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Persecute, protect or ignore? Dilemma as species move due to climate change

Polar bears turning up in Russian Siberia this year are the latest sign of a trend that scientists expect to increase in coming years as species change their ranges and habitats in response to climate change.

Polar bears are just one of many species already on the move and [a new study published in the journal Nature Climate Change](#), led by the University of Florida and including IMAS and [CMS](#) Professor Gretta Pecl, has looked at how new arrivals are likely to be regarded.

Lead author Brett Scheffers, assistant professor of wildlife ecology and conservation in the University of Florida Institute of Food and Agricultural Sciences, said climate change will alter regions' ability to support the animals living there.

"To survive, those species will need to move to areas where they can find food and water, as well as conditions they are adapted to," he said.

"That presents challenges for people who make decisions about how to manage wildlife.

"It used to be that you could draw a box around a species and say, 'this species lives here,' but increasingly we are going to see them leaking out of those boxes, and local people and governments will have to handle the newcomers," he said.

Professor Pecl said past example of species movement give an insight into how future mass movements due to climate change could be managed.

"In the past, forces other than climate change, such as land development, have altered where animals live, although climate change has the potential to cause redistribution on a much bigger scale," Professor Pecl said.

"Our study identified species that have shifted due to non-climate factors and, when we looked at how people reacted, we found three types of response: persecute, protect or ignore.

"The type of response depended on how people perceived the relative costs and benefits of their new neighbours.

“For example, if it’s a culturally important species, a popular game animal or already protected, they’re more likely to be protected.

“But if a species poses an economic threat or a threat to species that are already there, as invasive long-spined urchins are doing along Tasmania’s East Coast, there may be moves to cull or control it.

“Sometimes, a species is neither welcomed nor rejected, falling into the ignore category.

“Understanding these patterns now can help us better prepare for the mass redistribution of species that climate change will set into motion,” Professor Pecl said.

The study points out that because species on the move don’t respect state or national boundaries, managing species affected by climate change will require multilateral cooperation.

Governments already do this with migratory species, however the difference with climate change is that instead of moving back and forth seasonally, new arrivals won’t return to where they came from.

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