

Bat Conservation Trust



## EUROBATS Workshop on Monitoring and Surveillance Guidelines and Setting up a Pan-European Monitoring Scheme for Underground Sites



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Juniper Hall, Surrey, UK  
Report Prepared by Simon Mickleburgh, BCT

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## **Executive Summary**

- A workshop was held at Juniper Hall in Surrey, UK on 4th and 5th April 2006 attended by 31 participants from 15 countries.
- The meeting furthered the monitoring and surveillance guidelines produced by the EUROBATS Intersessional Working Group (IWG) on Producing Guidelines on Bat Monitoring Methods to Assess Population Trends at Different Levels. These draft guidelines will be presented at Advisory Committee 11 in Luxembourg in May 2006.
- The meeting also agreed to develop a pan-European strategy for monitoring underground sites.
- A feasibility study for the underground monitoring project will be developed by BCT. The Dutch Society for the Study and Conservation of Mammals (Zoogdiervereniging VZZ) and BCT will work together to prepare a draft resolution for presentation to the Meeting of the Parties in Slovakia in September 2006.

## Introduction

- A fundamental obligation of Parties to EUROBATS is to “promote research programmes relating to the conservation and management of bats. Parties shall consult each other on such research programmes, and shall endeavour to co-ordinate such research and conservation programmes.” The Bat Conservation Trust (BCT) has been working with the UK’s Department for Environment, Food and Rural Affairs (Defra) on various projects to contribute to priority work under the EUROBATS Agreement. Workshops held in Romania and France in 2003, Georgia in 2004 and the UK and Slovenia in 2005 shared knowledge about working with bats, in particular aiding the establishment of best practice for monitoring of bats in European range states.
- The workshop in the UK in 2005 aimed to gain consensus to drive forward a pan-European strategy to monitor bat populations across Europe. It determined that underground sites would be the best starting point for such a pan-European strategy. The workshop also served as a meeting of the EUROBATS Intersessional Working Group (IWG) on Producing Guidelines on Bat Monitoring Methods to Assess Population Trends at Different Levels. This IWG is convened by Dr Jessamy Battersby.
- This workshop at Juniper Hall was the next step forward in the process of furthering the monitoring and surveillance guidelines prepared by Dr Battersby. It also permitted more detailed discussion on the establishment of a pan-European monitoring scheme for underground sites.

## **Aims of the Workshop**

- This workshop had two main aims.
  - To bring together European expertise to finalise the monitoring and surveillance guidelines being prepared by the Intersessional Working Group of the EUROBATS Advisory Committee on Guidelines on Bat Monitoring Methods to Assess Population Trends at Different Levels. It was important to gain consensus and, where possible, identify and cover gaps.
  - Following on from the workshop in the UK in April 2005, to explore further the possibility of European cooperation for a pan-European monitoring scheme for underground sites and to confirm the way forward.
- The workshop lasted two days.
  - Day 1 looked at revising and updating the draft monitoring and surveillance guidelines.
  - Day 2 discussed the setting up a pan-European monitoring scheme for underground sites and clarified the design and implementation of this activity.

# Day 1 Monitoring and Surveillance Guidelines

## Background

- The methods that have generally been adopted by existing national surveillance schemes, particularly in the UK, have involved non-invasive methods using mainly volunteers to collect the information. It has been the general opinion that repeat annual surveys using the limited expertise of volunteers should not involve invasive methods, such as catching and ringing of bats, because of the likelihood of disturbance and the requirement for detailed and extensive training and, in many cases, licensing from the appropriate competent authority. However, there may be circumstances where invasive methods are the only or best option and there is a need to examine the issues and agree recommendations for the use of invasive methods in the EUROBATS guidelines.
- There have also been developments in the use of non-invasive methods. Bat detector technology is constantly improving and there are several different types of detectors available for use in bat surveys. It is important to be able to make recommendations on the best detectors to use for different types of survey and to have an approach that is as standardised as possible for the guidelines.
- In finalising the guidelines it is important to ensure that the species accounts are comprehensive and accurate, that there is a range of examples of monitoring and surveillance schemes that are already operating in different countries and that other sections of the guidelines that need completing are assessed and action on completion is agreed. These areas include a bibliography of monitoring and surveillance information from across Europe, health and safety issues, and completion of a decision tree on methods to use.

