

# ► Project brief

Thünen Institute of International Forestry and Forest Economics

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## Financial incentives show effects beyond forest conservation areas in the Ecuadorian Amazon.

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- Intact tropical lowland forests still exist in the Ecuadorian Amazon – within and beyond conservation areas.
- Logged forests close to conservation areas were less degraded than logged forests in other landscapes.
- Deforestation decreased in parishes that had financially compensated conservation areas.

### Background and aims

Tropical forests provide important ecosystem services such as carbon sequestration, timber, habitats for wildlife, food and medicine. Human activities have resulted in a loss of forest cover and the decrease of these services. This has led to a discussion about possible and effective conservation strategies. A field study was conducted to compare carbon pools, timber volume and species richness as well as deforestation dynamics in areas with and without financial compensation for conservation.

### Methods

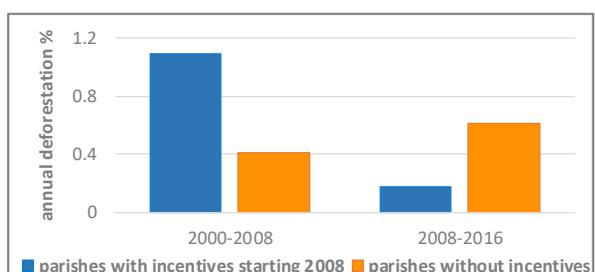
The study area comprised 8 parishes in the Ecuadorian Amazon. Four of these parishes had conservation areas under *Socio Bosque*. This program compensates forest conservation with between 1 and 35 USD per ha and year depending on area size. Since 2008, 1.6 mio ha are under this program in Ecuador. 72 forest inventory plots, each with a size of 40x40m, were installed in different forest types in and outside conservation areas. More than 17,000 trees were measured, carbon stocks were analyzed and deforestation data was computed from national statistics and satellite images.



Ecuadorian Amazon Forest. (Eguiguren 2016)

### Key Findings

- Carbon stocks, timber volume and species richness were comparable in old growth forests with and without conservation incentives.
- Logging in forests close to conservation areas resulted in 21% less above ground carbon, in comparison to 41% less in logging operations when no conservation areas were nearby. This was an unexpected side effect.
- Even though conservation areas only cover smaller parts of the parishes, mean deforestation at the parish level decreased when conservation areas with financial compensation were installed.



Deforestation in parishes with and without conservation incentives.

### Conclusions

Conservation schemes need to be installed in more countries before pressure on the last remaining tropical lowland forests increases. Financial compensation programs are an appropriate instrument, among others. They can have direct and indirect effects such as presence of institutions, monitoring and controls leading to more careful logging in the surroundings. Nonetheless, forest conservation incentives as promoted by international schemes like e.g. REDD+ may not halt deforestation, but can significantly reduce it.

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#### Publication

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