

Bat Conservation Trust



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2-day online Woodland Symposium 2020 Programme

All presentations, panel discussions and networking will take place on Zoom

Day 1 - Thursday 19th of November 2020

#BatWoodlandSymp @_BCT @naturebftb

09:20 Arrival and open space networking

09:50 – 10:55 Session 1 Chair: Sonia Reveley, BCT

Welcome and housekeeping	Sonia Reveley, Woodland Officer, BCT
BCT overview and review of the priorities from the last woodland symposium	Dr Carol Williams, Director of Conservation, BCT
Keynote Talk: Reflections on almost 50 years in forestry; what is missing and what should be addressed looking forward.	Mike Render, Forestry Commission
Keynote talk Q&A	

10:55 – 11:10 Morning break

11:10 – 12:30 Session 2

What bats are in my woodland? Chair: Steve Roe, BCT Trustee

Putting woodland bats on the map: using habitat suitability models to inform targeted action	Chloe Bellamy, Forest Research
An introduction to The Woodland Wildlife Toolkit – an online resource for conservation management	Gareth Fisher, RSPB
Monitoring the Public Forest Estate	Sonia Reveley, BCT
Improving survey methods for woodland bats: Optimising acoustic lures	David Hill, Ecological Consultant
Session 2 Q&A	

12:30 – 13:00 Breakout rooms – An opportunity to discuss topics further with the morning's speakers in small groups

13:00 – 14:00 Lunch break



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14:05 – 15:50 Session 3

Woodland Priorities Panel Discussion

Chair: Sonia Reveley and Carol Williams, BCT

14:05

Welcome back Sonia Reveley

Working in Collaboration: Working closer with specialists in other taxa. How to integrate and balance the needs of different taxa groups in site woodland management? Chair – Sonia Reveley

Panellists:

Rich Howorth, *Back from the Brink Project Manager*

Susannah O’Riordan, *Project Officer, Back from the Brink Roots of Rockingham*

14:40

Woodland priorities chosen by delegates

Drivers of Change: Covering the following topics -Tree planting and woodland creation, tree diseases and infrastructure projects – Chair: Carol Williams

Panellists:

Mike Render, *Rural Development Advisor, Forestry Commission*

Richard Crompton, *EcologyOnDemand*

Sue Hooton, *Principal Ecological Consultant, Place Services, Essex*

Sarah Proctor, *Associate Ecologist, WSP*

Keith Cohen, *Ecologist Consultant*

15:50 – 16:20

Optional discussion and networking session – *Breakout rooms available for those who would like to continue discussions with the panellists or network in smaller groups.*

16:20

End of the day



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2-day online Woodland Symposium 2020 Programme

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Day 2 - Friday 20th of November 2020

#BatWoodlandSymp @_BCT @naturebftb

08:45 Arrival and open space networking

09:10 Welcome and housekeeping, Sonia Reveley, BCT

09:20 – 11:05 Session 1

Research and knowledge update

Chair: Neil Riddle, Forestry Commission

How does forestry management affect how bats use our woodlands?	Ash Murray, Norfolk Barbastelle Study Group
Bechstein's in Dorset Heaths, Dorset	Chris Dieck, Dorset Bat Group
Veteranisation – using tools instead of time	Vikki Bengtsson, Pro Natura
Woodland plants: colourful past, uncertain future	Keith Kirby, University of Oxford researcher
Ash dieback, woodland and bats	Rob Coventry, Forestry Commission
Session 1 Q&A	

11:05 – 11:35 Breakout rooms – *An opportunity to discuss topics further with the morning's speakers in small groups*

11:35 – 11:55 Morning break

11:55 – 13:00 Session 2

Panel Discussion: Climate Change and Conservation

Chair: Carol Williams, BCT

Panellists: Dr Orly Razgour, University of Exeter
Prof. Danilo Russo, University of Naples Federico II,
Dr Olly Watts, RSPB
Simon Duffield, Natural England

13:00 – 14:00 Lunch break



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14:00 – 15:45 Session 3

Woodland/landscape management case studies/research

Chair - Keith Kirby, Uni of Oxford

14:00 **Welcome back** Keith Kirby, University of Oxford

Keynote Talk : Lady Park Wood – A long term study	George Peterken, formerly Nature Conservancy Council
The effects of woodland thinning on bats and their insect prey (includes his research at Lady Park Wood)	Andy Carr, Bristol University
Knepp Rewilding and Bats	Penny Green, Knepp Estate
Woodland restoration and bat habitats from a woodland manager's view	Matt Parkins, Woodland Trust
Session 3 Q&A	

15:45 – 16:15 **Breakout rooms** – *An opportunity to discuss topics further with the afternoon's speakers in smaller groups.*

16:15 **Closing symposium**, *Dr Carol Williams, BCT*

16:20 *End of the day*

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Woodland Symposium 2020

19th November 2020 Talk abstracts

Session 1



BCT overview and review of the priorities from the last woodland symposium, *Carol Williams, Director of Conservation at BCT, cwilliams@bats.org.uk*

Carol will reflect on the priorities that were put forward by delegates at the last woodland symposium in 2014. From those she will highlight where advances have been made, including from speakers present at this event and what BCT has been working on in relation to this. She will also suggest some of the challenges that have either increased in their level of importance since 2014 or new issues that were not apparent six years ago.