## Objective

- The objective of the day was:
  - To have feedback and further input on the latest version of the monitoring and surveillance guidelines in order to have a final draft version to be presented to Advisory Committee 11 in May 2006

# Plenary Session 1

## *Introductory Remarks*

- Amy Coyte opened the workshop and welcomed participants to Juniper Hall. The workshop fitted with BCT's strategic vision of good practice, sharing knowledge and achieving outcomes. There was a broad range of representation from NGOs, governments and scientific institutions from many European countries. A full list of participants is given in Appendix 1.
- Peter Lina read a welcoming address from Andreas Streit from the EUROBATS Secretariat.

## *Background to the Guidelines*

- Jessa Battersby presented the background to the development of the guidelines on surveillance and monitoring (Resolution 4.9, Meeting of the Parties 4) and clarified that these were more about surveillance than monitoring.
- Colin Catto gave an outline of factors to consider when deciding what methods were most appropriate for surveillance. The aim was to provide information on long-term population changes.
- The meeting then split into two Working Groups, one looking at invasive and one looking at non-invasive surveillance methods. Each Working Group also looked at the draft guidelines and made any additional comments that could be fed into the final editing process.

## Working Group 1 Invasive Methods

- This addressed the following issues:
  - What invasive methods are available?
  - Which invasive methods are appropriate for surveillance?
  - When should they be used?
  - When should they not be used?
  - What information can they provide?

## Working Group 2 Non-invasive Methods

- This addressed the following issues:
  - Type, cost, ease of use, effectiveness.
  - What methods are available?
  - When should they be used?
  - When are they most effective?

- What are the most up-to-date methods?
- What information can they provide?

## Plenary Session 2

### *Working Group 1*

- Jessa Battersby summarised the discussions in Working Group 1. Peter Boye suggested that there could be a separate EUROBATS Handbook of Species that could give a greater amount of information than was included in the monitoring and surveillance guidelines. This could be prepared in time for the Meeting of the Parties in September 2006. Christine Harbusch suggested that in the guidelines the species accounts could be reduced to a few lines with relevant information for monitoring and surveillance. Tony Hutson felt that the range maps should be retained as they provided useful information. The meeting agreed with these suggestions and changes would be made as necessary.
- It was suggested that appropriate surveillance methods for different species could include information that had already been prepared by Herman Limpens in a recent paper in the journal *Nyctalus*.

### *Working Group 2*

- Amy Coyte summarised the discussions in Working Group 2. There was a discussion about random monitoring versus counting the selected best protected sites. Random counts were most likely to pick up trends. Focusing on the best protected sites can be problematical as bats may be being lost from other sites that are not being monitored and this could give a false impression of population status. Zoltan Bihari explained that in Hungary they monitored protected sites but also looked at four nearby satellite sites that to a degree would address these problems.
- It is important to remember the specific questions that we are trying to answer:
  - Assessing the Favourable Conservation Status of species in the range states of the EUROBATS Agreement.
  - Using bats as indicators of climate change or ecosystem/underground habitat health.
- We can then allocating resources according to what monetary and volunteer resources you might have.

### *Decision Tree*

- The meeting then discussed the decision tree that had been prepared by Jessa Battersby. This would be a simple device that would help in developing surveillance programmes. It would operate as follows:

### **What species do I have?**

- If species are known, go to table of species to see what methods are appropriate then start surveillance.
- If species are not known, go to baseline survey to ascertain species. Then go to table of species to see what methods are appropriate. Then start surveillance.

