REPORT ON THE IMPLEMENTATION OF 'EUROBATS' IN HUNGARY

A. General information

Party: Hungary
Date of Report: 05.06.2010.
Period Covered by Report: 09.2006.-06.2010.
Competent Authority: Ministry of Rural Development
Appointed Member of the AC: Dr. Zoltán Bihari

B. Status of bats within the territory of the Party

B.1.-4 Summary details of resident species, Status and trends; Habitats and roost sites; Threats

Bat species and their status in Hungary

Resident species	Status	Trend (last 5 years)	Habitats	Summer roosts	Winter roosts	Threats
Rhinolophus ferrumequinum	S	decline	M, F, S	95% A 5% CM	100% CM	AC, RB, LH
Rhinolophus hipposideros	P	stable	M, F, S	70% A 30% CME	100% CME	AC, RB, LH
Rhinolophus euryale	S, R	stable	M, F	100% CM	100% CM	AC, LH
Myotis emarginatus	S, R	decline	M, F, S	100% A	100% CM	RB, AC, LH
Myotis bechsteinii	S, R	decline	M, F	100% H	95% H 5% C	LT, LH, AC
Myotis nattereri	P	decline	M, F, W	100% H	80% H 20% C	LT, LH, AC
Myotis dasycneme	S	decline	W, F, W	60% A 40% H	95% H 5% C	LT, RB, LH, AC
Myotis daubentonii	P	stable	O, S, W, F	95% H 5% A	85% H 15% C	LT, LH, AC, RB
Myotis mystacinus	P	decline	M, F, W	100% H	mainly H rarely C	LT, LH, AC
Myotis brandtii	P	decline	M, F, W	100% H	mainly H rarely C	LT, LH, AC
Myotis alcathoe	P	decline	M, F, W	100% H	mainly H rarely C	LT, LH, AC
Myotis myotis	P	stable	M, F, S	80% A 20% CM	100% CM	RB, AC, LH
Myotis oxygnathus	P	stable	M, F, S	90% A 10% CM	100% CM	RB, AC, LH

Nyctalus noctula	P	stable	O, S, F, W	60% B 40% H	100% HB	RB, IK, LT
Nyctalus lasiopterus	S	stable	M, F	100% H	100% H	LH, LT
Nyctalus leisleri	P, R	decline	M, F, W	100% H	100% H	LT, LH
Eptesicus serotinus	P	stable	O, S, F, W	80% A 20% H	5% CM 95%AB	RB, IK, AC
Eptesicus nilsonii	P	?	M	?	?	AC
Vespertilio murinus	P	?	S	?	?	RB, IK
Pipistrellus pipistrellus	P	decline	M, F, S	80% H 20% A	90% H	IK, RB, LT
Pipistrellus pygmaeus	P	increase	W, F, M, S	80% H 10% A	90% H	IK, RB, LT
Pipistrellus nathusii	P	stable	W	100% H	100% H	LT, LH
Pipistrellus kuhlii	P	increase	O, S	100% AB	100% AB	RB, IK
Hypsugo savii	P	increase	S	100% AB	100% AB	RB, IK
Plecotus austriacus	P	decline	O, S	100% A	5% CM 95% AE	RB, IK, AC
Plecotus auritus	P	decline	M, F, W	100% H	80% H 20% CM	LT, LH, AC
Barbastella barbastellus	S, R	decline	M, F, W	100% H	30% CM 70% H	LT, LH, AC
Miniopterus schreibersii	S	stable	M, F	100% CM	100% CM	AC, LH

Abbreviations and acronyms:

STATUS

P	Protected
S	Strictly protected
R	National red list

ROOST

A	Attic, building
B	Block of house
C	Cave
E	Cellar
H	Tree hollow
M	Mine

HABITAT

F	Forest
M	Mountain region
O	Allo over in Hungary
S	Settlement
W	Wetland

THREAT

AC	Activities in caves
IK	Intentional killing in housing estates and week-end houses
LH	Loss of habitats
LT	Loss of old trees
RB	Reroofing / renovation of building

Mediterranean horseshoe bat (*Rhinolophus euryale*)
This is a rare, strictly protected species in Hungary. All of the known bigger colonies live in Northern Hungary, west from the Danube River only a couple of dozen individuals survive. Most of the animals live in warmer mines and the minority lives in caves throughout the year. Only one colony is known from an attic of a church. The largest colony consists of 3000 individuals. In winter more than 1000 individuals can aggregate in a cave.

