Research Ecologist
(Population Ecology & Modelling)
British Trust for Ornithology
‘A WORLD INSPIRED BY BIRDS AND INFORMED BY SCIENCE’

BTO harnesses the skills and passion of birdwatchers to advance our understanding of ornithology and produce impartial science, communicated so that it can be of benefit to everyone.

OUR GOALS
BTO increases knowledge of birds and other wildlife, and their relationships with the environment and people, by:

- Enabling more people to learn about birds and science and grow through participation in environmental discovery.
- Delivering impartial, impactful and relevant science.
- Inspiring and empowering people with an understanding of birds and the importance of knowledge.

OUR PRIORITIES
We will reach our goals by:

- Providing more and better opportunities for people to contribute to our work.
- Monitoring the status of species, researching their ecology and understanding how they respond to change.
- Communicating great stories that bring to life the long-term data, information and knowledge that we hold.

OUR IMPACT
Our surveys, monitoring schemes and research programmes are designed by expert scientists to answer some of the most pressing questions affecting birds and their habitats. Because of our independence we are able to share our data, expertise and knowledge to inform decision-makers, educate the public and support conservation action. Our long-term datasets provide a measure of change and enable us to look for impacts and test solutions. Our vibrant volunteer network makes us highly effective and ensures that our work reflects the interests of those for whom birds and wildlife are important.

OUR FOUNDATIONS AND VALUES
The success of BTO is based on firm foundations that include: motivated and skilled staff and volunteers; a strong reputation; a robust business model and effective governance systems and processes.

We are:

- Inclusive and supportive
- Impartial
- Passionate
- Collaborative and open to new ideas

BTO is a Registered Charity Number 216652 (England & Wales), SC039193 (Scotland).
ABOUT THE ROLE

This full-time, permanent post is for a scientist in the Population Ecology and Modelling Team who will report to either the Principal Ecologist, Dr Simon Gillings or to Research Ecologist, Dr Sam Franks. The successful applicant will work on a range of projects concerned with spatial and temporal analyses of long-term data from BTO monitoring schemes, but will also be involved in the development of new proposals.

It is expected that the postholder will work particularly on projects related to understanding the factors and processes driving patterns of distribution, abundance and changes within bird populations. This is likely to include high-level analyses integrating data from multiple sources, such as the bird atlases, the Breeding Bird Survey (www.bto.org/bbs), and a range of environmental and remotely-sensed data. Projects may also focus on improving the survey design and outputs of monitoring schemes.

The postholder will be expected to undertake a range of analytical projects across the BTO as a whole, involving a range of mostly applied issues. The post requires excellent computing abilities, analytical skills and ecological knowledge, with a background of work relating to spatial analysis such as species distribution modelling and niche modelling; experience of analysing remote-sensed datasets would be an advantage. The postholder will be expected to report results to funders and to publish their findings in the scientific literature, as well as other forms of reporting such as Research Reports and websites.

The Population Ecology and Modelling Team conducts a wide range of research around the identification of conservation problems and the use of long-term, extensive datasets to address policy-relevant issues. A significant proportion of the work is related to environmental change, but includes a wide range of other topics, such as impacts of renewable energy development on birds, impacts of non-native species, the role of birds as indicators of wider environmental change, and using novel acoustic monitoring approaches to assess patterns of occupancy and abundance of birds, bats and other taxa.

The postholder will also be expected to collaborate widely with other research, monitoring and development teams within the BTO, and with a range of external organisations such as the relevant government environment agencies, the Centre for Ecology and Hydrology, Rothamsted Research, RSPB and academic staff at universities.

WHAT YOU WILL DELIVER

1. To plan and undertake analytical research projects within the Population Ecology and Modelling Team primarily involving the analysis of existing BTO datasets and datasets provided from external sources to address ecological or applied problems. It is expected that there will be a particular focus on spatial analyses and big data. All work will be done following programmes of work agreed with project managers, ensuring that high scientific standards are maintained.
2. To undertake detailed statistical analysis and modelling of BTO and other data and to use personal initiative to design and implement analyses of these and other datasets. To learn and implement new statistical methods as required for particular projects.

