Maximizing conservation investment for recovering endangered species

Forty years ago the US Endangered Species Act (ESA) went into effect, and today it protects around 1,500 different species. While the ESA has been successful in bringing some species back from the brink of extinction, it has had more trouble getting species recovered enough to actually be removed from the endangered species list. A chronic lack of funding is a major culprit in this problem. The agencies administering the ESA find themselves having to figure out how to distribute limited resources to an ever-growing number of threatened species. But there is never enough to go around. This begs the questions: which species should have their recoveries funded and is there ever a time when a species' funding should be discontinued?

Our research provides a way for the agencies responsible for the ESA to divide up funding resources in a way that will do the most good for the most species. The method we are proposing is called conservation triage. Conservation triage redistributes funding from species that are currently overfunded but aren't benefiting from it, to severely underfunded species who may be able to benefit from more resources if given the chance.

Our research shows that less than 25% of the $1.21 billion per year needed for carrying out recovery plans for 1,125 endangered species is actually assigned to helping their populations recover. Additionally, we found that the amount of recovery funding a species received and the species' status–either increasing population or decreasing population–was linearly correlated. That is, as recovery funding increased so did the likelihood that a species' population was recovering. Overall, the relative success of species that were underfunded was less than the relative success of species that were receiving all of their recommended funding or were overfunded. However, for a certain subset of fully and overfunded species this relationship does not hold true. Despite having enough funding their populations continue to decline. By redistributing the excess funding from the top 50 species that are "costly failures," to the most underfunded species. Doing this would increase the funding available for the recovery of up to 182 threatened species, increasing their likelihood of recovery.

Although more research is needed, our analysis suggests that this type of conservation triage could be an effective a way to distribute limited conservation funds in a way that will help the most species without increasing funding. Conservation triage has the potential to bring over 100 species that we identified as being severely underfunded closer to their recommended recovery budget and therefore give their populations a better chance at recovering and getting delisted from the ESA. As the goals of the ESA and its associated agencies is to eventually delist as many species as possible, distributing funding in a way to help the most endangered species, rather than just a few that have proved to be futile cases, is a cost-effective way of pursuing conservation.

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