

Cross-border conservation vital to protect birds in a climate-change world

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Secretarybird was simulated to disappear from Namibia Credit: Dr. Stephen Willis, Durham University

Countries need to increase co-operation over conservation to protect birds and other wildlife in an era of climate change, according to a new continental-scale study.

Experts have established a new conservation index to help policy-makers to deal with the effects of [climate change](#) on [birds](#) in Africa, and it could assist governments across the world to protect wildlife areas and help

species as climate change forces them to move to new areas.

It is the first categorisation of [protected areas](#) to show how conservationists might deal with climate change and the shuffling of the distribution of wildlife species that it will cause. The new tool offers policy-makers essential information to allow them to manage and adapt habitats in coming decades.

An international research team led by Professor Brian Huntley and Dr Stephen Willis, School of Biological and Biomedical Sciences, Durham University, looked at how native African bird species will fare in 803 Important Bird Areas (IBAs) across the continent, if climate change continues as predicted. Birds are a key indicator for conservationists because they respond quickly to change and are relatively easily monitored. IBAs are sites of highest conservation importance for birds, some of which, but by no means all, are existing protected areas.

The team looked at projected future ranges of species of birds and how these coincide with the current network of priority bird sites across Africa. They predict that one third of the IBAs will undergo significant upheaval this century, in terms of the species they contain, due to climate change.

The study shows that there are substantial geographical gaps in the current conservation network and that international cooperation is essential to protect species.

The team produced a series of climate adaptation strategies, which provides a template for action across Africa. It could assist the movement of birds threatened by shrinking habitat and food supplies, across distances of up to hundreds of kilometres, to new climatically-suitable areas. Importantly, the team also highlighted those areas of Africa that are currently unprotected but which could prove crucial in

saving species that would fail to be protected in the present IBA network.

The research, funded by the Royal Society for the Protection of Birds (RSPB), and published in the journal *Conservation Biology*, suggests that hundreds of bird species in Africa will become emigrants, leaving one part of the continent for another in search of food and suitable habitat.



These flamingos are congregating at Etosha pan Namibia. Credit: Dr. Stephen Willis, Durham University

Co-author of the paper, Dr Stephen Willis, School of Biological and Biomedical Sciences, Durham University, said: "The bird map of Africa is set to change dramatically and we need conservation policies that see the bigger picture.

"There are large areas of Africa lacking protected status and many of these areas are predicted to be critically important for bird conservation in the future. We need to be ready to protect remnant populations of birds while also preparing for new colonists.

"We need to improve monitoring, communication and co-operation to

make protected areas work across borders. Conservationists and policy makers will have to work together in new ways as networks become increasingly important in protecting species."

Researchers used climate change projections from the Intergovernmental Panel on Climate Change to simulate impacts on African birds over the next 100 years for each of the IBAs and identified which areas could be expected to sustain which [bird species](#).

The results show that the continent will undergo considerable change with areas such as the southern African tropical zone (stretching from Namibia and Angola to Mozambique and Tanzania) projected to have high numbers of both emigrant and colonising species.

Dr Stuart Butchart, Global Research and Indicators Coordinator at research partner BirdLife International, said: "Many areas that are likely to become increasingly important are currently under-protected. Fast-tracking protected-area status for places such as Brandberg and Hobatere in Namibia and managing them appropriately could help species to survive and adapt to climate change.

"Cooperation across borders to preserve and adapt areas so that birds and other wildlife can survive as their habitats change and shift will be essential to conserve biodiversity and maintain the ecosystem services that will help people and communities adapt to climate change."



The Cape Vulture experienced a 40 percent decline IBAs. Credit: Dr. Stephen Willis, Durham University

Some protected areas will be able to maintain a business-as-usual management regime, whilst others will need a new way of working, often across international borders to conserve different species. Increasing the size of the currently protected areas is a potential solution but difficult to enact. The research team believes that other solutions could have positive results.

Dr David Hole, Climate Change Researcher with research partner, Conservation International, said: "Policy action to encourage practices that will make it easier for species to move through the wider landscape will be critical, such as conservation-friendly farming and agroforestry, to ensure species can reach newly climatically suitable areas as climate changes."

"There's a real opportunity here since these types of measures, together

with adaptive management of existing Important Bird Areas could not only aid conservation but also help to mitigate climate change by conserving or restoring natural habitats, as well as guiding us to preferred localities for climate mitigation schemes. It's about trying to find those win-win situations."

Winners and losers:

Areas of High turnover, i.e. high immigration and emigration:

Kalahari-Gemsbok National Park (South Africa) – 79% turnover

Hobatere (Namibia) - ensemble turnover 70%

Areas of little change:

Kilombero Valley (Tanzania) - 95% persistence

Waza National Park (Cameroon) - 98% persistence

Provided by Durham University

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