

Potential for biodiversity conservation of three legal land uses in Central Africa: industrial logging concessions, protected areas, and community forests

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Central African moist forests host endemic and flagship species



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Azelia bipindensis
Doussié



Guibourtia tessmannii
Bubinga



Afromosia elata
Arformosia

High-value timber species widely imported in Belgium



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- Forested lands in Central Africa belongs to the States
- Only the States can deliver titles and concessions : e.g. logging concessions, protected areas, community forests
- Local user rights can be fully exercised in non officially titled lands

Potential for biodiversity conservation of these land uses?



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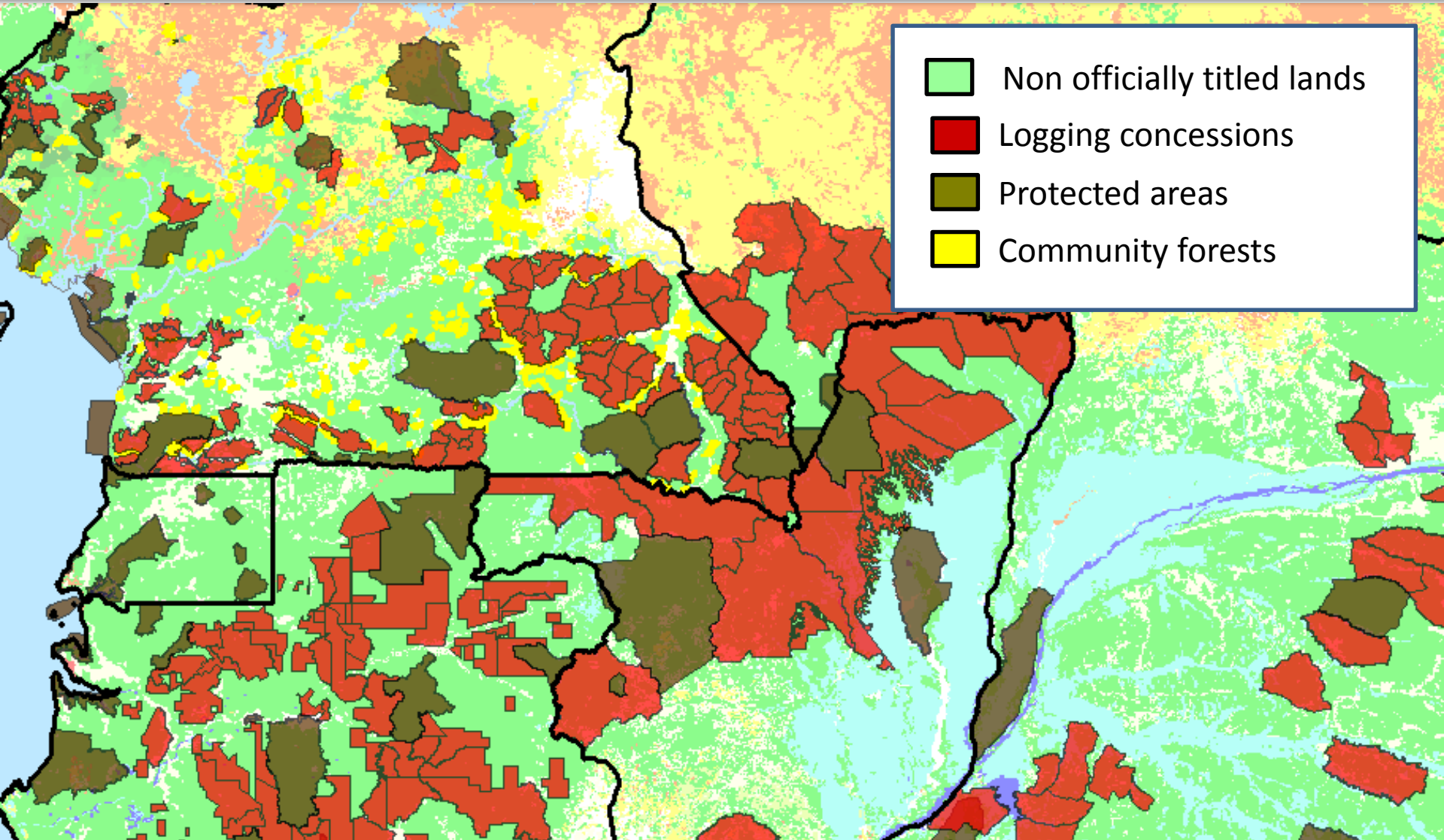
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Non officially titled lands