### **Do I know where the species occurs?**

- If yes, consider what methods are appropriate then start surveillance.
- If no, go to baseline survey to find locations to start surveillance.

### *Examples of Surveillance Schemes*

- Jessa Battersby had included the UK National Bat Monitoring Programme as an example of a monitoring scheme and it was agreed that other examples from different countries would be useful. If necessary, full details of these schemes could be included on an accompanying CD.

### *Hungary – a case study*

- Zoltan Bihari gave an outline of the monitoring of species in Hungary. In summer there are counts of a subset of churches, known roosts and four nearby roosts. Churches are used by eight species. There are 28 species in Hungary, about 10 of which are very rare so are not surveyed. In winter there are counts in underground sites. In autumn mist nets are used to sample caves that are used for swarming. This provides a greater knowledge of forest dwelling bats as these animals often come from a 60 km radius catchment. There is no other monitoring for these species. Every 10<sup>th</sup> year all “good” churches (out 3000) in Hungary are checked for bats. Hungary relies entirely on volunteers who are supported through a small amount of funding - there is no central state funding.

### *Species Accounts*

- The meeting went through all of the species accounts currently in the guidelines and made changes and amendments as necessary.

## **Day 2 Pan-European Monitoring Scheme for Underground Sites**

### **Background**

- A workshop was held in London on 15 April 2005 to discuss the development of a pan-European strategy to monitor bat populations across Europe. The workshop had 18 participants from 10 Range States to the EUROBATS Agreement.
- The objectives of that workshop were to agree:
  - A common vision for bats in Europe.
  - On the value of monitoring collaboratively.
  - An approach to data management.
  - The next steps that should be taken in establishing a monitoring project at the European scale.
- There was consensus between workshop participants on the need for a project to monitor bat populations at a pan-European level and on the value of working collaboratively. It was agreed that underground sites would provide a good starting point for a monitoring strategy. The consensus was that projects should be coordinated at a national level with data entered into standard databases linked with one another to enable pan-European analyses.
- It was also agreed that consistent methodologies for monitoring underground sites were required to ensure that data were comparable across Europe. Guidelines on monitoring underground sites were being included in the Guidelines on Monitoring and Surveillance Methods, being produced by the Intersessional Working Group of the Advisory Committee to the EUROBATS Agreement. It was agreed that a European project should not commence until the guidelines had been published, to ensure comparability of data.

### **Objectives**

- The main objectives of this day were to:
  - Agree geographical and species coverage of underground monitoring scheme.
  - Agree common protocols for monitoring.
  - Look at options for collection and monitoring of data.
  - Clarify the role BatLife might play in the future monitoring programme.

# Plenary Session 1

## *Introductory Remarks*

- Amy Coyte summarised the report from last April's workshop in London. The workshop was to determine whether a pan-European project would be feasible. There had been no fundamental objections to this approach but the main question was "where to start?" Underground sites had been suggested as there was already an inventory available that had been prepared by Tony Mitchell-Jones in the UK. Many underground sites were already being studied and it was felt that this project was highly achievable. All present at this workshop agreed that underground sites were a suitable place to start.

## *Pros and Cons*

- Peter Boye commented on the concept of using underground sites for surveillance and monitoring at a pan-European scale. The positive aspect was that it could be done everywhere and there were opportunities for large-scale participation. The inventory of underground sites already produced had the support of EUROBATS and this would give the project value. It would help provide information about the conservation status of important underground sites. On the negative side there were concerns about health and safety issues relating to the use of volunteers and it was important to consider training needs. The meeting agreed that there were tasks that could be carried out by more inexperienced volunteers (such as placing data loggers in the entrances of sites). There were also concerns about the liabilities involved in training people and it was suggested that speleologists could be involved in the more difficult checks. In many countries, underground sites are already regularly checked and thus the involvement of volunteers would be an additional element. The focus should be on identifying key sites rather than increasing volunteer engagement. However, it would be possible to involve trained volunteers in activities such as data analysis. Kate Jones stressed that the project should improve collaboration between different groups and that it was not necessary to have mass volunteer involvement.

