

RSPO NEW PLANTING PROCEDURES
Summary Report of SEIA and HCV assessments
Olam Palm Gabon, Mouila Lot 2
December 2013

Contents

Executive Summary.....	2
Assessment of Forest Areas.....	2
Summary of Assessment Findings (for SEIA Assessments)	14
Summary of Assessment Findings for HCV Assessments	22
HCV Management Recommendations	0

1. Executive Summary

In 2010, the company Olam Palm Gabon, a subsidiary of the group Olam International Limited, partnered with the Government of Gabon, to establish industrial oil palm plantations and palm oil processing facilities adhering to the international standards of the Roundtable on Sustainable Palm Oil (RSPO), to supply local and international markets.

In 2012 (5th June) the Government of Gabon granted Olam Gabon a long-term agriculture lease 'Baux Emphyteotique' signed between the Director General of Olam Gabon and the government). The 31,800 ha concession assessed in this document, called Mouila Lot 2, is located in Ngounié province, between the towns of Yombi and Mandji. A road network forms an arc around the concession and is populated with 9 villages and one larger town (Mandji), totalling approximately 2,000 people.

Mouila Lot 2 will be the third concession that Olam Palm Gabon will develop. The other two are the Awala and Mouila Lot 1 concessions (respectively 20,030 ha and 31,354 ha).

As part of the Gabon Strategic Plan, the Government of Gabon has been working on national land use planning that considers agronomic factors, land use, land cover, conservation priorities, ecosystem types, protected areas, etc. in order to guide future development and conservation activities. Under this, Mouila Lot 2 was selected as a suitable option in terms of rainfall, topography, soil, logistics and operations.

Mouila Lot 2 is located 14 km north of Moukalaba Doudou National Park; the concession does not overlap or border with any national or international Protected Area. The concession is not located within one of the CARPE conservation priority landscapes of Gabon or any conservation areas recognised by international conservation NGOs. Likewise there are no peat soils or primary forest. Furthermore, there are no communities located within the concession, however customary rights have been identified through participatory mapping and will be recognized through the free, prior and informed consent process.

Mouila Lot 2 shares its southern boundary with an FSC-certified forestry concession managed by Compagnie Bois Gabon (CBG). The 600,000 ha CBG permit occupies the entire area of land between Mouila Lot 2 and Moukalaba-Doudou National Park, and is under a wildlife management plan (mainly to reduce illegal bush-meat hunting) overseen in partnership by CBG and WWF.

Olam Palm is committed to achieving RSPO certification for all of its oil palm plantations, and because this concession is a new planting, it is subject to the RSPO new plantings procedure (NPP). RSPO NPP requires a comprehensive and participatory independent social and environmental impact assessment (SEIA) of the area concerned that includes the identification of all primary forest, HCV areas and local peoples' land.

• Assessment of Forest Areas

The forest inventory was carried on 52 one-hectare plots, and recorded 16,651 trees with a diameter at breast height (DBH) > 10 cm, 309 species from 53 different families dominated by *Caesalpiniaceae*, *Olacaceae*, *Euphorbiaceae*, and *Burseraceae* (in that order). While some IUCN Red Listed species were identified in the concession, the overall frequency of individual rare, threatened and endangered species together is not particularly significant for Gabon, as this forest composition is widely found.

The survey data identified four main types of forests within the concession:

- Seasonally flooded forest: dominated by *Anthostema aubryanum* and *Diospyros preussii* (FT1)
- Disturbed secondary forest: dominated by *Aucoumea klaineana* (FT2)
- Lowland mature secondary forests in the plain (FT3a)
- Upland mature forests on the plateau area (FT3b)
- **Areas Required to Maintain or Enhance One of more HCV**

Areas supporting HCV 1,4, 5, 6 were identified the during the HCV assessment. These are described in the report.

- **Peat Soils**

There are no peat soils within the project area, evidenced by the soil and agronomic studies.

The soils in the concession vary in relation to the underlying substrate. The soils are sandstone schist and are deep without lateritic concretions or with soil horizons that are thick and ferruginous. This area is part of the Western Congolian orogenic belt of sedimentary formations.

- **Local Peoples' Lands**

Identification of areas important to local communities was completed in two phases. The first phase, involved a socio-economic survey of each village potentially impacted by the project. In the second step, a team of experts completed participatory mapping in each village. This process identified both the areas currently used for hunting, fishing, logging and collection of non-timber forest products and sacred and culturally important sites. These preliminary maps, validated by the communities, will guide the FPIC process and further HCV spatial planning. Potential impacts on villages are varied and provided, along with other details, in Table 1.

