



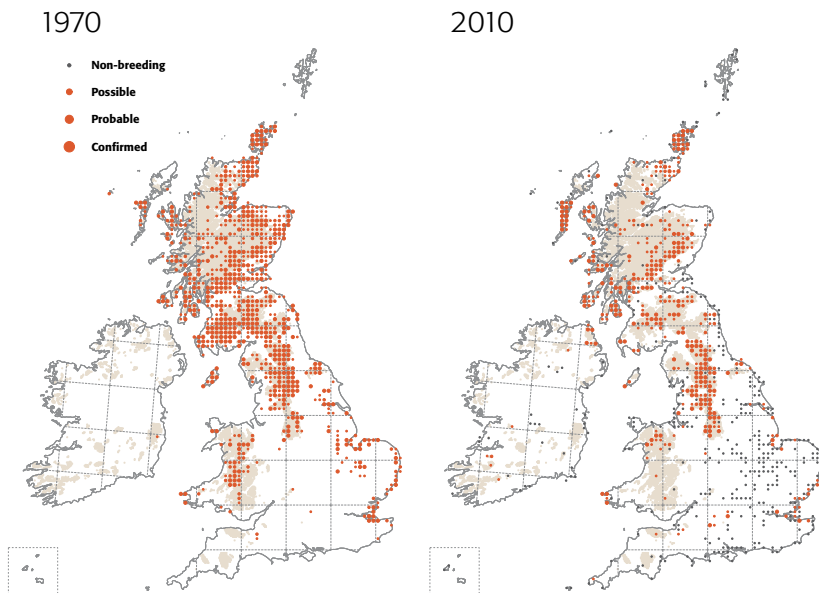
SHORT-EARED OWLS

Tracking one of our most enigmatic breeding birds

Short-eared Owls are an amazing species, and a sighting is a magical experience. They can be nomadic, breeding almost prolifically in some years and areas, yet in others appearing to be absent. Sadly, they seem to be declining.

The reasons underlying these changes have been a mystery. However, we are now in position to begin to understand them; with further work we will be able to provide guidance towards securing the future for Short-eared Owls and the environments they inhabit.

The breeding range of Short-eared owls contracted by 48% between 1970 and 2010



Reproduced from *Bird Atlas 2007-11*, which was a joint project between BTO, BirdWatch Ireland and the Scottish Ornithologists' Club



WHAT WE'VE LEARNED ALREADY

Our earlier work, looking at habitat use and movements of Short-eared Owls, has used visual observations, analyses of ring-recovery data, atlas data and radio-tracking. This has revealed that:

- the highest breeding densities occur within mixed rough grasslands and heather moors;
- breeding home ranges tend to be around 200 hectares;
- declines are associated with maturation of plantation forests and remaining strongholds are often areas with restricted suites of predators;
- ringed Short-eared Owls using Britain have been encountered as far away as Russia, North Africa and the Mediterranean;
- the distance moved between breeding and wintering areas has changed through the 20th century, perhaps reflecting reductions in the breeding population.



WHAT WE NEED TO DO NEXT – SATELLITE TRACKING

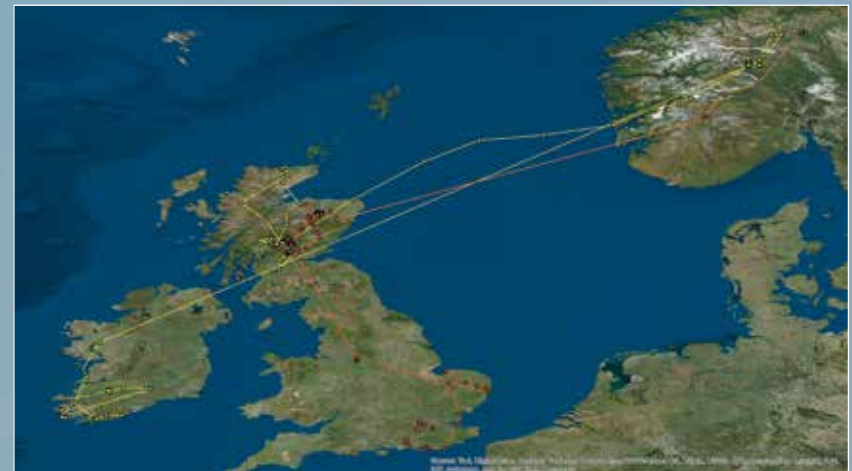
We urgently need to improve our understanding of habitat requirements and migration patterns by observing fine-scale movements over time. Technological developments present us with an exciting opportunity to use state-of-the-art GPS satellite tags to follow several birds over a number of years.



