

REFERENCES

- Carvalho S, Yamanashi Y, Yamakoshi G, Matsuzawa T 2010. Bird in the hand: Bossou chimpanzees (*Pan troglodytes*) capture West African wood-owls (*Ciccaba woodfordi*) but not to eat. *Pan Afr News* 17:6–9.
- Fujimoto M, Shimada M 2008. Newly observed predation of wild birds by M-group chimpanzees (*Pan troglodytes schweinfurthii*) at Mahale, Tanzania. *Pan Afr News* 15:23–26.
- Hawthorne WD, Jongkind CCH 2006. *Woody Plants of Western African Forests: a Guide to the Forest Trees, Shrubs and Lianas from Senegal to Ghana*. Royal Botanic Gardens, Kew.
- Hirata S, Yamakoshi G, Fujita S, Ohashi G, Matsuzawa T 2001. Capturing and toying with hyraxes (*Dendrohyrax dorsalis*) by wild chimpanzees (*Pan troglodytes*) at Bossou, Guinea. *Am J Primatol* 53:93–97.
- Hockings KJ, Humle T, Carvalho S, Matsuzawa T 2012. Chimpanzee interactions with nonhuman species in an anthropogenic habitat. *Behaviour* 149:299–324.
- Matsuzawa T, Humle T, Sugiyama Y (eds.) 2011. *The Chimpanzees of Bossou and Nimba*. Springer, Tokyo.
- Ohashi G 2006. Behavioral repertoire of tool use in the wild chimpanzees at Bossou. In: *Cognitive Development in Chimpanzees*. Matsuzawa T, Tomonaga M, Tanaka M (eds), Springer, Tokyo, pp. 439–451.
- Serle W, Morel GJ, Hartwig W 1990. *A Field Guide to the Birds of West Africa*. Collins, London.
- Sugiyama Y, Koman J 1987. A preliminary list of chimpanzees' alimentations at Bossou, Guinea. *Primates* 28:133–147.
- Sugiyama Y 1989. Description of some characteristic behaviors and discussion on their propagation process among chimpanzees of Bossou, Guinea. In: *Behavioral Studies of Wild Chimpanzees at Bossou, Guinea*. Sugiyama Y (ed), Inuyama: Kyoto University Primate Research Institute, pp. 43–47.

<NEWS>

The Process of Creation of a New Protected Area in the Democratic Republic of Congo: The Case of the Iyondji Community Bonobo Reserve

Jef Dupain¹, Andrew Fowler², Phila Kasalevo², Tetsuya Sakamaki^{3,4}, Bongoli Lingomo⁵, Theo Way², David Williams⁶, Takeshi Furuichi^{3,4}, Charly Facheux²

¹ African Wildlife Foundation, Nairobi, Kenya

² African Wildlife Foundation, Kinshasa, DRC

³ Primate Research Institute, Kyoto University, Japan

⁴ Wamba Committee for Bonobo Research

⁵ Forêt des Bonobos, Iyondji, DRC

⁶ African Wildlife Foundation, Washington DC, USA
(E-mail: jdupain@awfafrica.org)

INTRODUCTION

Great ape populations across Africa are in crisis. Their original habitat is decreasing rapidly, and only an estimated 10% will be left undisturbed by 2030 if current trends continue (Stiles *et al.* 2013). The rate of suitable habitat loss for bonobos is particularly high, estimated at 29% between the 1990's and 2000's (Junker *et al.* 2012). The total bonobo range area is about 418,803 km², but only 97,975 km² is considered as suitable habitat (IUCN/SSC A.P.E.S. Portal <http://apesportal.eva.mpg.de/>). An estimated 42% of this suitable habitat is gazetted in protected areas (Campbell *et al.* 2012), with most of this within

