

## AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE

### Report on the implementation of the agreement in Latvia

2003-2006

#### A. General Information

*Name of Party:* Latvia  
*Date of Report:* June 2006  
*Period covered:* October 2003 – May 2006  
*Competent Authority:* Ministry of Environment of the Republic of Latvia.

#### B. Status of Bats within the Territory of the Range State

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

There are no new bat species found in Latvia during the last three years. In all, 15 species are found in Latvia. Eight species are present here during the whole year being classified as hibernating species, at least five species are considered as long-distance migrants hibernating in Central and western parts of Europe. The status of seasonal occurrence in three more species is still not well known

##### 2. *Status and Trends*

Several important hibernation sites have been recently found, providing new data on status of particular species. The largest hibernacula of *Barbastella barbastellus* in Latvia with at least 9 individuals was found in a basement of an estate in winter 2003/2004. The three known hibernation sites of this species are situated in a restricted area in middle part of the country. Thus the existence of a breeding population in this area is possible, probably being the north-eastern most one in the distribution area of this species.

The winter census of bats in the fortress Daugavpils provided the highest numbers of bats found in one single hibernacula in Latvia. Totally 1140 individuals of five species, including 1018 ind. *Myotis daubentonii* and 71 ind. *Myotis dasycneme*, were found. It is the most important hibernation site for both species known in Latvia.

First survey on late summer and autumn activity of bats at the hibernation sites by means of mistnetting revealed that the abundance of some *Myotis* species like *M. nattereri*, *M. brandtii* and *M. mystacinus* has been underestimated in previous years.

Species	Distribution in summer	Season of occurrence	Status in the Red Book of Latvia
<i>Myotis myotis</i>	vagrant	vagrant	-
<i>Myotis nattereri</i>	probably widespread	all year	rare
<i>Myotis brandtii</i>	widespread	all year	rare
<i>Myotis mystacinus</i>	rare	all year	insufficiently

			known
<i>Myotis daubentoni</i>	widespread	all year	
<i>Myotis dasycneme</i>	widespread	all year	endangered
<i>Eptesicus serotinus</i>	rare	summer/ all year?	-
<i>Eptesicus nilssoni</i>	widespread	all year	-
<i>Vespertilio murinus</i>	widespread	summer	rare
<i>Pipistrellus pipistrellus/P. pygmaeus</i>	rare	summer	rare
<i>Pipistrellus nathusii</i>	widespread	summer	-
<i>Nyctalus noctula</i>	widespread	summer	-
<i>Nyctalus leisleri</i>	rare	summer	rare
<i>Barbastella barbastellus</i>	rare	all year	rare
<i>Plecotus auritus</i>	widespread	all year	-

The longest monitoring program carried out in Latvia is the program of winter counts of bat at the underground hibernation sites, what was started in 1990. The analyses of winter counts show a possible increase in population size of *M. daubentonii* and a slight decrease of *M. dasycneme* during last 15 years.

There is no revision in the Latvian Red Data list done since last Report. Eight species are included in the Red Book of Latvia, six of them being considered as rare, one as insufficiently known. The only species considered to be endangered is the pond bat *Myotis dasycneme*.

### 3. Habitats and Roost Sites

#### Feeding habitats

The feeding sites of the bat species have been studied during the project “Latvian bat fauna” in 1993-1998. The most important feeding sites for the common bat species are different kind of woodland and eutrophic lakes and rivers. Considerable changes in land use system occurred in Latvia during the recent 15 years. The total area of the agricultural land decreased leading in growth of fallow land and forested area. At the same time the farming became more intensive in areas, which more favorable for agriculture. An intensive disafforestation took place during the last decade. The influence of the changes in landscape structure on the bat populations is not documented. However it is possible that the loss of old and extensively used forests and semi-natural meadows can negatively influence the food resources of certain bat species.

#### Roosts

Mainly overground roosts are used as summer roosts by Latvian bats. The only exception known is *Myotis daubentonii*, which we have found in underground roosts in summer. There are some observations on presence of numerous individuals of this species in basement type rooms of a fortress Daugavpils in July. There are also some observations on swarming individuals of this species and the pond bat at the entrances of caves in autumn.

Nyctalus noctula use mainly tree holes for breeding, maternity colonies of *Myotis brandti*, *Eptesicus nilssoni*, *Vespertilio murinus* and *Pipistrellus pipistrellus* / *P. pygmaeus* have been found only in buildings. Some other species occupy both buildings and tree holes during the summer.