Keynote talk: Reflections on almost 50 years in forestry; what is missing and what should be addressed looking forward, *Mike Render, Forestry Commission, mike.render@forestrycommission.gov.uk*

Mike Render will reflect on how forestry has changed, or in some cases remained the same, over the almost 50 years he has been involved in the sector. He will also consider how his views have altered over that time due to his very varied experience as a forestry contractor, private forest estate manager, local authority forestry officer, lecturer and researcher within academia and latterly working for the Forestry Commission in a variety of roles. He will also give some thought to the future when trees and forests have such a high profile. Although still a silviculturalist at heart he has developed a particular interest in forest policy, which was the subject of his PhD.

Session 2



Putting woodland bats on the map: using habitat suitability models to inform targeted action, *Chloe Bellamy, Forest Research, chloe.bellamy@ForestResearch.gov.uk, @BoBellamy*

Chloe Bellamy¹, Katherine Boughey², Charlotte Hawkins², Sonia Reveley², Carol Williams² 1. Forest Research, Northern Research Station, Roslin, Midlothian, EH25 9SY, UK. 2. Bat Conservation Trust, Quadrant House, 250 Kennington Lane, London, SE11 5RD

For landscape scale efforts to be effective in protecting, enhancing and connecting woodlands for bats, they must be informed by the best available information on species ecology and distributions. This



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evidence is limited, however, because of the difficulties in surveying for bats within these cluttered and structurally complex habitats. Habitat Suitability Models (HSM) can inform the targeting of resources by filling in gaps around patchy, biased occurrence data with landscape-scale information on predicted habitat suitability and the underlying environmental correlates. However, developing robust models that integrate information on the environment at different scales can be challenging. As part of the 'Putting woodland bats on the map project', we have developed and published code for a new multi-scale HSM framework and applied it to predicting the distribution of woodland bats in Britain. We provide a project update, with a focus on the modelling results for the lesser horseshoe bat (*Rhinolophus hipposideros*), and describe plans to independently validate and update the models using data from the Bat Conservation Trust's new citizen science monitoring scheme, the British Bat Survey.



An introduction to The Woodland Wildlife Toolkit – an online resource for conservation management, *Gareth Fisher, RSPB*, gareth.fisher@rspb.org.uk, @GarethFisher4

Developed by a consortium of organisations the Woodland Wildlife Toolkit was launched in 2019. It is an online resource giving users an opportunity to find out what species may be present in their woodland. Information is available on the conservation issues facing different species, their habitat needs, and management options to benefit them. Over time it is hoped that a set of case studies showcasing the way in which the toolkit can help woodland managers deliver for wildlife will become available. This session will introduce delegates to the toolkit and demonstrate the information available.



Monitoring the Public Forest Estate, *Sonia Reveley, BCT*, sreveley@bats.org.uk

In 2019 Forestry England and the Bat Conservation Trust, together with help from volunteers and FE staff undertook a 'proof-of-concept' study in South-West GB. The study was designed to explore the ability of passive acoustic bat surveys to inform natural capital accounting and woodland condition monitoring and produce robust long term bat population trends for the Public Forest Estate. An objective of this proof-of-concept study was to collect data that could be used to estimate the survey effort required to produce robust trends in species occupancy and relative abundance through long term monitoring. This talk will provide a brief summary of the 2019 'proof-of-concept' study'.



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Improving survey methods for woodland bats: Optimising acoustic lures,

David Hill & Matt Cook

forestmammal@gmail.com or mattcook@hotmail.co.uk

Effective and reliable methods are required for surveying and studying bats in woodlands, which are their most important habitats. While there have been recent advances in acoustic monitoring methods they still have several inherent limitations, and capture remains an essential part of most research and survey work on bats in woodlands. As acoustic lures can greatly increase capture success their use is becoming more common, but they also have the potential to disturb bats and other wildlife. Therefore, we need to find ways to optimise the effectiveness of acoustic lures, while minimising any potential negative impact. Knowing what works best for each species will allow us to increase trapping efficiency and so reduce the lure-use time required to achieve the survey objectives. In 2018 we began a long-term project to optimise the Sussex Autobat acoustic lure for capture of woodland bats in the British Isles. We are assessing how variables such as call type, speaker type and signal strength influence capture rates for each species. In this presentation we summarise the preliminary results and discuss the way forward for improving the efficiency of acoustic lures and assessing the relative effectiveness of techniques for surveying bats in woodlands.