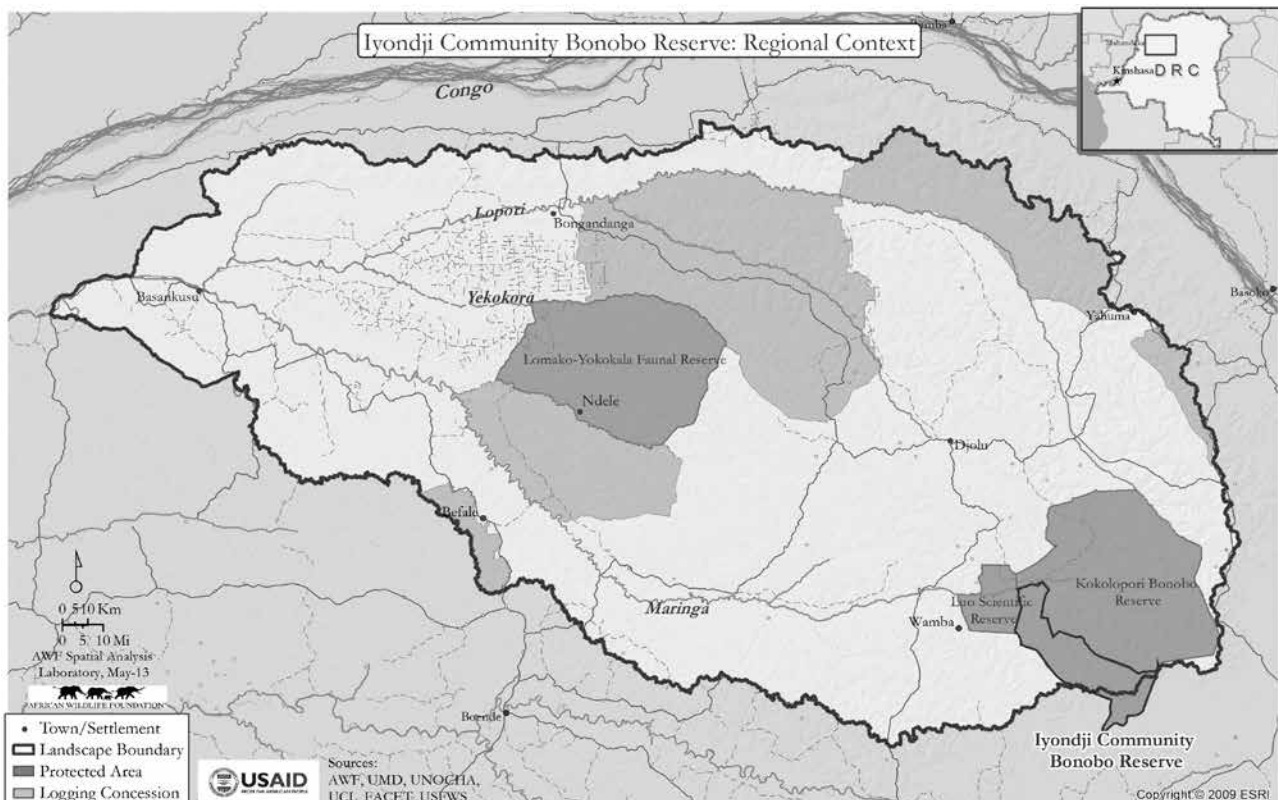


Figure 1. Iyondji and other Maringa-Lopori-Wamba landscape protected areas.

the one Salonga National Park. In order to maximize the conservation of the cultural, genetic and ecological diversity of the bonobo, and to address the loss of critical habitat, it is imperative to establish a network of protected areas (PAs) that can sustain viable bonobo populations.

In 2012, as a next step towards such a network, the African Wildlife Foundation helped gazette a new bonobo protected area (PA), the about 1,100 km² Iyondji Community Bonobo Reserve (Figure 1). The establishment of this bonobo PA and detailed information about bonobos living there were reported elsewhere (Sakamaki *et al.* 2012). This article describes the significance of this PA as a case study of the application of the Heartland Conservation Process (HCP) (Henson *et al.* 2009) in one macro zone in this landscape, and as a potential model for collaboration between local communities, researchers and a conservation NGO.

