

53<sup>rd</sup>  
**ATBC**  
2016

# Annual Meeting of the Association for Tropical Biology and Conservation

**19-23 June 2016**  
Le Corum, Montpellier - France

**Tropical Ecology and Society  
Reconciling Conservation and  
Sustainable Use of Biodiversity**

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**PROGRAM  
&  
ABSTRACTS**

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## **O13-03 – S13 Biodiversity conservation in a conflicting context – The case of the Congo basin**

Monday 20 June 20 / 11:00-15:30 – Barthez

### **Scientifically based biodiversity management in timber concessions: contribution to conservation and sustainable use of biodiversity**

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During the past 25 years, forest laws in Central African countries have undergone major changes. Management plans were made mandatory: nearly 19 million hectares of timber concessions (38% of total granted concessions) were subject to a management plan in 2013 and the dynamics is currently underway.

The management plan is based on a set of technical and scientific studies, including statistical surveys (management inventories) covering the whole concession and taking into account all timber species, large mammals and the main non timber forest products. These inventories allow, at concession level, to characterize ecosystems and to assess the forest conservation values, through floristic and faunal biodiversity indicators and by taking into account threats to the forest ecosystems, especially anthropogenic ones. Such management inventories are used especially for planning and forecasting harvests, while minimising environmental impacts on the forest structure and functioning, and retaining regeneration capacities of the timber species and the forest ecosystems. The knowledge gained on specific and ecosystemic biodiversity helps to define management rules to ensure the sustainability of different timber species' populations, noticeably the exploited ones. It is also used to design areas within the concessions where exploitation will not take place due to conservation interest (most biodiversity-rich areas, protection of rare or endangered species...). Such so-called "conservation series" therefore complement the protected areas network.

Well-managed forest concessions can help conserve the regional forest ecosystems and maintain essential functions that they provide. However, management plans were up to now designed at the concession scale. Data acquired in forest concessions also significantly contribute to improve knowledge of the forest ecosystems and their functioning at the regional level. Using this data, the CoForChange Project (<http://www.coforchange.eu>) issued a map of the forest ecosystems developed in the "Sangha River Interval" region. This project suggested that those forest ecosystems could react differently to disturbance, and could need an adaptation of management methods to each ecosystem. Based on forest inventories, other initiatives are underway to map the forest types and the biomass stock at the scale of Central Africa, and might be of particular interest for policy decisions on forest ecosystems.

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## **O13-04 – S13 Biodiversity conservation in a conflicting context – The case of the Congo basin**

Monday 20 June 20 / 11:00-15:30 – Barthez

### **Spatial modeling of the potential of agricultural or forestry production for sustainable land use planning**

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In Central Africa, oil palm is a major food-crop used in everyday cooking. All the countries of the region are importing palm oil, often from south-east Asia, to cover their domestic demand. Palm oil production is dominated by small scale agriculture, with a diversity going from the small backyard garden to the monospecific plantation of several hundred hectares. Most of the industrial plantations date from colonial periods. New industrial plantations have been expanding in the last decade, with successes and failures, with the help of southeast Asian and European multinationals and domestic investors.

The States want to increase their national palm oil production and industrial investments. They hope for socioeconomic benefits and food security. Such plans for agricultural development also present threats such as deforestation, loss of biodiversity and land use conflicts, and caution and planning are needed to avoid negative social and environmental impacts. In order to provide decision-makers with accurate information and useful decision-making tools to plan the development of the palm oil sector at national and sub-regional scales, the WWF asked CIRAD to map lands potentially favourable to the production of sustainable (P&C RSPO) palm oil in 5 countries of the Congo basin: Cameroon, Gabon, Republic of Congo, Democratic Republic of Congo and Republic of Central Africa. We use a step by step method to 1/ measure and locate territories which are suitable for oil palm culture, 2/ prevent threats over biodiversity and land use by respecting the social and environmental constraints edited by the principles and criteria of the Roundtable on Sustainable Palm Oil (P&C RSPO), 3/ plan development strategies for palm oil production which are coherent with the national context and specificities (through an evaluation of the adequacy of various production models).

The maps resulting from this study are useful decision-making tools that allow analysing trade-offs between opportunities of production and prevention of threats on biodiversity and land use issues. These maps can be useful in the design of national programs of agricultural development that avoid deforestation and preserve biodiversity corridors. Our results in Gabon are consistent with the maps of biodiversity and conservation importance produced by the National Agency of National Parks. In Republic of Congo, they are used in the discussions on the agricultural component of the REDD+ program.