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Consist of:

- remnant mature forest patches
- secondary forests
- fallows
- agriculture plots





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Agricultural systems:

➤ shifting cultivation: dominant



➤ permanent agriculture : in the most densely populated areas





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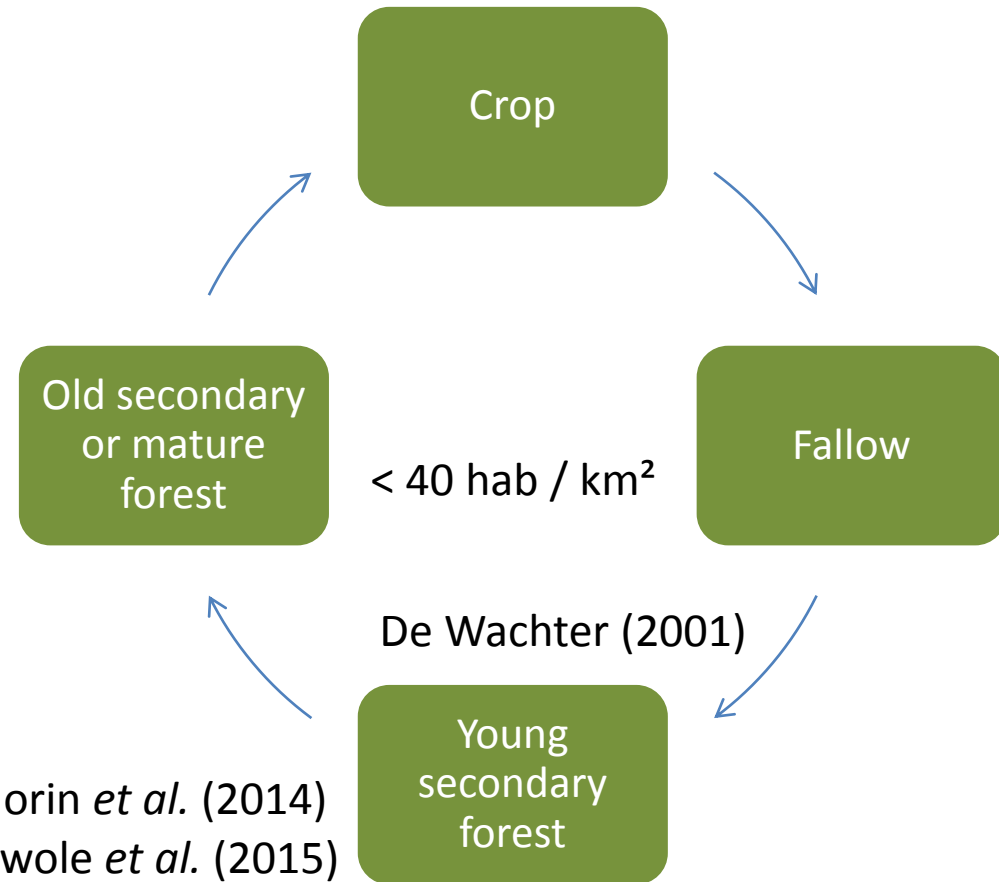
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Shifting cultivation: 440,000 km²



Morin *et al.* (2014)
Biwole *et al.* (2015)
Finegan & Nasi (2004)