3. To work to tight deadlines, producing well-written reports on the work undertaken, and to maintain a scientific publication record in refereed scientific journals.

4. To keep updated with the scientific literature relevant to the postholder’s main research areas, and to conduct literature reviews and other non-analytical projects as required.

5. To give oral and poster presentations of work at scientific conferences and seminars.

6. To communicate the results of projects to amateur ornithologists through semi-popular articles and occasional talks and to answer email/telephone queries, as appropriate to own knowledge and experience.

7. To communicate results to the media, including TV and radio, as required.

8. To contribute strategic and individual ideas for the development of BTO work. To contribute to the preparation of grant proposals in collaboration with other staff.

9. To contribute to the wider scientific community through such activities as refereeing papers, sitting on external committees, etc.

This is not an exhaustive list; the successful applicant will agree objectives with the line manager.

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**WHAT YOU WILL BRING TO THE POPULATION ECOLOGY TEAM**

**ESSENTIAL** (these are the skills that the applicants must have)

1. A PhD in quantitative ecology, spatial analysis, remote sensing, statistics, other related area, or equivalent experience.

2. Good statistical knowledge and experience in the application of spatial techniques, to large-scale extensive datasets. The ability to learn and implement new methods of statistical analysis and modelling as necessary.

3. Expertise in computer programs for the manipulation and analysis of spatial and ecological data. Experience of using R is required and preferably familiarity with running these in UNIX/LINUX environments. Experience using R for spatial analysis, or using ArcGIS and/or QGIS is required. An appetite to learn new programming languages and computer packages as required.

4. The ability to plan, to design and to execute analytical research projects and to see them through to the completion of reports and/or refereed publications.

5. A good understanding of the principles of population processes, particularly of birds, and their application to conservation science.

6. Ability to assimilate relevant information from the scientific literature.

7. Proven ability to publish in refereed scientific journals and to write scientific reports.
8. Ability to write clearly for a range of popular and semi-popular publications.

9. Willingness to travel and ability to lecture to a wide range of audience types, including research presentations at scientific conferences and meetings and talks to the general public.

10. Good personal organisation and time management skills.

DESIRABLE

1. Expertise in the manipulation of remotely sensed environmental data would be advantageous.

2. Good knowledge of the British avifauna and their ecology is desirable.

3. Good knowledge of one of the following topic areas would be desirable: avian demographics, climate change adaptation, migration ecology.

4. An interest in the development of scientifically robust and reproducible infographics.

FIND OUT MORE ABOUT THE ROLE

For an informal chat about the position please call Sam Franks or Simon Gillings on 01842 750050 (email: sam.franks@bto.org or simon.gillings@bto.org)

MAKING AN APPLICATION

If you have what it takes then we look forward to hearing from you – send your completed application form with a CV to Sian Knott via recruitment@bto.org stating the job title in the subject line.

Closing date for receipt of applications is 1pm on Friday 14 February 2020.

It is anticipated that interviews will be on Monday 24 February in Thetford, at the BTO, IP24 2PU.

If you have a disability or long-term illness that otherwise prevents you from meeting any of the essential criteria, please contact us to discuss whether a reasonable adjustment could be made.

As users of the disability confident scheme, we guarantee to interview all disabled applicants who meet the minimum criteria for the vacancy.

SALARY AND BENEFITS

A starting salary of £23,490 rising to £26,100 over two years.

Benefits include: 11% employer pension contribution, Employee Assistance Programme, discounts on books, flexible working and social events.

Full time (37 hours) permanent post, based in Thetford in Norfolk with the flexibility to work at home or from the David Attenborough Building in Cambridge occasionally.