

# Overview of Badger Survey in England and Wales (2011-2013)

- **Background:** Between 2011 and 2013, a survey was conducted in England and Wales to estimate the badger population (*Meles meles*), along with the density and size of their social groups, as part of the government's strategy to eradicate Bovine Tuberculosis (bTB).
- **Behavior and Ecology:** Badgers are social animals that live in groups, with several shared dens known as setts. Their social structure and habitat preferences are crucial for understanding their population dynamics. However, surveying badger populations poses challenges due to their nocturnal behavior and the difficulty in locating setts (burrows).

## Why did we carry out a population survey?

- The size of the badger population in England and Wales has always been subject to high-levels of public interest. In 2011 a lack of recent data meant there was a crucial need to collate reliable information to inform both the public and government.
- Prior to this, the last surveys took place in 1994-97 and 1985-88.



## Surveying/Sampling Methods

The population survey was comprised of two separate sampling methods

- **Field/Sett Signs:** Surveys were conducted between November and March when vegetation is sparse, making it easier to locate badger setts. Surveyors looked for setts, latrines, runs and prints. The methodology was consistent with previous surveys to ensure comparability.
- **Hair Trapping:** Hair trapping uses genotyping to identify individual badgers and was used to estimate the number of badgers in a social group. Hair traps were deployed at 120 main setts to collect samples, minimising the risk of sampling from neighboring social groups.

## How did we select the sites?

- A total of 1614 1 km<sup>2</sup> squares were surveyed and analysed across England and Wales.
- Sites were selected from a variety of 6 landscape types over the country.
- More sampling took place in landscape types which historically had greater badger sett densities.

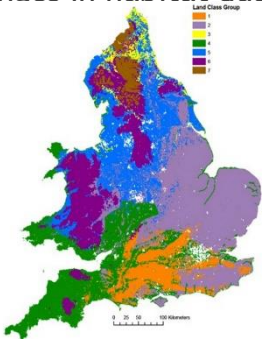


## ► Key Results

- **Sett distribution:** It was estimated that active setts of any type were present in 56.3% of rural survey squares in England and Wales. Active main setts were present in 34.4%.
- **Sett density and abundance:** The mean density of badger social groups was estimated to be 0.485 per km<sup>2</sup>, with density varying in different landscapes. The estimated total number of social groups was 71,600. This indicates an 88% increase in badger density since the 1980s.
- By estimating the average badger population per sett, it was estimated that there were 485,000 individual badgers in England and Wales, 424,000 in England and 61,000 in Wales.
- Sett density was notably highest in the South-West of England in pastoral habitats, conversely sett density was lowest in the North-East of England
- Results showed that pastoral habitats tend to have high numbers of badgers per sett compared to other landscape types such as arable.

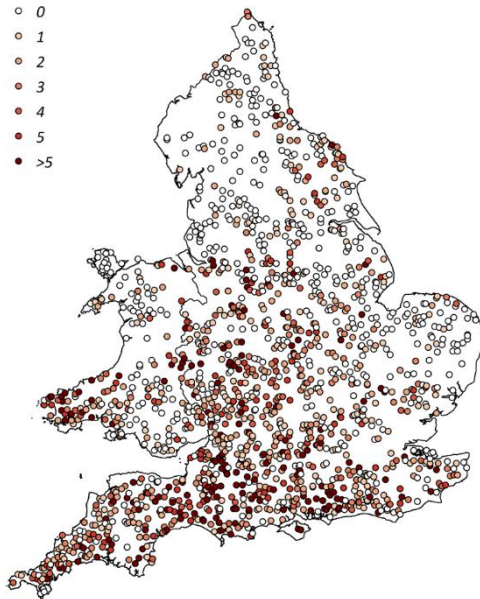
## ► Summary

- These results provide an important baseline for future studies, with the increases in abundance and density likely due to species protection and changes in habitat quality.



Number of badger setts

- 0
- 1
- 2
- 3
- 4
- 5
- >5



## Future Surveys

- A repeat survey launching in winter 2024 has been announced to estimate the size of the current badger population and measure the impact of badger culling in the intervening decade since the last survey and subsequent population recovery.

- Above to the left the map shows the 7 different land types (classes) that were surveyed.
- The map to the left (below) shows the average number of badger setts per km<sup>2</sup> England and Wales.

## Studies referenced

1. Judge, J., Wilson, G.J., Macarthur, R., Delahay, R.J. & McDonald, R.A. Density and abundance of badger social groups in England and Wales in 2011-2013
2. Judge, J., Wilson, G.J., Macarthur, R. et al. Abundance of badgers (*Meles meles*) in England and Wales. *Sci Rep* 7, 276 (2017).



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