

Bat Conservation Trust



South East Bat Conference
Saturday 26th November 2016

Programme

#SEBatConf

09:00 Registration, teas and coffees

There will be five minute bat group 'spotlights' during Sessions 1-3

09:55 Session 1

- Welcome & Introduction
- An update on the work of the Bat Conservation Trust - *Carol Williams, Director of Conservation*
- Are all rivers of equal importance to British bats? Or are some more equal than others? - *Sarah Scott, Bristol University*

11:00 BREAK, TEAS AND COFFEES

11:30 Session 2

- The bats of Gibraltar... once upon a time - *James Shipman, Berks & South Bucks Bat Group*
- Bat Detective: automatically detecting bat echolocation calls in ultrasonic survey data - *Rory Gibb, University College London*
- Fortresses & bats: SSI and cultural heritage how to preserve them both? *Eric Jansen - Zoogdier Vereniging*

13:00 LUNCH

14:00 Workshops

15:30 BREAK, TEAS & COFFEES

16:00 Session 3

- Draw of raffle prizes
- Priorities in the South East and Feedback to BCT
- Thanks & Close

17:00 FINISH

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Abstracts of Presentations

Session 1

An update on the work of the Bat Conservation Trust - Carol Williams, Director of Conservation, BCT

In this talk Carol will share BCT's recent work to speak up for bats, to change attitudes and influence decision making in policy and practice. (A written BCT Update is also included in the delegate packs.)

Are all rivers of equal importance to British bats? Or are some more equal than others? - Sarah Scott, Bristol University

Rivers and their associated floodplains are natural wildlife corridors used by multiple species. However, most British rivers in both rural and urban areas have been significantly impacted as a result of drainage, flood defence structures, urban development and direct habitat loss. This has, in some cases, fragmented the river corridor and affected the structure and function of the riparian zone. As landscape-scale conservation schemes aim to restore the ecology of rivers, we consider what affect the quality of the riparian zone (an area where the river channel, bank and floodplain interact) has on the foraging and activity of British bats.

Twenty paired sites in the Rivers Lee and Colne catchments in England were selected to test the hypothesis that degradation in the quality of riparian habitat reduces foraging and activity in bats; paired sites were similar in terms of size, flow rate and water chemistry but differed in the quality of their riparian zones.

In general, more feeding buzzes were recorded in sites with better quality riparian zones, though there was no difference in overall activity between the two habitat types. *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus* accounted for 96% of bat passes. *P. pygmaeus* was significantly more active in high quality sites than *P. pipistrellus*.

We show that the quality of riparian zones is important for the activity and feeding behaviour of pipistrelle bats, and should be considered when designing landscape-scale schemes.

Session 2

The bats of Gibraltar... once upon a time - James Shipman, Berks & South Bucks Bat Group

James Shipman will be talking about the Gibraltar Bat Project, explaining the dramatic decline in bat populations and how the Gib-Bats team and himself have discovered new species that appear on the Rock as well as slowly securing protection for the bats of Gibraltar. James will also explain how collaborations with other scientific bodies will hopefully explain the movements of bats across Iberia and also Northern Africa.

Bat Detective: automatically detecting bat echolocation calls in ultrasonic survey data - Rory Gibb, University College London

Acoustic surveys using full-spectrum bat detectors are a potentially effective means of monitoring bat populations across large geographical areas and time scales, but the amount of data they produce makes manual analysis challenging and impractical. For large-scale acoustic bat monitoring to be viable, automated software are needed to (i) detect bat calls in survey audio, and (ii) classify these calls to species level. New innovations in machine learning provide a basis to develop reliable and precise call detection and classification tools, however their algorithms must be trained using large datasets of known echolocation calls. Online citizen science project Bat Detective was founded in 2012 to ask for the public's assistance in labelling audio data, with the aim of producing an open-source call detection tool to assist in bat population monitoring. To date more than 8000 users have classified over 16,500 bat calls in data collected by global Indicator Bats (iBats) programme volunteers. We have used these data to train deep learning neural networks to automatically learn features for call detection, with significantly improved detection performance over other proprietary bat call analysis software. We are currently using our detection tools to analyse large acoustic datasets collected in several countries, including over 10 years of global iBats monitoring data, and new survey data from Madeira and Jersey. They will also be published as free, open-source tools for other bat researchers in the near future.

Fortresses & bats: SSI and cultural heritage how to preserve them both? Eric Jansen - Zoogdier Vereniging

Fortresses and other military complexes are regarded as the second most important bat-habitat after cave rich limestone areas. With Europe's war-rich past these fortresses can be found in many European countries. Due to the rapid development of different canon-types and different kinds of warfare many become obsolete just after completion. Depending on the locations and their sizes many were used irregularly / altered or not used at all by the military. They were abused and became overgrown. One by one these fortresses are discovered first by long-eared bats and in time by many other bat species. Bats will find a variety of different temperature regimes in the different buildings and often good hunting sites around it. After many years of neglect often a multitude of functions (for bats) and multiple species are present.

In the Netherlands five of these defence lines still exist. Two became very important for bats; the New Holland Waterline (consists of 52 fortresses and 80 km defence line) and the Atlantic Wall (> 800 bunkers and 40 km? of underground tunnels). Due to the presence of low numbers of bats, high humidity and little natural light almost nobody was interested in these building and they were often handed over to State Forestry or Natural Heritage.

