

## **Agreement on the conservation of populations of European bats**

### **National implementation report of Finland**

#### **A. General Information**

Party: Finland

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Period covered by report: 2003 – 2006

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#### **B. Status of Bats within the Territory of the Party**

##### **1. Summary Details of Resident Species**

Eleven species of bats have been observed in Finland. Five of them are widespread in Southern and Central Finland and occur with regularly reproducing populations (table 1). In July 2006, the first breeding colony of *Pipistrellus nathusii* was found in South-eastern Finland. In recent years this species has been regularly observed in potential breeding habitats in southern Finland (e.g. Siivonen & Wermundsen 2003 a, Vihervaara 2004). One further, most probably reproducing species, *Myotis nattereri*, is considered as endangered (Rassi 2001). This very rare species has been found hibernating in Turku, SW Finland, in winters 2003-2004 (Vihervaara et al. 2003), 2004-2005 and 2005-2006. The species has been observed also in Hanko, Southernmost Finland in several years (Salovaara pers. comm.). There are only few previous records of this species in Finland (Stjernberg 1996, 1998, Siivonen & Wermundsen 2003 b).

*Nyctalus noctula* is observed yearly but there is no recent observation of this species breeding in Finland. *Pipistrellus pipistrellus* has been observed only a few times in Finland (Salovaara 2001,

Siivonen & Wermundsen 2003 b, however, for *Pipistrellus pipistrellus* cf. Salovaara 2001). Wermundsen & Siivonen 2004 give an overview of the distribution of *Pipistrellus* species in Finland.

## 2. Status and Trends

Table 1 shows the distribution and status of bat species recorded in Finland. No estimates of population sizes are yet available.

Table 1. Status and distribution of the bat species recorded in Finland. Status categories: CR (critically endangered), E (endangered), V (vulnerable). No species was classified as NT (near threatened). Rassi et al. 2001.

<b>Species</b>	<b>Distribution/status</b>
<i>Nyctalus noctula</i>	restricted, S Finland, vagrant
<i>Eptesicus nilssonii</i>	widespread, to S Lapland, some records even further north
<i>Vespertilio murinus</i>	restricted, S Finland, vagrant
<i>Plecotus auritus</i>	widespread, S & Central Finland, to 63° N lat.
<i>Pipistrellus nathusii</i>	restricted, S Finland. (First record 1982; first maternity colony found 2006)
<i>Pipistrellus pipistrellus</i>	restricted, S Finland (first record 2001)
<i>Myotis nattereri</i>	rare, S Finland/ Endangered
<i>Myotis brandtii</i>	widespread, S & Central Finland, to 64-65° N lat.
<i>Myotis mystacinus</i>	widespread, S & Central Finland, to 64-65° N lat.
<i>Myotis daubentonii</i>	widespread, S & Central Finland, to 63-64° N lat.
<i>Myotis dasycneme</i>	restricted, E Finland (1 hibernating specimen 2002)

## 3. Habitats and Roost Sites

Some data on bat habitats and roost sites in Finland has been accumulated from recent research projects and surveys as well as from the public. More research is needed before an updated table of habitat use and roosts of different bat species in Finland can be presented. Data on hibernating sites of bats has been collected by the Finnish Museum of Natural History in co-operation with researchers and amateurs. An overview of the current knowledge on hibernation sites of bats in Finland was given by Kyheröinen *et al.* 2004. The collecting of data is being continued.

#### **4. Threats**

Threats against nursery colonies and roosts are: felling of hollow trees, modern forest management that does not create new suitable hollow trees as well as monoculture and evenly aged forests, rebuilding and repairing of houses, both private wooden houses and summer cottages, but in some extent also houses built of stone, private as well as buildings such as churches. Rebuilding of old bridges might also be disastrous for bats, although this topic is not very well known in Finland. Using of chemicals for treatment of timber is not considered as a serious problem today.

Threats against hibernating sites are mainly disturbance by people, especially of young people making fire in caves, or using them for other activities. Also curiosity among people combined in recent years with nature tourism has caused some disturbance. The abandoning of traditional pastures and meadows in southern, but also to some extent in central Finland may have affected the feeding habitats of some species of bats but this topic has not yet been investigated.

