

## Fighting climate change means protecting forests and wildlife

19th January 2016 / Commentary by **Russell A. Mittermeier**

*Russell A. Mittermeier, a primatologist who serves as Executive Vice Chair at Conservation International and Chair of the IUCN SSC Primate Specialist Group, praises the climate agreement signed in Paris for its inclusion of forests, but notes that biodiversity needs more recognition. The views expressed are his own.*

- *The Paris climate agreement formally recognized the role rainforests play in addressing climate change.*
- *But the importance of wildlife in maintaining forest function is often overlooked, says Russell A. Mittermeier.*
- *This post is a commentary -- the views expressed are those of the author.*

The Paris Conference of Parties (COP) of the UNFCCC has come and gone, and all but the most cynical would agree that the outcomes were on the positive side and that this was the most successful Climate COP to date. Did it resolve all of the major issues facing us? By no means! But was it at least a step in the right direction? Yes, it certainly was!

One of the issues that received attention at the COP, especially from the 50+ member Coalition for Rainforest Nations, was the importance of tropical rain forests and REDD+ (Reducing Emissions from Deforestation and Forest Degradation). The Paris Agreement gives top-level attention to the fact that these forests and other ecosystems should be part of country plans for reducing emissions. The text enshrines REDD+ as a key tool for mitigation in an agreement that will guide global climate action for the coming decades. More specifically, the Agreement dedicates an article to the role of forests and other ecosystems in climate change mitigation, sending a strong political signal that countries should both implement and support forest protection, sustainable management and restoration. In terms of the details, Article 5 reminds countries that they should conserve and enhance the sinks and reservoirs of greenhouse gases that are found in a wide range of natural ecosystems, including forests, oceans and other terrestrial, coastal and marine ecosystems. It also highlights the previous COP decisions related to REDD+, providing a strong signal to countries to both implement and support REDD+ as an important part of their activities under the new agreement. The article refers to existing COP decisions and guidance for REDD+, and does not establish new administrative or technical elements.



Rainforest river in Suriname. Photo by Russell A. Mittermeier



Rainbow over the forest from the Voltzberg, Suriname. Photo by Russell A. Mittermeier

We who were present at the COP discussed the importance of this issue with many of our colleagues from the tropical countries, and they were excited about the potential for future REDD+ deals and also the

opportunities presented by the new Green Climate Fund, with \$10 billion already committed by donors and a possible target of \$100 billion.

That said, I don't think the importance of tropical forests in tackling climate change received the full attention that it deserves in Paris. Most of us have been using the rough estimate that tropical forests could represent as much as 30% of the possible solution to the climate challenge, but very few noticed the paper, published by Richard Houghton of the Woods Hole Research Center and Brett Byers of the Million Acre Pledge in the journal Nature Climate Change, which appeared just as the COP began. In this ground-breaking paper, which still has received little attention, they point out that tropical forests could represent as much as 50% of the solution to climate change. Among other things, they take into consideration both prevention of further emissions from burning of tropical forests (currently estimated to account for as much as 11-12 percent of all greenhouse gases, and which places Indonesia and Brazil in third and fourth place as emitters of these gases) and also the potential for these forests to extract carbon dioxide from the atmosphere.



Photo by Russell A. Mittermeier

Of equal interest is the fact that it isn't as simple as just protecting and restoring these forests. It is also essential to maintain their full faunal composition if we are to ensure their long term survival and maximize their full capacity to combat climate change. Another recent paper on Amazonian forests indicated that just 1 percent of Amazonian forest trees, some 20 species, are responsible for 50 percent of the carbon storage value of these forests. Truly amazing! These tend to be the largest, tallest, slow-growing hardwood species. What is more, these are also the species that are dispersed by large forest frugivores (fruit-eaters) such as large monkeys (e.g., spider monkeys, woolly monkeys), large forest floor and canopy birds (e.g., toucans, curassows, guans, and several others), and even forest floor tortoises. These animals ingest the large seed of these hardwood trees whole, then disperse the seeds widely throughout the forest. In fact, some seeds won't even germinate unless they have passed through the digestive tracts of these frugivores. Sadly, these are also the species most sought after by hunters and the first to disappear in the face of any kind of human exploitation. And in fact many of these tropical forests, even those that look healthy from an aerial view, are already suffering from the "empty forest syndrome", meaning that most animals larger than a rat have already been hunted out. Perhaps the best example is the spider monkey genus Ateles, of which there are four species in Amazonia proper. These large monkeys, which can weigh up to 9 kilograms, feed mainly on

ripe fruits and are major dispersers. But they are heavily hunted in most areas and are often absent even in areas of otherwise intact primary forest.



Black spider monkey (*Ateles paniscus*), Paramaribo Zoo, Suriname, March 2010. Photo by Russell A. Mittermeier



Guianan black spider monkey (Ateles paniscus) near the Voltzberg Camp, Suriname. Photo by Russell A. Mittermeier .

Although we are still gathering information, what is true of these Amazonian forests is also likely true of the great forests of Central and West Africa, Southeast Asia and New Guinea as well.

Last but not least, it is also important to recognize the role of maintaining core areas of intact primary forest through parks, reserves, indigenous territories and other protected areas to ensure that restoration of forests takes place in a way that fully restores these forests to their many ecosystem service roles, including combatting climate change. Tree-planting is carried out at large scale around the world. However, given the great biological complexity of tropical forests, you can't fully restore them just by planting trees, even if you are planting many dozens of native species. Bringing back the full complement of animal and plant species, and especially those fundamentally large and vulnerable seed dispersers, requires the nearby presence of an intact primary forest from which the restored forests can be recolonized.

It has often been said that by far the most cost-effective and inexpensive way to combat climate change is to protect existing tropical forests, and enlightened visionary governments, esp. Norway, have invested billions in countries like Brazil, Indonesia, Guyana, Peru, and Liberia on this premise. This is now truer than ever. If we are going to combat climate change at scale, then conservation and full scale restoration of tropical forests need to be seen as a top global priority, and the level of investment in them, from the new Green Climate Fund and the full range of other donors, need to take this into consideration and give these forests the priority they deserve.



Cock-of-the-rock in Suriname. Photo by Russell A. Mittermeier

#### **CITATIONS:**

- R. A. Houghton, Brett Byers and Alexander A. Nassikas. A role for tropical forests in stabilizing atmospheric CO<sub>2</sub>. Nature Climate Change 5, 1022–1023 (2015) doi:10.1038/nclimate2869 Published online 25 November 2015.

• Sophie Fauset. Hyperdominance in Amazonian forest carbon cycling. Nature Communications 6, Article number: 6857 doi:10.1038/ncomms7857. Received 15 July 2014

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