

ARC Centre of Excellence for Environmental Decisions (CEED)

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Targeting threats alone “won’t save our wildlife”

The world needs to rethink its approach to conservation if it is to save nature from a looming wave of extinctions.

Researchers from the ARC Centre of Excellence for Environmental Decisions (CEED) say the focus on ‘threat hotspots’, a strategy used by many countries and conservation bodies, can be expensive, inadequate and may even push threatened species closer to the brink.

In a review published in the journal *Frontiers of Ecology and the Environment*, the researchers propose a new framework that helps identify conservation actions that are both affordable and achieve the greatest benefit for imperilled animals and plants.

“Too often, governments and organisations have only one goal in conservation: to reduce what they perceive as the main threat,” says Dr Ayesha Tulloch of CEED and The Australian National University (ANU). “This approach limits them to solving only one part of the problem, can be expensive and have undesired outcomes.”

For example rhinoceroses, with only 26,000 left alive, are one of the most threatened animals worldwide, with numerous action groups and conservation organisations trying to save them, yet poachers still kill thousands every year, she says.

“To save the rhino, conservation bodies use ‘threat maps’ that show where poaching is worst and then put a lot of effort into trying to catch the poachers,” Dr Tulloch says. “However, poaching in turn is driven by poverty, lack of education and a booming illegal market for rhino horn.

“If you only target poachers, it restricts the supply of rhino horn at the same time as market demand increases. This drives up the prices – and leads to animals being killed at ever increasing rates. To overcome poaching you need to address the things which drive it in the first place – not just catch a few poachers, who will soon be replaced by others.”

Another example is Australia’s programs to eradicate foxes, in order to protect small native marsupials, says co-author Ms Vivitskaia Tulloch of CEED and the University of Queensland (UQ).

“If we only target the foxes with poison baiting, when you remove them the numbers of feral cats and rabbits, which are also hunted by foxes, tend to boom once the foxes are gone.

“So in many places the small marsupials will still be hunted – only by cats instead – and the rabbits will wreak havoc in the landscape, depriving native animals of food and shelter.

“These examples show that if you only target the immediate perceived threat to wildlife, you end up overlooking other equally important issues such as social, political or economic drivers, or the impacts of other species.”

“The problem is that reducing threats isn’t a biodiversity outcome on its own,” explains CEED Director Professor Hugh Possingham. “Prioritising them leads us to cling to a single goal – and miss the big picture.

“To avoid putting all our resources into ‘threat hotspots’, we are proposing a new conservation decision-making framework that considers all the threats, what else lives in the area, whether the threat is stoppable, the cost of all conservation actions and how likely they are to succeed.”

The plan will help governments and conservation organisations pick a more sustainable strategy, Prof. Possingham says. “Using foxes as an example, the framework helps determine the best ways to boost the long term survival of small marsupials, rather than simply decreasing the number of foxes.

“This gives us many more options besides killing foxes. For instance, it may be cheaper to buy land in the threatened areas and protect the marsupials directly from both predators and human activities, such as logging. Or we can set up enclosures for the native species to breed in - and reduce fox and cat numbers at the same time.”

“The framework helps us to ‘pick our battles’ and know what we can and cannot stop,” he adds. “It may be better to give up when a threat is too difficult or costly to eliminate, and spend the money somewhere else that will have a better result on the survival of the protected species.

“Also, what looks like the biggest threat to an endangered species sometimes turns out not to be as important as other factors: we need to take a step back and look at all of them.”

The review “Why do we map threats? Linking threat mapping with actions to make better conservation decisions” by Vivitskaia JD Tulloch, Ayesha IT Tulloch, Piero Visconti, Benjamin S Halpern, James EM Watson, Megan CEvans, Nancy A. Auerbach, Megan Barnes, Maria Beger, Iadine Chades, Sylvaine Giakoumi, Even McDonald-Madden, Nicholas J Murray, Jeremy Ringma and Hugh P Possingham is published in *Frontiers in Ecology and the Environment*. See: <http://bit.ly/1CBTUbE>

CEED is the Australian Research Council Centre of Excellence for Environmental Decisions. CEED's research tackles key gaps in environmental decision making, monitoring and adaptive management.

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