

Will REDD Payments Save Threatened Species?

New research finds that a carbon-focused approach to curbing deforestation will contribute little to biodiversity loss.

The spectre of climate change casts a worrying pall over our planet's biodiversity. Amid the gloom hangs many opportunities, and one of the brightest of these is that the cost of carbon might save many of our tropical forests.

In a carbon-constrained world it makes sense to pay people more to NOT cut down their forests than they would make from clearing them. And, in so doing, these payments might also be one of our best opportunities for protecting the animals and plants found in these forests.

However, a new analysis led by Oscar Venter of the University of Queensland's Applied Environmental Decision Analysis Centre has demonstrated that if we want these payments to protect biodiversity then we need to explicitly configure these schemes to value biodiversity. If we don't do this it's unlikely to happen and we could possibly blow one of the greatest opportunities ever for tropical conservation.

So, what's in the balance? To begin with, clearing tropical forests for oil palm plantations or for timber comes at an enormous cost in terms of both biodiversity and carbon emissions. The rapid destruction of tropical forests poses one of the greatest perils to global biodiversity and produces around one-fifth of anthropogenic carbon emissions. In other words, the clearing of tropical forests is a very big deal.

It's been realised that preventing deforestation in tropical regions is a cheap way of reducing carbon emissions, and often much cheaper than other forms of emission abatement.

This is where REDD comes in. REDD stands for Reduced Emissions from Deforestation and forest Degradation. It's a proposal to provide financial incentives for developing countries that voluntarily reduce national deforestation rates.

In addition to reduced carbon emissions, it's often claimed that protecting biodiversity is another important dividend. But here's the rub. A new analysis published in *Science* by Venter and colleagues shows that unless biodiversity is explicitly factored into the REDD scheme then the biodiversity benefits will be minimal. The study compared two REDD approaches: one that was carbon-focused and one that was biodiversity-focused. They then looked at the value of approaches that lay between these two extremes.

"We found that, dollar for dollar, a carbon-focused approach will contribute little to slowing biodiversity loss and save far fewer species than a biodiversity-focused strategy that targets the most



REDD will likely slow down the clearing of rainforests, but which rainforests it protects depends on how it's configured. Photo: Yayat Ruchiat

imperiled forests," Venter says.

Why? If carbon payments focus narrowly on carbon and ignore threatened biodiversity, then the money will flow to where the most carbon can be saved per dollar spent, and that means South America. In the Amazon Basin in South America there is still quite a lot of surviving forest that is being cleared at a rapid rate for agriculture that is not that profitable; it's the cheapest place to reduce emissions. On the other hand, threatened species are most concentrated in countries like Madagascar, where only a few scraps of forest remain.

"If REDD focuses solely on cost-effectively reducing carbon emissions, its benefits for biodiversity are low," Venter explains. "Indeed, it protects only slightly more vertebrate species than if funds were allocated at random among forest-losing countries.

"However, if the same REDD funds were targeted to protect biodiversity, almost four times the number of species would be protected. In this case spending would tend to shift toward South-East Asian and Indian Ocean nations.

"This is the critical thing that has to be acknowledged when it comes to the design of the REDD payments: there's a trade-off between protecting biodiversity and reducing emissions. But, importantly, that doesn't mean that one or the other has to lose because our analysis shows that this trade-off is highly nonlinear. This means that, through careful targeting of REDD funds, allocation solutions can be found that come close to maximising both objectives simultaneously."

The compromise scheme proposed by the researchers is broadly similar to that which maximises emissions reductions but diverts some funding to nations that are jointly valuable for carbon and biodiversity. Their approach shows that by explicitly incorporating biodiversity into carbon payments it is possible to significantly increase the biodiversity benefits of REDD.

"In the next decade, billions of dollars will be spent on forest carbon initiatives," Venter says. "If we're smart about it, we can fight global warming and also have a huge benefit for vanishing ecosystems and wildlife."