Greater horseshoe bat (*Rhinolophus ferrumequinum*)
It is a sporadic, strictly protected species in Hungary. Several colonies live in churches during summer. An average nursery colony consists of 100-250 individuals, but the biggest one involves 400 individuals. 200 individuals form the biggest winter colony. From the NW quarter of the country the species is extincting just now.

Lesser horseshoe bat (*Rhinolophus hipposideros*)
It is a sporadic species. They hibernate in caves, mines and cellars. The biggest estimated winter colony consisted of 700 individuals. The biggest summer colony counts 112 individuals. Summer colonies roost mostly in churches and mines.

Bechstein's bat (*Myotis bechsteinii*)
The Bechstein's bat is a strictly protected, rare species. They live all year in forests in the mountain regions. We can find them occasionally in caves, but only in winter.

Lesser mouse-eared bat (*Myotis oxygnathus*)
It is not a very rare species in Hungary. Summer colonies roost in churches, while they spend winter in caves and mines. The biggest summer colony numbers about 500 bats, while the biggest winter colony involved 400 individuals.

Brandt's bat (*Myotis brandtii*)
Brandt's bat is not a rare species in the mountain forests of Hungary. They roost in tree-holes in winter and summer. Only a few specimens hibernate in caves.

Pond bat (*Myotis dasycneme*)
A rare, strictly protected species in Hungary. It is a sporadic species, but tends to form larger colonies, especially in buildings along the river Tisza and Danube. We could find only separated individuals in caves during winter. In Gemenc, one of the largest floodplain forests of the river Danube we have found colonies in tree holes.

Daubenton's bat (*Myotis daubentonii*)
This species is attached to water surfaces. It is a frequent species on the wetland areas. They roost in tree holes in summer. It is not known surely where they stay in winter, because only a little part of the population hibernates in caves. Maybe they hibernate in tree holes.

Geoffroy's bat (*Myotis emarginatus*)
It is a strictly protected species. Rare but it tends to form large colonies. The most significant colonies of Hungary live in the Northern and the Eastern part of the country. Nursery colonies stay in the attics of churches and other buildings in summer. The highest number of individuals was estimated at about 2000. We don't know notable hibernating colonies only few individuals (less than 10) in caves.

Greater mouse-eared bat (*Myotis myotis*)
It is a frequent species in Hungary. Several big nursery colonies live in churches and also in mines. The biggest one is over 4700 individuals. They hibernate in caves. The largest colony consists of 9000 animals. Some of the bats migrate to Slovakia for winter.

Whiskered bat (*Myotis mystacinus*)

Not rare, but not a very well-known species. Usually they live in wide forests, where they hunt in spring-valleys. We found hibernating individuals in caves only a few times. They roost in tree holes all year round.

Alcathoe whiskered bat (*Myotis alcathoe*)
Regularly found in valleys with small brooks in the Mountains. It is probably not a rare species in the mountain woodlands of the area, but not very well studied.

Natterer's bat (*Myotis nattereri*)
Not rare, but not a very well known species. Usually, lives in wide forests. We found hibernating individuals in caves only occasionally. They roost in tree holes throughout the year.

Kuhl's pipistrelle (*Pipistrellus kuhlii*)
It is a rather new species in the Hungarian fauna, but specimens have been captured in nearly every regions of Hungary in the last 10 years. Nowadays it's become common species in Hungary.

Nathusius' pipistrelle (*Pipistrellus nathusii*)
It is not a common and not a well known species. They roost in tree holes all year round. Nursery colonies are known from wetlands.

Common pipistrelle (*Pipistrellus pipistrellus*)
It is a common species. They live in forests and in human settlements too. We found hibernating individuals in caves only a few times. They roost in tree holes all year round or sometimes in the bell-tower of churches where the most significant colony was over 100 individuals. It can be found mostly in the mountainous areas of the country.