## *Definitions and Choosing Sites*

- Peter Lina asked for a definition of an underground site – this would include sites used by maternity colonies or as hibernacula. There was already a definition that had been used to compile the inventory.
- Edvardas Mickevicius stressed the importance of choosing sites randomly rather than just selecting the best protected sites. He suggested dividing Europe into UTM squares and allocating underground sites randomly for monitoring.

### *Aims and Objectives of a Monitoring Scheme*

- The meeting had a short breakout session, splitting into four groups to consider the main objectives of this project. Each working group looked at the overall objectives of a monitoring project - what is it trying to achieve and what questions is it trying to answer? The breakout groups came back with a range of ideas. The following are common themes from the four groups.
- The objectives of pan-European underground monitoring project should be:
  - **To provide population indices for European bat species on regular basis.** This would be a long-term aim and could be used to attract support and to meet legal obligations. The scale could range from pan-European to regional levels and could look at different biogeographical zones.
  - **To predict and/or measure the effect of future global change on bat biodiversity.** Using bats as indicators of ecological change and to detect geographical patterns. This would help identify changes in distribution and ecological changes such as the northward shift in nursery colonies and changes in migration patterns.
  - **To identify important sites.** The current inventory includes known important sites but this needs to be expanded to help us understand why particular sites are important. We also need to understand why bats use certain sites - e.g. for hibernation, as nursery colonies, for swarming and during migration. There will be geographical variations and this will influence the preferred survey method. We finally need to understand which sites are threatened and by what activities.
  - **Raising awareness, information exchange, volunteer engagement and building capacity.** This will help influence legislation and overall conservation objectives.
  - **Deliver legal obligations such as Favourable Conservation Status under the Habitats Directive** and international conventions (such as CBD & CMS). This project will help meet the 2010 target or at least inform whether or not the target is being met. Caution should be exercised as any project starting now may not have sufficient data to inform trends by 2010, especially if it does not begin until 2008. It was not clear if there was to be another target beyond 2010.

- The meeting then split into four Working Groups to consider the following issues:
  - Health and safety training.
  - Geographical and species coverage.
  - Common protocols.
  - Management of data.

## Working Group 1 Health and Safety Training

- There were different health and safety and legal requirements in different countries and issues of liability to consider. Liabilities could be overcome by countries looking at their own health and safety legislation and ensuring compliance. Generic guidelines would be needed as these could be submitted to insurers to show that risk was being managed. It was clear that insurance was a cost that must be covered. Landowners would probably not allow access to sites if they felt that health and safety and liability issues had not been addressed. It was important to take legal advice on the potential liabilities at both a pan-European and country level.
- There was a need for training in health and safety issues underground and there were a number of existing models used by caving organisations. Zoltan Bihari gave a good example of a training protocol from Hungary whereby a coordinator goes to the regions and trains regional coordinators who in turn train local people. Different countries will have different levels and methods of training already in place and training needs will vary from country to country. There is a role for sharing knowledge between countries perhaps through a partnering system. In the first year the project would need to investigate health and safety policy in different countries and look at insurance and training needs throughout Europe

## Working Group 2 Geographical and Species Coverage

- All countries represented in this group already monitored underground sites but these were mostly a very small subset of those available. In contrast, in The Netherlands, more than 90% of all potential sites are covered by a national monitoring programme.. Monitoring is limited by the number of people available. Groups generally start with few sites that are already known about, accepting that these may not be the best sites. Sites may be concentrated in certain areas because that is where the people are or because the geology favours the formation of caves. While there is not complete geographical coverage across Europe and even within countries, the current patchy coverage will form a good basis for a monitoring system. Some sites are currently not accessible and may not become so in the future so this is also a limitation to coverage.

