



Squirreling away data: the use of citizen science to record UK mammals

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Established in 1954, the Mammal Society is a charity advocating science-led mammal conservation, leading efforts to collect and share information on mammals, encourage research to learn more about their ecology, distribution and contribute meaningfully to efforts to conserve them.



Our aims are to:

- Raise public awareness of mammals, their ecology and conservation needs
- Encourage people to effectively participate in mammal monitoring and recording
- Develop the knowledge and field skills of those working for mammals
- Encourage and disseminate the results of research and new information
- Provide up-to-date, reliable information and science-led advice to advocate effective conservation policy



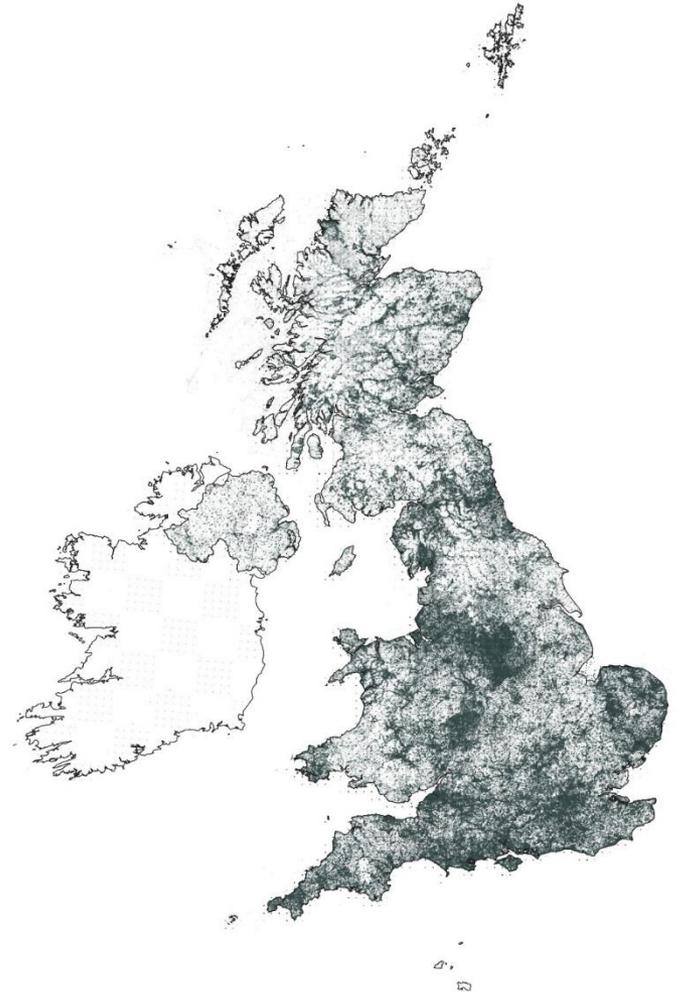
Mammal Recording



Recording mammals is not a new thing

The Mammal Society has records dating back to the 1960's

The database contains nearly 3,500,000 mammal records from across the UK



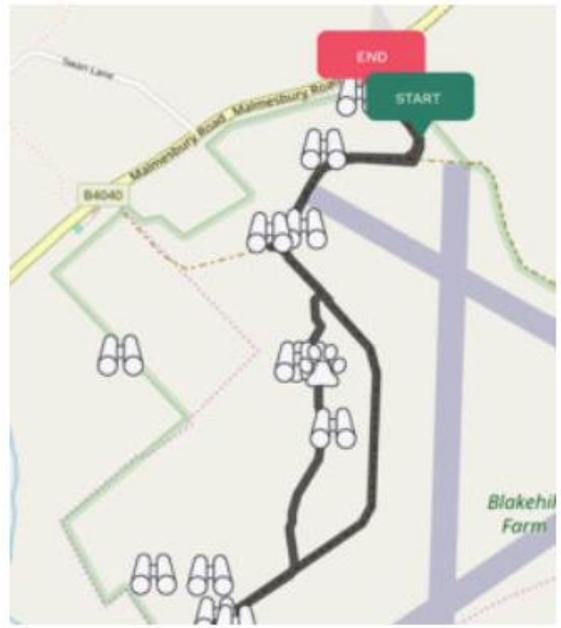
Mammal Recording Apps



Mammal Mapper



©Paul Jerem



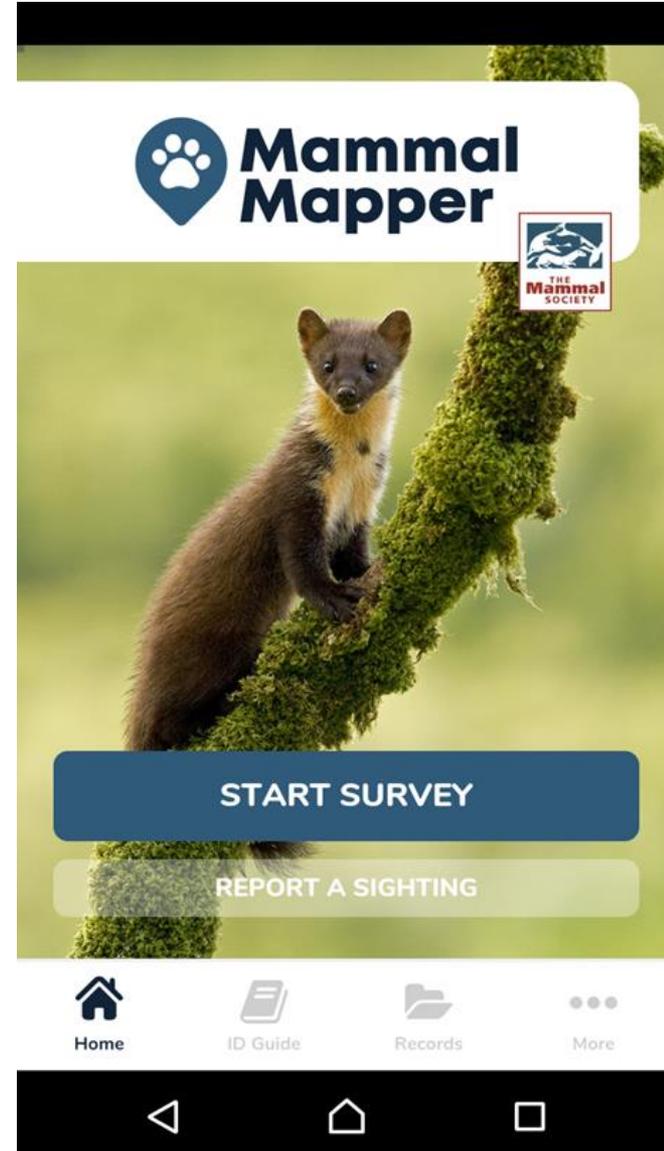
New Mammal Mapper Build



To increase efficiency and lower confusion, both apps are being combined into one Mammal Mapper App, which is due for release in the very near future

The new build will allow both opportunistic and effort associated sightings

It will also include improved functionality based on feedback from previous Mammal Mapper and Mammal Tracker users

