

Impacts of selective logging on forest elephants (*Loxodonta cyclotis*) in two timber concessions of central Africa

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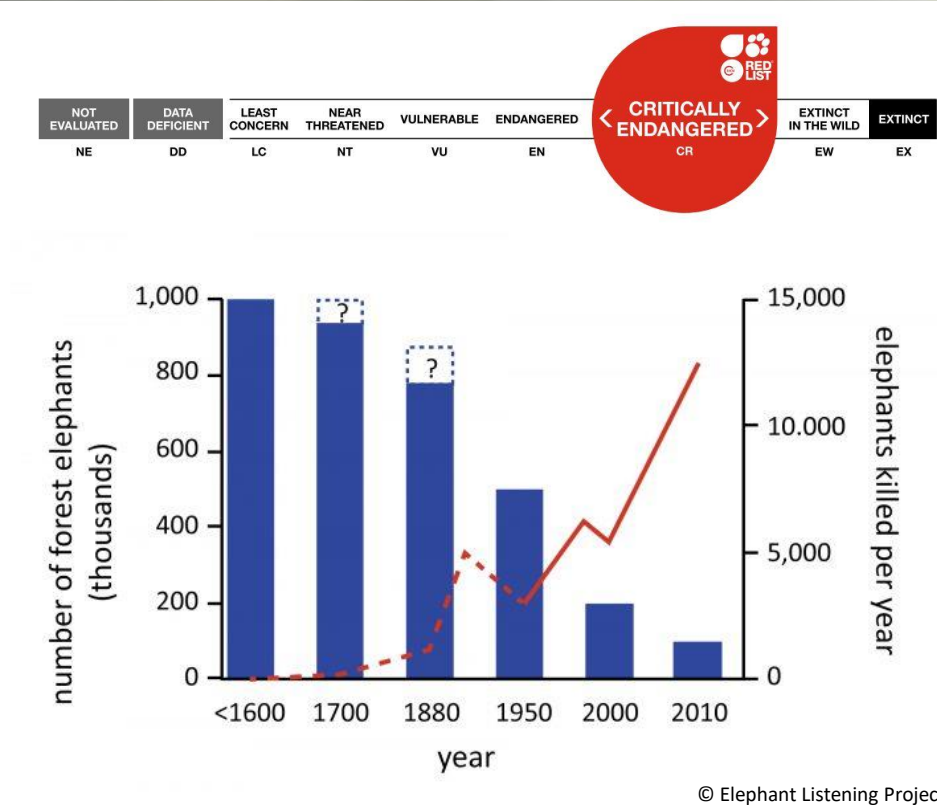
July 10-14, 2022

Conserving Tropical Biodiversity and Achieving
Socio-Ecological Resilience in the Anthropocene:
Opportunities and Challenges