- It could be possible to record all species present in a site but it might be worth targeting particular species or groups, particularly those that are easy to survey. In northern Europe you would be less likely to see rhinolophids; in contrast *Eptesicus nilssoni* would not be recorded from southern Europe. A potential list of target species should include the rhinolophids to capture a large number of key sites in southern and central Europe. Including *Eptesicus nilssoni*, *Myotis dasycneme*, *M. emarginatus*, *M. capaccinii*, *M. myotis*, *M. blythii*, *M. nattereri*, *Plecotus auritus*, *P. austriacus* and *Miniopterus schreibersii* would pick up many important sites including those used by migratory species or as transitory sites. You could also target those species threatened at a European level such as *Barbastella barbastellus*. *Myotis daubentonii* would be a good example of a species widespread across Europe. Using target species does not preclude the counting of all species in all sites but does give an opportunity to track species trends across Europe.

### Working Group 3 Common Protocols

- The project should cover winter and summer sites and those used for swarming – all species should be counted. There may be problems with species recognition and if non-invasive methods are to be used then some species, such as *Myotis mystacinus*/*M. brandtii* may need to be grouped. It is important that the first year is spent setting up the project and discovering which species use sites and at what times as well as determining the sites to be included in the project. Participants should be able to select the sites they wish to include from their country. The monitoring will take a minimum of 3 years and even then would only provide baseline data rather than any trend information, so we are looking at a minimum 5-year project – 1 year setting up, 3 years of survey and 1 year writing up. Counts should be done the same way in all countries to achieve consistency. Guidelines should be provided for summer and winter counts and more information is needed on swarming sites in different EUROBATS range states. Information on autumn swarming sites is a good way of identifying new underground sites.. Additional information should be included as follows:
  - Temperature.
  - Protected status – noting any changes to this.
  - Availability of historical data.
  - Availability of other relevant data from the region.
  - Any changes in methodology.
- Standardised forms are needed and at least one experienced person should be involved in the counts to ensure data quality.

## Working Group 4 Management of Data

### *Data input*

- In terms of data input it would be useful to have a web-based centralised database though this may not be suitable for all countries. There are other examples of these kinds of systems so we should follow other examples.
- There should be standardised record forms and data sheets for the whole area.
- There should be a flexible system of country coordination. There are different suggested approaches –though preferably, individuals could submit data to a national focal point who would undertake quality control before data were inputted on to a centralised database. There may be different levels of technology in different countries and these needed to be considered.
- There needs to be an access agreement when training surveyors.
- An IT or data manager is needed to manage the database.

### *Data output*

- Reporting must fulfil international and national obligations, and be able to report population trends at different scales (site, country, pan-European level). Different levels of access to the data would also be required.

## Plenary Session 2

### *Feedback from Workshops*

- Amy Coyte invited comments on the morning's workshops. Ferdia Marnell commented on the protocols group, stressing the need to collect relevant data and be clear about what other information to collect in addition to numbers of bats. For example, a list of impacts has been produced by the Habitats Directive. Ian Davidson-Watts stated that this would have implications for who is collecting the data - for example a SAC in UK would be assessed for site condition by a specialist contractor who would collect a whole host of other information in addition to what species might be using a site. All agreed that we were not just counting bats, and that the information needed was much wider than that. Potentially it would require a different level of expertise or more training. The database would hold a wide range of information other than just bat data.

- Kate Jones felt there was something missing from the site selection protocols and we needed to be very careful about how sites were chosen. She commented that there was currently an initiative called the European Transect which could be used for selecting sites. The European Transect forms an 'A' shape across Europe and sites could be chosen that lie on or close to this transect.
- It was also stressed that good statistical expertise would be required alongside bat and other scientific expertise.