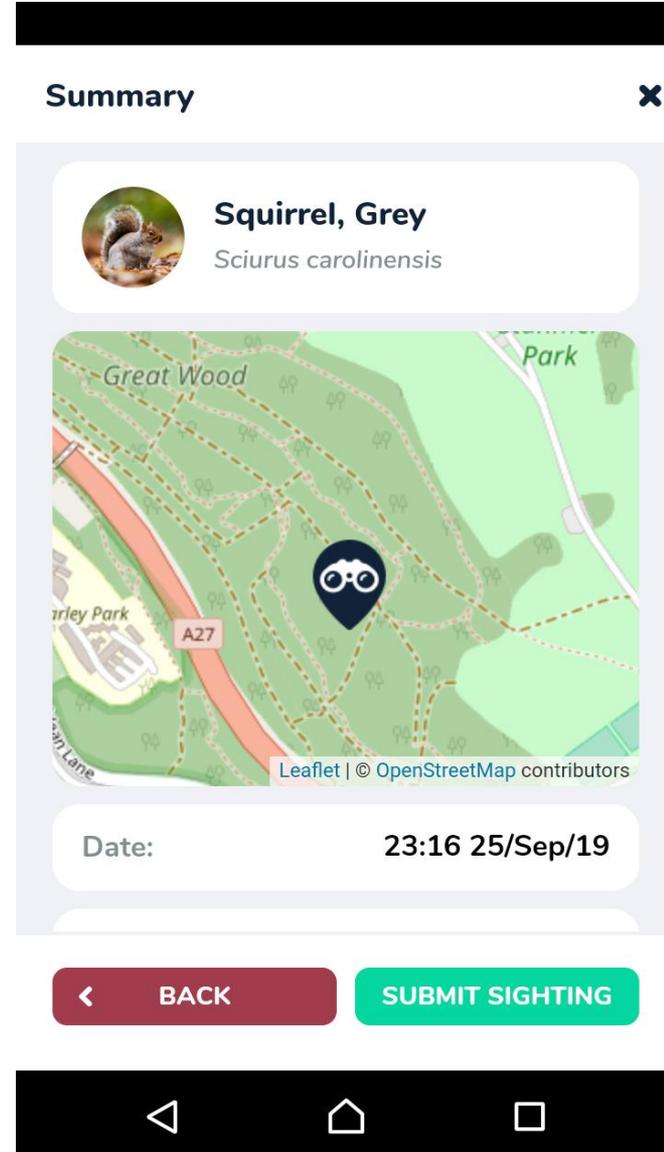


New Mammal Mapper Build



Opportunistic sightings

The new build will include the functionality of the Mammal Tracker App to record opportunistic mammal sightings