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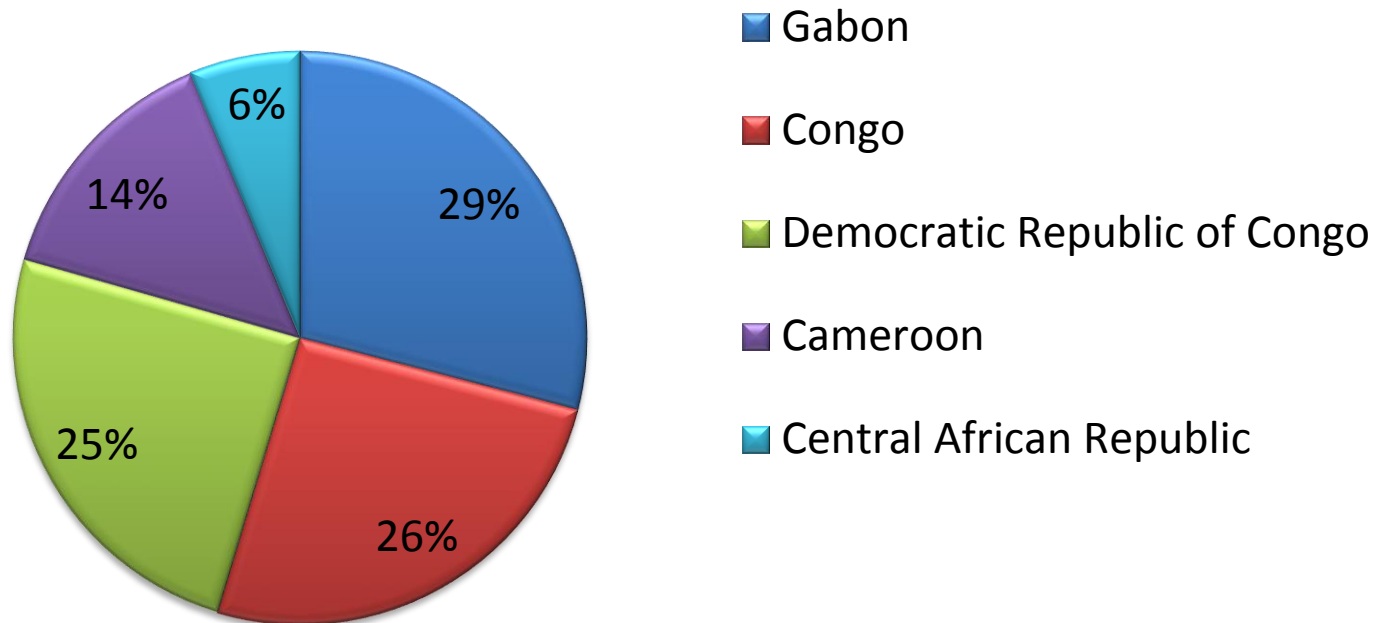


Officially titled lands



Industrial logging concessions

➤ ≈ 400 long-term concessions, 500,000 km², granted for 20-30 years, 38 % with approved management plan, 17 % certified (sustainable forest management - SFM - or legality).



