



## Priority Research Questions 2016–2017

The Bat Conservation Trust has identified nineteen priority research areas in which further evidence is needed to help inform and direct bat conservation. These research questions are listed below in approximate order of importance for our work (1 = highest priority).

We encourage research to address these questions and welcome opportunities to collaborate. Where work is already planned or ongoing this is noted in the list, please contact us at [science@bats.org.uk](mailto:science@bats.org.uk) for further information.

### 1) Mitigating the negative impacts of development

- Which measures currently used to mitigate the negative impact of development on bats are effective and which are not? *Work to address this question is currently planned or ongoing.*
- How can we mitigate for the loss of bat roosts; how effective are purpose build bat roosts in mitigating the loss of existing roosts? *Work to address this question is currently planned or ongoing.*
- How can we effectively mitigate the impact of roads, light pollution and noise pollution on bats?

### 2) Urbanisation

- What impact does increasing urbanisation have on bats?
- How can urban habitats be enhanced to benefit bat populations? *Work to address this question is currently planned or ongoing.*
- What impact does noise pollution have on bats?
- What impact does light pollution have on bats?
- How do household energy-conservation measures affect the suitability of the building as a bat roost?

### 3) Woodland use and management

- How are bats affected by common woodland management techniques? *Work to address this question is currently planned or ongoing.*
- What are the fine-scale habitat associations of woodland bats? *Work to address this question is currently planned or ongoing.*

### 4) Ecosystem services

- What role do UK bats play in providing ecosystem services? *Work to address this question is currently planned or ongoing.*
- How can bats be accounted for in approaches that seek to place an economic value on biodiversity? *Work to address this question is currently planned or ongoing.*

### 5) Monitoring population status and change

- What represents favourable conservation status for bats and how can we monitor and assess it? *Work to address this question is currently planned or ongoing.*
- How can we improve monitoring of under-recorded bat species? *Work to address this question is currently planned or ongoing.*

- Are population trends produced from emergence count data negatively biased? *Work to address this question is currently planned or ongoing.*
- 6) **What effect do agricultural pesticides, including neonicotinoids, have on bats and their prey?**
- 7) **What is the magnitude of historical declines in UK bat populations?** *Work to address this question is currently planned or ongoing.*
- 8) **How can we improve our estimates of UK bat population sizes?** *Work to address this question is currently planned or ongoing.*
- 9) **Renewable energy schemes**
- How are bats affected by renewable energy schemes?
  - What impact do onshore and offshore wind turbines have on resident and migratory bat species in the UK? *Work to address this question is currently planned or ongoing.*
  - How can the impact of wind turbines on bats be successfully mitigated? *Work to address this question is currently planned or ongoing.*
- 10) **What impact have the EU Habitats Regulations had on UK bat populations?** *Work to address this question is currently planned or ongoing.*
- 11) **How effective are current agri-environment scheme prescriptions for bat conservation? How could agri-environment prescriptions be better targeted to benefit bat populations?**
- 12) **Landscape structure and configuration**
- How are bats affected by habitat fragmentation?
  - What are the typical dispersal distances of different bat species in different habitats?
  - What area and configuration of habitat is required by bat colonies of different species?
  - To what extent can linear features such as hedgerows and treelines improve landscape connectivity for bats?
- 13) **Climate change**
- How will bat populations in the UK be affected by climate change?
  - How will bat survival be affected by milder winters?
  - What strategies can we use to effectively mitigate the effects of climate change on UK bat populations?
- 14) **What are the emerging threats and opportunities for bat conservation?** *Work to address this question is currently planned or ongoing.*
- 15) **To what degree are UK bat populations threatened by existing and emerging diseases?** *Work to address this question is currently planned or ongoing.*
- 16) **How important are swarming sites to bats?**
- 17) **What affects the public perception of bats?** *Work to address this question is currently planned or ongoing.*
- 18) **How can bats be used as indicators of environmental quality?**
- 19) **How important are churches as roosting habitat for bats?** *Work to address this question is currently planned or ongoing.*