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Woodland Symposium 2020

20th November 2020 Talk abstracts

Session 1



How does forestry management affect how bats use our woodlands? Ash Murray, Norfolk Barbastelle Study Group, ashm@norfolkwildlifetrust.org.uk

All UK bats are reliant in some way on woodland habitats, either for roosting, for foraging or for much needed cover as they move between these through the landscape. Despite this, not much is known about how bats use woodlands or how woodland management affects them. In particular, little is known about the interior components of the woodland away from easy to walk rides and tracks. This lack of understanding is due to the difficulties with surveying for bats in a woodland environment. We provide a summary of the findings of a two year Citizen-science project that examined spatial variation in bat activity in relation to different forestry management practices.



Bechstein's in Dorset Heaths, Dorset, Chris Dieck, Dorset Bat Group, chrisdieck@gmail.com

In 2007 a colony of Bechstein's bats was discovered inhabiting small patches of broadleaved woodland adjacent to conifer plantation and heathland. Since its discovery, no further work has been carried out on this colony. With landscape-scale changes in the form of heathland reversion from coniferous woodland, Natural England's Back from the Brink Project funded a joint effort by the Dorset Bat Group and BCT to learn more about this potentially vulnerable and anomalous colony in 2018 and 2019. One week of radio tracking were carried out in each of May 2018, July 2018 and July 2019 to answer the following key questions:

1. Is the colony still extant after eleven years?
2. If so what is its size?
3. How does the colony use the landscape, especially:
 - a) do the bats use 'non-typical' habitat, such as the heath and conifer plantation?
 - b) where do they forage?
 - c) what are their commuting routes, given that large amount of conifers will be removed?
 - d) can we find any other roosts?



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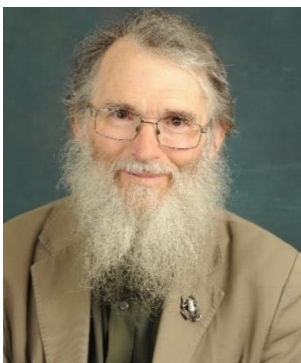
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Veteranisation – using tools instead of time, *Vikki Bengtsson, Pro Natura*,
vikki.bengtsson@pro-natura.net

Not everyone subscribes to the idea of damaging young trees for nature conservation gain, and this technique is known as veteranisation. There are however many sites across Europe with few ancient trees and a large age gap between the existing old trees and their successors. Currently the only way we know for trees to develop habitat associated with ancient trees and the biodiversity they support is to wait. Veteranisation is in fact nothing new, and examples include pollarding which we have been doing for thousands of years. Most of the inspiration for the techniques that have been used in recent years has come from observing natural processes. This presentation will describe why veteranisation is worth considering, where it may be appropriate, potential benefits for bats and some different techniques that may be tried. In addition some of the early results from an international trial (Sweden, Norway and England) that was set up in 2012 with 20 sites and 980 oak trees, to evaluate the impact of veteranisation on a more scientific basis (Bengtsson et al, 2015, Hedin et al, 2018) will be presented.



Woodland plants: colourful past, uncertain future, *Keith Kirby, University of Oxford researcher* keithkirby21@virginmedia.com

This talk will look at some of the key issues affecting past and future conservation of woodland vascular plants from woodland clearance to climate change. Woodland plants can be a way of enthusing people about woodland conservation, which leads them into looking at other groups including bats; but the issues affecting the flora may or may not coincide with what bats need. The two key factors for plants in the past have tended to be light levels and grazing pressure; the obviously interact. In this inter-glacial period humans have increasingly taken control of these through woodland management which has undergone some major shifts in the last century. New pressures in the last few decades have been increasing nitrogen levels, climate change and the spread of wild boar. While woodland cover has expanded some plants have got left behind; more active conservation, including assisted migration seems likely to be needed in the next 50 years. Also a need to work on a bigger scale, so that where the priorities for plants and bats do not fully coincide we have sufficient of a mosaic of habitats that both can still thrive.



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Ash dieback, woodland and bats, Rob Coventry, Forestry Commission, robert.coventry@forestrycommission.gov.uk

Ash dieback is now affecting large parts of the country and has begun to cause wide spread mortality of ash trees in some woodlands. This has significant implications for visitor safety, ecosystem services, and for the wildlife who rely on those woodlands. The talk will cover the current progress of ash dieback, the implications for bats, and the guidance issued by the Forestry Commission on these topics.

