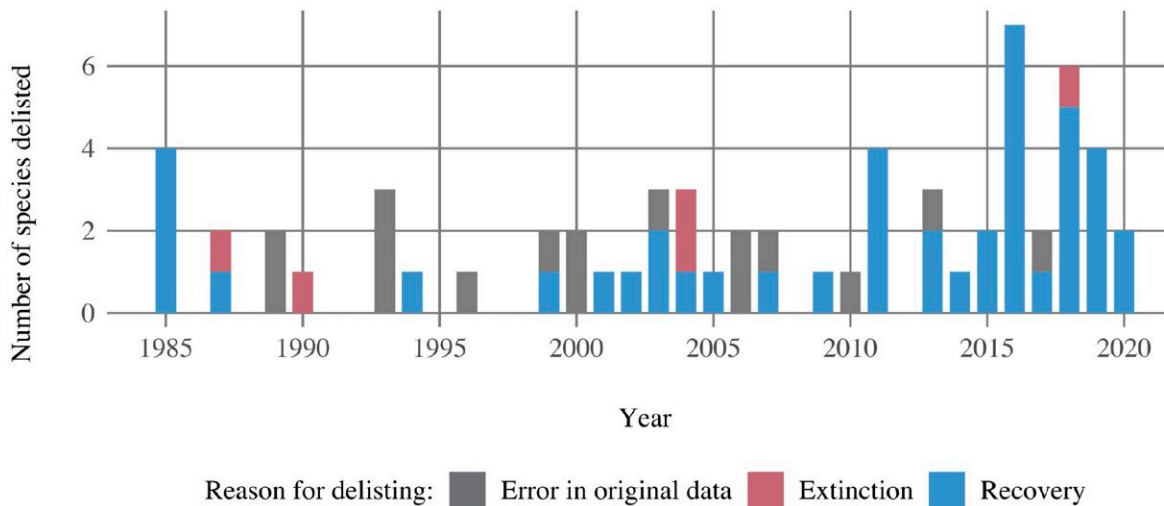


Too little, too late: Study examines why the Endangered Species Act fails

October 12 2022



Out of the thousands of species that have been listed by the Endangered Species Act in the past 48 years, only 54 have recovered to the point where they no longer need protection. Credit: Eberhard et al. 2022

Since its passage in 1973, the U.S. Endangered Species Act (ESA) has been the strongest law to prevent species extinctions in the United States, and has served as a model of conservation policy to other nations.

However, its success in helping species recover leaves a lot to be desired. Out of the [thousands of species](#) that have been listed by the ESA in the

past 48 years, only 54 have recovered to the point where they no longer need protection. A new study, published in the journal *PLOS ONE*, examines why so few species have recovered successfully.

The study—led by Erich Eberhard from Columbia University's Department of Ecology, Evolution, and Environmental Biology, and co-authored by scholars at Princeton University—paints a grim picture. They find that most species are not receiving protection until their populations are precariously small, dimming their prospects of recovery.

"We find that small population sizes at time of listing, coupled with delayed protection and insufficient funding, continue to undermine one of the world's strongest laws for protecting biodiversity," they write.

The findings are particularly newsworthy in light of the upcoming meeting of the United Nations Convention on Biological Diversity in December. The meeting aims to finalize a framework that will guide conservation efforts around the world through 2030. The planet currently faces [accelerating rates of species extinction](#), with a projected loss of [over 1 million species](#) in the foreseeable future.

A persistent pattern

Small populations are more vulnerable to environmental and genetic threats, and thus more likely to go extinct before conservation interventions can recover the species to a stable population size.

Evidence of species not receiving protection under the ESA until their populations have become very small was [first reported in 1993](#), when a study found that species being listed for protection had, on average, just 1,075 remaining individuals for [vertebrate species](#), 999 remaining individuals for [invertebrate species](#), and 120 remaining individuals for [plant species](#).

The new study repeats the 1993 study's methodology to determine whether the US Fish and Wildlife Service has become more proactive during the roughly 30 years since attention was first drawn to the problem. The team also looked at trends in species' "wait times"—the length of time between when a species is first identified as potentially needing protection and when it actually receives protected status under the ESA—and trends in funding for the listing and recovery of endangered species.

As it turns out, species' [population](#) sizes at time of listing did not significantly change between 1985–1991 and 1992–2020. The study also found that there are consistently long wait times before species receive protection, which further increases the risk of extinction to species with already small or rapidly declining populations.

Funding restrictions don't help matters. While funding allocations declined between 2010 and 2020, the number of species listed for protection increased by over 300% during that time. As a result, the study found that funding for protection has dropped by nearly 50% per species since 1985.

"As the number of imperiled species—and the threats that they face—multiply, the unfortunate conclusion is that the U.S. Fish and Wildlife Service is being asked to do more with less resources," said Eberhard.

Inadequate funding toward protecting threatened and endangered species has persisted for decades, the authors note, regardless of which [political parties](#) are in power in the White House and Congress.

"Increased funding is essential for sustained, [substantial progress](#) in protecting imperiled species," they write. "Studies have shown that government expenditures for imperiled species management do

contribute to an improvement in recovery status and averted extinctions."

As the meeting of the Convention on Biological Diversity draws near, the study authors hope that leaders in the U.S. and across the world will learn from these lessons to better protect and conserve imperiled species across the globe.

More information: Too few, too late: U.S. Endangered Species Act undermined by inaction and inadequate funding, *PLoS ONE* (2022).

[DOI: 10.1371/journal.pone.0275322](https://doi.org/10.1371/journal.pone.0275322) ,
dx.doi.org/10.1371/journal.pone.0275322

Provided by Columbia Climate School

Citation: Too little, too late: Study examines why the Endangered Species Act fails (2022, October 12) retrieved 20 June 2024 from <https://phys.org/news/2022-10-late-endangered-species.html>

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