

# Pioneering study reveals UK biodiversity hotspot

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Scientists are calling for radical new approaches to conservation following the first biodiversity audit of its kind.

Led by the University of East Anglia (UEA), with partners Natural England, the Forestry Commission, Norfolk and Suffolk Biodiversity Partnerships and County Councils, the Brecks Partnership, and Plantlife, the painstaking study pooled information on every plant and [animal species](#) recorded in Breckland – a special landscape of heathland, forest and farmland stretching across the Norfolk and Suffolk border.

In an unprecedented effort, the UEA team collated records for a huge variety of species identified in the region, from the smallest gnat and tiniest beetle, through to birds, plants and mammals. The researchers were astonished to discover that 28 per cent of the UK's rare species were found in Breckland – an area covering only 0.4 per cent of land in the UK.

This collaborative study's innovative, evidence-based methodology offers a more targeted and dynamic approach to conservation – identifying what biodiversity is present in a region, where it is, and what it needs if it is to thrive.

With the help of 200 naturalists, UEA collated nearly a million records, showing that 12,500 species can be found in the region. Of these, more than 2,000 are of national conservation concern. The study is believed to be the first of its kind to consider every single species found in an entire

region. The team went on to analyse the ecological needs of these 2,000 rare species, which allowed them to identify novel approaches for managing habitats to restore and protect this biodiversity. The report provides a manual for land managers, showing them what can be done to restore and conserve the unique biodiversity of the region.

"These exciting findings demonstrate beyond doubt what conservationists have long suspected – that Breckland is a unique region and vitally important hot-spot for rare and threatened species, making it a key area for conservation within the UK," said Dr Paul Dolman of UEA's School of Environmental Sciences, who led the study. "Although much of what conservation has achieved is excellent, new approaches are urgently needed or we risk many of these species drifting towards extinction"

Covering around 1000 km<sup>2</sup>, Breckland is one of the driest places in England and encompasses the largest lowland forest in the UK including the popular Thetford Forest Park. Because the sandy soil made ploughing easy, Breckland was one of the first places in England to be settled and its unique biodiversity remains dependent on people. The medieval word 'breck' means a fallow cropped field and the team found that these lightly cultivated fields were crucial to many species unique to the region - but many of these farmland species are now extremely rare and threatened. "We need to put the brecks back into Breckland," said Dr Dolman.

Breckland boasts a range of other important habitats - including the UK's only inland sand dunes, grazed heathland, pine forests and wetlands.

The report's key findings are:

- Twenty-eight per cent of all the priority Biodiversity Action Plan

species in the UK occur in Breckland.

- Sixty-five species, largely restricted to Breckland, are rarely found anywhere else in Britain, including the plants Spanish Catchfly, Field Wormwood, Breckland Thyme and rare insects such as the Brush-thighed Seed-eater and the Basil-thyme Case-bearer moth.
- Conservation managers should encourage bare ground and complex mixtures of grazed and ungrazed vegetation. Heather, although thought to be an icon of heathland sites, is less important than disturbed ground. ("We shouldn't be scared of getting machinery in and making a right mess," said Dr Dolman, "physical disturbance isn't always bad in fact it is essential for many plants and insects.") - Wild plant conservation charity Plantlife is today launching a new project to tackle the needs of threatened wild flowers and other plants in Breckland through targeting conservation work at around 30 sites and taking forward recommendations from the biodiversity audit.
- Cultivated farmland provides a vital habitat for many important species that need disturbed soil. However, a more tailored approach to stewardship is required.
- Although the planting of Thetford Forest originally destroyed important habitats, the forest now has a rich biodiversity including: rare plants such as tower mustard, smooth rupturewort and red-tipped cudweed; insects such as the marbled clover and grey carpet moth; and declining farmland birds like yellowhammer and linnet.
- Other important habitats revealed by the study were ancient trees, muddy pond edges, ungrazed fields and post-industrial sites

such as gravel and sand pits.

The Breckland Biodiversity Audit will be launched in Thetford on Tuesday November 30. Speakers include: Tom Tew, former chief scientist at Natural England; Victoria Chester, chief executive of Plantlife; Bev Nichols, land management and conservation advisor at Natural England; report authors Dr Paul Dolman and Dr Hannah Mossman of the University of East Anglia. A panel session will be chaired by Jonathan Spencer, senior ecologist at the Forestry Commission.

Bev Nichols, land management and conservation advisor at Natural England said: "This audit is truly a landmark piece of work. Around 40 per cent of Breckland is protected to help conserve the special wildlife that is found here, but throughout the farms, heaths and forests, nature needs a helping hand. These findings will help Natural England give the best advice to landowners, and ensure funding such as our Environmental Stewardship Scheme, is targeted to ensure a future for Breckland's special wildlife and wild places."

Neal Armour-Chelu, Ecologist with the Forestry Commission said: "This work is going to help the Forestry Commission conserve the rare wildlife of Breckland. UEA has brought together the knowledge of hundreds of experts about the ecological needs of literally thousands of [species](#). This report is vital as a manual for the conservation of wildlife across Thetford Forest. For the first time, we have a comprehensive insight into what we can do to help the conservation of what is one of the most wildlife rich areas of the UK."

Provided by University of East Anglia

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