Fragmentation

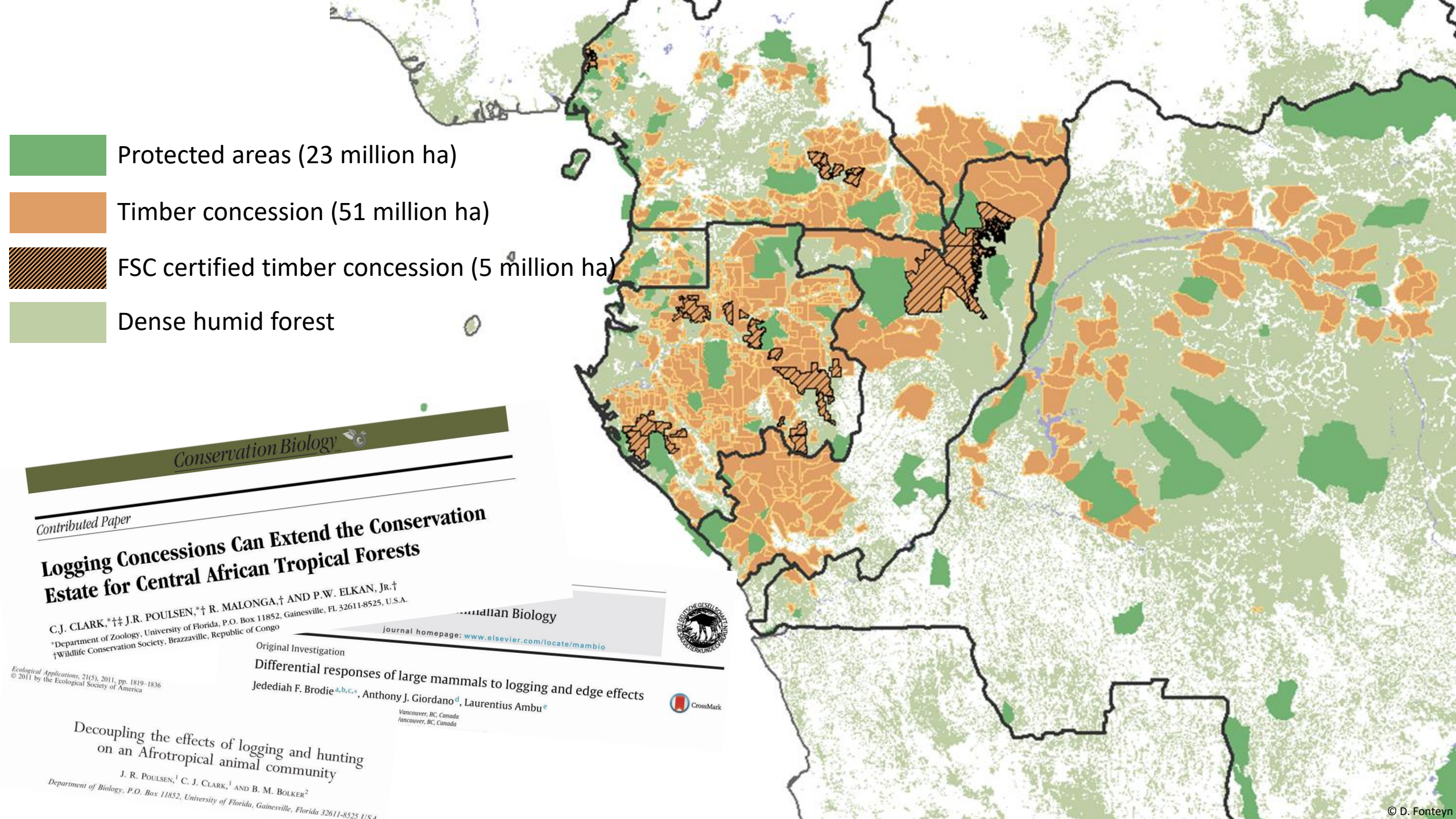


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Forest elephants shape landscapes





Protected areas (23 million ha)

Timber concession (51 million ha)

FSC certified timber concession (5 million ha)

Dense humid forest

Conservation Biology

Contributed Paper

Logging Concessions Can Extend the Conservation Estate for Central African Tropical Forests

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Journal homepage: www.elsevier.com/locate/mambio



Original Investigation
 Differential responses of large mammals to logging and edge effects
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^bVancouver, BC, Canada



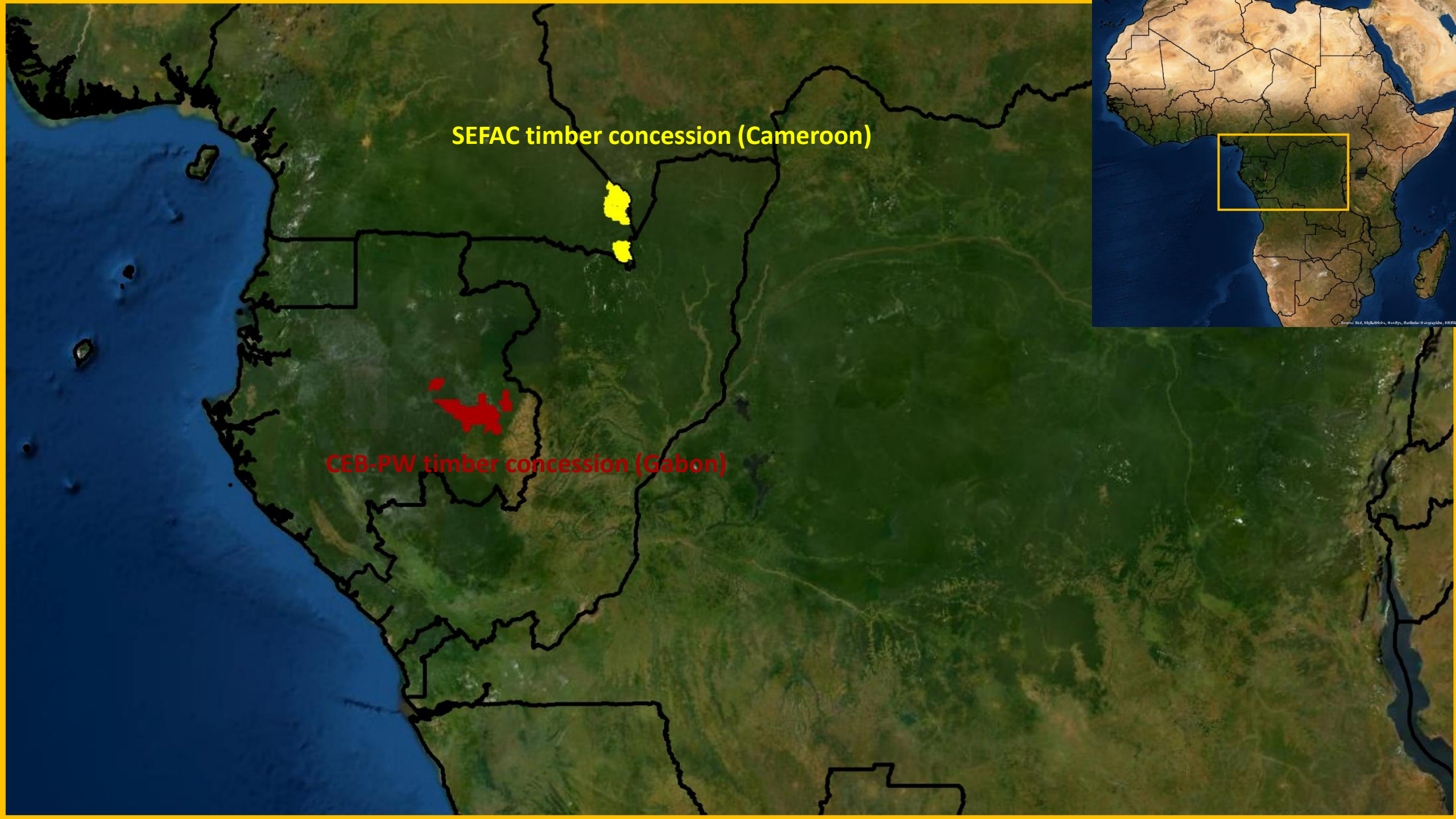
Decoupling the effects of logging and hunting on an Afrotropical animal community

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What are the impacts of selective logging on forest elephant abundances and movement ?