### *Feasibility Study*

- Amy Coyte suggested that we needed a start-up project in the form of a feasibility study to fund capacity to do the groundwork. This project would examine issues such as logistics and costs and should liaise with people and organisations that are already doing work at the national level including those who were not represented at this workshop. The feasibility study could also include an inventory of surveillance and monitoring programme currently operating, including numbers of people and sites involved and what would be required to standardise these national programmes in order to establish a pan-European scheme. It was important to formulate very focussed questions that need answering. It was suggested that the main work could be funded as a LIFE project - another source of funding would be needed for the feasibility study. A LIFE project proposal would normally take about a year to put together.
- The meeting then discussed how to get the capacity to run the scheme, the way forward and the possible role of BatLife in this process. It was agreed to establish a Steering Group for the management of feasibility study. The Dutch VZZ had experience of preparing a LIFE project and would be interested in taking this forward with at least one other country. It was agreed that BCT should prepare the feasibility study and the larger LIFE project proposal and should contact the Dutch Mammal Society for their advice.
- It was important to get the support of all countries in EUROBATS. It was agreed that an oral report on this workshop would be presented at Advisory Committee 11 in Luxembourg in May 2006. The project proposal could be included in a draft resolution that could then be presented to the Meeting of the Parties in Slovenia in September 2006 with the aim of finding finances for feasibility study. The resolution should support the feasibility study and endorse the main project. It was agreed that BCT and the Dutch VZZ would work together on drafting a resolution. With a draft resolution in place some governments might then be more willing to fund feasibility study.
- The meeting agreed the next steps.
  - An oral report at Advisory Committee 11 in May 2006.

- BCT and the Dutch VZZ to draft a resolution for presentation at the MOP in September.
- The feasibility study would begin after MOP in 2006 and continue into 2007 allowing a report to be presented to the Advisory Committee in Spring 2008.

### *Possible Role of BatLife*

- Peter Lina gave an update on BatLife. A number of organisations had expressed an interest in hosting BatLife - BCT in the UK, PTOB "Salamandra" in Poland and NABU in Germany. BirdLife International was being used as a model for BatLife but in the bird case only one organisation per country was allowed - for bats there could be more than one organisation per country but each country would only have one vote. There was a discussion over the geographical coverage of BatLife. There was a discussion over whether there should be a focus purely on bats or whether it should include all mammals. The consensus was that a bat focus was most appropriate. It was agreed that BatLife could be initially known as BatLife Europe as it would be envisaged that in the future there would be other BatLife organisations focusing on other geographical areas. BatLife Europe could act alongside EUROBATS doing the tasks it cannot do. EUROBATS is part of an international treaty whereas BatLife Europe would be NGO-based.
- Tony Hutson then presented the aims and objectives of BatLife Europe. Many of these sat well with the proposed pan-European monitoring project. The monitoring project was long-term and it was agreed that first project for BatLife Europe could be the collation of information on important bat areas to identify hotspots of bat biodiversity across Europe.
- It was agreed that BatLife Europe needed a postal address. Its Constitution would have to refer to the legislation of its host country. Other partners could lead on other projects and funding might be on a project basis rather than through core support. Projects would then contribute some of the core costs as happens at BCT. The costs of hosting an office could vary widely between countries - eastern Europe would have the lowest costs but central Europe might be the most accessible and the Benelux countries would have the best access to EU institutions. There were different models of how a partnership like BatLife Europe might work. Butterfly Conservation in the UK has a project-based partnership with a Memorandum of Understanding while Plantlife Europa is a loose group. Accessing funding might be difficult without a legal Constitution for BatLife Europe. Abigel Szodaray-Paradi suggested that each NGO could contribute a small subscription to BatLife Europe but there would be a need for a larger funder to support the organisation much in the way that RSPB supports BirdLife in the UK. It was finally agreed that BatLife Europe could also assume the responsibilities of the European Bat Research Organisation that has been involved in organising the bat symposia in Europe.