Mainly underground habitats are used by species hibernating in Latvia. However there are some records of hibernating *Eptesicus nilssoni* in wood. Caves, fortifications and large cellars are unevenly distributed in the country affecting the winter distribution pattern of most bat species. Two species – *Plecotus auritus* and *Eptesicus nilssonii* are adopted to hibernate in small cellars, which are traditionally used by rural population for storage of vegetables everywhere in the country. This is probably the most important type of winter roosts used by the first species.

<b>Species</b>	<b>Summer roosts</b>	<b>Hibernation roosts</b>
<i>Myotis nattereri</i>	?	caves, cellars
<i>Myotis brandti</i>	buildings (M)*	caves, cellars
<i>Myotis mystacinus</i>	?	caves, cellars
<i>Myotis daubentoni</i>	hollow trees (M), cellars	caves, cellars
<i>Myotis dasycneme</i>	buildings (M), hollow trees, bird boxes	caves, cellars
<i>Eptesicus serotinus</i>	?	?
<i>Eptesicus nilssoni</i>	buildings (M), bird and bat boxes	caves, cellars
<i>Vespertilio murinus</i>	buildings (M)	-
<i>Pipistrellus pipistrellus/P. pygmaeus</i>	buildings (M)	-
<i>Pipistrellus nathusii</i>	buildings (M), hollow trees (M), bird and bat boxes	-
<i>Nyctalus noctula</i>	hollow trees (M)	-
<i>Nyctalus leisleri</i>	?	-
<i>Barbastella barbastellus</i>	?	cellars, caves
<i>Plecotus auritus</i>	buildings (M), hollow trees (M), bird boxes (M)	cellars, caves

(M)-roost sites of maternity colonies

#### **4. Threats**

Loss of roosting sites. The disafforestation has been extremely intensive during the last decade causing decrease of hollow trees in forests. The old wooden houses have been renovated using modern technologies and materials. Thus there are fewer possibilities for bats to find roosting sites. In some cases the old basements of manors or castles are rebuild for use as restaurants or exhibition halls. For example two of three hibernation sites of *Barbastella barbastellus* have been destroyed this winter. Disturbance of bats at the hibernation sites is the next threat to bats. The tourism's activities of people are increasing. Visiting of caves during the winter becomes more popular. The changes in landscape and land use system can also have a negative affect to bats as mentioned before.

### **5. Data collection, analysis, interpretation and dissemination**

1. The Bat Monitoring Programme was established in 2003 as a part of the National Biodiversity Monitoring Programme. The programme was financed by state till 2006. Three monitoring methods were used:
  - counts of bats hibernating at 130 undisturbed large hibernaculas like caves, basements, fortifications etc. in December – February (*Myotis daubentonii*, *M. dasycneme*, *M. nattereri*, *M. brandtii*, *M. mystacinus*, *Eptesicus nilssonii*, *Plecotus auritus*, *Barbastella barbastellus*);
  - emergence counts at breeding colonies of the pond bat *M. dasycneme* in June;
  - monitoring of migrating Nathusius' bats *Pipistrellus nathusii* and noctules *Nyctalus noctula* at the sea coast with bat detectors in August – September.
2. Counts of northern bats and long-eared bats hibernating in root cellars are carried out by volunteers in three selected areas – in Nature reserve Teiči, National Park Ķemeri, National Park Gauja and in surroundings of Jelgava in February – March since 2004.
3. The data of a long-year banding project of Nathusius' bats have been analysed and published in Pētersons, G. 2004. Seasonal migrations of north-eastern populations of Nathusius' bat *Pipistrellus nathusii* (Chiroptera).- *Myotis* 40-41: 29-56.
4. The data on the bat banding in Latvia summerized by G. Pētersons and J. Kazubiernis are published in Hutterer R., Ivanova T., Meyer-Cords, Rodriguez L. 2005 Bat Migrations in Europe. A review of banding Data and Literature. Federal Agency for Nature Conservation, Bonn, 176 S.

### **6. Legal measures taken to protect bats, including enforcement action**

All bat species in Latvia are included in the List of Specially Protected and Limitedly Exploitable Specially Protected Species (Nr. 396/14.11.2000) according to the Law on Conservation of Species and Habitats (2000). The killing, capture, keeping and disturbance of bats in their roosts sites is prohibited according to this law.

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

In the list of potential Natura 2000 sites were included 28 strictly protected nature areas in which *Myotis dasysneme* present.