SEFAC timber concession (Cameroon)

CEB-PW timber concession (Gabon)



Space for time approach

SEFAC (Cameroon)



Space for time approach

SEFAC (Cameroon)

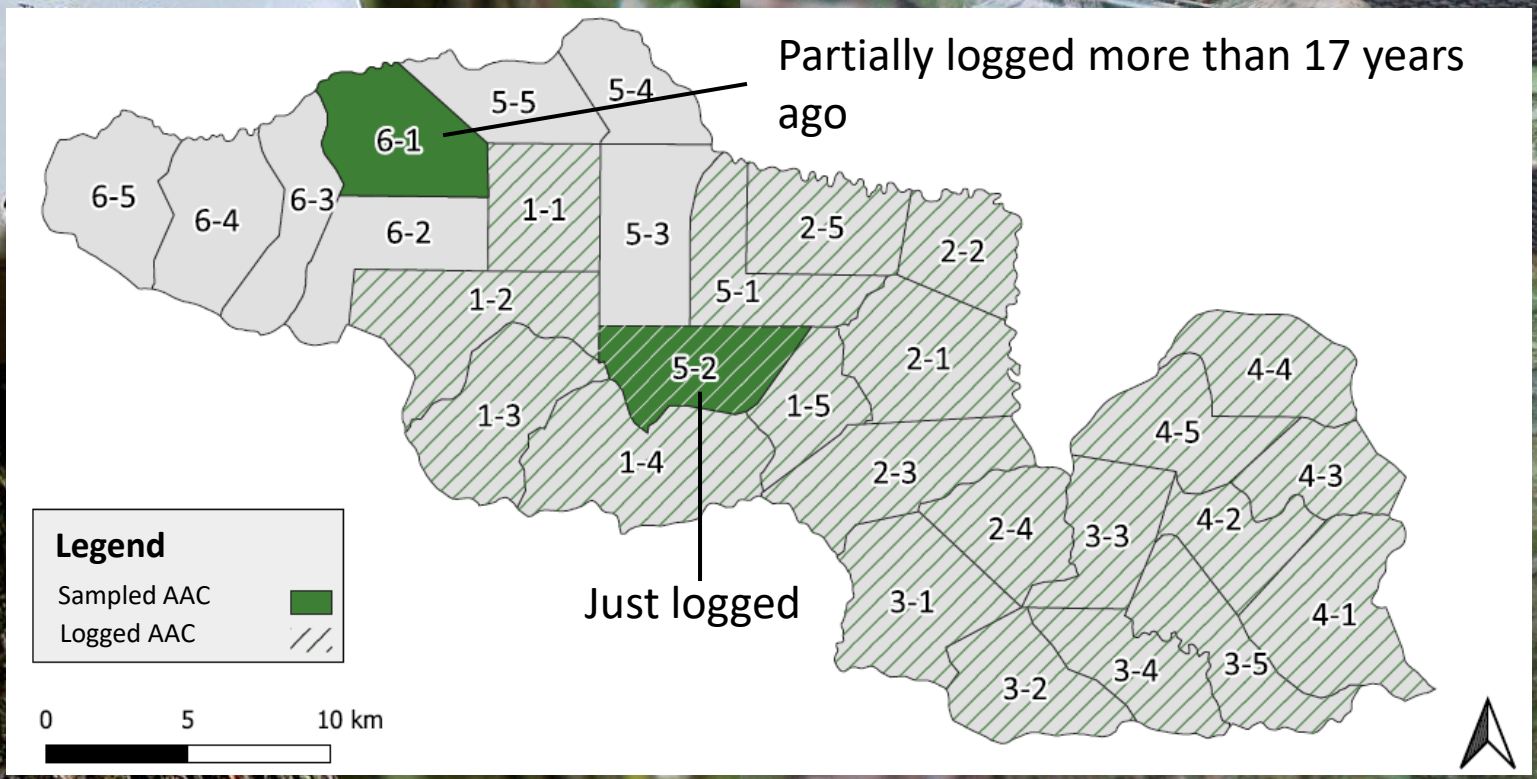


Space for time approach

SEFAC (Cameroon)

Method: 24 camera traps (CT) and 12 acoustic sensors (ARU) equally distributed in 2 annual allowable cuts (AAC) for seven weeks