IDENTIFICATION OF THE PROPOSED PROTECTED AREA

The African Wildlife Foundation (AWF) has worked in the 74,000 km² Maringa-Lopori-Wamba Landscape (MLW, CARPE, USAID) within the bonobo distribution range since 2004 (Dupain *et al.* 2009). As a desired outcome in the MLW, AWF aims at the creation of a network of interconnected protected areas covering 15% of the landscape. To achieve this conservation goal, AWF utilizes an approach that was developed and implemented as part of the overall Heartland Conservation Process. The HCP balances science-based landscape scale conservation planning with the sustainable aspirations and needs of local people. Thus informed by a combination of habitat suitability analysis, assessment of human threats and vulnerability to deforestation (Nackoney & Williams 2012), consideration of future population-driven demand for land (Nackoney & Williams 2013) and the outcomes of a defined public participation strategy, a conceptual model for a land use plan was developed (Dupain *et al.* 2008, 2010). The plan created a sustainable vision for the landscape featuring various management zones including a network of community conservation and PAs.

One PA zone targeted a forest block abutting the Luo Scientific Reserve (Furuichi *et al.* 1998). Local communities were invited to a series of meetings as part of the public participation strategy for advancing the land use planning process (Sidle *et al.* 2012). These local communities expressed their wish to realize this vision through the Japanese research team (Wamba Committee for Bonobo Research-WCBR) and requested help from the WCBR and AWF for the establishment of a bonobo community reserve (Sakamaki *et al.* 2012).

Initial qualitative surveys were conducted and the feasibility of the creation of a PA was evaluated (Likondo *et al.* 2007; Likondo 2008). Evaluation focused both on the biodiversity value and on the social context and the attitude and expectations of the local communities. Throughout the process, open consultation was organized with the local communities (the villages Yokali and Yohala of the Groupement Iyondji). Land use and land tenure was looked at in more detail (Kasalevo & Lingomo 2010). Subsequently, a Land Use Planning Strategy

Document was developed and implemented (Kasalevo & Dupain 2010). The research team from Kyoto University's WCBR provided technical expertise for implementation of large mammal surveys with a focus on bonobos.

THE PROCESS OF GAZETEMENT

Once the surveys confirmed the biological value and the local communities had reached agreement on objectives, AWF initiated and facilitated the creation of the Iyondji Community Bonobo Reserve (ICBR) by following the procedures as outlined in the Ministerial Decree of April 2008: Décret n° 08/08 du 08 avril 2008 fixant la procédure de classement et de déclasserment des forêts, Journal Officiel de la République Démocratique du Congo, 49ième année, nr special, lière partie 10 mai 2008, 7pp.

Local politico-administrative authorities (Groupement, Secteur, Territoire) consulted with the local communities and validated the draft management plan (see Kasalevo 2010). Following the government statutes, a Provincial Consultative Council is expected to give its opinion on management plans. However, in absence of this council, the Provincial Governor gave his approval. A document for creation of the PA was developed and presented to the Ministry of the Environment and Nature Conservation. This document featured results of biological and socio-economical surveys, the formal consent of the communities, and the proposed geo-referenced limits of the future PA, and was evaluated by a committee of experts assigned by the legal advisor of the Ministry. Upon validation of this document by the aforementioned committee, the protected area was officially gazetted through the Ministerial Decree, signed on April 12th 2012 (Arrêté Ministériel N° 020/CAB/MIN/ECN-T/15/ JEB/012 du portant classement de la Forêt de d'Iyondji).

DISCUSSION

The official gazetement of the ICBR in April 2012 brings the total area of bonobo habitat in formal protected areas within the 74,000 km² MLW landscape to 9,247 km² or 12.5%. With the Luo Scientific Reserve and Kokolopori Bonobo Reserve, ICBR contributes to a contiguous 5,627 m² bonobo conservation stronghold (see Figure 1). The process of creation of the ICBR is well documented and represents the first PA created following the Ministerial Decree of 2008. The process proved straightforward, feasible to replicate, and thus provides a model for gazetement of other suitable PAs.

The identification and subsequent establishment of the new PA in the MLW landscape combined science driven spatial modeling with the aspirations expressed by local communities. The latter is only possible if those communities are well informed on the processes to be applied. For this, the public participation strategy was of utmost importance. The transparent, collaborative effort between local communities, researchers and conservation NGO greatly improved the efficiency of this endeavor. For example, having researchers on the ground allowed for day to day monitoring of survey related activities, but also of the attitude of the local communities. For its part, AWF had the conservation expertise and network to facilitate

the official procedures and contacts with local, provincial and national authorities.