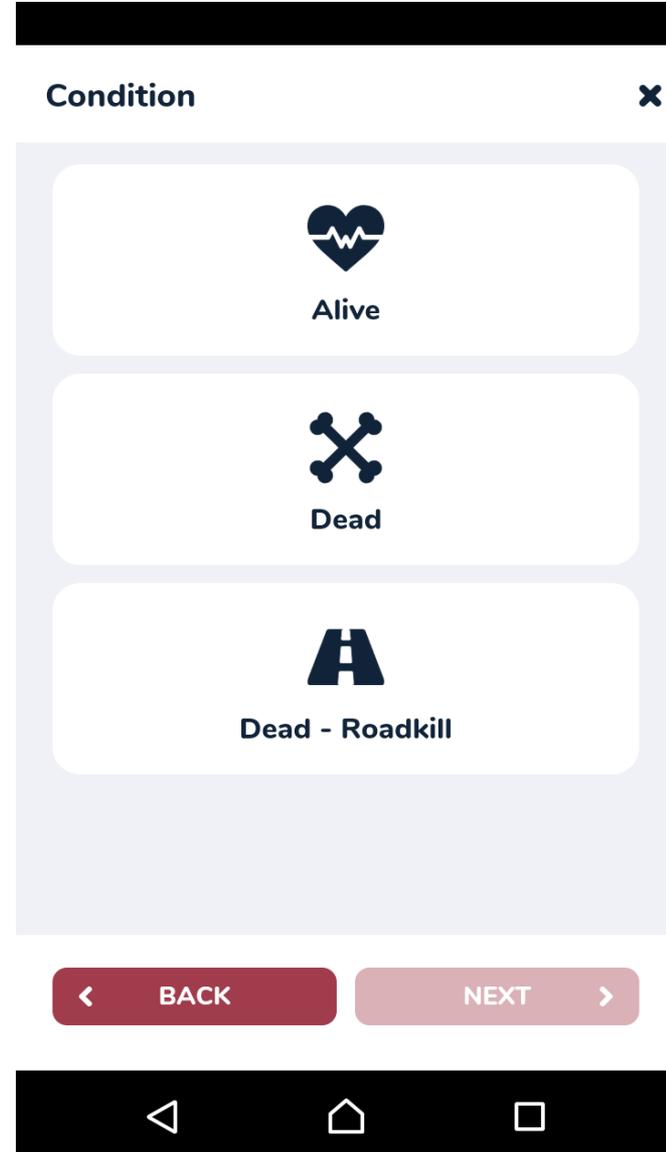


New Mammal Mapper Build



Setting up and conducting a survey

The main advantage of Mammal Mapper App is the functionality to record surveys



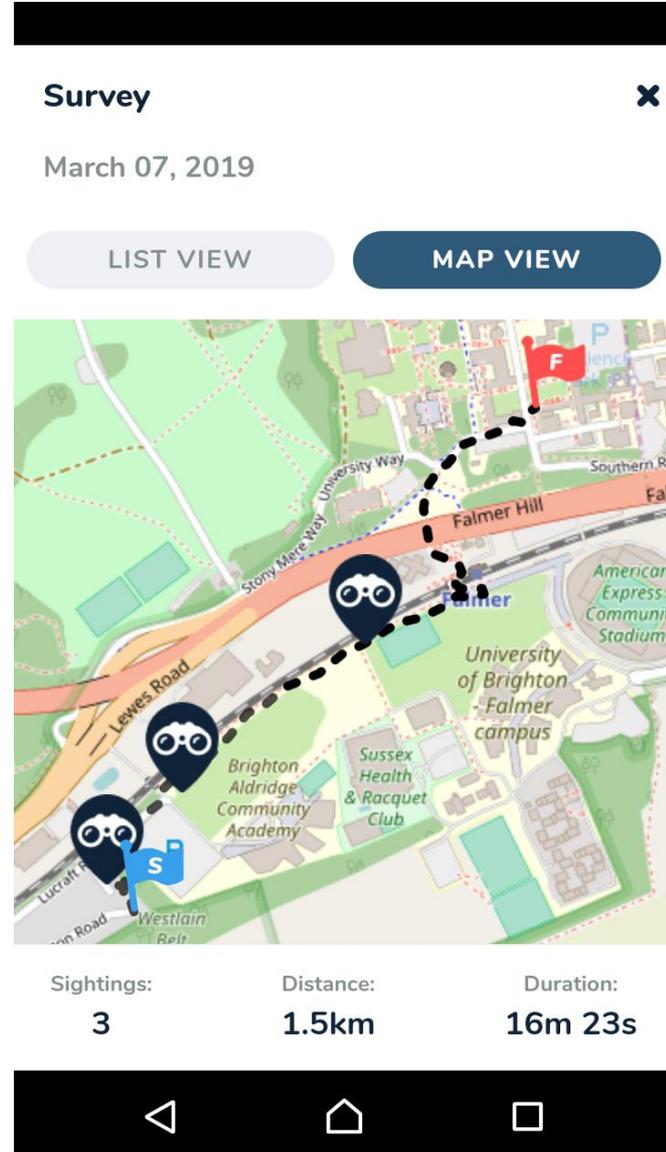
New Mammal Mapper build



Mammal ID guide

Mammal Mapper App includes a comprehensive mammal ID guide

- With information and photographs on all British mammal species
- Including information and photographs of mammal signs



So what can be done with
opportunistic data?