Lack of knowledge among the public of what bats and their ecological needs might also be considered a threat.

#### **5. Data Collection**

Data on bats is collected in the Zoological Museum, Finnish Museum of Natural History, P. O. Box 26, FI-00014 University of Helsinki. The museum has a new database ([www.hatikka.fi](http://www.hatikka.fi)) open for the public, for all kinds of nature data.

Basic information on hibernation, faunal composition and distribution in this report has been received from bat researchers and amateurs in Finland, as well as from published reports.

The Finnish Chiropterological Society is also collecting data on distribution and abundance of bat species as well as on the locations of roosts and hibernacula. The society has a new database ([www.lepakkohavainnot.info](http://www.lepakkohavainnot.info)) for bat observations.

### **C. Measures Taken to Implement Article III of the Agreement**

## **6. Legal measures taken to prevent the deliberate capture, keeping or killing bats, including details of enforcement actions used to support such measures**

The legislation concerning bat conservation is mostly similar to the situation reported in 2000 (see text below). Few changes concerning the Nature Conservation Act have been approved: the wording “clearly identifiable” (breeding and resting sites) in § 49 was excluded in 2004.

All bats in Finland have been protected by law since 1923 (Nature Conservation Act 71/1923). All bats, both regularly occurring and vagrant species (bats), are protected according to the new Nature Conservation Act (1096/1996). According to its § 39, concerning individuals of a protected species, following are forbidden: deliberate killing and capture, deliberate harming, deliberate disturbance particularly during the breeding or on any other sites of significance to their life cycles.

Licences for catching and handling bats are issued by regional environmental centres. In order to get a licence, the applicant has to submit a research/project plan in which methods aimed to be used in the study as well as the species concerned and other relevant details have to be described. Regarding ringing licences see point 15, Resolution 4.6. For research projects involving radio tracking or other invasive methods also a licence according to the Act on Animal Testing (includes regulations about methods used in the study of wildlife) needs to be issued.

The Natterer's bat is considered as a species under strict protection (Nature Conservation Decree (160/1997, § 22, Appendix 4), hence a special action plan for its protection can be made. The deterioration and destruction of a habitat important for the survival of the Natterer's bat is prohibited after the regional environment centre has made an official decision of the borders of the site.

All bat species in Finland belong to those species mentioned in the EC Council directive 92/43/EEC, Annex IV (a). Hence, according to § 49 (Nature Conservation Act 1096/1996) following is forbidden:

- the destruction and deterioration of breeding sites and resting places
- to keep bats
- to transport bats
- to sell or exchange bats or to offer them for selling or exchange

It is possible to derogate from these provisions only for reasons mentioned in the habitats directive Article 16 (1). The permission can be given by the regional environment centre or the Finnish Environment Institute.

Finland is also a member of the Bern convention (since 21.3.1986), the Bonn convention (since 1.1.1989) and is, since October 20<sup>th</sup> 1999, a member of EUROBATS.

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The Åland Islands have a legislation of their own on nature conservation. According to the Nature Conservation Act of the Åland Islands (82/1998), § 14, all mammals except game species, are permanently protected.

## **7. Sites identified and protected which are important to the conservation of bats**

Recently there has been the first case of identifying an area important for bats and marking it in a town plan. This area is situated in the municipality of Tampere.

Heikkilä cave in Turku, South-western Finland, has been closed and locked so that only bat workers can visit the cave to count the bats. This cave is one of the best hibernation sites known in Finland and it has been studied intensively for a couple of years now.

Bat habitats have not generally affected the choice of sites to the Natura 2000 programme in Finland, but in a few areas in SW Finland bats were mentioned as a strengthening protectional value. In summer 2003 systematic bat surveys in Natura 2000 sites in SW Finland were conducted (Vihervaara 2004). In summer 2004, bats were surveyed by Nina Hagner-Wahlsten in several protected forest areas in SW Finland. The aim was to get data on the occurrence and abundance of bat species as well as to give advice regarding bat friendly forest management in these areas.

