

Conservationists develop novel way of choosing perfect new homes for species struggling in changing climate

September 5 2013

Scientists at the Zoological Society of London (ZSL) have devised a novel method to identify suitable new homes for animals under threat from climate change.

Conservation scientists used their knowledge on species ecology to create [habitat suitability](#) maps and correctly identify sites that will remain viable in the future regardless of [changing climate](#). However, the key for success is to understand, and account for, the link between variation in [species population](#) size, climate and how the climate may change.

Almost half of all bird and [amphibian species](#) are believed to be highly vulnerable to extinction from climate change. Species in extreme or rare habitats such as the [emperor penguin](#) in the Antarctic and American pika in the USA have already experienced drastic declines in populations due to the impact of climate change on their home.

As climate changes, many species will need to move to a different location in order to survive. For species that aren't able to do this naturally, the only chance of survival is a helping hand through the use of translocations.

The research is published today (6 September) in the *Journal of Applied Ecology*.

Dr Nathalie Pettorelli, ZSL's climate change coordinator and senior author on the paper, says: "Climate change poses a worrying threat to many animals, and relocating vulnerable species to new and more [suitable habitats](#) may be the only way to protect them. However, this is an extreme conservation action, which needs to be thoroughly justified, and requires clear guidance on where threatened populations should be moved. Our research shows how these key requirements can be met."

The team used the hihi bird as an example because of the conservation success which came after efforts put into its relocation since the 1980s. Yet, despite large investments into its protection, climate change is now posing a significant threat to its future survival.

Dr Alienor Chauvenet, lead author of the study, says: "All current hihi populations are surrounded by either a large stretch of water or unsuitable habitat such as farmland or cities with plenty of non-native predators. This isolation makes it very perilous for them to move and individuals attempting to relocate naturally are unlikely to survive.

"Our work shows that assisted colonisation may be the only way to guarantee the survival of this unique species under climate change," Dr Chauvenet added.

Translocations will continue to be an important part of conservation as climate changes. ZSL's novel method shows how these interventions can be planned to be successful even under the influence of a changing environment. The method can be applied to any species threatened by climate change, and is likely to contribute to the success of future translocations.

Provided by Zoological Society of London

Citation: Conservationists develop novel way of choosing perfect new homes for species struggling in changing climate (2013, September 5) retrieved 21 September 2024 from <https://phys.org/news/2013-09-conservationists-homes-species-struggling-climate.html>

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