A Review of the Population and Conservation Status of British Mammals

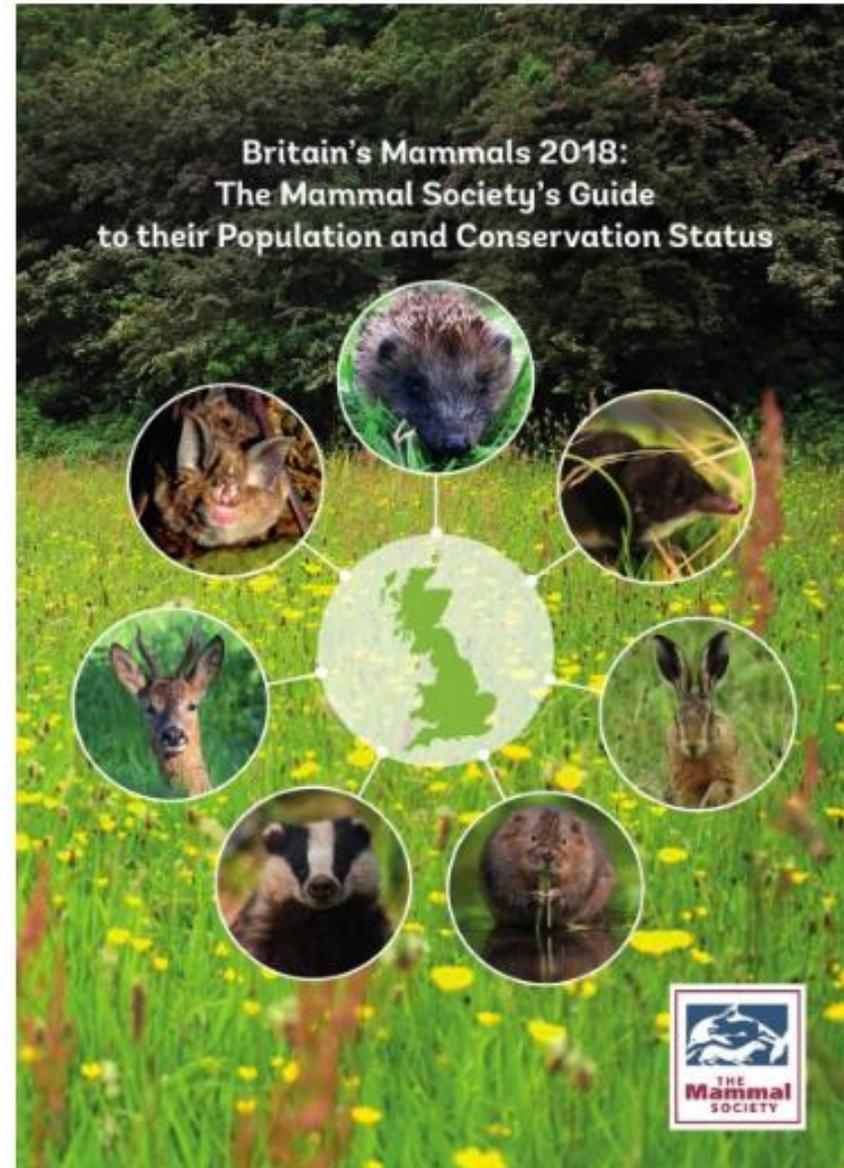
These records have been used in our recent publication to estimate the population and conservation status of British mammals

This project includes information on:

- Population estimates
- Official red list assessments for native mammals
- Range sizes