Tossens, 2021

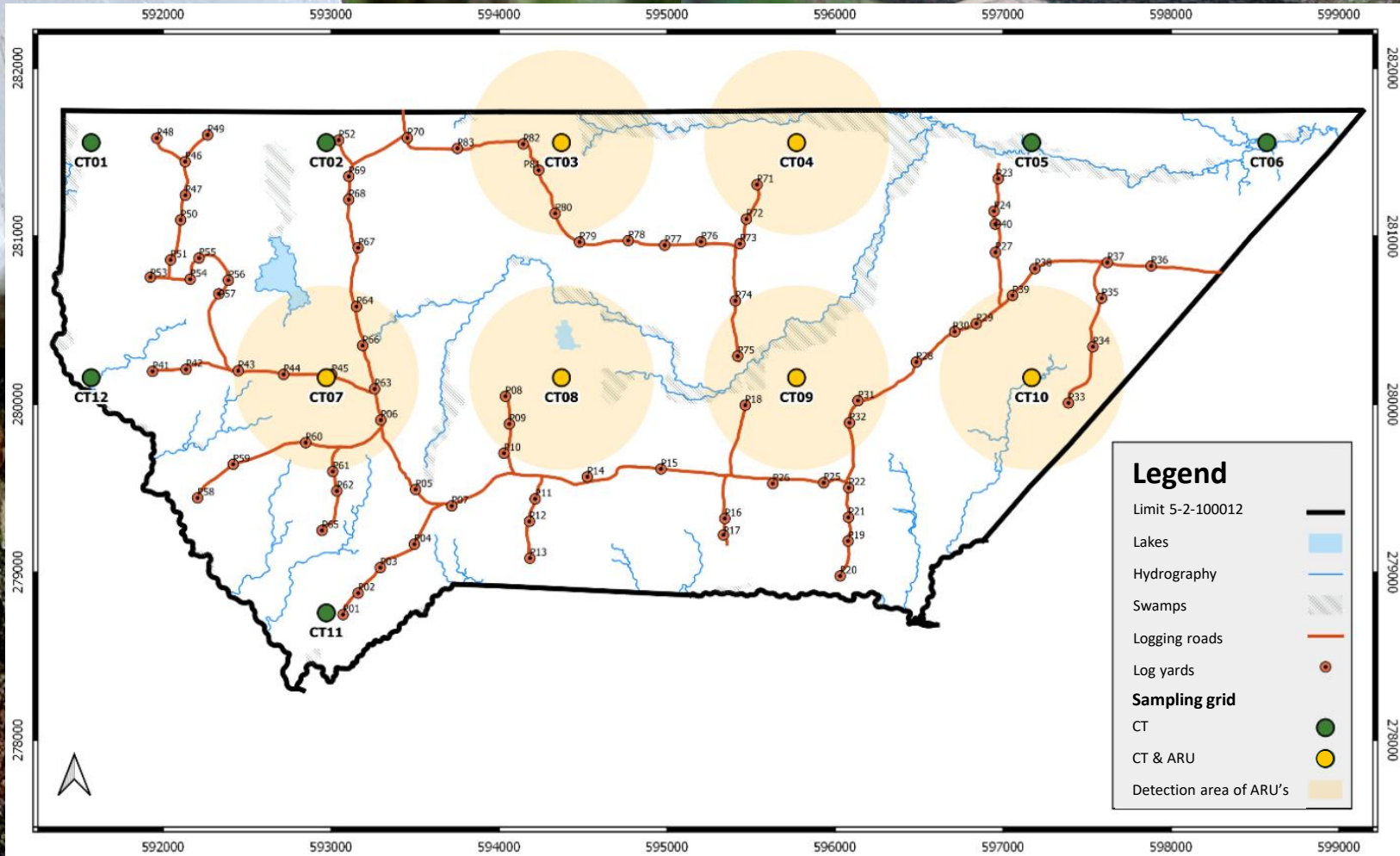


Space for time approach

SEFAC (Cameroon)

Method: 24 camera traps (CT) and 12 acoustic sensors (ARU) equally distributed in 2 annual allowable cuts (AAC) for seven weeks

