Sustainable Bat Monitoring in Romania

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Introduction

In 2002 the Romanian Bat Protection Association and the Bat Conservation Trust (BCT) have initiated the National Bat Monitoring Programme (NBMP) in Romania. This Programme is modelled on the UK's National Bat Monitoring Programme that was launched by the BCT in UK and it has demonstrated that trends in bat populations can be statistically identified from data collected through its monitoring schemes

By monitoring it is possible to gather information to identify changes in bat populations that are conservation concern. In Romania we had sporadic data concerning the distribution of bats and the population trends of the 30 species of bats are in general poorly known. Until now the collected data were not comparable statistically in regional or national level

To solve this problem was important to work out a scientifically based system and to develop and apply a Romanian–wide standardised monitoring protocol

Methods

Two principal methods have been applied: observations at summer maternity roost sites and winter hibernation sites in underground habitats during 5 years twice in hibernation period (December-February) and twice in summer period (May-July). The data are introduced in the standard datasheet.

The selected key species and categories for the monitoring:

Cave dwelling bats: *Rhinolophus ferrumequinum, Rhinolophus hipposideros, Myotis myotis/blythii, Miniopterus schreibersii*

Non cave dwelling bats: *Myotis daubentonii, Eptesicus serotinus, Pipistrellus pipistrellus/pygmaeus, Nyctalus noctula*

Species, which have priority for further observations and research: *Pipistrellus nathusii, Barbastella barbastellus, Myotis dasycneme*

The geographical range of the monitoring is the whole of Romania: 35 underground habitats (Eastern Carpathians 3 caves, Western Carpathians 15 caves, Dobrogea, Southern Carpathians 17 caves)

To implement the NBMP it has been necessary to develop and maintain a network of volunteers covering all regions of Romania, by organise talks to University students, speleological clubs, Environmental Protection Agencies, Environmental NGOs and National Parks, improve volunteer identification skills through training and workshops and organise field work participation

Results

Training of trainers:

2 workshops were organised by BCT and RBPA (2002- Danube Delta, 2003 - Remetea) about National Bat Monitoring and Bat Detector Techniques

Volunteer recruitment. 23 lessons –organised in 11 cities, 8 workshops held during 3 years. Total of 476 people (introduced in the database of volunteers) currently make up the NBMP volunteer force network (October 2005) of which 136 have taken part in surveys and contributed data.

By 2005 a country wide network of over 5 local bat groups was established providing potential framework on which to base volunteer surveys. The distribution of NBMP volunteers covers all region of Romania.

It was selected two target species for the monitoring: *Miniopterus schreibersii* and *Rhinolophus ferrumequinum* and started the winter and summer monitoring of these species in the winter of 2003. 4 426 individuals of *Rhinolophus ferrumequinum* was found by winter of 2003 in 19 underground habitats, in 2004 the number of the found individuals in the same caves was only 1 818. (figure 1). In 2003 the individual number of monitored *Miniopterus schreibersii* was 34 697

but from this 33 000 individuals were found only in one cave

During the winter monitoring of the selected underground habitats the Miniopterus schreibersii colonies were found only in 5 caves but in higher individual number than the Rhinolophus ferrumequinum presence in the same caves.

Conclusions

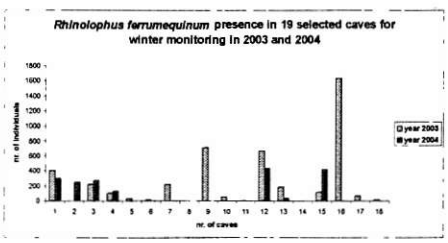

Figure 1

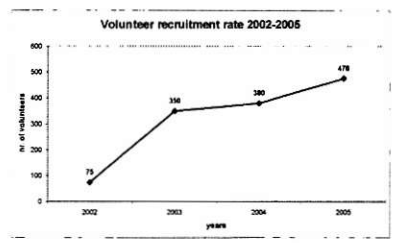

Figure 2

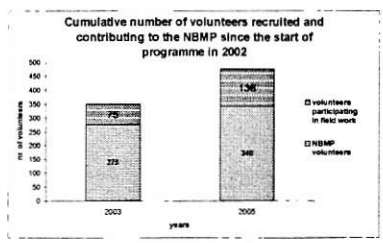

Figure 3

Annually the recruitment rate has increased and shows no sign of slowing (Figure 2.)

and the number of volunteers contributing to the NBMP is consistent. (Figure3.)

The collected data during the monitoring of *Rhinolophus ferrumequinum* and *Miniopterus schreibersii* can not be analysed statistically yet. In order to draw conclusions about the population trends more underground habitats have to be included in the monitoring system and for this work more volunteer have to be trained and involved. The already involved volunteers need to gain experience in the field of underground habitat monitoring. We are in the firsts phase of the volunteer recruitment and only 10% of the volunteers participating in the field work have enough knowledge to contribute with data for the monitoring. The already involved volunteers will be oriented to participation in some schemes requires little previous experience. (ex. field survey of bats using bat detectors)

Acknowledgments

The work of this project was made possible through the financial support and partnership of Bat Conservation Trust and the financial support of DEFRA.

Since 2002 the BCT supports the Romanian bat workers by training, equipments and continues advices concerning the monitoring and bat detector techniques helping in this way in the sustainability of the NBMP. Also BCT assured the possibility to present our results and to meet the BCT staff and other bat workers from UK in the behalf of the Bat Conference in York in 2003 August.

Thanks for the financial support for Fauna & Flora International through the Greater Horseshoe Bat Conservation Programme in Romania. The Rufford Small Grant contributed to the volunteer recruitment by supporting the workshops and the field trips since 2003.