Agreement on the conservation of populations of European bats

National implementation report of Finland

A. General Information

Party: Finland
Date of Report: June 2010
Period covered by report: 2007 – 2009

Competent Authority: Ministry of the Environment, P. O. Box 380, FI-00131 Helsinki, Finland

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B. Status of Bats within the Territory of the Party

1. Summary Details of Resident Species

Thirteen 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 2008, the second breeding colony of *Pipistrellus nathusii* was found in Southern Finland. The first breeding colony was found in 2006 (Hagner-Wahlsten & Kyheröinen 2008). 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 was found hibernating in a cave in Turku, SW Finland, in winter 2003-2004 (Vihervaara *et al.* 2003) and has been observed in the hibernaculum or caught nearby for ringing in summertime yearly after that. Maximum number of hibernating individuals observed at the same time is four. A new hibernation site was found in March 2007 in Virolahti, South-Eastern Finland (Kyheröinen & Sallamaa, pers. obs.) The species has been observed in summertime 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). Siivonen & Wermundsen (2008) report observations from Southern and South-Eastern Finland. Maximum number of individuals observed at the same hibernaculum is five (Siivonen & Wermundsen 2008 a).
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). *Pipistrellus pygmaeus* was observed for the first time in 2007 in the southernmost Finland (Salovaara 2007). Since that there are some records of the species from the migration study conducted in the coastal area and archipelago (viite). *Eptesicus serotinus* was observed for the first

time in winter 2008 in Hanko, Southernmost Finland (Lappalainen 2008). Unfortunately the individual did not survive the winter and was later found dead.

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. Observations of Daubenton's bats, Whiskered/Brandts' bats and Longeared bats have been done further north than previously reported (Siivonen & Wermundsen 2008 b).

Data on the occurrence and other aspects of the bat species ecology was collated 2007 for the reporting of the Habitats Directive. During this process effort was put in preparing up to date distribution maps of the bat species.

The assessing process of the conservation status of species for the new Red Data Book is coming to an end and the book is to be published in December 2010. Of the bat species occurring in Finland, two species that were earlier classified as data deficient could now be moved to the class least concern. On the other hand there are bat species with really limited occurrence areas and populations that therefore fall into one of the categories of endangered species.

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). Based on Rassi *et al*. (2001).

Species	**Distribution/status**
Nyctalus noctula	restricted, S Finland, vagrant
Eptesicus nilssonii	widespread, to S Lapland, some records even further north
Eptesicus serotinus	restricted, S Finland (1 hibernating specimen 2008)
Vespertilio murinus	restricted, S Finland, vagrant
Plecotus auritus	widespread, S & Central Finland, circa to 64° N lat.
Pipistrellus nathusii	restricted, S Finland. (First record reported in 1982; retrospectively identified first observation by I. Ahlèn 1979), first maternity colony found 2006)
Pipistrellus pipistrellus	restricted, S Finland (first record 2001)
Pipistrellus pygmaeus	restricted, S Finland (first record 2007)
Myotis nattereri	rare, S Finland/ Endangered
Myotis brandtii	widespread, S & Central Finland, circa to 66° N lat.
Myotis mystacinus	widespread, S & Central Finland, circa to 66° N lat.
Myotis daubentonii	widespread, S & Central Finland, to 66° N lat.
Myotis dasycneme	restricted, E Finland (1 hibernating specimen 2002, two hunting individuals 2006)

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 on habitat use and roosts of different bat species in Finland. There are not many natural caves in Finland, so bats hibernate in other underground structure such as mines, bunkers and cellars. Data on hibernating sites of bats is collected by the Finnish Museum of Natural History in co-operation with researchers and amateurs. Wermundsen & Siivonen (2008 c) summarizes characteristics of bat hibernacula they studied in Southern Finland. Several bats species roost in the summertime in buildings (at least Northern bat, Whiskered bat and Brandts' bat, Longeared bat, Nathusius' Pipistrelle), while Daubenton's bats use tree holes, bird/bat boxes and bridges as roosts. Some species use also bat boxes as roosts (mostly Daubenton's bats and Longeared bats).