Table 1: The main activities of the studied villages and the potential impact of concession development.

Village	Population size	Natural resources, subsistence activities	Cultural sites	Level of impact
Malongomabeyi	15	hunting, fishing, gathering Water sources Guidiaki 1 & 2, Boupandou, Mboumbougounandou		Low
Fanguindaka	66	fruit trees, hunting/ fishing camps, fishing, hunting,	old villages	Low
Kanana	60	fallows, gathering, fishing, hunting, fishing camps, medicinal plants	old villages, sacred sites, Sainte-Croix cemetery	Medium
Lambarenekili	500	Hunting, fishing,	old village	Medium

(6 villages)		gathering , camp	Fouroumouanga	
Mandji town		camps, agricultural fields, fallows, artisanal logging	sacred lakes (e.g. guimina mina)	Medium
Boungounga	120	gathering, fishing, hunting, , hunting/fishing camps, lakes, water sources, medicinal plants, fallows, fruit trees	sacred sites old villages Diyékou et Lemboudouma,	High
Diangui (includes 3 villages)	26	water sources nimou, Moupossi, tsassagou, nzanza, fishing, hunting	cemetaries Migala & Dibala, old villages Boumbou 1 & 2, Moupossi, Moutambe Sane Foumou, Mission Sainte croix,	High
Bemboudié (includes 12 villages)	200	Hunting camp Moukounakou, fallows,fishing, hunting, gathering, artisanal logging camp, logging permit 110/02,attributed to Moutsinga Léon, lakes, rivers	Old villages Moukiba,Moupounga, Révouma, Diyékou 1 & 2 and Nzarina.	High

2. Scope of the SEIA and HCV Assessment

- Organisational Information and Contact persons**

The HCV assessment was carried out by Proforest UK. Proforest is an independent company working with natural resource management and specializing in practical approaches to sustainability. Their expertise covers all aspects of the natural resources sector, from forestry and agricultural commodities to conservation, supply chain management and responsible investment. This HCV assessment was conducted in coordination with the SEIA and results from the SEIA were one of the primary data sources used for identifying HCVs. SEIAs are required by Gabonese regulations as well as the NPP.

Olam Palm engaged Ecosphere SARL, a nationally registered Gabonese environmental consultancy, to conduct the SEIA in Mouila Lot 2. Ecosphere SARL, a Gabon based social and environmental consultancy, was founded in 2006. The firm has established expertise in the fields of mining, quarrying, gas and oil, fisheries, forestry, and infrastructure advising on environmental management and sustainable development.

Table 2 HCV and ESIA team members

Name	Role and Institution	Expertise
Proforest: High Conservation Value Assessment		
Ellen BROWN	Proforest, RSPO Lead Assessor	Biodiversity/ conservation expertise and social/community expertise
Audrey VERSTEEGEN	Proforest	Biodiversity/ conservation expertise
David HOYLE	Proforest	Biodiversity/ conservation expertise
Peter UMUNAY	Consultant	Forest ecology, forestry, forest carbon
Ecosphere: Environmental and Social Impact Assessment		
Gerly EKOTY Ghislain EBANET Brigitte MEYER	Ecosphere	ESIA coordinators

- **List of Legal Documents, Regulatory Permits and Property Deeds Related to the Areas Assessed**

A long-term agriculture lease (Baux Emphyteotique dated 5th June, 2012 signed between the Director General of Olam Gabon, the Prime Minister, Minister of Economy and Sustainable Development and Minister of Agriculture, Animal Husbandry and Fisheries)

- **Location Maps and Description**

The concession, known as Mouila Lot 2, covers 31,800 ha in Ngounié Province between the Yombi-Mandji and the Yombi-Mouila roads

The concession is located in the Ngounié plains, and is broadly divided into three main topographical zones. The northern tip of the Monts du Tandou range forms an inclined hilly area occupying the central southern portion of the site, lying between 130 m. to just over 330 m. asl. A crescent of flat lowlands borders the hill area to the north forming the start of the Ngounié plain. This is the area between the road and the hill area. The transition zone between the plain and the hill area shows relatively steep slopes, above 39° and between 20 and 25° in many places. The areas with steep slopes along the edge and within the hill area are not suitable for agricultural development. An explanatory topographical map is provided in Figure 1.

