

New paper argues that biodiversity is key to REDD+ success

As climate change accelerates and tropical forests disappear, a new paper presents evidence that biodiversity protection may be more important to the long-term success of REDD+ projects than previously realised.

Scientists at Fauna & Flora International (FFI) have gathered evidence which suggests that the protection of biodiversity – particularly large forest animals – is essential for storing large amounts of carbon in forests over time.

The paper, published in the October issue of *Oryx – The International Journal of Conservation*, shows that one of the most insidious threats to the long-term survival of forests in successful avoided deforestation projects comes from hunting, which can reduce tree survival and decrease forest resilience to climate change, disease and fires.

A staggering 13 million hectares of the world's forests (an area roughly equivalent to the size of Greece) are lost or degraded every year. The primary drivers of this loss are land conversion for agriculture, infrastructure development, logging and other consequences of a burgeoning population and a growing demand for food, fibre and fuel.

REDD+ (Reducing Emissions from Deforestation and forest Degradation) tackles global climate change by providing incentives for the protection of intact forests and the carbon they store. The '+' signifies going one step further to include sustainable forest management and activities that actually *increase* the carbon stored in forests.

The conservation of biodiversity is not a core objective of the REDD+ mechanism, which measures success according to the conservation of forest cover and carbon stocks. Biodiversity protection is still principally viewed as a co-benefit of the process – but the paper presents scientific evidence of the negative effects of biodiversity loss on tree survival rates and the carbon storage ability of tropical forests.

“In order for REDD+ projects to help keep carbon locked in trees in the long term they need to address wider threats to the biodiversity living within forests,” said Dorothea Pio, Biodiversity Specialist at FFI. “Managing unsustainable hunting should be a top priority for REDD+ projects.”

Hunting – driven by increasing human population, greater demand for wild meat and expanding wildlife trade networks – is the greatest threat to mammals and birds in tropical forests. Because it tends to target large species like primates and hoofed animals, particularly those that disperse tree seeds, hunting can prevent seed dispersal and the growth of new saplings.

Threats such as hunting and invasive species can reduce biodiversity in the short term, but only change tree cover and carbon storage over time – meaning that declines in forest health could go unnoticed for decades.

The article highlights recent evidence that between 70 and 90% of tropical forest trees are dependent on animals to disperse their seeds. In forests where these seed dispersers are removed, we can expect a shift to wind-dispersed tree species. Unfortunately, some of these species, such as woody vines which outcompete slower growing trees, have lower density wood which means they sequester and store less carbon. One study predicts a future decrease of up to 34% in the carbon storage capacity of a tropical forest in Panama following extinctions and woody vine infestations.

Given these risks, the authors argue that REDD+ projects must pay particular attention to reducing unsustainable hunting and to protecting seed dispersing animals if they are to achieve their carbon storage aims in the long-term.

To read the full article, please visit: <http://journals.cambridge.org/orx/hinsley>

For high resolution photos, please visit: www.bit.ly/1CgoPYV

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Notes to Editors:

About Fauna & Flora International (FFI) (www.fauna-flora.org)

FFI protects threatened species and ecosystems worldwide, choosing solutions that are sustainable, based on sound science and take account of human needs. Operating in more than 40 countries worldwide – mainly in the developing world – FFI saves species from extinction and habitats from destruction, while improving the livelihoods of local people. Founded in 1903, FFI is the world's longest established international conservation body and a registered charity.

The paper, ***Does the long-term success of REDD+ also depend on biodiversity?***, by Amy Hinsley, Abigail Entwistle and Dorothea Pio, is published in the October 2014 issue of *Oryx* – The International Journal of Conservation.