

Ecosystems: from Territories to Landscapes

The BTO is able to study pure and applied bird ecology at a variety of geographical scales, from landscapes to an individual bird's territory. Declines in farmland birds were first identified by analyses of BTO datasets and we have diagnosed causes of population change, and tested management solutions. We are currently exploring the drivers of change in woodland bird numbers and the conservation value of urban landscapes.

Testing Agri-Environment Schemes (AESs)

Agri-environment Schemes (AES) are the main tools for resolving the biodiversity crisis in farmland. BTO field experiments and monitoring have contributed to the design of specific AES management options that benefit birds. We have combined field research and Breeding Bird Survey analysis to assess the effectiveness of Entry Level Stewardship in addressing farmland bird declines.



Please contact to discuss how BTO can help you:

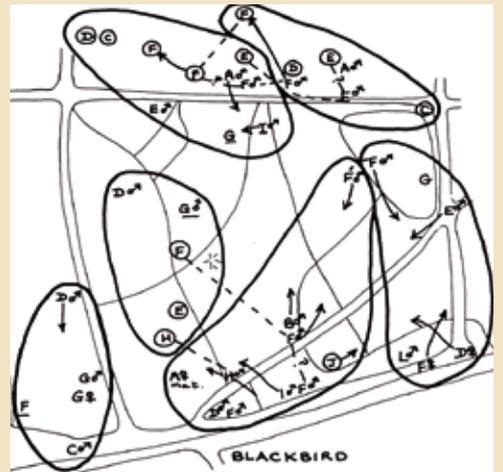
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www.bto.org/science/multi-scale-habitats



'BTO ecological studies are using new nest camera technology to explore predation risk in relation to human disturbance. Results can inform urban and rural planning'

Nightjar nest camera in Thetford Forest

23:04:57 Camera #1 1048D6B8



Human habitats are very important for several species of conservation concern



How Habitat Affects Abundance

Predictions of the effects on birds of changes in land-use such as afforestation, shifts in cropping or habitat creation for climate change mitigation require prior knowledge of the influences of habitat variation. Data sets such as the BBS combined with habitat information such as the CEH Land Cover Map, provide a unique resource for the investigation of relationships like these. We have investigated relationships between bird abundance and habitat composition/configuration across all of the UK's lowland farmland, identifying the influences of cropping, field boundaries and landscapes, as well as habitat heterogeneity *per se*.

Disturbance, Management and Rare Species in Forestry

Thetford Forest is a commercial woodland and a public open space, but also an important habitat for birds, notably nationally scarce species such as Woodlark and Nightjar. Using a combination of volunteer and professional surveys, and GIS analysis, BTO research (in collaboration with the University of East Anglia) has identified the types of forest management that these species prefer. New work using remote nest camera technology has identified the wide range of nest predators of these species and has allowed us to explore the effects of human disturbance. The results inform forest managers' efforts to reconcile commercial production, public access and conservation.

Ecological Importance of Garden Feeding

Data collected by volunteers contributing to Garden BirdWatch provide an invaluable resource for researching the birds in our villages, towns and cities. By combining professional analyses of these data with 'citizen science' experiments conducted by volunteers in their own gardens, we have investigated how birds, mammals, amphibians and reptiles use 'human habitat' and how we can improve the conservation value of current and proposed urban development.

Partners: Food & Environment Research Agency (Fera), RSPB, Syngenta, University of Birmingham, Macauley Land-use Research Institute (MLURI), Forest Research, University of Nottingham, Farming & Wildlife Advisory Group (FWAG)

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Expertise Brochure

The British Trust for Ornithology (BTO) is one of the world's leading scientific research organisations specialising in birds and habitats. We are based in Thetford, Norfolk, England, with offices in Scotland, Wales and Northern Ireland.

We undertake impartial research and analysis, relating to birds, other wildlife and habitats, to advance the understanding of natural systems. The BTO provides high quality, impartial and policy-relevant data and information, relied upon for informed decision making. We work in partnership with the academic and conservation science communities, with Government Departments and Agencies, and with the private and voluntary sectors. The BTO has a unique combination of professional scientists and volunteers, and undertakes modern statistically robust surveys with web-based on-line data entry and retrieval. We add value to data through high powered analysis and a strong modelling capability.



Please contact to discuss how BTO can help you:

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BTO Strategy

The BTO has a vision of a world in which nature conservation and sustainable development are founded on evidence-based decision-making, and in which society understands, values and contributes to that process. We are in a time of unprecedented awareness and acknowledgement of environmental change, and the human response to that change must be informed by knowledge and understanding of species and habitats - the ecosystems that underpin our planet's life support. The BTO has a vital role to play in the provision of that knowledge, with citizen science being core to the delivery of the BTO strategy.

BTO Science Themes

Monitoring changing bird populations

Our ability to coordinate thousands of motivated and skilled volunteers, together with professional expertise, enable us to track many aspects of birds' lives. We provide facts, figures and indicators that Government and decision-makers use to inform policy, and which is the context for measuring change in our environment.

Population dynamics and modelling

We integrate records collected by volunteers from many aspects of birds' life-cycles, through nest recording, ringing, and survey monitoring. This integrated population modelling means we are well placed to investigate the effects of environmental change on bird populations.

Ecosystems: from territories to landscapes

We are at the forefront of land-use issues in ornithology, with unique expertise of studying bird ecology in farmland, woodland, upland and urban habitats at multiple spatial scales. We employ traditional field approaches, innovative technology and state-of-the-art analytical techniques to investigate the consequences of land-use change.

Migration and the ecology of migrant birds

Understanding the ecology of migration, as birds move between habitats and countries is important if we are to understand the effects of environmental changes at a global scale. Our underpinning knowledge comes from a century of bird ringing and nest recording, and we are now using modern transmitter technology to unravel the ecology of migrant birds.

Climate change

Climate change impacts on biodiversity become apparent over long timescales, and the BTO's long-term datasets are ideally suited to understanding the underlying processes. We develop indicators and provide advice to Government, international and national bodies to inform policy.

Wetland and marine research

Inland, coastal and marine waters of the UK all hold internationally important bird populations. BTO is at the forefront of delivering information on waterbirds in response to the requirements of legislation, infrastructure development and policy development. We are actively investigating energy developments offshore.



Black-tailed Godwit being colour-marked as part of an international migration project



Dr Phil Atkinson Head of International Research demonstrating research results to, the BTO's Patron, HRH The Duke of Edinburgh KG KT during a visit to BTO HQ