This new PA contributes to improved conservation of genetic diversity within the overall bonobo population (Kawamoto *et al.* 2013). The development of a network of PAs throughout the bonobo suitable habitat will maximize the conservation of cultural, genetic, and ecological diversity of the species. The ICBR, while not large in size, advances these desired outcomes.

Going forward in the MLW landscape, AWF will focus on two directions:

- Assure continuous connectivity between the anchor PAs to provide genetic linkages between the region's wildlife populations. Connectivity zones will protect habitat between PAs from uncontrolled land use and land cover change. AWF, in partnership with the University of Maryland, continues its support of participative micro zoning in community managed forest between the current PAs in the MLW landscape.
- Bring total surface of bonobo-habitat in PAs in the landscape to 15%. At the time of writing, an area has been identified through spatial modeling and consultations with the local communities has commenced.

Additionally, it is critical to support the management of the new PAs and assure their future sustainability/viability. The WCBR continues to provide technical support for the habituation of bonobos at two field camps within the PA (Sakamaki *et al.* 2012). AWF continues to support the local NGO "Forêt des bonobos" and the DRC wildlife authority, the Congolese Wildlife Authority (ICCN) in the development and implementation of a management plan for the Iyondji Community Bonobo Reserve. Initiatives with other organizations and donors, *e.g.* IUCN small grants program, are also taking shape. Through the process outlined herein, AWF hopes to mitigate the steady loss of habitat and habitat suitability in the MLW landscape and create a network of protected areas that can sustain bonobo populations.

ACKNOWLEDGEMENTS

This project would not have been possible without the partnership with the Wamba Committee for Bonobo Research. The same is true for the local NGO, Forêt des Bonobos, the local Iyondji communities of Yokala and Yofala, and the Centre de Recherche en Ecologie et Foresterie (CREF) of the Democratic Republic of Congo. Support is given by the Ministry of Environment and Nature Conservation and the Ministry of Scientific Research of the Democratic Republic of Congo. The present project was financially supported by the US Fish and Wildlife Service Assistance Award (96200-0-G017 to AWF), Grants-in-Aid for Scientific Research of the Japan Society for the Promotion of Science (JSPS) (2225507 to T. Furuichi), the Environment Research and Technology Development Fund of the Ministry of the Environment, Japan (D-1007 to T. Furuichi), and the JSPS Primate Origins of Human Evolution (HOPE) project (AS-22-027, ITP-23-006 to T. Sakamaki), the Regina B. Frankenberg Foundation, and Disney Worldwide Conservation Fund.

REFERENCES

Campbell GJ, Junker C, Boesch C, Kühl H 2012. Global A.P.E.S. status report: A report with information from the

A.P.E.S. project. *UNEP/UNESCO/GRASP/Council 2/7*.

Dupain J, Nackoney J, Williams D, Bokelo D, Bwebwe F 2008. Draft of Integrated Land Use management plan. *Report for USAID/CARPE*.

Dupain J, Nackoney J, Kibambe J-P, Bokelo D, Williams D 2009. Chapter 23. Maringa Lopori Wamba Landscape. In: *The Forests of the Congo Basin - State of the Forest 2008*. de Wasseige C, Devers D, de Marcken P, Eba'a Atyi R, Nasi R, Mayaux Ph (eds), Luxembourg: Publications Office of the European Union, pp. 329–338. http://www.observe-toire-comifac.net/docs/edf2008/EN/SOF_23_Maringa.pdf

Dupain J, Degrande A, De Marcken P, Elliott J, Nackoney J 2010. Landscape Land Use Planning : Lessons Learned from the Maringa - Lopori -Wamba Landscape; In: *Landscape-Scale Conservation in the Congo Basin : Lessons Learned from the Central Africa Regional Program for the Environment (CARPE)*. Yanggen D, Angu K, Tchamou N (eds). IUCN – USAID/CARPE. pp. 46–60. http://cmsdata.iucn.org/downloads/lessons_learned_chapter1_case_study3.pdf

Furuichi T, Idani G, Ihobe H, Kuroda S, Kitamura K, Mori A, Enomoto T, Okayasu N, Hashimoto C, Kano T 1998. Population dynamics of wild bonobos (*Pan paniscus*) at Wamba. *Int J Primatol* 19:1029–43.