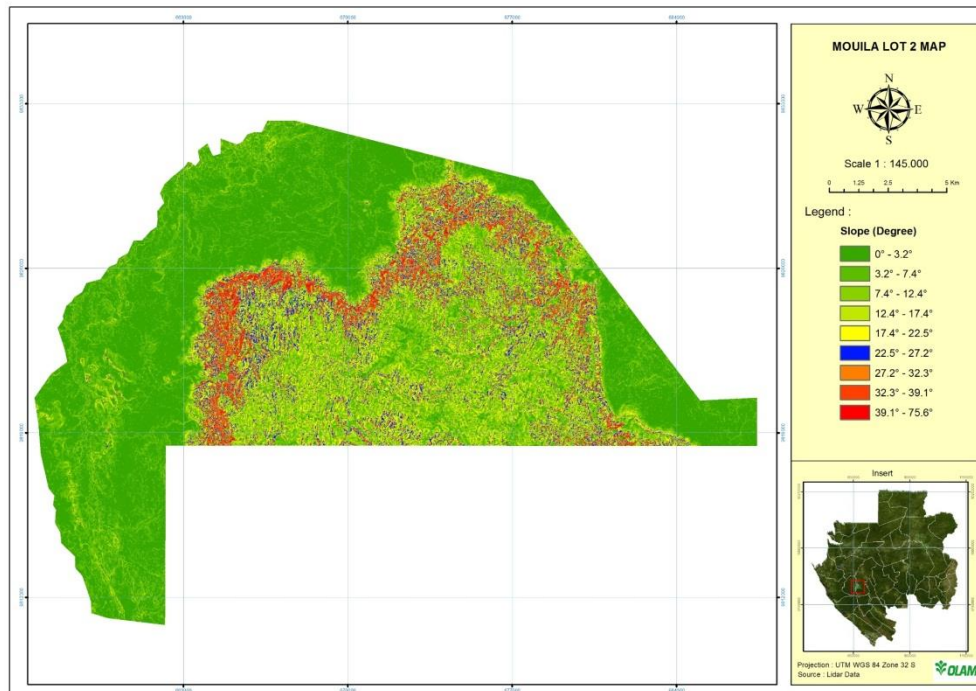


Figure 1: Topographical map with the three main topographical zones indicated; the hilly area (which includes Monts du Tandou), flat lowland areas where the Ngounié plains commence and the transition slopes between them (first to areas).

In Mouila Lot 2, the hydrological network is dense with high buffering power. The concession is broadly divided into two main watersheds: the Ovigui in the west and the Doubanji to the east. The Ovigui has eight sub-catchment areas, with tributaries flowing from the centre of Lot 2 from west to the north-west. The Doubanji watershed has five sub-catchments, with tributaries flowing towards the east to the north-East. All watercourses originate in the hill area to the south (Monts du Tandou), which acts as a “water-tower” for the hydrological network that runs off the escarpment and throughout the plains.

Lot 2 is covered by 95% forest and 4.4% savannah and it is certain from past satellite images, consultation and knowledge of the area that there has been no significant forest clearing in the concession area.

The soils are quite well drained and can be fertilised, so are suitable for palm development.

Forests of the region are important to numerous people who practice activities such as fishing, hunting, logging and gathering of non-timber forest products (NTFP). In addition to Mandji town there are nine villages or village groupings that have a high potential to be impacted by the future oil palm project. In general, villages are fairly small ranging from a few families to about 100 people for an individual village (population numbers are higher when villages are grouped together).

