AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE

Report on the implementation of the Agreement in ITALY

A. General Information

Non-Party Range: ITALY
Date of Report: May 2004
Period Covered: 2003 – 2004

Competent Authority for the Agreement: Ministry of Environment

Report wrote with the cooperation of GIRC, Gruppo Italiano Ricerca Chirotteri, and R.N.O. & Museum of Onferno, Gemmano Commune (RN)

B. Status of Bats within the Territory of Italy

1. *Summary Details of Resident Species*

Up to actual knowledge 37 bat taxa occur on the territory of Italy (Table 1). *Myotis dasycneme*, formerly included in the check-list of Italian bat species, is now classified as occasional as the only record available – a specimen captured in Trento – dates back to 1881; it is also worth mentioning that the occurrence of another species, *Rhinolophus blasii*, needs to be confirmed as it was not recorded after 1980.
Recent work (Kiefer and Veith, 2001; Spitzenberger *et al.*, 2001, 2002; Chirichella *et al.*, 2002; Mucedda *et al.*, 2002) has described three new *Plecotus* species, all occurring in Italy: *P. macrobullaris*, observed in the North of the country, and *P. sardus*, which is endemic to Sardinia. The taxonomic status of Sardinian bats from the "*Myotis myotis* group" has been recently revised (Castella *et al.*, 2000; Ruedi and Arlettaz, in press), proving that *Myotis punicus* occurs in the island. Russo and Jones (2000) showed that the cryptic species *Pipistrellus pipistrellus* and *P. pygmaeus* both occur in Italy; and finally, a taxon from the "*Myotis mystacinus* group", named *Myotis aurascens* proposed as a good species by Benda and Tsytsulina (2000) is quoted for the country as a specimen recorded in Trentino but recent genomic analyses (Mayer & von Helversen 2001) suppose that *M. aurascens* really is not so separate from "*mystacinus*" group and other work is needed.

A comprehensive report on the different species is in proof as "Linee guida per il monitoraggio dei Chirotteri" [Guideline for bat monitoring] edited by GIRC, National Institute for Wildlife Management (INFS) and by Environmental Ministry. This volume will resume all the main aspect of Italian bat fauna and also, in the spirit of the Bat Agreement, will underline the conservation and management needs for this mammalian group.

Distribution and autoecological informations are also present in the sites www.pipistrelli.org (GIRC) and http://www.minambiente.it/Sito/settori_azione/scn/pubblicazioni/multimedia/mammiferi/iconografia_intro.asp (Environmental Ministry).

Table 1. Italian taxa [also considered the review of the specie listed in the Agreement (inf. Eurobats.MoP4.13)