## **Appendix 1 List of Participants**

### **Prof John Altringham**

Institute of Integrative and Comparative Biology  
University of Leeds  
Leeds  
LS2 9JT  
UK  
E-mail: [j.d.altringham@leeds.ac.uk](mailto:j.d.altringham@leeds.ac.uk)  
Tel: +44 (0)113 343 2832

### **Dr Tina Aughney**

Bat Conservation Ireland  
Ulex House  
Drumheel  
Lisduff  
Virginia  
Co. Cavan  
IRELAND  
E-mail: [tinaaughney@eircom.net](mailto:tinaaughney@eircom.net)  
Tel: +353 49 854 8679

### **Mr Stéphane Aulagnier**

Comportement et Ecologie de la Faune Sauvage  
I.N.R.A.  
B. P. 52627  
31326 Castanet - Tolosan Cedex  
FRANCE  
E-mail: [aulagnie@toulouse.inra.fr](mailto:aulagnie@toulouse.inra.fr)  
Tel: +33 5 61 28 5133

### **Dr Tomas Bartonicka**

Agency for Nature Conservation and Landscape Protection  
Kališnická 4-6  
130 23 Praha 3  
CZECH REPUBLIC  
E-mail: [bartonic@sci.muni.cz](mailto:bartonic@sci.muni.cz)  
Tel: +420 2 830 69 251

**Dr Andriy-Taras Bashta**

Institute of Ecology of the Carpathians  
Bat Research and Protection Group  
Koselnytska Str. 4  
79026 Lviv  
UKRAINE  
E-mail: atbashta@polynet.lviv.ua  
Tel: +380 322 707 430

**Dr Jessamy Battersby**

Tracking Mammals Partnership Coordinator  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4BG  
UK  
E-mail: jessa.battersby@jncc.gov.uk  
jessa@trackingmammals.org  
Tel: +44 (0)20 7720 2133  
+44 (0)1733 866808

**Dr Zoltan Bihari**

University of Debrecen  
ATC Böszörményi út 1  
38 4032 Debrecen  
HUNGARY  
E-mail: bihari@agr.unideb.hu  
Tel: +36 70 221 7336

**Mr Peter Boye**

UNEP/EUROBATS Secretariat  
Martin-Luther-King-Str. 8  
53175 Bonn  
GERMANY  
E-mail: peter.boy@imail.de  
Tel: +49 228 815 24 20/

**Dr Colin Catto**

E-mail: Colin1862@hotmail.com

**Dr Martin Celuch**

Slovak University of Agriculture in Nitra  
Department of Ecology  
Marianska 10  
949 76 Nitra  
SLOVAKIA  
E-mail: mato@netopiere.sk  
Tel: +421 910 946793

**Ms Esther Collis**  
Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: [ecollis@bats.org.uk](mailto:ecollis@bats.org.uk)  
Tel: +44 (0)845 1300228

**Ms Amy Coyte**  
Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: [acoyte@bats.org.uk](mailto:acoyte@bats.org.uk)  
Tel: +44 (0)845 1300228

**Mr Ian Davidson-Watts**  
6 Pilgrims Mead  
Bishopdown Farm  
Salisbury  
Wiltshire SP1 3GX  
UK  
E-mail: [ifdw@aol.com](mailto:ifdw@aol.com)

**Mr Frank Greenaway**  
Woodcote  
Chalk Rd  
Ifold  
Billingshurst  
RH14 OUE  
UK  
E-mail: [frank@greenaway1.demon.co.uk](mailto:frank@greenaway1.demon.co.uk)  
Tel: +44 (0)1403 753745

**Dr Christine Harbusch**  
Naturschutzbund Deutschland (NABU)  
Orscholzerstr. 15  
66706 Perl-Kesslingen  
GERMANY  
E-mail: [ProChirop@aol.com](mailto:ProChirop@aol.com)  
Tel: +49 6865 93 934

**Mr Nijat Hasanov**

Junior Researcher  
National Academy of Sciences of Azerbaijan Republic  
Institute of Zoology, AZ 1073, quarter 1078, Block 504  
AZERBAIJAN  
E-mail: hasan0@bp.com  
Tel: +994 50 316 11 35