Having peace for more than 60 years, people's attitude to these places of war changed. We now regard them as a part of our (building) heritage, so we also want to preserve them for future generations. Nowadays these sites are sold to private bodies or councils. Under

political pressure the nature conservation agencies are looking for more public functions (and money) to maintain them, often renting them out to private enterprises. This process was speeded up during the Crises (2002-2016). The Dutch government listed the whole New Holland Waterline and made it a National priority to restore them under the slogan: Conservation by new forms of use. Every fortress was given a new desired destiny and only one was given a nature function. We convinced them to be more sensible towards the presence of bats (which is also a national task), and were granted to make a broad overview. We developed a new set of survey techniques to get more useful information.

But how can you restore a site or give buildings new functions without losing the bats? This is a process we have been heavily involved in for 12 years now. Instead of a one fits all solution we got the message across that strategies available to redevelop sites with bats have to be function/species group specific. A big turnaround for restorers was that bat-buildings also need some sort of restoration and are often not bat perfect. This means if we improve sites beforehand and bats accept them we can discourage the use of others. We will show some examples of development in which both the owners and bats did benefit. This a long and complex process of surveying, understanding bat species preferences, seeing chances, lots of explaining and making sensible compromises. After making decisions and the licensing, you need to make regular checks to see if works are done well. Having a good and clear management plan in place will help the bats. At the end you will have either a stable, but more often a growing bat population on the site, because the requirements for bats are better met. It is also important to; have good/complete data on bats, set the playing field right and before making plans make a list of easy and difficult roads, let the owner choose but stress the consequences.

Summaries of Workshops

Wildlife Acoustics product line demonstration (Paul Howden-Leech)

A walk-through of the new Wildlife Acoustics SM4BAT recorder, Echo Meter Touch iOS bat detector/recorder, SM3BAT recorder, and Kaleidoscope Pro analysis software. Participants will learn about the features of products as well as how to program and record with the devices.

Bat poo identification (Claire Andrews)

You will be getting down and dirty as you measure and closely examine samples to get a feel for the differences you can see and measure, as well as the ones you can't. The workshop will also look at some important questions such as; what does the location of droppings tell you, with DNA analysis is it even necessary to be able to tell droppings apart and what are the limitations? You will then get to test your ID skills with a quiz at the end!

Getting the most from Bat Sound (Philip Briggs)

An advanced sound analysis workshop aimed at those with some knowledge of analysis of bat calls. We will look at sound analysis in more detail and focus on identification of the

more difficult species/species groups. This workshop will include an interactive species ID quiz.

European bat box database (Lisa Worledge)

This workshop will introduce a new pan-European bat box database and demonstrate its key features. Use of bat boxes has seen a huge increase in recent years. Not only among bat groups, but also as a mitigation tool. Where they are used for mitigation, monitoring the effectiveness of the boxes is often not carried out due to funding constraints. To improve communication when checking boxes with a group, or to find volunteers to check boxes installed by consultancies, an open data, open source, online database has been established in the Netherlands for use across Europe. The database allows for systematic entry of observations per cluster of boxes, and has an option to blur locations or put embargos on sensitive locations or species. By collecting and analysing data from bat boxes internationally in many situations and of many box designs, it is hoped better mitigation can be achieved in the future.

Get a deeper view of the BATLOGGER and BatExplorer system (Marco Gumprich)

The use of modern real time systems to record bats is becoming the standard for bioacoustical field monitoring. Learn some things about the BATLOGGER systems and how the devices will be used in the field. The free software BatExplorer is the tool for all your BATLOGGER - recordings. You will get an overview about the application, how to use it fast and some special functions of the latest version.

Establishing groups to monitor the effectiveness of bat mitigation (Dr Claire Wordley)

Conservationists and ecological consultants are often in the position of trying to take action to help bats without having evidence for whether any particular method works, or whether that method is better or worse than any other. We want to strengthen the evidence base for bat mitigation and conservation methods by supporting conservation practitioners, ecological consultants, bat group members, students and other bat workers to set up projects (or maximise the scope of existing projects) measuring the effectiveness of different methods, and to publish the results for others to see.

In this workshop we will address why more evidence needs to be collected on bat mitigation and conservation, and look at the basics of study design and good monitoring methodology. We will, with the help of workshop participants, identify the most important mitigation and conservation questions that bat workers need answered, and assess opportunities to set up projects or use data from existing projects to answer some of these. Conservation Evidence can provide some ongoing support in areas such as study design, statistical analysis and writing papers for publication. This is an exciting opportunity to be part of research targeted to have the maximum conservation impact for bats, supported by the Conservation Evidence Project at the University of Cambridge.

Introduction to statistics (Mark Gardener)

- Introduction to statistics:
 - What statistics can do for you - an overview to statistics
 - Types of statistical analysis - different sorts of analytical approach and how to do them
- Managing data
 - Organising data for analysis - how to set out data for most effective use in Excel
 - Visualising data - looking for patterns and trends in data using Excel
- Practicing data analysis
 - Using Filters
 - Using Pivot tables to rearrange and summarise data
 - Simple stats tests
 - Practice graphs

Tour of the WWF Living Planet Centre (WWF staff)

This 60 minute tour will take you behind the scenes of the Living Planet Centre and show you what makes this building so special. Awarded BREEAM outstanding you will see how, through the smart use of design, materials and technology, it's possible to create a state-of-the-art structure with minimal environmental impact.