	Taxa	Author	Italian name
1.	*Rhinolophus blasii*	(Peters, 1866)	Rinolofo di Blasius
2.	*Rhinolophus euryale*	(Blasius, 1853)	Rinolofo Eurìale
3.	*Rhinolophus ferrumequinum*	(Schreber, 1774)	Rinolofo maggiore
4.	*Rhinolophus hipposideros*	(Bechstein, 1800)	Rinolofo minore
5.	*Rhinolophus mehelyi*	(Matschie, 1901)	Rinolofo di Méhely
6.	*Barbastella barbastellus*	(Schreber, 1774)	Barbastello comune
7.	*Eptesicus nilssonii*	(Keyserling et Blasius, 1839)	Seròtino di Nilsson
8.	*Eptesicus serotinus*	(Schreber, 1774)	Seròtino comune
9.	*Hypsugo savii*	(Bonaparte, 1837)	Pipistrello di Savi
10.	*Myotis aurasces*	Kusjakin, 1936	Vespertilio dorato
11.	*Myotis bechsteinii*	(Kuhl, 1817)	Vespertilio di Bechstein
12.	*Myotis blythii*	(Tomes, 1857)	Vespertilio di Blyth
13.	*Myotis brandtii*	(Eversmann, 1845)	Vespertilio di Brandt
14.	*Myotis capaccinii*	(Bonaparte, 1837)	Vespertilio di Capaccini
15.	*Myotis dasycneme*	(Boie, 1825)	Vespertilio dasicnème
16.	*Myotis daubentonii*	(Kuhl, 1817)	Vespertilio di Daubenton
17.	*Myotis emarginatus*	(E. Geoffroy, 1806)	Vespertilio smarginato
18.	*Myotis myotis*	(Borkhausen, 1797)	Vespertilio maggiore
19.	*Myotis mystacinus*	(Kuhl, 1817)	Vespertilio mustacchino
20.	*Myotis nattereri*	(Kuhl, 1817)	Vespertilio di Natterer
21.	*Myotis punicus*	Felten, 1977	Vespertilio maggiore africano
22.	*Nyctalus lasiopterus*	(Schreber, 1780)	Nottola gigante
23.	*Nyctalus leisleri*	(Kuhl, 1817)	Nottola di Leisler
24.	*Nyctalus noctula*	(Schreber, 1774)	Nottola comune
25.	*Pipistrellus kuhlii*	(Kuhl, 1817)	Pipistrello albolimbato
26.	*Pipistrellus nathusii*	(Keyserling et Blasius, 1839)	Pipistrello di Nathusius
27.	*Pipistrellus pipistrellus*	(Schreber, 1774)	Pipistrello nano
28.	*Pipistrellus pygmaeus*	(Leach, 1825)	Pipistrello pigmeo
29.	*Plecotus auritus*	(Linnaeus, 1758)	Orecchione bruno
30.	*Plecotus austriacus*	(Fischer, 1829)	Orecchione grigio
31.	*Plecotus macrobullaris*	Kuzjakin, 1965	Orecchione alpino
32.	*Plecotus sardus*	Mucedda et al., 2002	Orecchione sardo
33.	*Vespertilio murinus*	(Linnaeus, 1758)	Seròtino bicolore
34.	*Miniopterus schreibersii*	(Kuhl, 1817)	Miniottero
35.	*Tadarida teniotis*	(Rafinesque, 1814)	Molosso di Cestoni

2. *Status and Trends*

Generally speaking there are not a comprehensive national project to monitoring the trend of the bat population. Isolated historical data seem to confirm a general decrease of cave species, with some exceptions, but the data are scarce and widely distributed.

3. *Habitats and Roost Sites*

Some new habitat use studies are now available for the Italian territory. The main threats to bats come from the loss of natural mosaic and connection between roost area and foraging one.
About the roost identification and protection, a project is carried out by GIRC. The Italian Bat Roost Data Base, started in 1998, aims to set up a bat roost distribution at a national scale. The geodatabase is referred to UTM MGRS 10x10 km cells. The main goal of the Italian Bat Roost project is to collect and supply valuable information useful to plan successful conservation strategies. Two principal goals can be identified:
1) A short-term goal is to identify the most important roosts at a nation-wide level, in order to plan more effective conservation measures; roosts will be classified according to species richness and colony size. The coverage at the national scale will make it possible to assess the importance of each roost in relation to all sites known for the Italian territory;
2) A medium term goal is to identify demographic trends, at least for some species; once population data are collected over several years, we will be able to define the status of Italian bat species and to best plan their conservation.
Classification of the importance of the roosts is produced following the Table 2 summary.

Table 2. Proposed classification for the national importance of a roost

N° SPECIES	**SPECIES**	**N° INDIVIDUALS**	
≥ 4	All	≥ 50	GENERAL CRITERIA
3	All	≥100	
2	All except if both belong to: *P. kuhlii*, *H. savii*, *P. pipistrellus and P. pygmaeus*	≥ 150	
1	All species except: *P. kuhlii*, *H. savii*, *P. pipistrellus* and *P. pygmaeus*	≥ 200	
≥ 1	*M. punicus* and species included in 92/43/EEC Directive - Annex II except *M. schreibersii*	≥ 50	SPECIES OF A GREAT CONCERN