Tossens, 2021

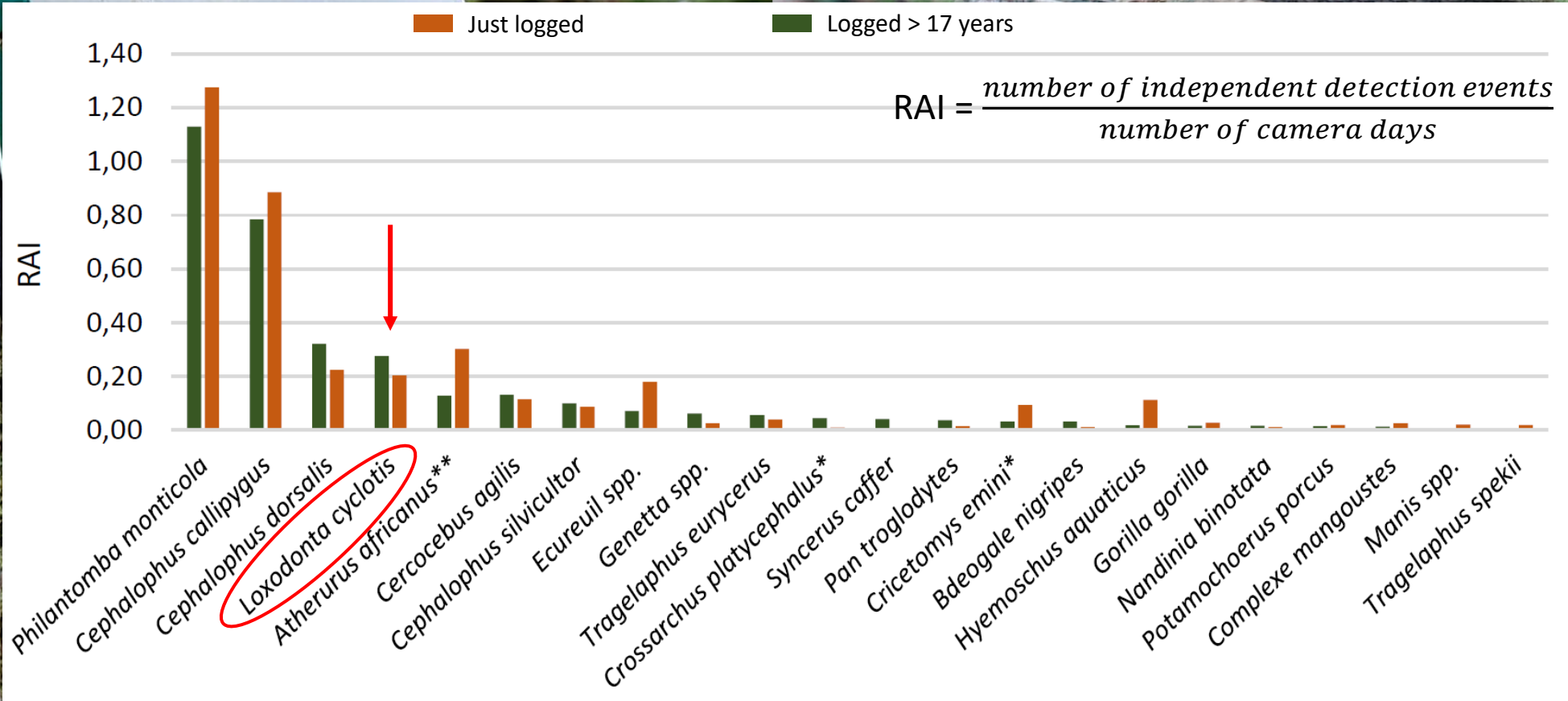


Space for time approach

SEFAC (Cameroon)

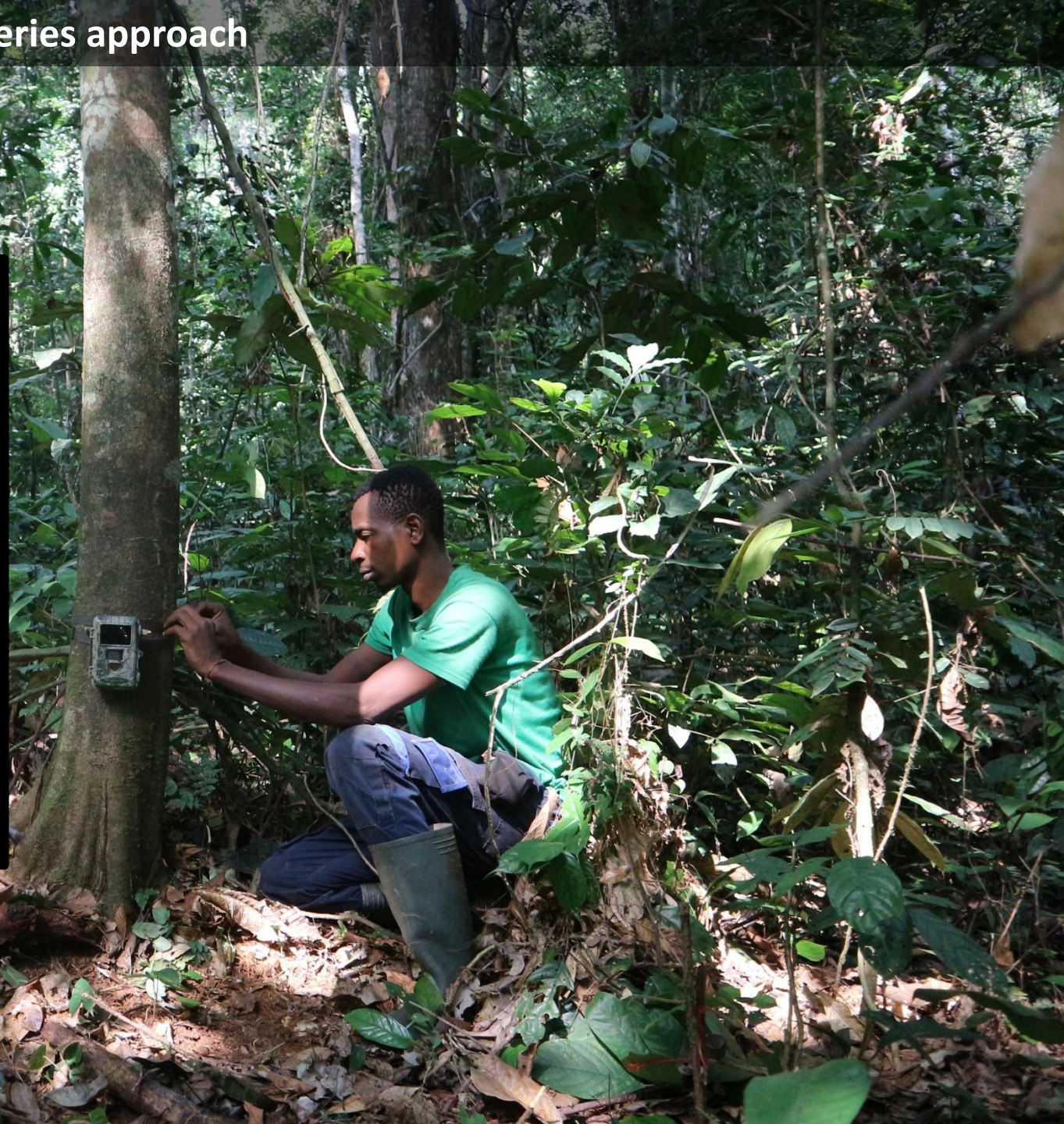
Results: No significant differences between formerly and recently logged areas