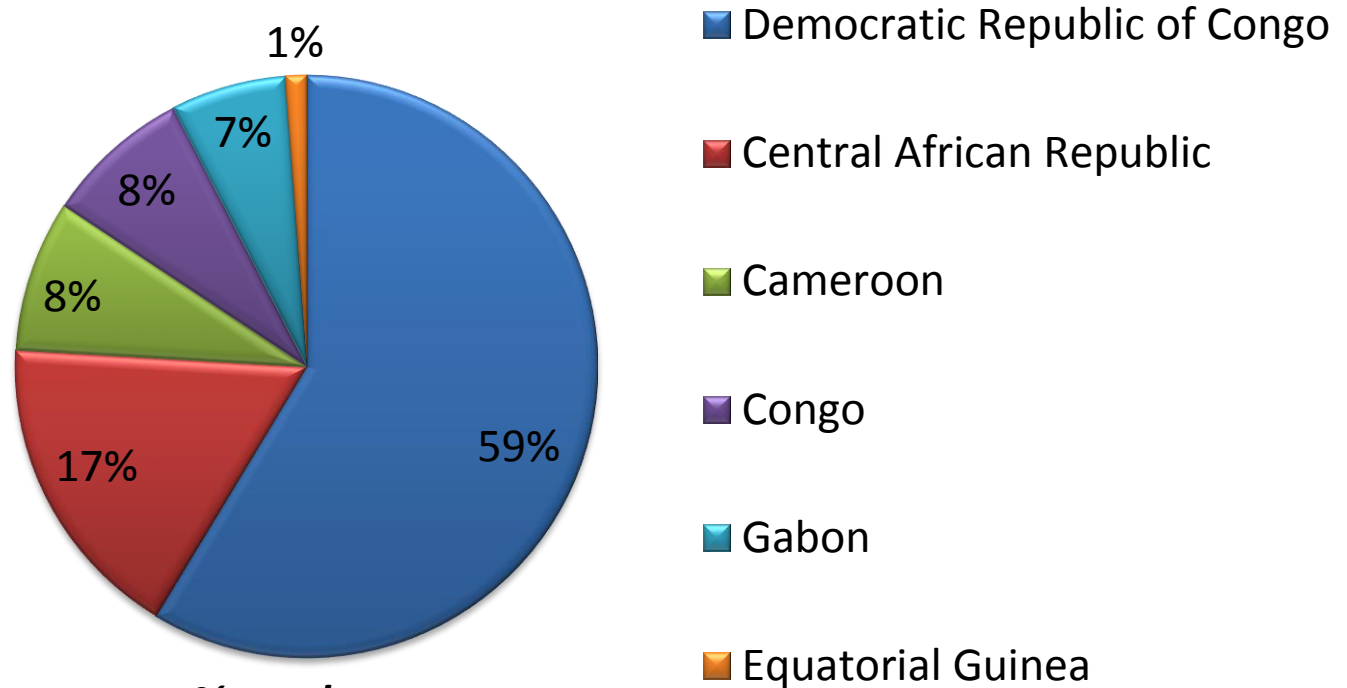
% total area

De Wasseige *et al.* (2014)



Protected areas

- 314 protected areas, $\approx 450,000 \text{ km}^2$
- 60 %: strict nature reserves or national parks (IUCN categories I-II)
- 3 % with an approved management plan



Nasi *et al.* (2012)

% total area



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Community forests

- ≈ 270 community forests, 9,000 km²
- In national forestry laws but only implemented in Cameroon and recently in Gabon
- Granted to a community for 20-25 years

Doucet *et al.* (2012)





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Non officially titled lands

- no management
- poaching and illegal logging for domestic markets

Protected areas:

- strict conservation, research, ecotourism
- preservation of services
- some area under high pressures (conflicts,...)

Community forest:

- limited areas
- management for timber, (NTFP)
- no game management





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Logging and biodiversity





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Common features of logging concessions in Central Africa:

- multi-resources inventories
- list of commercial species
- zoning of the concession: production, protection, traditional uses by local populations, infrastructures
- rotation: 20-30 years
- recovery rates and minimum cutting diameters

- 1-2 trees logged per ha
- reduced impact on forest cover





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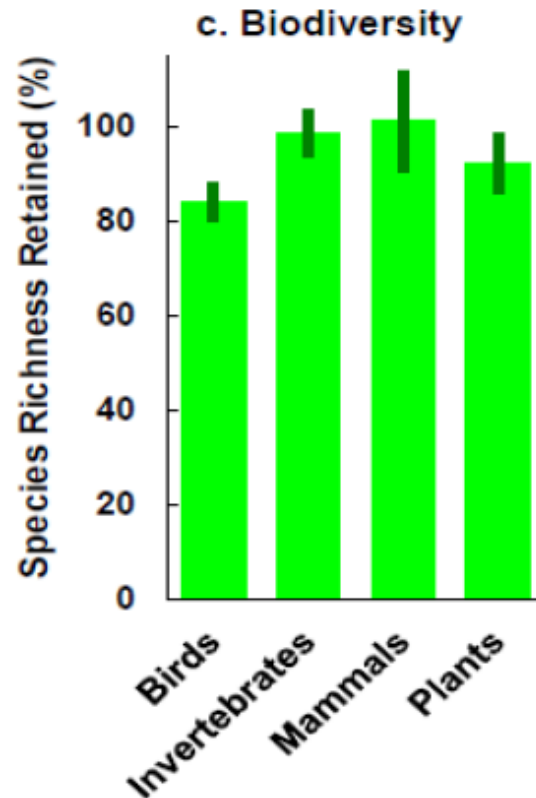
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Impacts of logging on biodiversity in the three tropical basins:



Putz *et al.* (2012)