Feeding habitats of Brandts bats was studied in forestry estates in 2008 using radio telemetry (Vihervaara *et al.* 2008). Results pointed out the importance of mature spruce forests with small streams as feeding areas. These areas were located on average 950 metres away from the roost (Vihervaara *et al.* 2008).

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. The change of agricultural habitats due to structural changes in agriculture, partly due to the regulations of European Union may have affected bats as rural landscapes now have less small scale mosaic of habitats which may offer better feeding areas for bats as large uniform areas.

Threats against feeding areas include intensive forest management and planning procedures that don't take bats needs into consideration. Fortunately bat surveys are more common now than five years ago making it easier to consider also bats in land use and management.

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 (FMNH), P. O. Box 26, FI-00014 University of Helsinki. The museum has a new database (www.hatikka.fi) open for the public, for all kinds of nature observations. Bat specimens (dead bats found mostly by the public) are deposited in the collections of FMNH and regional museums.

Data on banded bats is collected in the ringing centre of FMNH, like the bird ringing 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) 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 previous reports.

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 20th 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

No new sites important for the conservation of bats have been protected.

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 several years now.

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.

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

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 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.

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 17, 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 based on the EUROBATS guidelines published in 2009.

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

A bat migration study was started in 2008. Passive monitoring on coastal and island sites is used in Southern and South-Western Finland. The preliminary results were promising. For example Nathusius’ pipistrelle seemed to be more common than previously known. The pilot phase of the study was presented as a poster in the 1st International Symposium on Bat Migration, in Berlin 2009. The project is going on. Co-operation within the area of the Baltic Sea has started as well; there was a meeting in Lund November 2009 with circa 30 participants from Sweden, Finland, Denmark, Germany, Estonia, Latvia and Poland. The meeting agreed on preparing a review article of the results gained in each country so far. The aim is to start together a larger research project on migration later.

Several Master’s theses on bat ecology are in preparation in different universities (Helsinki and Turku at the moment). A PhD study on Daubenton’s bats is going on in the University of Turku. The results of these studies can later be applied in nature conservation.

Several bat surveys were conducted during the reporting period. 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

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

Bat migration project in the Baltic aims in starting together a larger research project after collating data already gathered in several countries (see point 12).

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 bat monitoring is going on in Finland. There are plans to build a monitoring scheme based on detector surveys (transects and point counts) and winter counts in hibernacula.

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 in principle 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. 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 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. Lots of new wind parks are in different stages of the planning process so there is a need for data on bat migration routes and other important areas that should be avoided in the site selection for wind farms. A bat migration study co-ordinated by the Finnish Chiropterological Society aims at finding important migratory routes for bats. This knowledge can be used in wind farm planning. Few of wind farm Environmental Impact Assessments including bat monitoring are going on mainly in Southern Finland and in the Åland islands.

Resolution* 5.2*: Bat Rabies in Europe

For the first time a rabid bat was found in Finland in 2009. The sick Daubenton's bat was caught in a mist net in August 2009 in Southwestern Finland. The European bat lyssavirus type 2 isolated from the bat was genetically almost identical with the one isolated from the late bat scientist who died of rabies in 1985 in Finland (Jakava-Viljanen *et al.* 2009). This indicates that bat rabies may have been present in bat populations in Finland for years. Due to this finding an active sampling programme already initiated got funding from the Ministry of Agriculture and Forestry which enables us to sample more bats in order to gain data on the prevalence of European bat lyssaviruses in Southern Finland.

Resolution 5.4: Monitoring Bats across Europe

Finland would like to join the PEMBUS project focusing on monitoring bats in underground sites.

Resolution 5.7: Guidelines for the Protection of Overground Roosts, with Particular Reference to Roosts in Buildings of Cultural Heritage Importance

See point 11.

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