Tossens, 2021



Time series approach

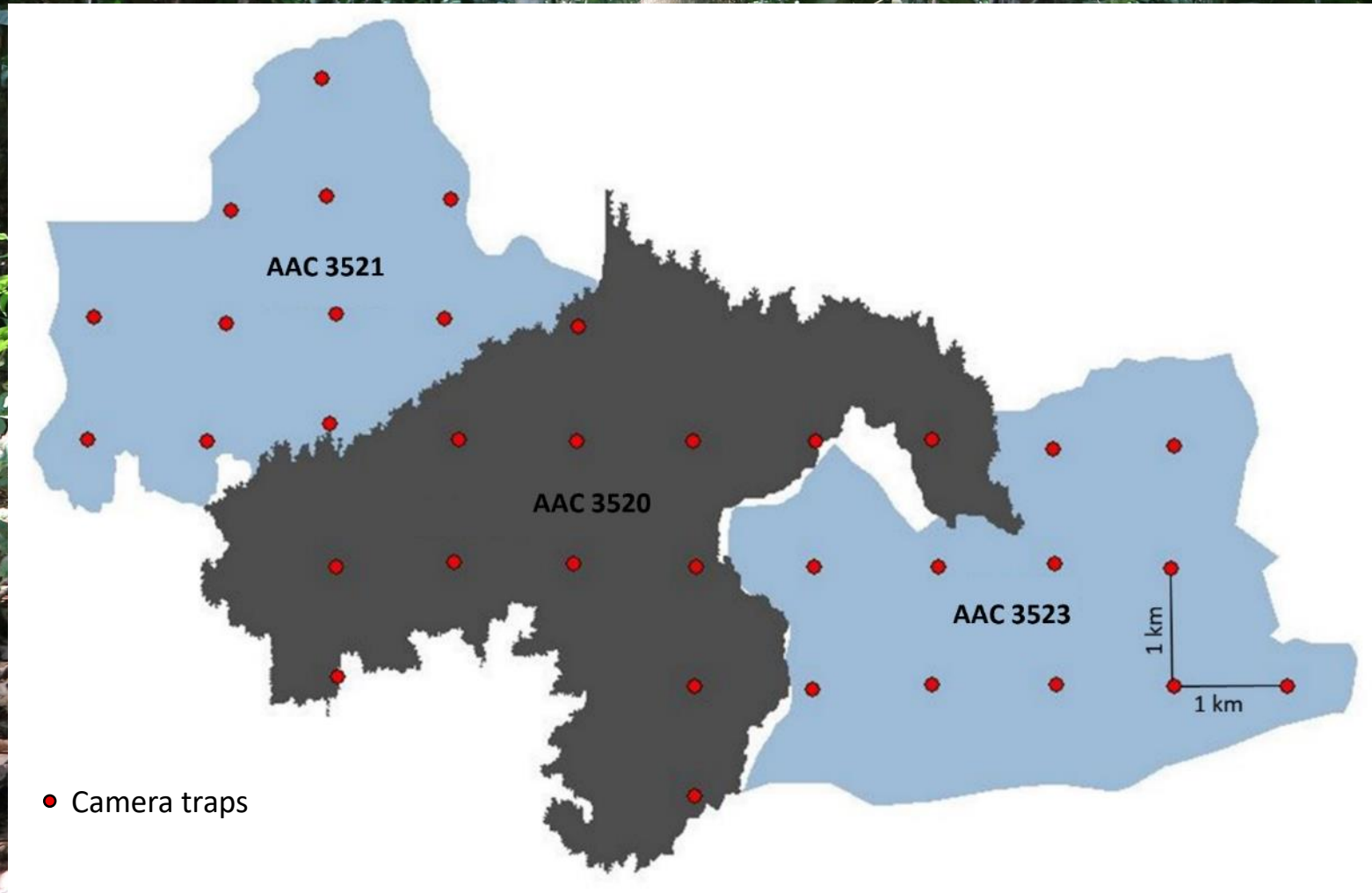
CEB-PW (Gabon)



Time series approach

CEB-PW (Gabon)