Thanks to the support of charitable trusts and individuals, we have carried out a successful pilot study following the movements of seven Short-eared Owls, tagged in Scotland in 2017 and 2018. All have provided information in unprecedented detail on habitat use, how it differs between day and night, and how it changes through the year.

As well as some very intriguing movements within Scotland, two of the tagged owls moved from Stirlingshire to likely breeding territories in Norway. One is even likely to have attempted breeding in both countries in the same year!

Having proven the technology for these birds, we are now ready to scale up the study to understand more about the behaviour and movements of owls from various places in Scotland. The essential data that we'll collect will provide a detailed understanding of their year-round requirements and migration strategies. This information will allow policymakers and enable land managers to optimise habitats to help this struggling species.



KEY QUESTIONS THAT WE NEED TO ANSWER

There are five key questions that we urgently need to answer:

- What are the habitat and other requirements of Short-eared Owls breeding in Britain?
- How do their requirements vary through the year?
- How do their requirements vary between contrasting areas of prey availability, predator abundance and competitor occurrence?
- How connected are populations of Short-eared Owls in different parts of Britain and more widely in Europe?
- How do the behaviour and movements of Short-eared Owls influence approaches to monitoring their populations and to assessing the effects of habitat management?

OUR PLAN OF ACTION

With your help we can address these questions through the following plan of action:

- deploy GPS satellite tags on three to five Short-eared Owls each year from 2019 to 2021;
- deploy tags on owls across different areas with contrasting prey, predator and competitor bases, for example on different mainland and island locations;
- work with local birdwatchers, ringers and land managers in areas where owls are being tagged to develop a skilled and engaged network of volunteers to monitor Short-eared Owls and their habitats;
- visit areas to which tagged owls disperse, to assess habitats and other conditions and, when relevant, confirm whether they are breeding;
- analyse the data collected and publish findings in peer-reviewed journals and other media;
- make our findings available to relevant policymakers and land managers to facilitate a conservation strategy for Short-eared Owls and the habitats on which they depend;
- develop wider collaborative studies across Europe and elsewhere.



JEREMY ROBBINS / BTO

HOW YOU CAN MAKE A DIFFERENCE

Our initial work has been possible because of support from individual donors, charitable trusts and hard work from a few volunteers. To fulfil the potential of this work, and ensure valid information is available to those who can apply the findings to help Short-eared Owls, we need the involvement of generous individual donors. The next three years costs will be £97,000. This will cover tagging costs, fieldwork at different sites (which will be significantly subsidised with volunteer support), analyses of results and subsequent publication and dissemination.

Please help us to carry out this important research work by making a donation. Each satellite tag costs £2,000 to buy and the annual data costs are £1,000.

By supporting this project financially you will be playing an important part in securing the future of this enigmatic species, and in return you will receive exclusive updates on the movements of tagged owls, and the stories behind them. Particularly generous donors may even be able to join us for some of the fieldwork, such as tagging and monitoring birds on their breeding grounds.

Short-eared Owls are declining rapidly. With your help, this programme of cutting-edge research can provide crucial information, offering hope for this charismatic species. Please give what you can today and help us to safeguard their future.

To donate, please visit www.bto.org/seo-tracking

If you would like any additional information, please contact BTO Scotland's Senior Research Ecologist, John Calladine (john.calladine@bto.org).

BTO is an independent charity. We seek to understand more about birds with the help of our members and volunteers.

Our aims are to:

- enable more people to participate;
- deliver impartial and relevant science;
- inspire and empower.

Find out more about joining our community.

www.bto.org/join



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