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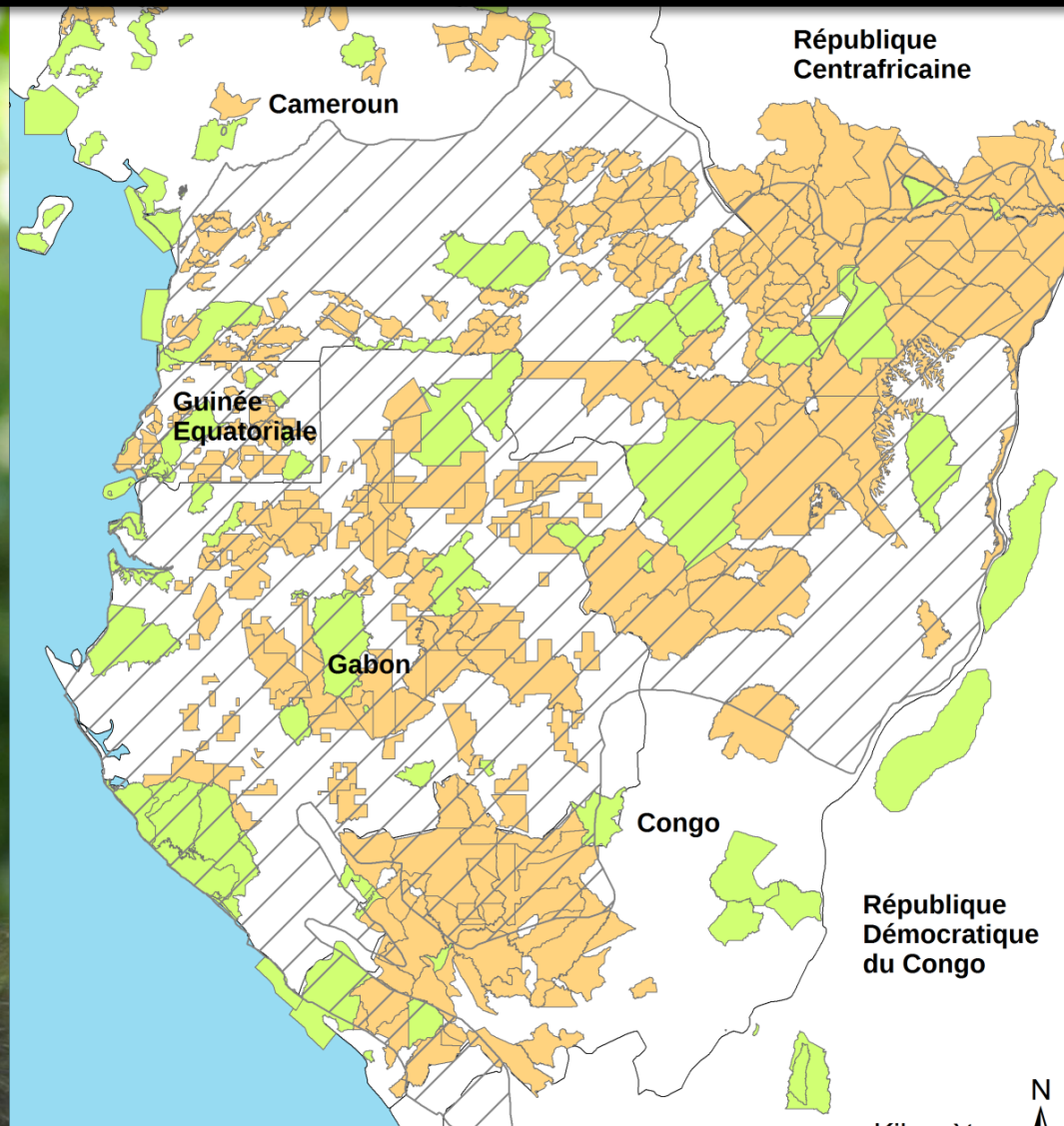
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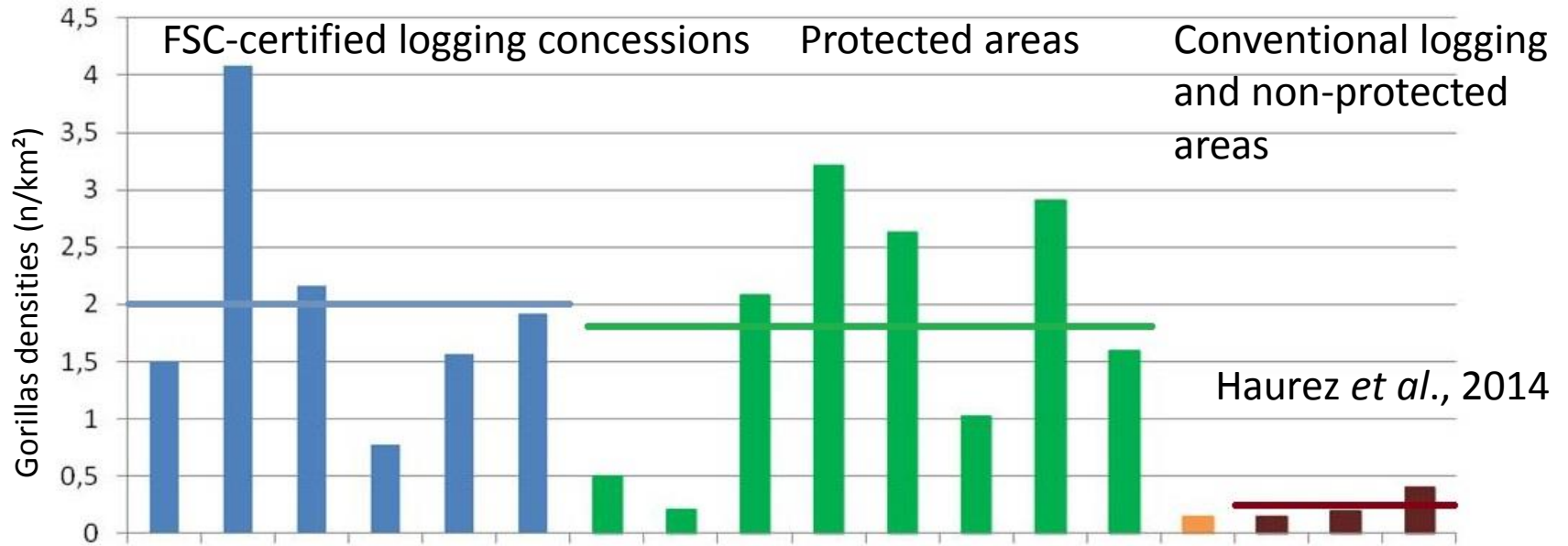
