

Biodiversity auditing is key to success of new conservation plans in the UK, says new research

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Ocyptus ophthalmicus. Credit: AfroBrazilian, Creative Commons Attribution-Share Alike 4.0 International license.

New research led by the University of East Anglia (UEA) suggests a way to greatly improve the outcomes of biodiversity conservation efforts globally.

Scientists from UEA, the RSPB and Natural England, propose that biodiversity auditing should be integral to the ongoing development of regionally-targeted conservation plans, such as the Local Nature Recovery Strategies (LNRS) established by the UK Environment Act 2021.

Their work is published in *Biological Conservation*. It follows work conducted with two [conservation projects](#) in the East of England—one in North Norfolk and another in the Brecks—using this approach to guide conservation locally.

A biodiversity audit sees a small team use every available data source to work out which species are the most important locally, and what conservation management they need. On the North Norfolk Coast, for example, the team collected more than one million records from 38 different data sources, including local records offices, NGOs and natural historians, to get a final species list of 10,726 species.

This information is used to ascertain which species are of national importance—in order to help land managers do what they can to help the largest number of important species.

The approach, which has also been used elsewhere in the region, in the Broads and Fens, reprioritizes management efforts to support greater numbers of important species, with all available data used to find out what is in a local area and what land management they need, so that it can be targeted at hundreds of rare species at a time.

The new LNRS policies, which look to generate a plan and set of

priorities for every [local area](#) in England, currently make no provision for identifying the species that inhabit strategy areas, but they provide the ideal vehicle to roll out this auditing approach to benefit biodiversity nationally.

The research team argues that auditing should be integrated into environmental policy globally, and specifically for the European Union's 2030 Biodiversity Strategy and in the formal guidance for the LNRS planned for England.

Lead author of the paper Dr. Liam Crowther, of UEA's School of Environmental Sciences, said, "Despite decades of effort, conservation has not been successful in reversing species declines at either global or regional scales. With respect to nature recovery, we are standing at a crossroads. The LNRS and the associated delivery mechanisms are hugely ambitious and have the potential to reverse the patterns of decline across many of our endangered plants and invertebrates.

"But, if they don't use data to actually target management to support as many important species as possible then we stand to miss a huge opportunity to recover nature. If we don't take this approach, then we stand to squander an historic opportunity by replicating the broadbrush strategies that haven't worked so far. Because the effectiveness of interventions can differ across landscapes, conservation strategies should be locally tailored to meet the ecological needs of their species pools."

The paper provides methods for incorporating rapid low-cost biodiversity auditing into local conservation strategies, to ensure these support the widest complement of priority—rare and threatened—species.

Biodiversity auditing uses existing repositories of species data to group priority species that share similar responses to conservation

interventions, allowing practitioners to identify and implement regionally-optimized, evidence-based action plans.

Where previously implemented, such as in East Anglia, this approach has successfully transformed conservation practices, increasing the richness and abundance of important species compared to the pre-existing management.

On the heathlands of Breckland, the approach found that grazing with additional physical ground disturbance could support nearly six times as many priority invertebrates and plants than the light grazing that had been used before.

On the freshwater wetlands of the North Norfolk Coast, the approach revealed that almost twice as many priority invertebrates and plants could be supported by having more complex and varied wet grasslands and wet features, relative to the current approach where grasslands are closely-grazed to support wading birds.

Both of these findings are informing Landscape Recovery pilots, where the Breckland Farmer's Network and Norfolk County Council have been selected to develop ambitious plans to recover nature across their areas.

Dr. Katy Owen, Protected Landscapes Manager for Norfolk County Council, oversees the Norfolk Coast Area of Outstanding Beauty (AONB), where one of 22 national Landscape Recovery pilots will be delivered.

She said, "Bringing a nationally significant pilot project and associated funding to the North Norfolk coast is a great example of using this type of high-quality biodiversity data to inform decision-making—and most importantly to deliver real, significant change on the ground.

"Through Landscape Recovery, we are working with farmers and land managers to make space for nature in a working landscape. This type of data will be invaluable when considering land use change to deliver suite of ecosystem services. We can evidence that thriving biodiversity and vibrant rural economies don't need to be exclusive—in fact they can work together to make our coastline a great place to live—for humans and the millions of other species we share it with."

Comprehensive biodiversity audits in England typically identify 10,000-14,000 species—and 1,000-1,500 priority species—per ecoregion, the majority of which are plants and invertebrates that have been historically neglected in [conservation](#) planning.

The paper draws together evidence to show that the new policies for "Nature Recovery," while ambitious, are severely limited because they do not include any direction on how LNRS need to use the wealth of [species](#) data available. As such, incorporating [biodiversity](#) auditing can make an important contribution both to the management of existing semi-natural sites and the design of restoration efforts.

More information: 'Harnessing biodiversity data to inform policy: rapid regional audits should underpin local nature recovery strategies,' *Biological Conservation* (2023).

Provided by University of East Anglia

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