

Scotland's Rural College

Bat emergence and weather conditions in Central Scotland

Smillie, Chris

Print publication: 02/04/2017

[Link to publication](#)

Citation for published version (APA):

Smillie, C. (2017). *Bat emergence and weather conditions in Central Scotland*. Paper presented at Mammal Society, Cambridge, United Kingdom.

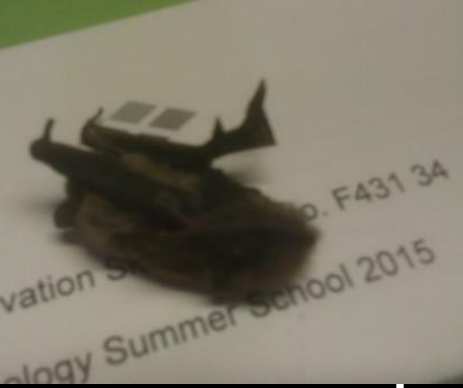
General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



Bat emergence and weather conditions in Central Scotland

Daniel Howie & Dr Chris Smillie
Scotland's Rural College

Slack and Tinsley (2015)

Bat activity ends at 6°C

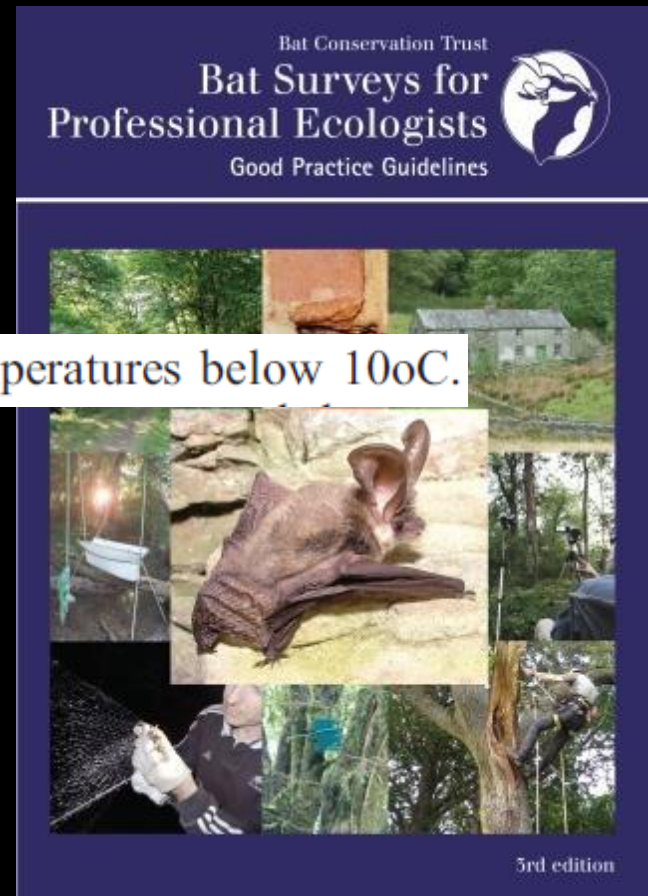
Wind an important factor

avoid very heavy rain, strong winds, mists and dusk temperatures below 10°C.

Abiotic factors:
Max/min temperature; Wind strength; Cloud cover; Precipitation



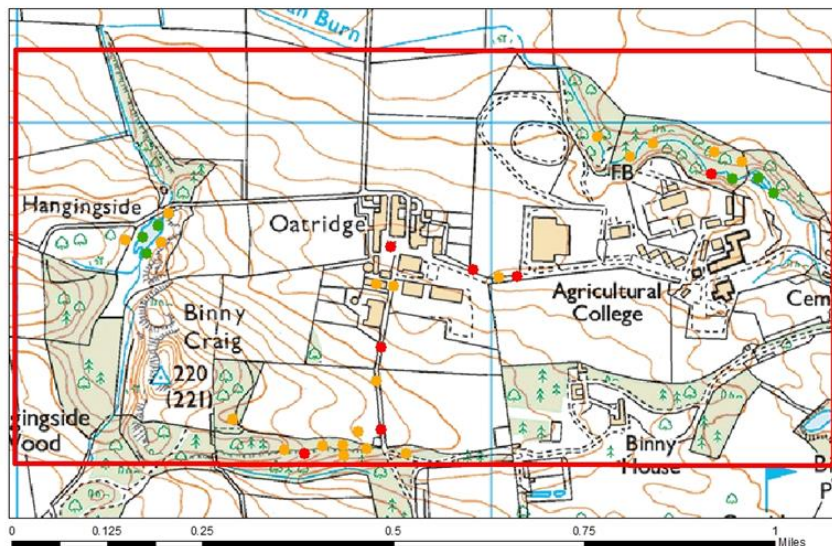
- EuroBats Publication Series 5: Guidelines for Surveillance and Monitoring of European Bats
- Bat Conservation Trust: Good Practice Guidelines
- JNCC Bat Workers Manual