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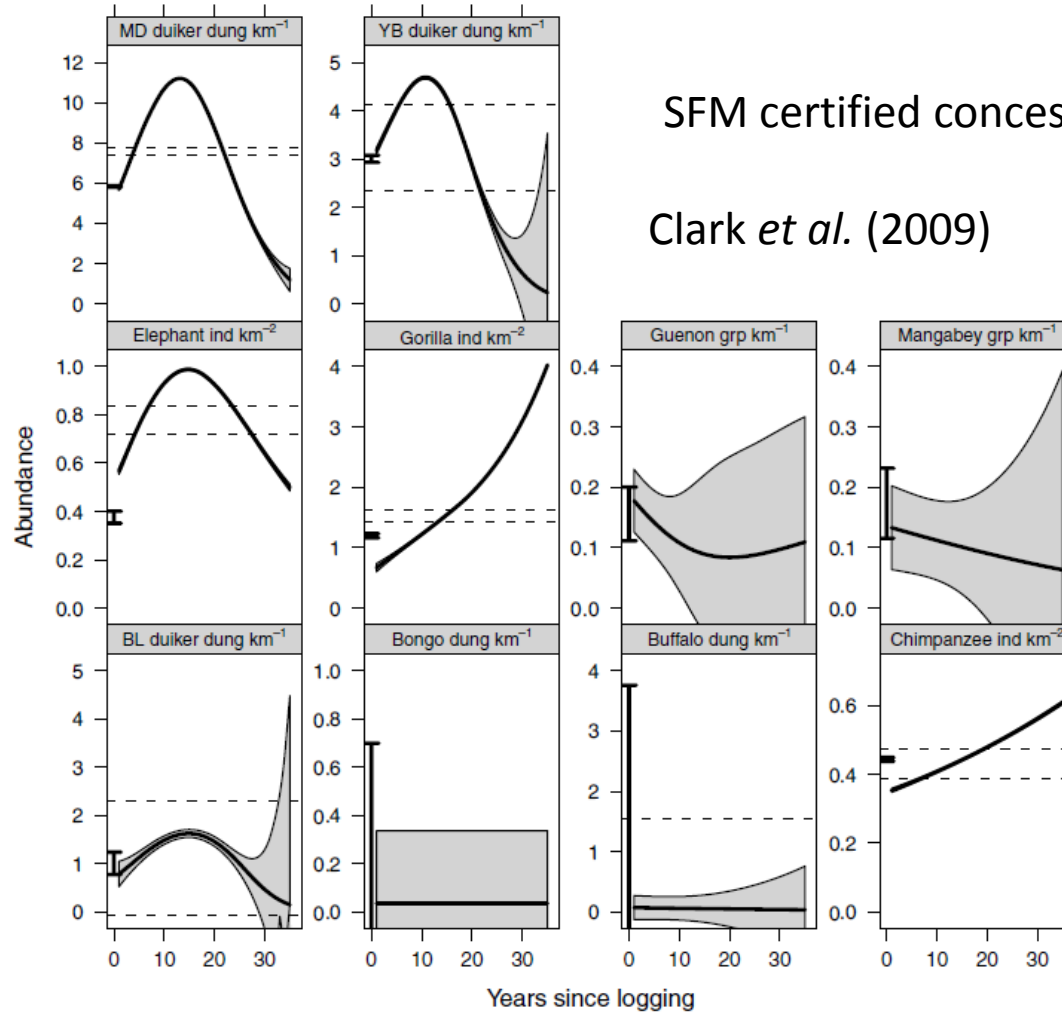
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SFM certified concession