Henson A, Williams D, Dupain J, Gichohi H, Muruthi P 2009. The Heartland Conservation Process: enhancing biodiversity conservation and livelihoods through landscape-scale conservation planning in Africa. *FFI, Oryx* 43:508–519.

Junker J, Blake S, Boesch C, Campbell G, du Toit L, Duvall C, Ekobo A, Etoga G, Galat-Luong A, Gamys J, Ganas-Swaray J, Gatti S, Ghiurghi A, Granier N, Hart J, Head J, Herbinger I, Hicks TC, Huijbregts B, Imong IS, Kuempel N, Lahm S, Lindsell J, Maisels F, McLennan M, Martinez L, Morgan B, Morgan D, Mulindahabi F, Mundry R, N'Goran KP, Normand E, Ntongho A, Okon DT, Petre C-A, Plumptre A, Rainey H, Regnaut S, Sanz C, Stokes E, Tondossama A, Tranquilli S, Sunderland-Groves J, Walsh P, Warren Y, Williamson EA, Kuehl HS 2012. Recent decline in suitable environmental conditions for African great apes. *Diversity and Distributions* 18:1077–1091.

Kasalevo P, Dupain J 2010. Iyondji Bonobo Community Forest. Land use planning strategy document. *AWF. Report for USAID/CARPE*.

Kasalevo P, Lingomo B 2010. Draft of Report on the Studies of Land Use and Land Patterns. *AWF. Report for USAID/CARPE*. http://carpe-infotool.umd.edu/IMT/LS9_Maringa-Lopori-Wamba/9010006_PA_Extention_Luo-Scientific_Reserve/9010006_SE_Landuse_and_Tenure_Study_AWF_2010.pdf

Kasalevo P 2010. Draft of the Iyondji Bonobo Community Forest Management Plan. *AWF. Report for USAID/CARPE*. http://carpe-infotool.umd.edu/IMT/LS9_Maringa-Lopori-Wamba/9010006_PA_Extention_Luo-Scientific_Reserve/9010006_SD_Extension_Luo-Scientific_Reserve_2010.pdf

Kawamoto Y, Takemoto H, Higuchi S, Sakamaki T, Hart JA, Hart TB, Tokuyama N, Reinartz GE, Guislain P, Dupain J, Cobden AK, Mulavwa MN, Yangozene K, Darroze S, Devos C, Furuichi T 2013. Genetic Structure of Wild Bonobo Populations: Diversity of Mitochondrial DNA and Geographical Distribution. *PLoS ONE* 8:e59660.

Likondo C, Ndunda N, Furuichi T 2007. Rapport d'études de faisabilité d'extension de la Réserve Scientifique de Luo dans le bloc forestier du Groupement Iyondji, Secteur de Luo, Territoire de Djolu, District de la Tshuapa. *AWF*.

Report for USAID/CARPE. http://carpe-infotool.umd.edu/IMT/LS9_Maringa-Lopori-Wamba/9010006_PA_Extention_Luo-Scientific_Reserve/9010006_EC_SE_SP_Luo_Extension_Feasibility_Study_Likondo_2007.pdf

Likondo C 2008. Large mammals and human activities survey partial report. *Report for USAID/CARPE*. http://carpe-infotool.umd.edu/IMT/LS9_Maringa-Lopori-Wamba/9010006_PA_Extention_Luo-Scientific_Reserve/9010006_EC_LargeMammals_HumanActivities_SurveyReport_Likondo_2008.pdf

Nackoney J, Williams D 2012. Conservation prioritization and planning with limited wildlife data in a Congo Basin forest landscape: assessing human threats and vulnerability to land use change. *JCP* 8:25–44.