- The research was carried out at Oatridge Campus, Scotland's Rural College
- Habitats include rocky and rolling hills, flat agricultural land, conifer/broadleaved woodland and both running and still water



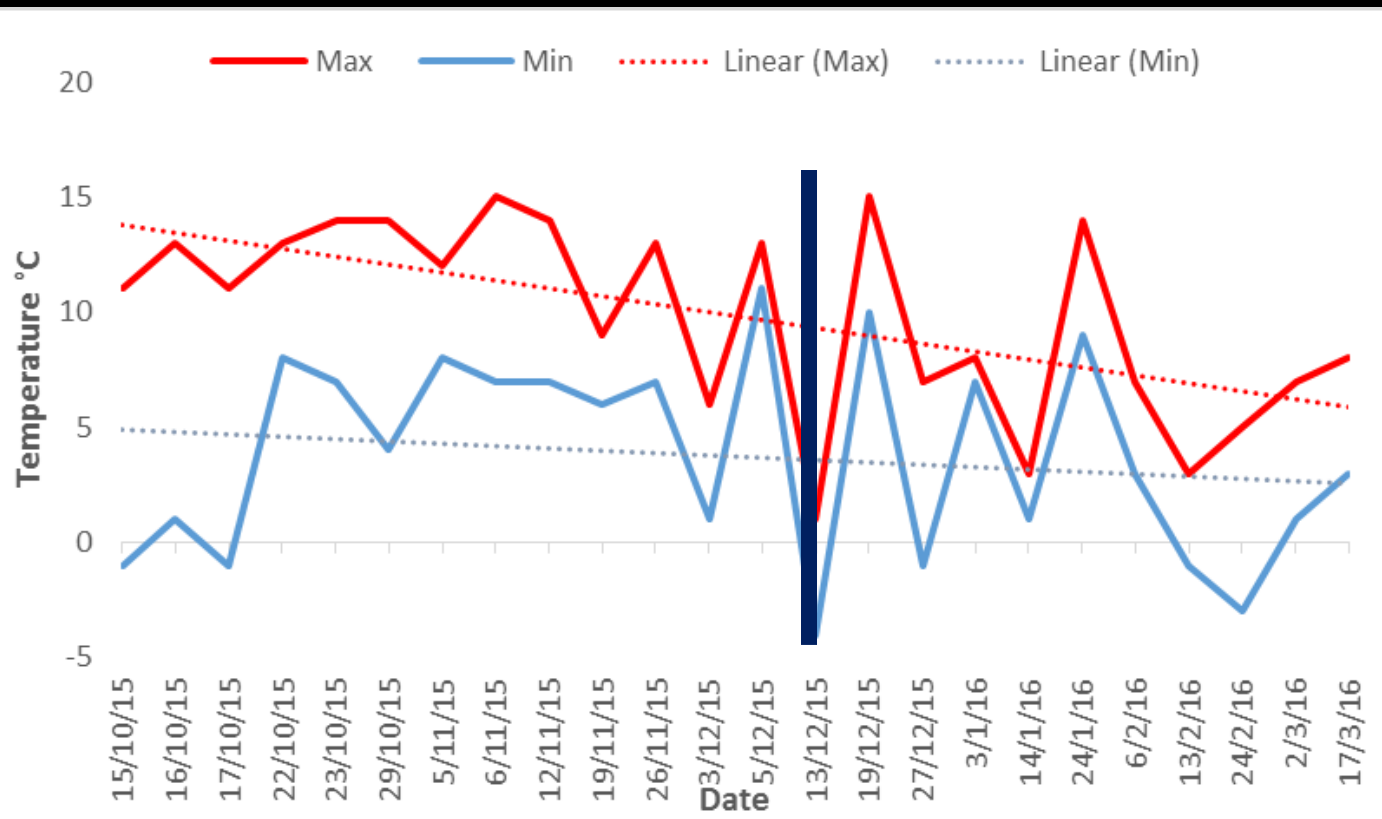
Bat Distribution at Oatridge



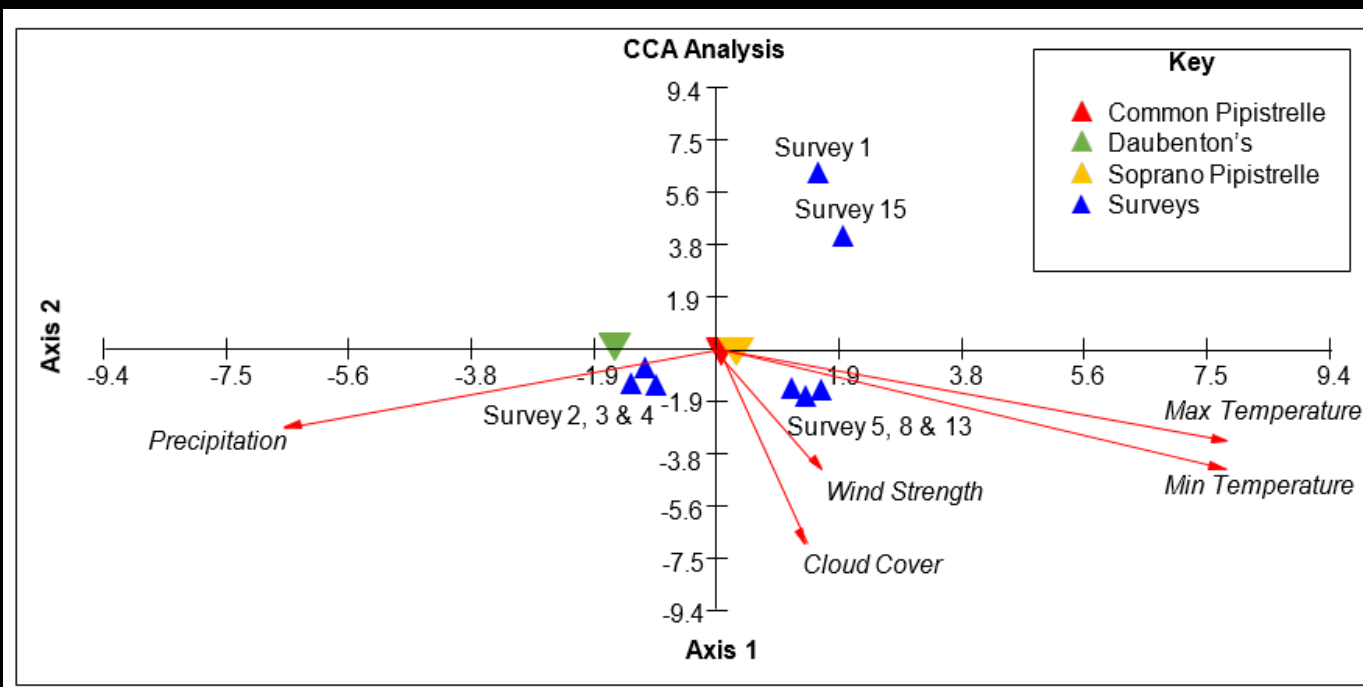
- Legend**
- *Myotis daubentonii*
 - *Pipistrellus pipistrellus*
 - *Pipistrellus pygmaeus*
 - Study Area

○ From the 13th December 2015, bat activity ceased

- Bat activity was not recorded below 11°C
- Bats were still recorded at below freezing temperatures



- A canonical correspondence chart was constructed
 - The x-axis corresponds with the most important factor
 - Positively with temperature/negative with precipitation
 - Bat presence is not significantly aligned with any variable
 - y-axis suggests wind strength is also be a factor
 - Bat presence is variable according to a variety of weather conditions





Conclusions

- The lowest maximum temperature in which bats were recorded was 11°C
 - Corresponds with BCT Guidance
 - Clashes with Slack and Tinsley (2015)
 - If temperatures are high enough for prey, bats will emerge
- Minimum daily temperatures of -1°C did not have an effect on bat activity
 - Presence only. No measurement of duration of activity
- Wind decreased foraging in non-woodland sites
 - Agreement with Slack and Tinsley (2015) windfarm study
- Precipitation also influenced bat activity
 - 2015/16 was Scotland's wettest year in since records began