More than 750 sites now are available for successive controls to establish a network of conservation and trend studies. Roost classification based on criteria shown in table 2. led to the identification of 37 hibernation roosts and 67 breeding roosts of special value. Seven of them were selected both as hibernation and breeding site so that in all 97 sites of special conservation interest were recorded. For at least 93.7% of roosts, factors potentially disturbing the bats were documented, particularly people access to the roost, and renovation of buildings used as roost. Surveyors judged that in almost two thirds of such cases conservation is not ensured. These problems proved even more pronounced when the 97 sites of special conservation interest were looked at. Only about half of them (51.5%) are located within protected areas, including areas proposed as SCI (92/43/EEC Directive). The situation is particularly worrying in Sardinia, where only 29.2% of sites of national importance are within protected areas. Moreover, for north-west Italy, it has been underlined that

even roosts occurring within protected areas do not receive the necessary conservation attentions. Data collected suggest that this is probably true for many other roosts included in protected areas around the country. Results show knowledge gaps, both from the geographical and species perspectives. Even the data collected for the regions most extensively surveyed are very few when compared to the knowledge available for other European areas. There is an urgent need to encourage roost surveying, partly because most roosts recorded are subject to disturbance and their conservation is not guaranteed: hence, there is a high risk that important roosting sites still will be destroyed before being discovered. Priority should be given to urgent protection of roosts selected as Sites of special Conservation Interest. Of course, threatened sites of local (regional) importance may also need immediate conservation actions.
A strong help in the conservation of the roost areas come mainly from the institution of Nature 2000 sites that identify in many cases bats presence as major biodiversity component.

4. *Threats*

The main threats to bats in Italy come from loss of habitat, loss of roosting sites, pollution and use of pesticide in agricultural areas. The use of pesticides and agricultural intensification may be reducing prey abundance generally. Hedgerow and woods removal, conversion of dry grassland and river belt are reducing the connectivity and mosaic in the landscape.
Also some entrance in caves and disturbing of the maternal and hibernating colonies, renewal or demolition of many buildings with suitable roosts for bats and modern construction without access in attics and cellars.

5. *Data Collection, analysis, interpretation and dissemination*

Few groups and museum are actually working on bats in Italy. The main collection and reference point is the “La Specola” natural history museum in Firenze. Genetic collection of sample are ongoing in a national project among INFS, Onferno Museum and Varese University. Some more students (undergraduate and PhD’s) are working on bat in different university.
GIRC organise every year a colloquium on different bat topics as well as the bat session in the national theriological congress.
The above-mentioned volume “Guideline for bat monitoring” also describes the data collection procedure and possibility, as well as the necessity to reorganize ringing methods, according to the last MoP of Bat Agreement suggestions.
The Italian legislation does not include specific prescriptions for ringing bats; however, considering that bats can be severely damaged by marking and can disperse over very long distances, it is critical to adopt proper ringing techniques and rings should always be identified by a unique number and contact address in order to establish a coordinated ringing scheme. Therefore, the National Wildlife Institute and the Ministry of Environment agreed that authorisations to ring bats will be conditioned to a careful evaluation of ringing techniques and by the use by ringers of a coordinated system of rings identification.

A strong effort is actually on board by a wide group of specialist to eradicate bat data not clearly identified in the past (for technology or procedural problem) and still present in many data set, adding unclear position for many taxa. An update data bank was sent to Environmental Ministry technical staff thanks to a special project.

C. Measures Taken to Implement Article III of the Agreement

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

Bats are protected by Italian Law since 1939: the "Regio Decreto" of 5 June 1939, n. 1016, "Testo Unico delle norme per la protezione della selvaggina e per l'esercizio della caccia" states that "it is always forbidden to kill or capture bats from any species" (art. 38). Nowadays, Italian bats are protected under the "Legge quadro in materia di fauna e attività venatoria" (L. 11 February 1992, n. 157), as well as under important international conventions signed by Italy (Bern Convention, 1979; Bonn Convention, 1979; Rio de Janeiro Convention, 1992); and, finally, under the "Habitats" Directive EEC/92/43. As part of the environment, bats are also protected by the Italian Law on the 'environmental damage' (L. 8 July 1986, n. 349).