## **8. Consideration given to habitats which are important to bats**

In recent years bat surveys as such or in connection with other nature surveys (vegetation, bird surveys etc.) have become more and more common in planning and building processes. This makes it possible to take into consideration the needs of bats – for example good feeding areas – in the land use.

In 2006 there has been a case of an important bat area near old fortresses being threatened by management plans for the fortress. The problems have been solved in negotiations between environmental authorities and specialists of several areas. The management plans will now take into consideration ecological aspects as well as the need of management in the historical area.

## **9. Activities carried out to promote the awareness of the importance of the conservation of bats**

The Finnish Chiropterological Society has started a project to promote the awareness of bats, their ecology and conservation. The project also aims at increasing the number of bat workers in Finland – which is crucial for example if data about distribution patterns and abundances of bat species is to be gathered all over the country. During spring and summer 2006 ca. 15 lectures about bats have been given in different cities/towns to public interested in bats. Besides of the lectures, 10 courses ('Bats as a hobby') have been organized by the end of August 2006.

With the permission of the authors, Kari Salovaara and Mikko Erkinaro translated into Finnish and adapted into Finnish conditions parts of the electronical publication Dietz, C. & Helversen, O. von (2004): Illustrated identification key to the bats of Europe. The translation is also an electronical publication (Salovaara & Erkinaro 2005 a,b) and it includes species occurring in Finland and adjacent areas.

The dissemination of information about bats via e-mail posting lists as well as through articles in magazines, newspapers, radio and television programmes and during excursions has continued. This work has been conducted by researchers and amateurs engaged in bats as well as the staff of different museums and nature conservation authorities.

A leaflet on bats issued by the Ministry of the Environment has recently been translated into Swedish, the other official language of Finland. The leaflet has been sent to people asking for information on bats as well as to people participating in field trips. Also information on how to build and where to put bat boxes has been distributed during many years.

Several bat walks and lectures about bats have been organized to celebrate the European Bat Night in different localities. These and other bat events have often been very popular.

The Bat CD "We are your friends", provided by EUROBATS, was sent by the EUROBATS Secretary to the Finnish Broadcasting Company and it has been used in nature programmes.

## **10. Responsible bodies, in accordance with Article III.5 of the Agreement, nominated for the provision of advice on bat conservation and management**

(a) Zoological Museum, Finnish Museum of Natural History, P.O. Box 26, FI-00014 University of Helsinki.

(b) The Finnish Environment Institute, P. O. Box 140, FI-00251 Helsinki.

## **11. Additional action undertaken to safeguard populations of bats**

The topic 'bats in buildings' has aroused quite a lot of discussion and guidelines for these situations are needed to safeguard house dwelling bat colonies. Guidelines for property owners and others are in preparation.

General guidelines on how species listed in Habitats Directive's Annex IV a and Birds Directive can be considered in project planning and land use planning processes outside Natura 2000 sites were published in 2004 (Sierla *et al.* 2004).

## **12. Recent ongoing programmes (including research) relating to the conservation and management of bats**

Two research projects involving radio tracking were conducted in summer 2006 in Southern and South-western Finland. These are the first Finnish studies on bats using telemetry. The species studied are *Eptesicus nilssonii* and *Plecotus auritus*.

Several Master's theses on bat ecology are in preparation in different universities (Helsinki, Jyväskylä, Turku at the moment). The results of these studies may later be applied in nature conservation.

Several bat surveys were conducted during the summer 2006. Bat ringing is also used in some research projects to obtain basic ecological data about bats.

Data on hibernating sites of bats is being collected by the Finnish Museum of Natural History from different sources, i.a. with the aid of bat researchers and amateurs as well as the public. An overview of the current knowledge on hibernation sites of bats in Finland was given by Kyheröinen *et al.* 2004

Recent publications are given in the reference list in the end of this report.

### **13. Consideration being given to the potential effects of pesticides on bats, and efforts to replace timber treatment chemicals which are highly toxic to bats**

The situation is similar to the previous report. A report to EUROBATS was provided by Matti Osara in 2001. The most harmful pesticides are forbidden in Finland.

