Eptesicus serotinus</i>	LC	LC	++	1
<i>Hypsugo savii</i>	LC	LC	+	0
<i>Myotis alcaethoe</i>	DD	DD		
<i>Myotis bechsteinii</i>	VU A4c	NT	+++	2

<i>Myotis blythii</i>	NT	NT	++	2
<i>Myotis brandtii</i>	LC	LC	+	0
<i>Myotis capaccinii</i>	VU A4bce	VU A4bce	-	0
<i>Myotis dasycneme</i>	NT	NA	+++	2
<i>Myotis daubentonii</i>	LC	LC	+++	1
<i>Myotis davidii</i> *	LC	LC	+	0
<i>Myotis emarginatus</i>	LC	LC	++	1
<i>Myotis escalerae</i>	-	-		
<i>Myotis myotis</i>	LC	LC	+++	1
<i>Myotis mystacinus</i>	LC	LC	++	1
<i>Myotis nattereri</i>	LC	LC	++	1
<i>Myotis punicus</i>	NT	NT	++	2
<i>Myotis schaubi</i>	DD	DD		
<i>Nyctalus azoreum</i>	EN B1ab(iii)	EN B1ab(iii)		
<i>Nyctalus lasiopterus</i>	DD	NT	++	1
<i>Nyctalus leisleri</i>	LC	LC	++	1
<i>Nyctalus noctula</i>	LC	LC	+++	1
<i>Otonycteris hemprichii</i>	-	LC	-	0
<i>Pipistrellus hanaki</i>	-	DD		
<i>Pipistrellus kuhlii</i>	LC	LC	++	1
<i>Pipistrellus maderensis</i>	EN B1ab(iii, v)	EN B1ab(iii, v)		
<i>Pipistrellus nathusii</i>	LC	LC	++	1
<i>Pipistrellus pipistrellus</i>	LC	LC	++	1
<i>Pipistrellus pygmaeus</i>	LC	LC	++	1
<i>Plecotus auritus</i>	LC	LC	+++	1
<i>Plecotus austriacus</i>	LC	LC	+++	1
<i>Plecotus kolombatovici</i>	NT	LC	+++	1
<i>Plecotus macrobullaris</i>	NT	NT	++	2
<i>Plecotus sardus</i>	VU B2ab(iii)	VU B2ab(iii)	+++	2
<i>Plecotus teneriffae</i>	EN B1ab(iii, v)	EN B1ab(v)		
<i>Vespertilio murinus</i>	LC	NA	++	1

* incl. aurascens & nipalensis