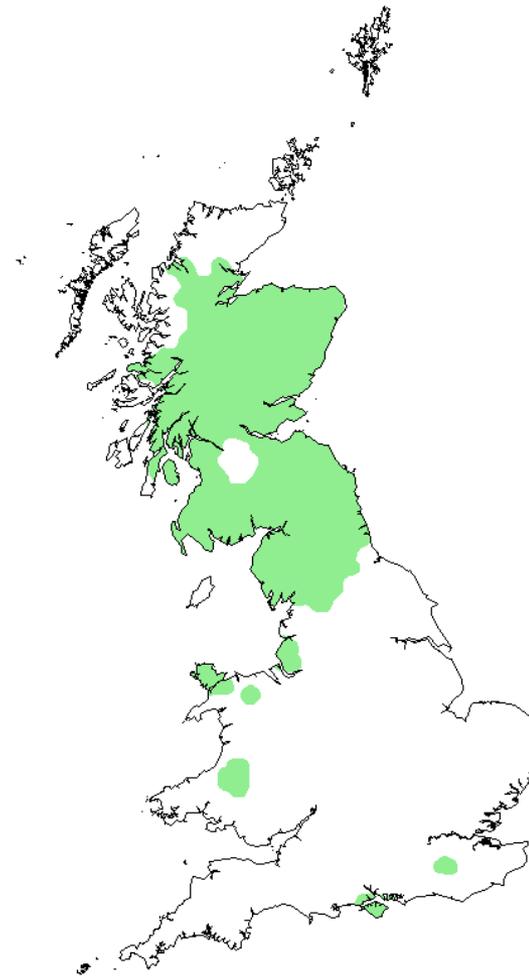
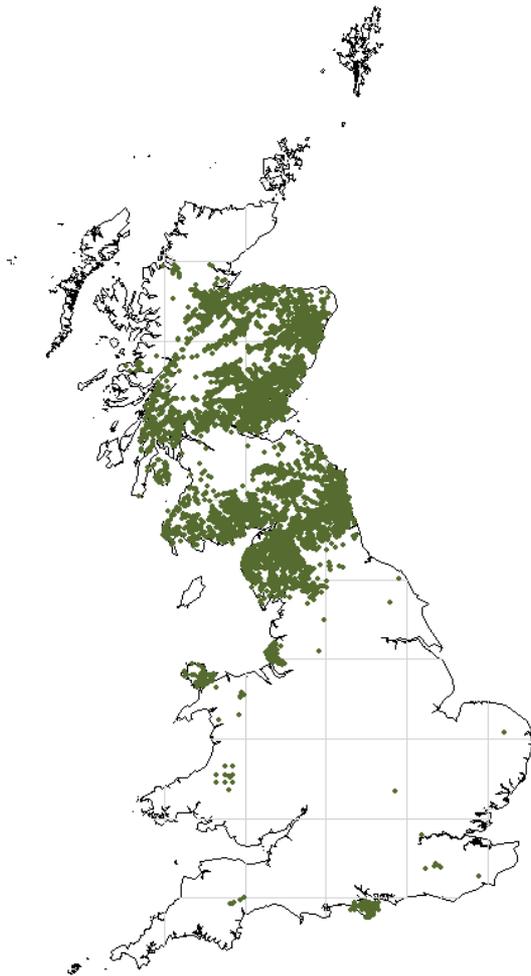
The atlas of the mammals of Great Britain and Northern Ireland