Savi's pipistrelle (*Hypsugo savii*)
The first record of this species came from 1991, but nowadays it can be found in a lot of towns. It roosts in buildings. In the SW part of Hungary lactating females were captured.

Soprano pipistrelle (*Pipistrellus pygmaeus*)
It's a common species in Hungary, can be found mostly on the lowlands. In 2007 we have found three nearby colonies in bridges altogether with about 5000 individuals.

Greater noctule (*Nyctalus lasiopterus*)
A very rare, strictly protected species in Hungary. It lives only in the Northern part of Hungary, in the heart of mountains. All of the captured bats were mist-netted at small ponds and streams. The only known colony was found in a tree hole of a beech forest.

Leisler's bat (*Nyctalus leisleri*)
It is not a rare forest-dwelling species lives mostly in mountain regions. Leisler's bats roost in wide forests all year round.

Noctule (*Nyctalus noctula*)
The most frequent species in Hungary. It is a forest-dwelling species, but it is very common in bigger towns, in prefabricated panel buildings. Nursery colonies and lactating females were found mostly in wetlands.

Northern bat (*Eptesicus nilssonii*)
It is the rarest bat species in Hungary. Four occurrences were reported in the western part of the country in the last 20 years. A new observation was in 2010, in the north part of Hungary. Nothing is known about its roosting ecology.

Serotine (*Eptesicus serotinus*)
It is the most widespread species in Hungary. It is very common in churches in summer, but we do not know wintering colonies. The biggest nursery colony is over 200 individuals. It's rare in caves, and only a few individuals hibernate under ground.

Parti-coloured bat (*Vespertilio murinus*)
The species is known from every part of Hungary, but mostly only one or two individuals from one place. There are only two known colonies in Hungary, a male colony with 30 individuals and a nursery colony with 182 females. The colonies roost in crevices of cliffs. The known specimens were found in houses, blocks of flats, mist-netted near water or found in owl pellets.

Barbastelle bat (*Barbastella barbastellus*)
It is a strictly protected species in Hungary. It lives typically in the woodlands of hills and mountains. Specimens roost in tree holes both in winter and summer. Only a few specimens hibernate in caves.

Brown long-eared bat (*Plecotus auritus*)
It is a not rare forest-dweller species. They roost whole year in tree holes. In winter some of them hibernate in caves.

Grey long-eared bat (*Plecotus austriacus*)
It is a widespread species in Hungary. Summer colonies stay in attics; the largest one consisted of approximately 100 individuals. In winter they probably hibernate in cellars and mines. We observed a slight decline in the last decade.

Schreibers' bat (*Miniopterus schreibersii*)
It is a strictly protected species. Only a few big colonies are known. They stay whole year in caves and mines. The size of its biggest colony reaches 2500 individuals in summer and 3000 individuals in winter. After strong decline just no changes nowadays.

B.5. Data collection, analysis, interpretation and dissemination

Data collection:

Hungarian Mammal Database (Nature Foundation)
House-dwelling bat database (Hungarian Bat Research Society)
Register of specimens of museums (Hungarian Natural History Museum)
Bat Database (Nature Conservation Foundation of Tolna County)
National Bat Monitoring Program (Department of Water and Environment)

C. Measures Taken to Implement Article III of the Agreement

C.6. Legal measures taken to protect bats

In Hungary all bat species gained protection by law in 1901. The capture, killing, keeping and disturbance of bats in any way have been prohibited since that time. In 1974 the theoretical value of the animals was also determined as a fine for killing, capturing or illegal trade of them. Now the 28 species living in Hungary are all either protected or strictly protected (8 species). The two newly discovered species (*M. alcathoe, P. pygmaeus*) gained protection in 2005.

So far one official species protection plan has been adopted by the minister for environment and water for the Greater noctule (*Nyctalus lasiopterus*).

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

The lists of the most important underground habitats and the most important buildings are completed. These roosts are visited at least once a year.

All caves are protected by law.