Clark *et al.* (2009)



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Forest Stewardship Council

Forest Stewardship Standard for the Republic of Cameroon
Norme FSC pour la certification des forêts – République du Cameroun.

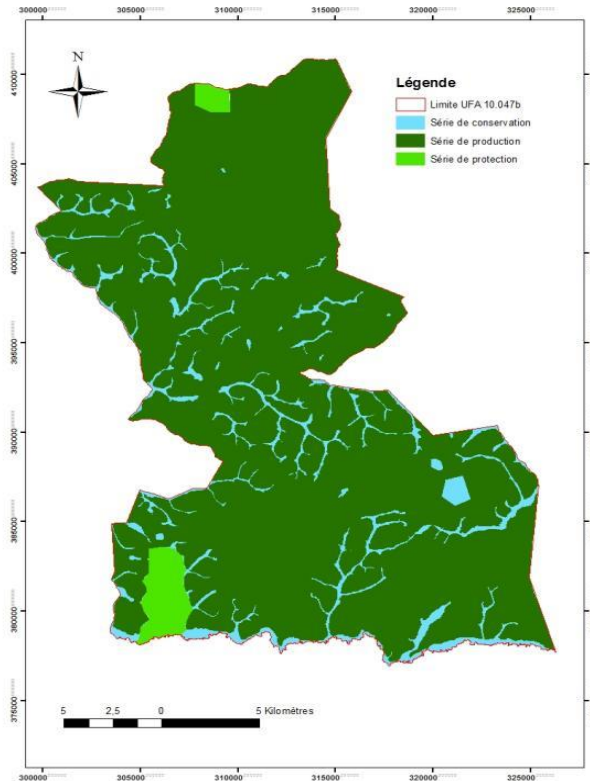
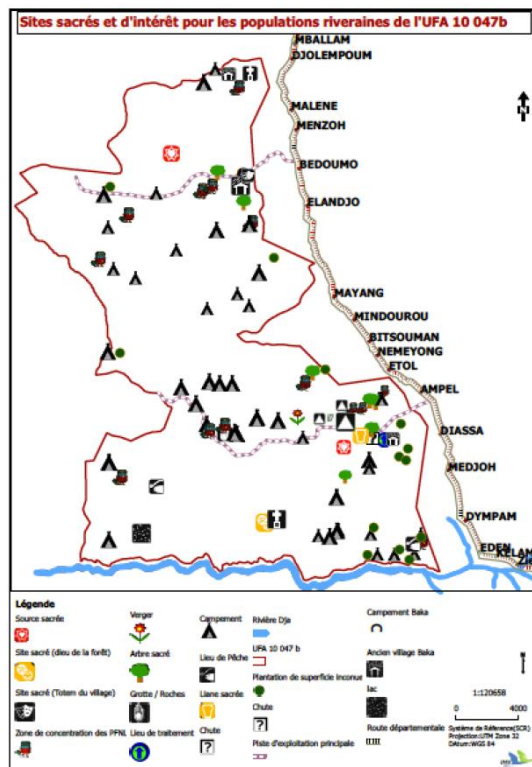


82 pages of PCI



FSC-certified companies:

- improved zoning plan: 10 % of protected areas



- HVC identification, monitoring and management



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➤ reduced impact logging



➤ road network control



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➤ pro-active control of hunting



