

# Scientists call for a shake-up in the way we record biodiversity

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Gaps in our information about biodiversity means we are at risk of focussing our conservation efforts in the wrong places.

New research from Newcastle University, UK, University College London (UCL) and the University of Queensland, Australia, highlights the uncertainty around our global biodiversity data because of the way we record species sightings.

The study explains how a lack of information about a species in a particular location doesn't necessarily mean it's not there and that recording when we don't see something is as important as recording when we do.

Publishing their findings today in the academic journal *Biology Letters*, the team say we need to change the way we record sightings - or a lack of them - so we can better prioritise our [conservation efforts](#) in light of the Convention on Biological Diversity.

Dr Phil McGowan, one of the study's authors and a Senior Lecturer in Biodiversity and Conservation at Newcastle University, said:

"Where there is no recent biodiversity data from an area then we might assume a species is no longer found there, but there could be a number of other possible reasons for this lack of data.

"It could be that its habitat is inaccessible - either geographically or due

to human activity such as ongoing conflict - or perhaps it's simply a case that no-one has been looking for it.

"Unless we know where people have looked for a particular species and not found it then we can't be confident that it's not there."

To test the research, the team used the rigorously compiled database of European and Asian Galliformes - a group of birds which includes the pheasant, grouse and quail.

"Our long-standing love of the Galliformes goes back hundreds of years which means we have records that are likely to be much better than for other groups of animals or plants," explains Dr McGowan.

"Not only have these birds been hunted for food, but their spectacular colours made them valuable as trophies and to stock the private aviaries of the wealthy. In the late 1800s and the turn of the last century, the Galliformes were prized specimens in museum and private collections and today they are still a favourite with bird watchers."

Analysing 153,150 records dating from 1727 to 2008 and covering an area from the UK to Siberia and down to Indonesia, the team found that after 1980, there was no available data at 40% of the locations where Galliformes had previously been present.

The study suggests two possible scenarios.

Dr Elizabeth Boakes, the study's lead author and a teaching fellow at University College London, said:

"We have no evidence of populations existing past 1980 in 40% of our locations. However, absence of evidence is not evidence of absence.

"One scenario is that populations have been lost from these areas, probably due to hunting or habitat loss. The other scenario is that the species are still locally present but that nobody has been to look for them.

"Our study shows that which scenario you choose to believe makes a huge difference to measures used in conservation priority-setting such as species richness and geographic range. It's important that we make the right call and that means a big shake up in the way we currently monitor biodiversity.

"We need to record what we don't see as well as what we do see and we need to be recording across much wider areas."

Involving 192 countries and the EU, the Convention on Biological Diversity is dedicated to promoting sustainable development.

The goals include the Strategic Plan for Biodiversity which says we must at least halve and, where feasible, bring close to zero the rate of loss of natural habitats, including forests, and halt extinction of those [species](#) we know to be under threat.

"In order to start meeting these goals we must first understand exactly which organisms are close to extinction and need prioritising in order to meet this target," explains Dr McGowan, who is Co-chair of IUCN Species Survival Commission's Policy Subcommittee and a member of its Strategic Conservation Planning Subcommittee.

"The IUCN Red List of Threatened Species is a good starting point but as our research shows, it's only as accurate as the data that's been collected.

"Going forward, we need to make sure we are recording when we've not

seen something just as much as when we do and that's where keen and informed members of the public - such as bird watching groups - could really help us."

**More information:** Uncertainty in identifying local extinctions: the distribution of missing data and its effects on biodiversity measures. Elizabeth Boakes, Richard Fuller, Philip McGowan and Georgina Mace. *Biology Letters* 2016. [rsbl.royalsocietypublishing.org ...  
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