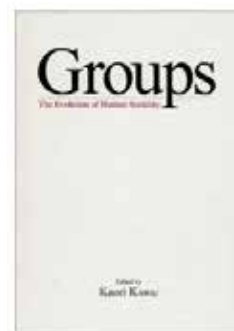
Nackoney J, Williams D 2013. A comparison of scenarios for rural development planning and conservation in the Democratic Republic of the Congo. *Biol Cons* (forthcoming).

Sakamaki T, Kasalevo P, Bokamba MB, Bongoli L 2012. Iyondji Community Bonobo Reserve: A recently established reserve in the Democratic Republic of Congo. *Pan Afr News* 19:16–19.

Sidle J, Dupain J, Beck J, Nackoney J, de Wasseige C, Biang JMD, Leprohon R, Malele S 2012. Forest zoning experience in the Central Africa. In: *The Forests of the Congo Basin - State of the Forest 2010*. de Wasseige C, de Marcken P, Bayol N, Hiol Hiol F, Mayaux Ph, Desclée B, Nasi R, Billand A, Defourny P and Eba'a Atyi R (eds). Publications Office of the European Union. Luxembourg. pp. 207–231.

Stiles D, Redmond I, Cress D, Nellemann C, Formo RK 2013. *Stolen Apes – The Illicit Trade in Chimpanzees, Gorillas, Bonobos and Orangutans*. A rapid response assessment. United Nations Environment Programme, GRID-Arendal. www.grida.no

on research into human beings and those studying non-human primates develop the debate about groups in the context of their own areas of expertise, at times in ways that extend beyond the boundaries of their fields.



Hardcover: 426 pages

Publisher: Trans Pacific Press (April 1, 2013)

Language: English

Hardcover \$109.500

ISBN-10: 1920901787

ISBN-13: 978-1920901783

Contents

Introduction—In Pursuit of an Evolutionary Foundation for Human Society / *Kaori Kawai*

Part I: The Evolution of Sociality

1. The Sociology of Anti-Structure: Toward a Climax of Groups / *Kaoru Adachi*
2. Assembly of Solitary Beings: Between Solitude and “Invisible” Groups / *Motomitsu Uchibori*
3. From Whence Comes Human Sociality? Recursive Decision-making Processes in the Group Phenomenon and Classification of Others through Representation / *Kōji Kitamura*

4. The Function and Evolutionary History of Primate Groups: Focusing on Sex Differences in Locational Dispersal / *Naofumi Nakagawa*

Article 1—A Group of Chimpanzees: The World Viewed from Females’ Perspectives / *Noriko Itoh*

Part II: The Organization of Social Groups

5. The Ontology of Sociality: “Sharing” and Subsistence Mechanisms / *Keiichi Omura*
6. Violence and the Autopoiesis of Groups: From the Ethnography of Pirates and Feuds / *Ikuya Tokoro*
7. Forming a Gang: Raiding Among Pastoralists and the “Practice of Cooperativity” / *Kaori Kawai*

Article 2—Yesterday’s Friend is Today’s Enemy: The Huli Society of Papua New Guinea / *Masahiro Umezaki*

Part III: The Formation and the Development of “We” Consciousness

8. From the “Here and Now Group” to the “Distant Group”: Hunter-gatherer Bands / *Hideaki Terashima*
9. Perceivable “Unity”: Between Visible “Group” and

<BOOK INFO>

Groups: The Evolution of Human Sociality

Edited by Kaori Kawai

This volume is the product of a collaborative project based at the Research Institute for Languages and Cultures of Asia and Africa at the Tokyo University of Foreign Studies. Researchers primarily involved in three fields—primate sociology and ecology, ecological anthropology and socio-cultural anthropology—came together to discuss the shape and variations of groups as sympatric entities and the evolutionary historical foundations that have led to the orientation of groups in present-day human society. To that end, the chapters in this volume turn to non-human primates for comparative purposes to consider the nature of the evolutionary historical foundations of sociality.

In place of the past objective of “reconstructing” the ecology and society of early humans, the works in this book instead aim to re-identify the creation and evolution of that which is social and challenge the prevailing theory of groups in socio-cultural anthropology. Specialists