Lack of transparency over cost of conservation projects hampers ability to prioritise funds for nature protection

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A new study has found that costs of conservation projects are rarely reported, making it difficult for others to make decisions on the most

cost-effective interventions at a time when funding for biodiversity conservation is severely limited.

A review of 1,987 published reports of conservation interventions has found that only 8.8% reported the total cost of the intervention, and many of these were not detailed or standardized. The authors say this makes it very difficult to determine the cost-effectiveness of different interventions, and to make decisions on how to spend limited funding for biodiversity conservation.

The review, by researchers in the University of Cambridge's Department of Zoology, is published today in the journal *BioScience*. This is the first time that cost reporting across a broad range of wildlife conservation interventions has been reviewed.

"If we're serious about addressing biodiversity loss, knowing the financial costs of interventions is as important as knowing their effectiveness. But the cost of projects is rarely reported for others to benefit from," said Thomas White, a researcher in the University of Cambridge's Department of Zoology and first author of the paper.

Dr. Silviu Petrovan, in the University of Cambridge's Department of Zoology and a co-author of the study, added: "Wildlife conservation across the world is severely limited by funding, and the lack of information on the cost-effectiveness of different interventions makes it very difficult to prioritize where this money is spent."

The work is part of the University of Cambridge's Conservation Evidence project, led by Professor Bill Sutherland, which has compiled a huge resource of scientific information on the effectiveness of different conservation interventions. It is designed to support anyone making decisions about how to maintain and restore biodiversity.

For this new review, the team checked 1,987 studies in peer-reviewed journals and other reports—representing actions to conserve a range of different species and habitats—to see whether financial costs had been reported. Only 13.3% of these reported any financial costs at all.

"Even when costs are reported, the lack of consistency between reports makes it difficult for others to work out whether a cost is relevant to their project or not," said Professor Bill Sutherland in the University of Cambridge's Department of Zoology, a co-author of the study.

He added: "It's frustrating because the people who implemented conservation projects probably do know how much they cost, it's just that the information isn't making its way into the scientific literature so others can benefit from it."

The review found that costs were reported more often for some specific types of intervention, such as those linked with agriculture—which the authors suggest could be due to the nature of farming as an income-driven activity. Planting hedgerows or wildflower strips on farmland to encourage wildlife, or applying herbicide to control invasive plants, for example, incur costs that farmers must factor into their operations and are easily measurable.

In addition, costs were reported more often for conservation projects in Africa than in other parts of the world. The authors suggest this could be because projects in African countries are more likely to be led by conservation organizations that must prioritize cost-effectiveness.

The authors recommend that researchers, publishers and practitioners report the costs of conservation interventions in standardized formats, so that they can be used to improve decision-making by everyone planning a conservation project. They are now developing a framework to make it easier to report these costs.

"There are some easy steps to be taken to fix this—it's just about creating a culture of reporting costs as part of reporting a conservation project, and making sure those costs are in a format that allows others to understand how much it would cost them to implement a similar action in a different context," said White.

The authors say that in healthcare settings there is also a need to efficiently allocate resources—but unlike in conservation, healthcare decision-makers have access to a developed body of work that collates and analyzes information on effects and costs. The effectiveness of conservation interventions can be more difficult to evaluate because many factors may be involved—such as acceptability to local communities, or feasibility with the skills and equipment available—as well as cost.

At COP26 in Glasgow last year, world leaders recognized the connection between the global biodiversity crisis and the climate crisis—and the critical role that nature plays in both adapting to and mitigating climate change.

"We're losing global biodiversity at an alarming rate—it's a real risk to society, and we need to be serious about reversing that trend. To do it will require unprecedented conservation action at a scale we aren't yet achieving and we don't have the finances for. So we need to be really careful about selecting the most cost-effective interventions with the money we've got," said White.

More information: Thomas B White et al, What is the Price of Conservation? A Review of the Status Quo and Recommendations for Improving Cost Reporting, *BioScience* (2022). DOI: 10.1093/biosci/biac007

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