- Changes in distribution between distinct time periods



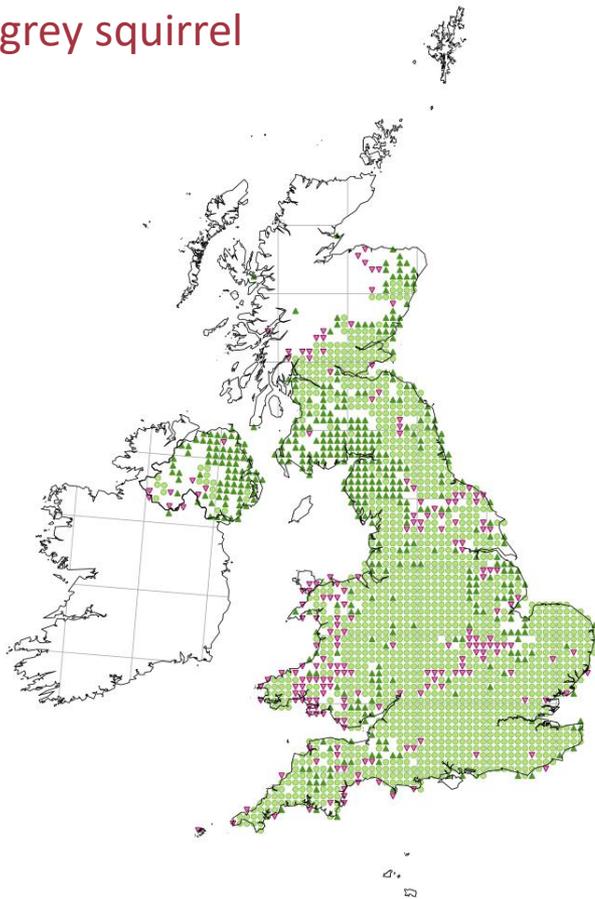
red squirrel

2010



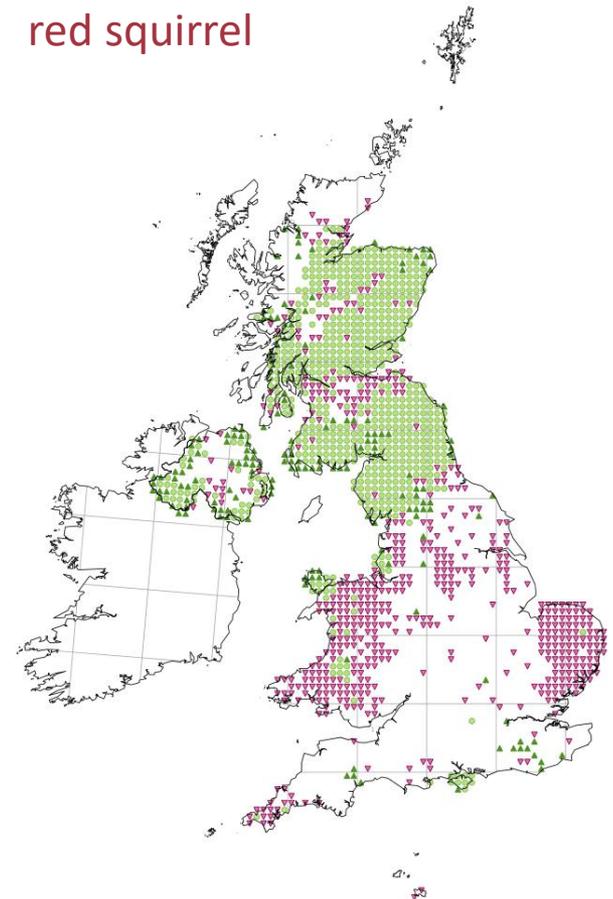
The atlas of the mammals of Great Britain and Northern Ireland

grey squirrel



red squirrel

- ▼ 1960-1992
- 1960-1992 & 2010-2016
- ▲ 2010-2016



Opportunistic Data Limitations



- Opportunistic sightings are useful data but they have limitations
 - We don't know information on where people are looking for mammals
 - Are gaps in distribution caused by missing effort or an actual absence of a species from an area?

- Reductions in distribution are one of the last things to notice when using opportunistic data
 - It is only noticed after complete extinction of a local population

- What we really want to know is animal density
 - Work conducted during the review found that many mammal habitat specific density estimates from the literature were unavailable, old or lacked variability
 - Habitat occupancy
 - Submitted records that can be used to look at population changes along with distribution

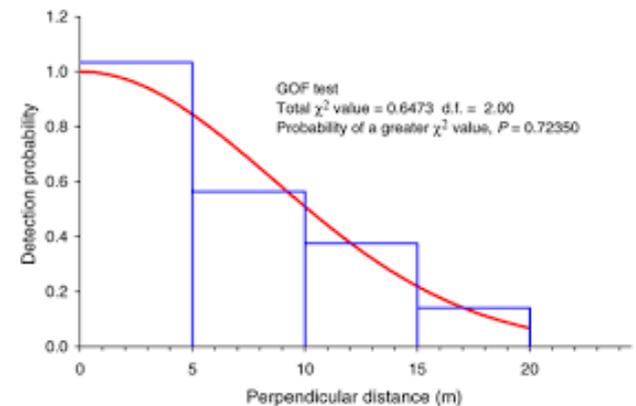
Why Transects?



Species' records in isolation can be misleading
More information can be gleaned when "effort" or where people are looking is known
Now we know where animals are not, which is just as important

In addition, repeated transects can be used to look at daily, seasonal and annual trends

Distance and bearing to mammals can be used to calculate density estimates using DISTANCE sampling techniques



Mammal Mapper App



- This App
- Nearly 2,
- Nearly 3,
- Around 1
- Around 3
- Around 8
- Of over 4
- From acr



What's next?



- The smart phone App is one of several citizen science projects that we are currently running to address the gaps in our knowledge
- Potential as a systematic – standardised approach to mammal monitoring
- Mammal Mapper is available for free on both android and apple phones from the App Store and Google play
- Analyse the data
- Organise data flow and verification
- Web based data visualisation and data export
- Collation of a spatial density database



Available on the
App Store



GET IT ON
Google play

Mammal Recording Apps



In the last year the Mammal Mapper and Mammal Tracker Apps have recorded :

- 88 red squirrel sightings
- 1,796 grey squirrel sightings