Session 3



Keynote talk: Lady Park Wood – A long term study, George Peterken, formerly Nature Conservancy Council gfpeterken@tiscali.co.uk

Lady Park Wood in the gorge of the river Wye has long been 'on the map' for Horseshoe bats and recently has been used for research by Andy Carr. Since 1944, it has been allowed to grow naturally and its development to a more natural state has been recorded in detail. The talk will summarise how the old-growth stand has developed, which will provide a basis for assessing its significance for bats.



The effects of woodland thinning on bats and their insect prey Andy Carr, Bristol University, andrewcarr@carrecology.uk

Authors: Andrew Carr, Andrew Weatherall and Gareth Jones

We tested the hypotheses that thinning woodland benefits bats and their insect prey by measuring bat richness and activity, and insect richness and biomass in 27 pairs of managed (intermediate to heavy thinning) and under-managed (neglected woodland, research sites and natural reserves)

broadleaved woodlands, and explored temporal responses to time since management.

Sixteen woodland characteristics were measured to investigate how management affected woodlands, and to assess the relative importance of these characteristics to bats and their insect prey. Standing dead trees were three times more abundant, and tree cavities five times more frequent in under-managed woodland compared with managed paired sites.

Common and adaptable bat species, and those that forage along woodland edges were positively affected by management, presumably exploiting less cluttered woodland interiors. Rarer bat species, and species that roost predominantly in trees were negatively affected by management, which reduced roosting



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opportunities. Overall bat activity and species richness were relatively low in woodland that had not been thinned for 30 years before increasing. Insect biomass peaked after 30 years of no thinning.

We recommend minimum intervention management to conserve rare bat species in woodlands, although common and adaptable bat species may benefit from intermediate to heavy thinning. Sustainably thinned woodland could be greatly improved for all bats by retaining or mimicking habitat characteristics that are more representative of old growth woodland such as (i) standing dead trees, (ii) tree cavities, (iii) heterogeneous canopy architecture, and (iv) an overall uncluttered below-canopy vegetation with pockets of densely cluttered shrubs.

This work was funded by the Scottish Forestry Trust, Forestry Commission and the Woodland Trust.



Knepp Rewilding and Bats, Penny Green, Knepp Estate, penny@knepp.co.uk, @KneppSafaris @SussexEmerald

In 2001 the Knepp Castle Estate started the transition from intensive arable and dairy farming to a pioneering process-led conservation project. Natural processes have been restored with large herbivores moving freely in the landscape, as they would have a few thousand years ago. Longhorn cattle, Tamworth pigs, Exmoor ponies, fallow, roe and red deer imitate their ancestors with each species effecting the vegetation in different ways, creating a mosaic of habitats from open grassland through to regenerating scrub. There have been some extraordinary results from the project so far, with some headline success stories for bats. Recent repeats of baseline surveys undertaken in 2009 have confirmed the importance of the site for bats: with no pesticides and burgeoning insect numbers, thriving hedgerows, tree-lines and waterways there is an extensive network of foraging and roosting opportunities for 13 species of bat. The recent river restoration has proved to be a winner for bats as it is used extensively by the local bat population, with more females recorded foraging in this optimal habitat than before the restoration in 2011. We've also now confirmed breeding Noctule and Bechstein's bat in the project.



Woodland Restoration and Bat Habitats from a Woodland Manager's view, Bovey Valley, Matt Parkins, Woodland Trust, matt@ravenquest.co.uk, @dartmoorraven1

The Bovey Valley on Dartmoor forms part of the East Dartmoor National Nature Reserve. The woods of the valley are relatively well known and are an important site for bats, with 11 of 17 UK species bats regularly using the landscape. Research by Dr Matt Zeale in 2007 identified a number of *Barbastella barbastellus* tree roosts, including scattered and arguably "insignificant" broadleaved trees within pure conifer stands where on-going ancient woodland restoration was taking place. As a land manager it was important to try and understand how bats were using the site to avoid negatively impacting populations during forest operations. A series of research questions were proposed to help



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inform management. Over a period of 5 years a number of projects were developed. Work began in 2015 tracking the Barbastelle bats to understand how the species used the woodland complex and surrounding landscape, focussing on roosts and prey (Dr A. Carr). This was followed in 2016 with a roost study using CCTV that revealed a number of previously unrecorded social behaviours (Dr S. Young). Despite these finding many areas of the valley appeared highly suitable for bats and in particular by *Barbastella barbastellus*, however, the 2015 tracking indicated these parts of the woodland were not used for roosting. Informed by our previous research, temperature loggers were deployed throughout the woodland complex between 2017 to 2019 to create a “heat map” and this was combined with other parameters to create a predictive model where other *Barbastella barbastellus* might be roosting (Dr. M. Zeale). The model was effective in predicting the location of other *Barbastella barbastellus* within the valley which appear to be from another previously unknown population. Throughout this period the restoration of the forest has continued but armed with a greater knowledge of the bats use of the site this has been undertaken with greater levels of confidence.



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