## **D. Functioning of the Agreement**

### **14. Co-operation with other Range States**

The University of Turku together with the Finnish Museum of Natural History, The Finnish Chiropterological Society (FCS) and the Environmental Office of the City Turku organized the first Baltic Bat Meeting in 2003, on the Sjäälö/Seili Island, in SW Finland. The aim of the meeting was to establish an effective network between bat researchers from the Northern Baltic, and to promote bat studies and bat conservation research. The presentations and notes of the meeting can be read on the web-site of FCS (<http://www.lepakko.org>). As an outcome of the meeting, a project plan of migration study in the Baltic area has been prepared by professor Ingemar Ahlén, Dr. Johnny de Jong and Mr. Lothar Bach. The project has not yet been started, mainly due to lack of funding. However, there have recently been discussions about starting the project and funding opportunities will be looked into.

Bat workers have visited several other countries (e.g. Sweden, Latvia, Germany, Poland, UK, USA), to attend conferences and workshops, to discuss with other bat workers and to learn new methods of bat research.

### **15. Measures taken to implement Resolutions adopted by Meetings of Parties**

#### ***Resolution 2.1 Consistent Monitoring Methodologies.***

So far, no systematic large scale monitoring is going on in Finland. The line transect method seems to be the most used monitoring method. The EUROBATS guidelines that will soon be published will help us in planning monitoring schemes in the future. Kari Salovaara and Olli Haukkovaara published guidelines of the line transect monitoring method, adapted to the Finnish conditions (Haukkovaara & Salovaara 2002). According to Salovaara, revised guidelines for the



line transect method as well as guidelines for inventories for spatial planning and guidelines for migration monitoring are under preparation.

#### ***Resolution 2.4. Transboundary Programme: Habitat Proposals***

As the knowledge of hibernating bats in Finland still is rather scanty and wintering strategies here presumably differs, at least in details, from those in more southern regions, basic inventories of potential sites will be continued. A report of what is known is under preparation and data on important underground sites will be submitted to the database maintained by the secretariat.

#### ***Resolution 4.3 Guidelines for the protection and Management of Important Underground Habitats***

So far, only some underground sites with more than a few bats have been found in Finland. However, the guidelines will be taken into consideration when managing underground hibernacula.

#### ***Resolution 4.4 Bat Conservation and Sustainable Forest Management***

The new Forest Act safeguards the key biotopes of forests, e.g. small bodies of water, which could be of great importance also for bats. However, more research on bats using forest habitats and co-operation between bat workers and forest managers is needed.

#### ***Resolution 4.5 Guidelines for the Use of Remedial Timber Treatment***

See point 13.

#### ***Resolution 4.6 Guidelines for the Issue of Permits for the Capture and Study of captured Wild Bats***

Referring to this resolution, the Ministry of the Environment asked the Finnish Museum of Natural History to organize ringing and marking of bats in Finland. Ringing of bats in Finland started as a pilot project in 2004, according to the Guidelines in EUROBATS Resolution No. 4.6. In 2005 and 2006 few ringing projects have been started in Southern and South-western Finland.

The guidelines have been translated into Finnish and supplemented with guidelines concerning license practices etc. in Finland. All ringing of bats in Finland is coordinated by the Finnish Museum of Natural History. All bat ringers must have a special bat ringer's license which presupposes an examination on identification, sexing and ageing as well as on the legislative status of bats. The bat ringer's license also presupposes a proper research / project plan, proved ability to handle living bats or birds as well as vaccination against bat rabies.

#### ***Resolution 4.7 Wind Turbines and Bat populations***

There is no published data about the impacts of wind turbines on bats in Finland. However, a study on the effects of wind turbines on birds was published in October 2004. Several aspects of wind turbines were discussed in a one day seminar in 2004 organized by the Ministry of the Environment. The IWG questionnaire about wind turbines and bats has been replied.

#### ***Resolution (2.8, 3.8 &) 4.9 On the implementation of conservation and management plan***

This report presents efforts to implement this resolution.

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