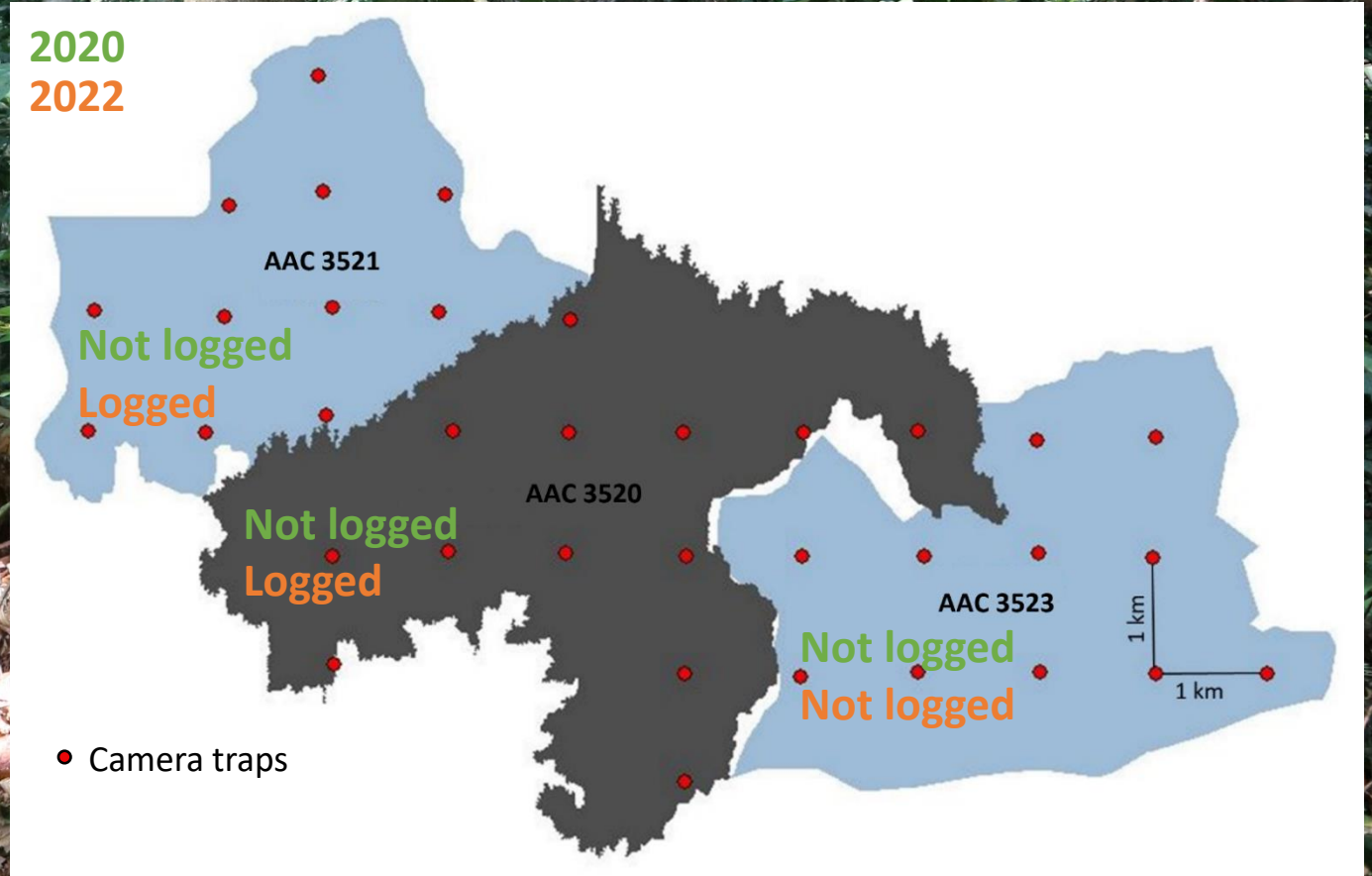
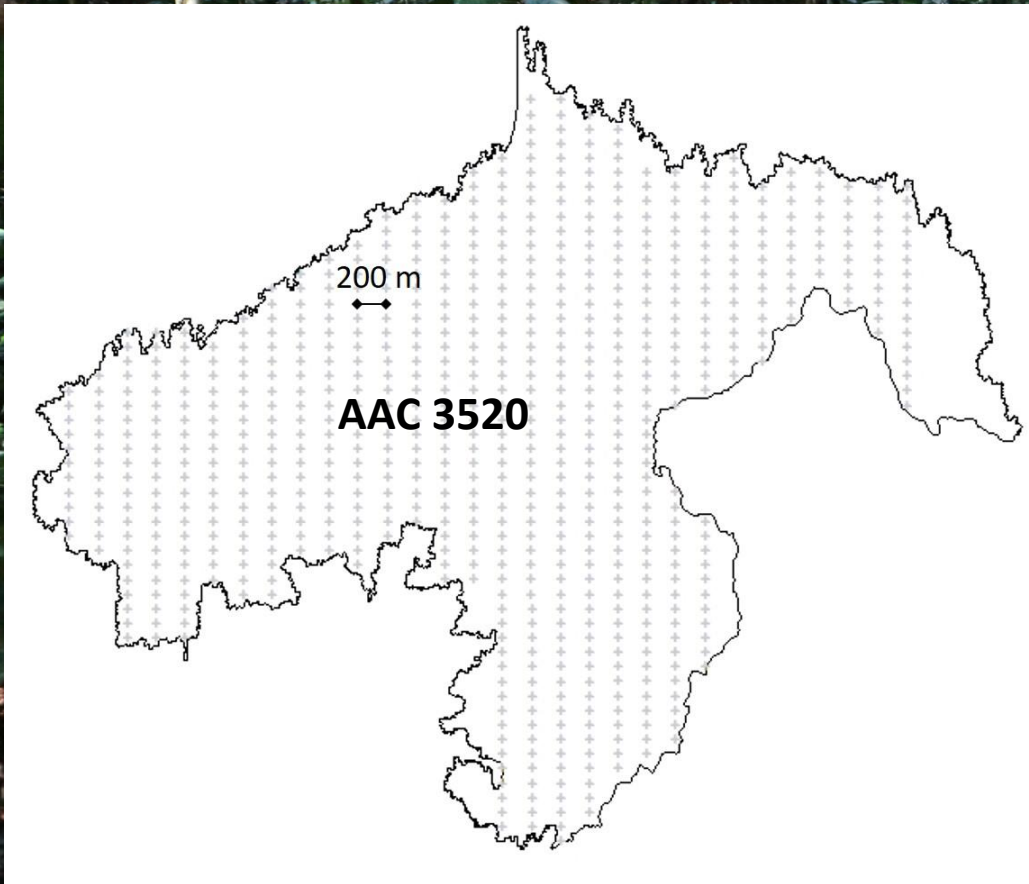
Method: 35 camera traps for three months + 72 km of transects, before and after logging, in three annual allowable cuts (AAC)