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

#### **7. Activities to promote the awareness of the importance of the conservation of bats**

- Bat night event was organized yearly by the National Park Ķemeri in July. It was started with an introductory lecture and a slide show, and was followed by observation of hunting bats visually and with bat detectors in the old park of Ķemeri. Up to 100 participants attended the bat events in Ķemeri in 2004-2005.
- The Bat Nights event at the National Park Gauja organized at the end of August in the Ungurmuiža manor became also as a tradition. In the beginning there was usually a lecture about bats in the world and in Latvia. Participants asked many questions and had also some private talks in order to clear up some actions according to bat protection in their houses. After the lecture and discussions everybody could walk in the park of the manor in order to observe the hunting of bats by using bat detectors.
- A leaflet on hibernating bats was produced by National Park Gauja in 2004.

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

Not yet nominated.

**9. Additional action undertaken to safeguard populations of bats**

Two former soviet missile bases were improved as hibernation sites for bats in autumn 2003. The underground tunnels and missile shafts were covered with additional layer of soil to improve the microclimate inside. The entrances were fenced with metal grilles. The project was carried out by the Ltd. Latvijas Valsts Meži (Latvian State Forests) following the instructions of the bat experts. The counts of hibernating bats in one of missile bases in February 2004 showed an increased number of bats compared to previous years.

**10. Recent and ongoing programs (including research and policy initiatives) relating to the conservation and management of bats. In the case of research, summaries of completed projects should be provided, giving references where possible and acknowledging the sources of funding**

- The Bat Monitoring Programme established in 2003 was continued in 2004-2006 (see under 5)
- The results of the banding project of the Nathusius' bat are published in Pētersons, G. 2004. Seasonal migrations of north-eastern populations of Nathusius' bat *Pipistrellus nathusii* (Chiroptera).- *Myotis* 40-41: 29-56

**SUMMARY**

The phenology of autumn migration and migration behaviour of north-eastern populations of *Pipistrellus nathusii* were studied in Latvia. Bats were captured by means of Helgoland trap at the coast of Baltic Sea in south-western Latvia during the period of autumn migration in 1985-1992, and in mating roosts and nursery colonies in various parts of Latvia in 1980-1991. In total 14081 individuals were banded with wing rings and seven individuals banded outside the study area were recaptured. A total of 73 long-distance flights ranging from 88 to 1905 kilometres were recorded and analyzed. The peak of autumn migration at the sea coast occurred during the second half of August and beginning of September. The mean sex ratio (0.85) of bats captured was significantly female biased. Males were found to migrate slightly later than females. The latest migrating bats were captured in mid October. The individuals recorded in this study were a part of north-eastern populations with hibernation sites covering a large area of western, central and southern Europe. The mean migration distance covered by males (1365.5 kilometres) was significantly longer than the distance covered by females (1216.5 kilometres). The mean migration speed of *P. nathusii* (n=12) was 47.8 kilometres per night. Females from north-eastern breeding populations were found visiting mating roosts situated up to 1000 kilometres south-west from their breeding area. An emigration of a male at least 675 kilometres to south-west from its birth area was documented. It seems likely that at least some young males establish their mating territories at great distances to the south-west of their birth sites. The field work supported by the Laboratory of Ornithology, Institute of Biology, University of Latvia, the data analyses – by Bundesamt für Naturschutz, Bonn.

- The project “Survey on feeding habitats and hibernation sites of the barbastelle *Barbastellus barbastellus* and development of conservation proposals” financed by Latvian Fund for Nature Conservation will be carried out in summer – autumn 2006.
- A survey on the presence of the pond bat *Myotis dasycneme* in about 20 recently established Natura 2000 sites, financed by Latvian Fund for Nature will be carried out in summer 2006.

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

None

**C. Functioning of the Agreement**

***12. Co-operation with other Range States***

A group of bat workers from Finnish Museum of Natural History Turku and from University Turku took part at the bat counts in Latvia in January 2005. A joint visit to the largest hibernacula in Daugavpils fortress and to the caves in the National Park Gauja was carried by Finnish and Latvian bat workers. A possible co-operation in bat research was discussed during the meeting.

***13. Measures taken to implement Resolutions adopted by Meeting of Parties***

*Resolution 2.1 – Consistent Monitoring Methodologies*

The monitoring of bats has been conducted in 2003-2006 using three methods approved in previous years (see point 5 in this report). Three species listed under the Resolution 2 are covered by Latvian Bat Monitoring programme: *Eptesicus nilssonii*, *Nyctalus noctula* and *Myotis dasycneme*.

*Resolution 2.4 – Transboundary programme – underground habitats*

All important underground hibernation sites of bats known in Latvia are included in the Bat Monitoring program. Each site is visited by bat experts at least once during the hibernation period December-February.