Also for the "*Bat Agreement",* came into force in 1994 when it was ratified by a number of countries, Italy is currently in the process of ratifying the Agreement. After a strong support by the Environment Ministry, the process is actually arrived to the sign of the Parliament (up to now one of the chambers has ratified, the final acts are expected in 2004).

Under the Italian legal framework, it is forbidden to kill, capture, keep in captivity and trade bats; it is also forbidden to damage or disturb roosts and to disturb bats, especially during the mating season breeding period and when hibernating. Derogations to these prohibitions require a double authorisation, by the Ministry of Environment and by the local administration competent for the study area (regional, provincial or park administration). Both authorisations must be based on a technical opinion by the National Wildlife Institute (INFS), that, to express its opinion, is called to evaluate selectivity of methods and potential impact of the required activity on the conservation status of the affected population. The national legislation also calls the Ministry of Environment and the local administrations to monitor the conservation status of bats, and to regularly report these information to the European Community.

7. Sites identified and protected which are important to bat conservation

In Italy 373 Sites of Community Importance (SCI) with bats species have been identified under the provisions of the Habitats Directive (92/43/EC). The present species in these sites are: *Barbastella barbastellus, Miniopterus schreibersi, Myotis bechsteini, Myotis blythi, Myotis capaccinii, Myotis emarginatus, Myotis myotis, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros* and *Rhinolophus mehelyi*. Threats to these species in some of the sites are related to buildings and forest roosts as in other parts of European range.

Local project in protected areas or European LIFE project strongly increment site protection and improvement for bats. Speleological federations also contribute to protect caves against not correct entrance, both with grilles and with information and people teaching.

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

In the LIFE project in Campo dei Fiori, Sasso di Malascarpa, Bologna province and Onferno habitats associated with important roosts and vulnerable species were identified as well as results in other bat habitat use both in Northern and in Central Italy. The information can be really useful tool for conservation programs. Many areas designated as SCIs and others proposed protected zones also are important to bats in term of roost as well as foraging areas.

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

In Onferno Reserve e Museum an exposition is daily teaching to public the importance of bats. Other exhibitions in museum and protected areas in the last years start to change the public approach to bats. Important didactic materials are produced by Campo dei Fiori Park as well as Onferno Reserve.
Numerous "Bat nights", organized in different parts of the country, attract participants and the curiosity of the press.

Many protected areas and, recently, other public management institutions provide protection to roost and promote bat boxes campaigns.

10. Responsible bodies nominated for the provision of advice on bat conservation and management

At national level, the Ministry of Environment is the governmental authority in charge with nature conservation and environmental problems. Departments are devoted to Biodiversity, Protection and Conservation, Protected Areas.
Also the Ministry of Agriculture and Forestry are connected for police service.
Institutions assisting the Ministry of the Environment with scientific data are:
- National Institute for Wildlife Management (Istituto Nazionale per la Fauna Selvatica, INFS)
- Italian Zoological Union (Unione Zoologica Italiana, UZI)
- Museums of Natural History;
- National Speleological Institute;
- Faculties of Biology and Natural sciences;
- NGOs: GIRC Gruppo italiano ricerca Chirotteri

11. Additional action undertaken to safeguard populations of bats

In the last years a new generation of study is coming to set up a more wide information dataset on bats in Italy. Autoecological studies are the main pool of data but also habitat use and community composition are coming, as well as new informations on the distribution and status of these mammals.

12. Considerations begin given to the potential effects of pesticides on bats, and their food sources and efforts to replace timber treatment chemical, which are highly toxic to bats

Few data are available for Italy. Cases of dead group for pesticide were recorded in the past. This topic is one of the priorities of a study group in the GIRC perspective.
A campaign to inform house renewals and treatments company will start under the aim of GIRC.

D. Functioning of the Agreement

14.Cooperation with other Range States

Italy is co-operating with other Range States and with other Member States of the EU in research and conservation matters. Many contacts are actually working between Italian researchers and other countries colleagues.