

AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE
Report on the implementation of the agreement in Latvia
2007-2010

A. General Information

Name of Party: Latvia
Date of Report: May 2010
Period covered: 2007 – 2010
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, 16 species are found in Latvia. Eight species are present here during the whole year being classified as hibernating species (see table below), at least five species *Nyctalus noctula*, *N. leisleri*, *Pipistrellus pygmaeus*, *P. nathusii* and *Vespertilio murinus* are considered as long-distance migrants hibernating in Central and western parts of Europe. *V. murinus* is regularly observed in high numbers at the western coast of Baltic sea during autumn migration. Two banding records from Estonia and Russia (bird station Rybachi) confirm the migratory status of that species. At the same time recent observations of this species in late autumn and few winter records in the capital Riga suggest that *V. murinus* are hibernating probably in crevices of tall buildings (Šuba, Vietniece, Petersons *in. prep.*). The status of *Pipistrellus pipistrellus*, *Eptesicus serotinus*, *Myotis myotis* is still not well known.

Recently one specimen of a small *Myotis*, suspected as *M. alcathoe*, was captured during swarming at the entrance of a cave by team of researchers from Leeds University (UK) and Latvian bat workers. Samples of wing membrane and were taken for genetic studies to be done in UK. In a case of positive results *M. alcathoe* should be included in the list of Latvian fauna as the 17th species.

2. *Status and Trends*

Several projects have been recently conducted, providing new data on status of some species. About new 20 localities of *Barbastella barbastellus* have been found in central and northern part of Latvia.

The studies on late summer and autumn activity of bats at the hibernation sites by means of mistnetting confirmed that the abundance of *Myotis 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 bats at the underground hibernation sites, what was started in 1992. The analyses of winter counts show a possible increase in population size of *M. daubentonii* and a slight decrease of *M. dasycneme* and *P. auritus* during last 18 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 favourable 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. In late summer during the swarming activities all *Myotis* species, *Plecotus auritus* and *Eptesicus nilssonii* occupy underground roosts as well. *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.

<i>Species</i>	<i>Summer roosts</i>	<i>Hibernation roosts</i>
<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 roost sites is the main threat. 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 rebuilt 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

Monitoring programme for Natura 2000 sites was introduced in Latvia in 2008. Data on the occurrence and colony size of *Myotis dasycneme* have been collected in 2008 and 2009. Monitoring of migrating bats is a continuous programme since 1993, in 2008 and 2009 included in the scheme of monitoring of biodiversity.

The monitoring of hibernating of bats in underground roosts is a monitoring programme run by volunteers since 1992. More than 100 roosts are included in the list of hibernaculae, what are visited by bat specialists at least once a year in December-February.

C. Measures taken in accordance with article III to the agreement

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.

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

The pond bat *Myotis dasycneme* is protected by 28 Natura 2000 sites.

8. Consideration given to habitats which are important to bats

The bat experts have been involved in 2007-2010 in the development of Nature Conservation and management plans for five Natura 2000 sites, in five road construction projects and in one wind farm project.

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

- Bat night event has been organized yearly by the National Park Kemeris 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 Kemeris. Up to 70-150 participants attended yearly this event.
- The Bat Nights event at the National Park Gauja was organized yearly at the end of August in the Ungurmuiža manor and/or in the city Sigulda with 30-70 participants
- The National Park Gauja produced and distributed booklets “Bats” and leaflets “Hibernating bats”
- Bat lecture and walk in the park to observe bat by bat detectors and spot lights as a part of the “Museum night” event in Jaunpils castle in May 2010.

10. 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.

11. Additional action undertaken to safeguard populations of bats

12. 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

Study on late summer and autumn swarming behaviour of bats at underground sites was conducted in years 2005-2007 by team of scientists and volunteers and partly funded by Latvian Environment Protection Fund. All bat species hibernating in Latvia have been captured at study sites from late July until October. Regular mist-nettings in August, September and October were conducted at six underground sites altogether. One site in Gauja National Park, which had been known to be an important hibernation place for myotis bats, appeared to be an important swarming site as well (maximum number of individual bats caught per night was 561 in 18/19 August 2006). Another important swarming site discovered for Latvian bats is an old fortification system in Daugavpils, which is used by thousands of bats every year. Our findings confirm that some underground sites are of great importance for bats before hibernation, from late July until October. Results of these studies have been published in:

Šuba J., Vintulis V., Pētersons G. 2008. Late summer and autumn swarming of bats at Sikspārņu caves in Gauja National Park. *Acta Universitatis Latviensis, ser. Biology*, 745: 43–52

Vintulis V., Šuba J. 2010. Autumn swarming of the pond bat *Myotis dasycneme* at hibernation sites in Latvia. *Estonian Journal of Ecology*, 59(1): 70–80.

The project “Distribution of the barbastelle *Barbastellus barbastellus* population in Latvia” financed by Latvian Fund for Nature Conservation was carried out in 2007. In total 20 new hibernation sites and foraging areas occupied by barbastelles were found in the central and northern parts of Latvia. The project results are published in:

Pētersons G., Vintulis V., Šuba J. 2010. New data on the distribution of the barbastelle bat *Barbastella barbastellus* in Latvia. *Estonian Journal of Ecology*, 59, 1, 62-69.

The programme of the Environmental monitoring is conducted in Latvia since 2007. Monitoring of bats is represented as a part of monitoring of biodiversity/ monitoring of Natura 2000 sites and monitoring of migrating birds and bats.

12 Natura 2000 sites are selected for monitoring of the pond bat *Myotis dasycneme*. The monitoring methods to be used are evening emergency counts at the roosts of maternity colonies, observations of bats flying over the lakes or rivers by means of ultrasound detectors and spotlights and in one territory - counts of hibernating bats in a cave. Migrating bats are monitored by means of ultrasound detectors in the Pape Bird station, the SW coast of Baltic Sea.

13. 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

D. Functioning of the Agreement

14. Co-operation with other Range States

Joint counts of hibernating bats together with dutch bat workers Anna-Jifke Haarsma and have been carried out in January 2008. We exchanged also information and experience on the study of pond bat ecology in both countries.

Symposium “Bat Migration in the Baltic Area” was initiated and organized by Anders Hedenstrom, Lund University, Sweden. Bat specialists from Sweden, Finland, Estonia, Latvia, Poland and Germany shared their experience in study of migration. The further co-operation was discussed. The participants agreed to collect data for a common publication and to develop a project proposal to get resources for co-ordinated migration studies of bats around the Baltic Sea.

A team of bat specialists from Leeds University (UK) visited Latvia in August 2010 to study swarming bats at underground roosts. Joint excursions with Latvian bat workers were conducted to catch bats in order to collect samples of wing membranes and fur.

15. Measures taken to implement Resolutions adopted by Meeting of Parties

Resolution 2.1 Consistent Monitoring Methodologies.

The programme of the Environmental monitoring is conducted in Latvia since 2007. See points 5 and 12.

The hibernating of bats are monitored by volunteers since 1992. See point 5.

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

The bat experts have been involved in the planning of reconstruction project of the fortress Daugavpils, the largest known bat hibernacula in Latvia. The considerations given by bat specialists have been taken into account to safeguard the most important bat roosts.

Resolution 4.7 Wind Turbines and Bat populations

See point 8.

Resolution 5.4: Monitoring Bats across Europe

Latvia would like to take part at the PEMBUS project to monitor 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

The bat experts are asked frequently on advice by house owners, how to make renovations without disturbing bats or how to mitigate bats.