Due to becoming a member to the European Union, Natura 2000 sites have been designated. Ten bat species are listed on Annex II. of the Habitat Directive which occur in Hungary. All together 82 sites (habitats) have been designated under Natura 2000 (see the table below) for the ten species – from which there are overlaps obviously.

Barbastella barbastellus	29
Miniopterus schreibersii	6
Myotis bechsteinii	31
Myotis oxygnathus	22
Myotis dasycneme	19
Myotis emarginatus	14
Myotis myotis	44
Rhinolophus euryale	4
Rhinolophus ferrumequinum	11
Rhinolophus hipposideros	22

C.8 Consideration given to habitats which are important to bats

Regarding protected areas nature conservation provisions are identified in management plans. These are compiled by the competent national park directorates, approved by the Office for Nature Protection and finally the so called „C" documentation – indentifying obligations, restrictions and prohibitions for the given protected area – gain legal effect in a form of a ministerial decree.

The management plans for caves contain regulations concerning cave visits, research and other activities (like filming) potentially causing disturbance or threat. These activities are either prohibited or must be permitted. The management plans also contain provisions regarding the management of the certain habitat. For caves prohibitions concerning bats (e.g. disturbance, closing and protection of entrance) and buffer areas are identified as well.

So far 47 management plans have been completed for caves.

C.9. Activities to promote the awareness of the importance of the conservation of bats

To encourage bat protection we publish and distribute information booklets and attempt to convince people of the usefulness of bats and the importance of their protection through TV and radio programmes and newspaper articles. We organise lectures to educate pupils in primary and secondary schools and universities.

In the past triennium a Hungarian website has been launched on bat conservation (www.hunbat.hu) and operated by the Nature Conservation Foundation of Tolna County.

The first Bats Museum in Hungary has been opened in the South-West, cavy part of Hungary – in Abaliget – greatly contributing to the awareness raising of the public, thus indirectly to bats protection as well.

We organized the „Bat Night" in several towns also, where mainly the young were active.

C.10. Responsible bodies, in Accordance with Article III.5 of the Agreement

The Office for Nature Conservation (within the Ministry of Environment and Water) co-ordinates nature protection activities on national level: it sets priorities, adopts the management plans submitted by the national park directorates and approves species conservation plans. The 10 regional national park directorates carry out the nature conservation activities and represent the professional knowledge needed.

C.11. Additional action undertaken to safeguard population of bats

Caves

Several information boards were placed in front of the most important caves.

Mines

It occurs to be a very serious problem that several mine openings are threatened by falling in. In the last year we fixed the most dangerous entrances.

The Office for Nature Conservation financed a project to make a database of the most important mines. The database is ready, and a new law on the protection of mines will be based on this.

Buildings

The members of Hungarian Bat associations continuously check the most important roosts in churches and castles. In Hungary colonies with more than 20 individuals are ”significant” and strictly protected. Several bat-friend reconstructions have been carried out.

Panel buildings

In Hungary the noctule bat is the most urbanized bat species. Its main roost type occurs in blocks of houses in panel gaps. In the last fifteen years they have changed their habitat and nowadays this is the most common species in Hungary. These colonies are very threatened and the local people usually expel them, because of the noise, dirt they make and because they are afraid of them. They fly very often into the rooms. Therefore, it is a very important task to save these colonies.

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

A. National Bat-monitoring Programme

The protocol for national bat monitoring was adopted during the past triennium and monitoring has started tentatively in two national parks in 2004. After testing, the monitoring has begun on national level – in 8 of the 10 national parks – in 2005.

I. Monitoring of house-dwelling bat species

142 buildings are monitored in every year between 15th of May – 30rd of June. The chosen buildings are the most important roosts of house-dwelling bat species known in Hungary. The bats are counted in the buildings with a lamp. Species monitored during this program: *Rhinolophus ferrumequinum, R. hipposideros, Myotis dasycneme, M. emarginatus, M. myotis, M. oxygnathus, Eptesicus serotinus and Plecotus austriacus.*

II. Monitoring of underground hibernating bat species

The most important hibernacula (49 caves and mines) are visited once in every year between 1st of February – 15th of March. Species monitored during this program: *Rhinolophus euryale, R. ferrumequinum, R. hipposideros, Myotis dasycneme, M. daubentonii, M. myotis, M. oxygnathus and Miniopterus schreibersii.*