➤ alternatives to bushmeat





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Conclusion





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Conservation Biology

Contributed Paper

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

C.J. CLARK,* †‡ J.R. POULSEN,* † R. MALONGA, † AND P.W. ELKAN, JR. †

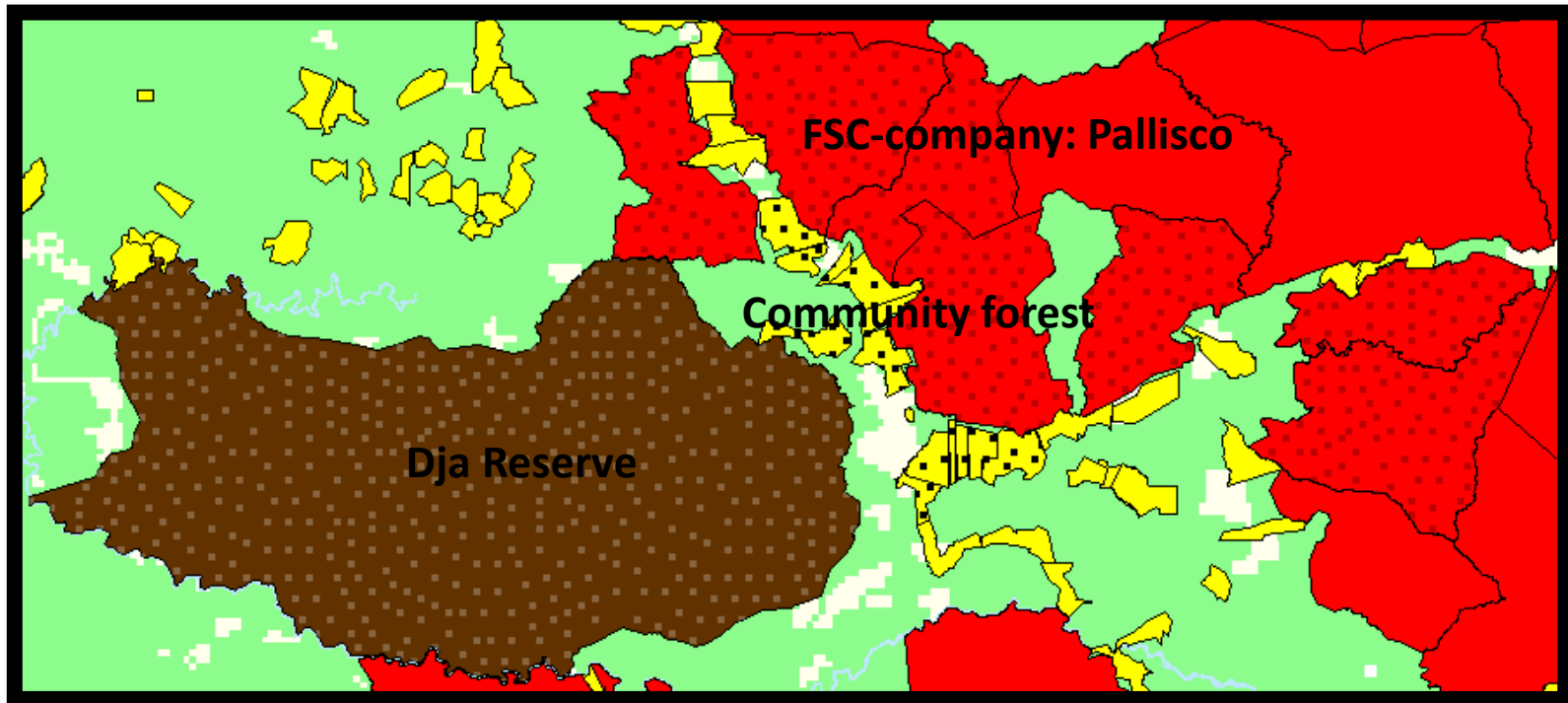
*Department of Zoology, University of Florida, P.O. Box 11852, Gainesville, FL 32611-8525, U.S.A.

†Wildlife Conservation Society, Brazzaville, Republic of Congo

“Our results suggest that logged forest can extend the conservation estate for many of Central Africa’s most threatened species if managed appropriately. In addition to limiting hunting, logging concessions must be large, contain patches of unlogged forest, and include forest with different logging histories”.



SFM-certified concessions and well managed CF = buffer zones
Ex: SE Cameroon





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Merci pour votre attention



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Pictures and maps:

JL. Doucet, JY. De Vleeschouwer, B. Haurez, J. Laporte, JF. Gillet, S. Rougeron, S. Lhoest, M. Vandenhaute.