

All species, great and small, must be preserved

October 27 2015, by Evelyn Perez



Ambitious conservation projects are currently under way for the East African bongo antelope, sharks, Amazon parrots and many others at the FIU Tropical Conservation Institute. Credit: Paul Reillo, Ph.D.

Researchers warn all species are important, and conservation efforts

should be based on the need for biological diversity and not on how useful individual species are to people.

Human populations derive a variety of benefits from nature, including food and water, [climate control](#), [disease control](#), [nutrient cycling](#) and recreational benefits. In a paper published in *Current Biology*, an international team of researchers calls for a conservation philosophy that values all [species](#), great and small.

"We obtain so many benefits from different species, whether it's penicillin or chocolate," said Mike Maunder, co-director of Florida International University's Tropical Conservation Institute and co-author of the paper. "We eat species, the houses we live in are made of species and the clothes we wear are derived from species. We have an incredible need to hold on to biodiversity because it's so useful. At the same time, we don't know how useful it truly can be. There is so much left to be discovered on the roles species play in ecosystems and how else we benefit from them."

Maunder, who also serves as associate dean of research engagement for FIU's College of Arts & Sciences and interim director of [The Kampong](#), was part of the team of more than a dozen international researchers who wrote the review paper on the importance and benefits of species. A conservation biologist by trade, Maunder has more than 20 years of experience in habitat and species conservation in the Caribbean, the Middle East, Eastern Africa and sub-Saharan Africa.

Growing [human populations](#) are changing the planet in fundamental ways by virtue of the resources they consume, resulting in the loss of plant and animal species throughout the world. As species disappear, society loses the known and unknown benefits these species provide. Efforts to calculate the value of species are not new, with economists doing so since the 16th century. The best-understood benefits are those

related to food or facilitating recreation and cultural activities. However, understanding the value of a species is difficult and will always be imperfect, because the value depends on what is actually known about it. When a species is lost or greatly reduced in an environment, there are consequences. The Indian vulture is proof of this. After being unintentionally poisoned in the 1990s, its numbers were reduced by more than 99 percent. This resulted in an increase in feral dogs, which led to greater occurrences of rabies in Indian and Pakistan.



Seven Florida grasshopper sparrows, among the world's most endangered birds, are under the care of Tropical Conservation Institute researchers. Credit: Paul Reillo, Ph.D.

According to the researchers, it is impossible to uncover the ecological roles that each of the planet's millions of species plays, let alone all of their benefits to humans.

"Maintaining species diversity is key to a sustainable future. Every species extinction is an irreplaceable loss of natural capital," Maunder said. "We hope researchers are inspired to study more to better understand the value of species, show the vital connections between human well-being and the preservation of biodiversity, and enable better restoration practices and policies."

Provided by Florida International University

Citation: All species, great and small, must be preserved (2015, October 27) retrieved 12 July 2024 from <https://phys.org/news/2015-10-species-great-small.html>

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