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Reducing biodiversity impacts from logging in Guyana

Written by: [Jake Bicknell](#) in [Issue 3](#) July 2011 [1 Comment](#)



Conventional selective logging can damage up to 15 times the number of timber trees extracted, resulting in substantial knock-on effects for forest wildlife

Recent studies have indicated that modern forestry methods associated with Sustainable Forest Management

(SFM) and certification schemes, significantly mitigate the negative effects normally associated with logging in tropical forests.

Conventional selective logging can damage up to 15 times the number of timber trees extracted, resulting in considerable changes to forest community dynamics, with substantial knock-on effects in forest wildlife.

Reduced-impact logging

In recent years, methods have been employed to minimise the detrimental effects of logging using a polycyclic system known as reduced-impact logging (RIL). Compared with conventional selective logging, RIL has been shown to reduce tree mortality by up to 27%, and total canopy gap fracture by 43%.

RIL typically involves a 100% pre-harvest tree inventory used to ensure the efficient planning of log extraction routes, vine cutting to prevent damage to connecting trees, directional felling, and a number of methods ensuring minimal waste and maximum efficiency.

Logging and wildlife

Forests harvested using RIL methods maintain forest wildlife communities that are largely indistinguishable to those in undisturbed forests

Conventionally logged forests subjected to high timber offtakes often succumb to high rates of faunal species loss. This not only has implications for biodiversity conservation, but also long-term forest dynamics, as many forest specialists perform vital roles as seed dispersers, pollinators and ecosystem engineers.

However, there is now an emerging evidence base that suggests that forests harvested using RIL methods maintain forest wildlife communities that are largely indistinguishable to those in undisturbed forests.

Study in Guyana

A recent study in the Iwokrama Forest in Guyana found only subtle differences in the densities of multiple species of large birds and large mammals in areas harvested using RIL, compared with unlogged forests.

The [Iwokrama International Centre for Rainforest Conservation and Development](#) (IIC) was established as a test facility to explore techniques for sustainable utilisation of forest products that maximise the revenue generating potential of tropical forests, therefore avoiding deforestation through monetary incentives.

As such the IIC are testing best practice SFM methods that go beyond RIL. The IIC are now conducting a more comprehensive long-term study to understand the effects of this SFM operation in the Iwokrama Forest, with surveys of multiple forest wildlife taxa prior to, and following RIL.

Early indications show that this type of SFM is compatible with biodiversity conservation in neotropical forests, and as such may represent a model for SFM operations elsewhere.

Implications

With large scale implementation of best practice SFM, forestry concessions may be utilised to increase the

worldwide conservation estate in tropical forests.

Written by

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