**Dr Karen Haysom**

Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: khaysom@bats.org.uk  
Tel: +44 (0)845 1300228

**Mr Anthony M. Hutson**

IUCN/SSC Chiroptera Specialist Group  
c/o Winkfield  
Station Road  
Plumpton Green  
East Sussex BN7 3BU  
UK  
E-mail: hutson.t@btinternet.com  
Tel: +44 (0)1273 890 341

**Dr Kate Jones**

Research Fellow  
Institute of Zoology  
Zoological Society of London  
Regents Park  
London  
NW1 4RY  
UK.  
E-mail: Kate.Jones@ioz.ac.uk  
Tel: +44 (0)20 7449 6627

**Mr Andrzej Kepel**

PTOP "Salamandra"  
President ul. Szamarzewskiego 11/6  
60-514 Poznań  
POLAND  
E-mail: andrzej@salamandra.org.pl  
Tel: +48 61 8432 160 ext. 24

**Mr Peter Lina**

Ministry of Agriculture, Nature and Food Quality  
c/o Reference Centre for Bat Studies and Conservation (RCBSC)  
P.O. Box 835  
2300 AV Leiden  
THE NETHERLANDS  
E-mail: phc.lina@tiscali.nl  
Tel: +31 71 531 49 79

**Dr Ferdia Marnell**

National Parks and Wildlife Service  
Department of Environment Heritage and Local Government  
7 Ely Place  
Dublin 2  
IRELAND  
E-mail: ferdia\_marnell@environ.ie  
Tel: +353 1 888 3290

**Mr Edvardas Mickevičius**

Society for Lithuanian Bat Survive  
Renavas Palace  
Renavas 5500  
Mažeikiai District  
LITHUANIA  
E-mail: eduardas@apva.lt  
Tel: +370 433 436 68

**Mr Simon Mickleburgh**

Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: smickleburgh@bats.org.uk  
Tel: +44 (0)845 1300228

**Dr Tony Mitchell-Jones**

English Nature  
Northminster House  
Peterborough PE1 1UA  
UK  
E-mail: Tony.Mitchell-Jones@English-Nature.Org.uk  
Tel: +44 (0)1733 455 250

**Dr Katie Parsons**

Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: [KParsons@bats.org.uk](mailto:KParsons@bats.org.uk)  
Tel: +44 (0)845 1300228

**Mr Gunars Pettersons**

Latvian University of Agriculture  
Faculty of Veterinary Medicine  
8 K.Helmana Street  
3004 Jelgava  
LATVIA  
E-mail: [Gunars.Petersons@llu.lv](mailto:Gunars.Petersons@llu.lv)  
Tel: +371 3027 666

**Ms Luisa Rodrigues**

Instituto da Conservação da Natureza  
Divisão de Habitats e Ecossistemas  
Rua de Santa Marta, 55  
1150-999 Lisboa  
PORTUGAL  
E-mail: [rodriguesl@icn.pt](mailto:rodriguesl@icn.pt)  
Tel: +351 21 350 79 00

**Mr Garrie Rogers**

Bat Conservation Trust  
15 Cloisters House  
8 Battersea Park Road  
London SW8 4 BG  
UK  
E-mail: [grogers@bats.org.uk](mailto:grogers@bats.org.uk)  
Tel: +44 (0)845 1300228

**Ms Abigel Szodoray-Paradi**  
Romanian Bat Protection Association  
Str. Ion Budai Deleanu Nr. 2  
ROMANIA  
E-mail: farkas@xnet.ro  
Tel: +40 261 711 395

**Mr Ludy Verheggen**  
Society for the Study and Conservation of Mammals  
(Zoogdiervereniging VZZ)  
c/o Landscape Management Limburg  
Postbus 154  
6040 AD Roermond  
THE NETHERLANDS  
E-mail: ludy.verheggen@vzz.nl  
Tel: +31 475386435