III. Monitoring of swarming bat species by caves

Bats are mist-netted in every year by the important swarming sites (27 caves and mines) between 20th of August – 20th of September during the whole night. Species monitored during this program: *Barbastella barbastellus, Myotis bechsteinii, M. dasycneme, M. daubentonii, M. emarginatus, M. myotis, M. nattereri, M. oxygnathus and Plecotus auritus.*

IV. Monitoring of the maternity and transitional roosts of *Miniopterus schreibersii*

All important roosts of this species are monitored two times a year (1st of June – 10th of June and 1st of September – 15th of September). The animals are counted in the roost (mines and caves) or during emerging in front of the entrance with a lamp. Five roosts are monitored in June and seven in September.

B. Other programmes and research

Autumn netting near swarming caves (Imre Dombi, Péter Estók, Péter Gombkötő, Tamás Görföl, Péter Paulovics and Miklós Szatyor)

Bat boxes (Dénes Dobrosi, Imre Dombi, Csaba Endre Fehér, Tamás Galgóczy, István Géczi, Péter Gombkötő, Péter Paulovics and Miklós Szatyor)

Bats of wetlands (Dénes Dobrosi, Imre Dombi and Tamás Görföl)

Endoparasitological (coprological) and ectoparasitological studies of bats (Viktor Molnár)
Forrest-dwelling bat research (Péter Estók and Tamás Görföl)
Monitoring of house-dwelling bats (Zoltán Bihari, Dénes Dobrosi, Csaba Endre Fehér, István Géczi, Péter Gombkötő, Tamás Görföl, Zoltán Molnár, Péter Paulovics and Szabolcs Závoczky)
Monitoring of mines (Zoltán Bihari, Sándor Boldogh, István Géczi, Péter Gombkötő, Tamás Görföl, Péter Paulovics and Miklós Szatyor)
Pathoanatomy and pathophysiology of bats (Viktor Molnár)
Rehabilitation of injured and captured bats (Viktor Molnár and Zoltán Molnár)
Research using bat detectors, voice recording and sound analysis (Sándor Zsebők)
Ringing of *M. daubentonii* and *M. dasycneme* (Imre Dombi, Tamás Görföl and Péter Paulovics)
Ringing of *M. myotis* and *M. oxygnathus* (Péter Paulovics)
Ringing of *N. noctula* (Imre Dombi and Tamás Görföl)
Taxonomy, systematics and zoogeography of Old World bats (Gábor Csorba)
Veterinary treatment of sick and injured bats (Viktor Molnár)
Winter monitoring of caves (Sándor Boldogh, Péter Estók, Péter Gombkötő, Péter Paulovics, Márton Juhász and Miklós Szatyor)
iBats car survey program (leader: Zoltán Bihari)

C. Publications

Many of the Hungarian articles can be downloaded from www.hunbat.hu (Publikációk menu) or you can request them from Tamás Görföl (gorfi@tmta.hu).

C.13. Consideration being given to the potential effects of pesticides on bats

We have no information about effects of pesticides on bats. It doesn't seem to be a serious problem.

D. Functioning of the Agreement

D.14. Cooperation with other States

There has been a continuous contact for years with Slovakian bat researches in relation to the migratory routes of bats, in particular the Greater horseshoe bat. The reason for this co–operation is that a significant proportion of the population of this species lives in Hungary, and then they migrate to winter to Slovakian caves and mines.

There is a close co–operation with Romanian colleagues to survey the caves and the bat colonies in Transylvania. The situation is the same in the case of eastern Hungarian house-dwelling bat colonies as in the case of HU-SLO connection.

We are in a close contact with the Bat Conservation Trust (UK) in the iBats project.

D.15. Measures taken to implement Resolutions adopted by MoP

The Department of International Treaties on Nature Conservation responsible for the implementation of the agreement co-ordinates between the Secretariat and the Office for Nature Conservation, the 10 national park directorates and the bat experts who actually carry out the implementation in Hungary.