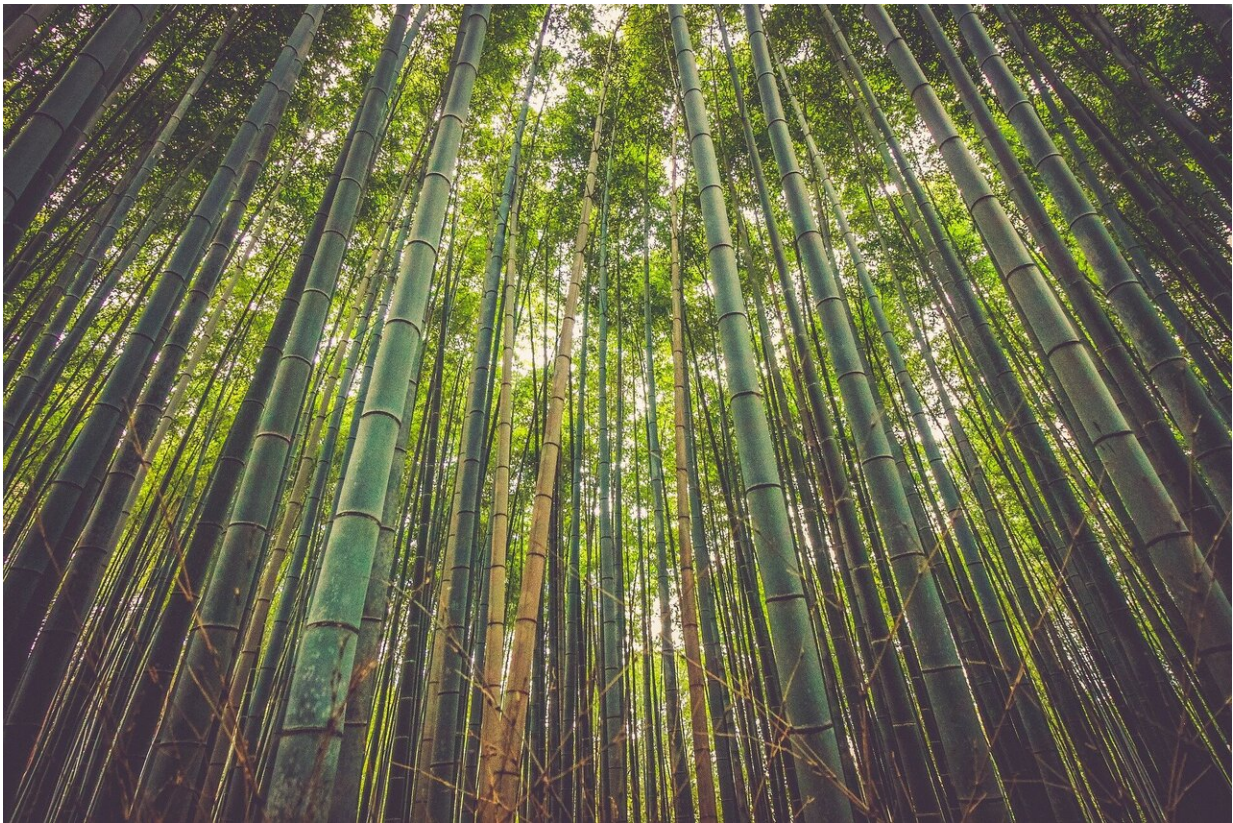


Conservationists need to pay more attention to 'degraded' tropical forests

August 1 2024, by Josh Davis



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Conservationists have typically focused on pristine tropical rainforests, or those thought to have been relatively untouched by human disturbance.

But as these regions are getting rarer, focus is turning to other types of habitat that might still have conservation value. A new study has found that we've been underestimating the importance of one such habitat—partially logged forests.

For the past few decades humans have been cutting down rainforests at an alarming rate.

Nowhere is this issue more pressing than in Southeast Asia, which has one of the highest rates of deforestation on the planet. Over the past 30 years, the region has lost an area of [rainforest](#) around the size of Germany, with loggers still active in many parts.

But not all logging is the same. At the one end is clear cutting, removing all the trees and plants to replace them with industries such as agriculture and livestock. But there is also what is known as selective logging, in which loggers will only remove the biggest and most valuable trees while allowing the rest to remain.

Yet according to strict definitions, any forest that has been logged is classed as "degraded."

A new study [published](#) in the journal *Nature* is aiming to question this classification. It looked at the diversity of animals and plants found within patches of rainforest on the island of Borneo with varying levels of disturbance.

The results showed that forests classed as "degraded" still contained significant amounts of wildlife and should be protected in similar ways to those forests which are considered "intact."

Max Barclay is a curator of beetles at the Natural History Museum who helped to identify and classify the beetles found in each area of forest.

"What we're doing is trying to undermine the notion that there are only two types of forest: intact forest and degraded forest," explains Max.

"Because often once you've got the notion of degraded forest, then companies can say it's degraded anyway so it doesn't matter if they cut the rest of it down and make it into a palm oil plantation."

"The term 'degraded' is a red flag in that it sounds like something disposable because it's already gone. What we're trying to argue is that's not the case."

Compare and contrast

Rainforests around the globe are known for their extraordinarily high levels of biodiversity. The warm, wet, stable environments mean that a huge range of plant species thrive in the tropical band around the equator. As a result of this, the plants create a platform for a complex and diverse community of animals to live and evolve.

This is one of the reasons why the tropics is so rich in wildlife. It is also part of the reason why the land is so desirable to grow crops such as palm oil.

But the amount of undisturbed rainforest, known by scientists as "primary" rainforest, is steadily declining as loggers go in to take the oldest and largest trees, and forest is cleared for farming.

To look at the impacts on the diversity of animals and plants found in these forests, a team of researchers have been studying plots of rainforest in Sabah, Malaysia.

Over a period of 11 years, they collected information on 1,681 species—ranging from plants and beetles to spiders and mammals—found living across a landscape which contains a which

contains various levels of logging intensity. On the one end are those areas which have never been logged and still retain almost 100% of their species, while at the other are those which have been entirely deforested and only contain 1% of their original wildlife.

"We were comparing beetle diversity in primary forest and forests in which about 20% of the timber had been extracted and then forests in which more than 80% of the timber had been extracted," explains Max.

What they found were two thresholds. The first of these showed that forests which had lost around a third of their trees still retained relatively high amounts of wildlife and should be considered of significant conservation value. The second revealed that if two-thirds of trees have been removed then the area would need considerable intervention.

The first of these thresholds is the most important. It suggests that conservationists should perhaps think a bit wider when considering which patches of forests to protect and preserve, and that this in turn will help save more of the planet's biodiversity.

"It shouldn't be as surprising as it is," says Max. "Because if you think about it, the whole of Western Europe and the whole of eastern North America is degraded forest. There is no primary forest left."

"Yet we still maintain quite a large percentage of the fauna in the patches of forests that do remain even though none of them are technically 'intact.'"

The hope is that the paper will give [policy makers](#) and conservationists the information they need to make more informed decisions that benefit not only the wildlife, but also the people in the communities that depend on these landscapes.

More information: Umesh Srinivasan, Forest-degradation thresholds shape tropical biodiversity, *Nature* (2024). [DOI: 10.1038/d41586-024-02155-5](https://doi.org/10.1038/d41586-024-02155-5)

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