Time series approach

CEB-PW (Gabon)

Method: 35 camera traps for three months + 72 km of transects, before and after logging, in three annual allowable cuts (AAC)



Time series approach

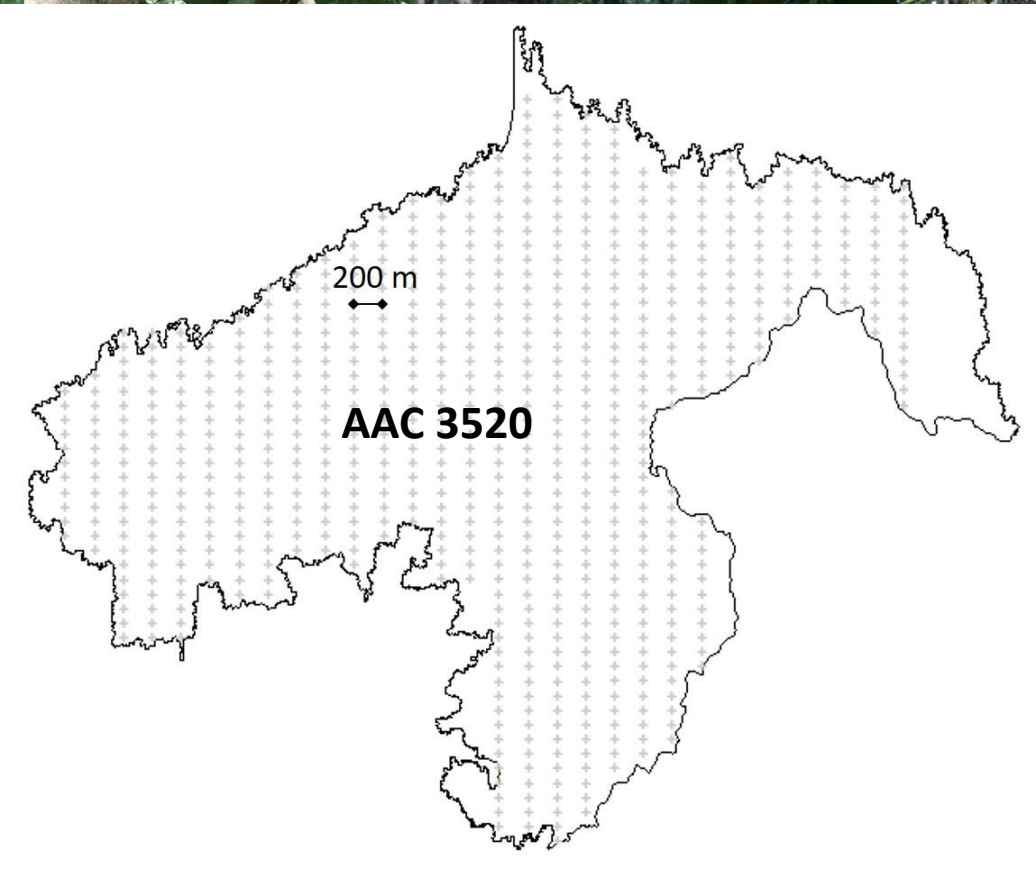
CEB-PW (Gabon)

Preliminary results: more forest elephant dung observed after logging

2020 : 298 forest elephant dung

↓ logging

2022 : 780 forest elephant dung



The abundance of vegetation might attract forest elephants in disturbed areas



Perspectives

- Study the use of logging roads and skidding trails by forest elephants

- 60 camera traps
- 60 km of dung count

Stiernon, in progress





Perspectives

- Study the use of logging roads and skidding trails by forest elephants
- Study the impact of forest elephants on timber species

A lush green forest landscape with a river in the foreground and several elephants in the middle ground. The scene is captured from a slightly elevated perspective, looking down at the river and the elephants. The forest is dense with tall trees and thick undergrowth. The river flows through the center of the frame, with some rocks visible in the water. Three elephants are visible: two in the middle ground near the riverbank and one further to the right in the grassy area. The overall atmosphere is serene and natural.

TAKE HOME MESSAGE

- Preliminary results suggest that the coexistence of forest elephants with selective and sustainable logging is possible.
- Ongoing studies on the use of logging roads and on the impact of forest elephants on timber species.

THANK YOU

Photo credits: Cornell University, C. De Souza, R. Doucet, J. Holvoet, johan63 – Getty, S. Raman, M. Scalbert, Q. Stiernon, Trees for life

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