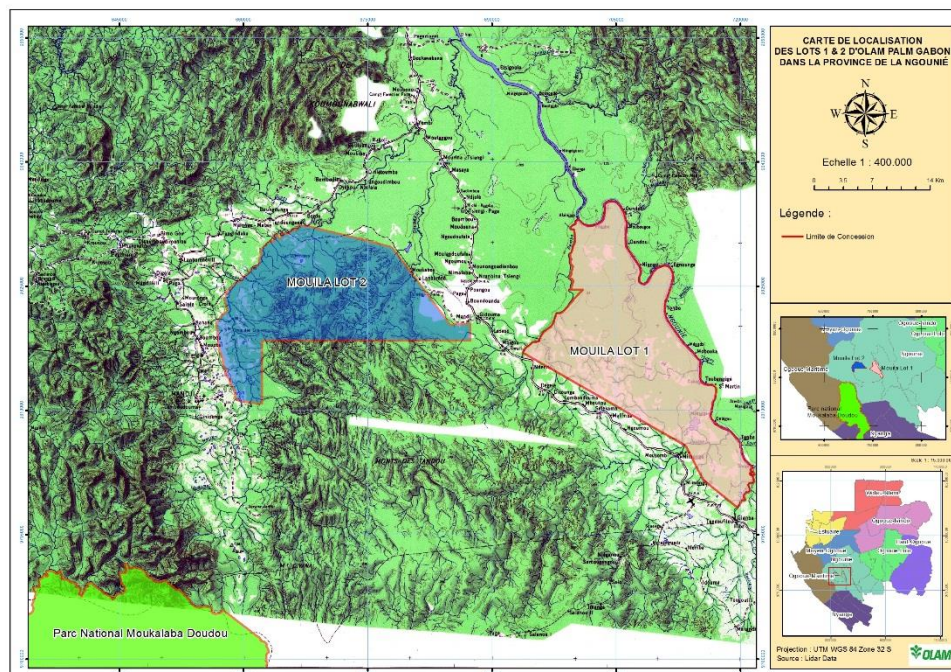


Figure 2: Map showing the location of Mouila Lot 2 (blue) in relation to Mouila Lot 1 (pink) and the Moukalaba-Doudou National Park.

- **Area of New Plantings and Time-plan for New Plantings**

OLAM Palm Gabon intends to establish new plantings across the concession, setting aside and managing HCV areas as discussed in this summary. Commencement of planting is planned for May, 2014. The clearing plan is to still be finalized.

3. Assessment Process and Procedures

Ecosphere was responsible for the field studies and analysis of results necessary to fulfill an SEIA, whilst Proforest advised both Olam and Ecosphere to ensure that SEIA methods and data, provided the context and baseline information necessary to evaluate HCVs and HCV areas in the concession.

Social and Environmental Impact Assessment Team

Table 3 List of Experts for the SEIA

Name	Role and Institution	Expertise
Water studies, under the supervision of Dr Jean-Daniel MBEGA		
Dr Jean-Daniel MBEGA	Agronomy and Forestry Research Institute (IRAF) at CENAREST (The National Scientific and Technological Research Centre)	Hydrology

Blaise MBOYE	Agronomy and Forestry Research Institute (IRAF) at CENAREST (The National Scientific and Technological Research Centre)	Fish and aquatic macro-invertebrates
Joseph NDONG NLO	Ecosphere and l'Ecole Nationale Supérieure de Libreville	Environmental (aquatic) chemistry
Soil studies, under the supervision of Jean-Paul MAYEKI		
Jean Paul MAYEKI	Researcher, CENAREST	Pedology
Bernice BOUANGA	Consultant	Agronomy
Botanical and faunal studies under the supervision of Alfred NGOMANDA		
Dr. Alfred NGOMANDA	IRET	Botany
Dr. Nestor ENGONE OBIANG	IRET and National Herbarium	Botany
Thierry Diop BINENI	Consultant	Fauna
Jacques MAVOUNGOU	Consultant	Entomology
Roland ZINGA KOUMBA	Consultant	Entomology
Socioeconomic survey under the supervision of Prof. Jean Emery ETOUGHE EFE		
Prof. J.E. ETOUGHE EFE	Ecosphere	Socio economic study
Edwige EYANG EFFA	Tropical Ecology Research Institute (IRET) at CENAREST	Participatory mapping / GIS

Assessment Methods

Before the start of the field data collection, Proforest and Ecosphere met in Libreville in October 2012 to discuss the methodologies of the different surveys, and develop terms of reference for the SEIA consultants. Proforest provided Ecosphere with ongoing technical support with the goal of ensuring that SEIA methods were appropriate for HCV interpretation.

In April 2013, Proforest visited the field teams at the start of the field work whilst they were laying the botanical transects and plots. Biophysical and ecological field data collection then took place between April and August 2013. The long time frame was due to several factors including logistics, weather and certain social issues beyond the control of Olam or the assessment teams. In June 2013 Proforest accompanied the fauna team for three days, and then accompanied the botanical team for over a week during the forest inventory to evaluate whether agreed methodologies were being used.

Table 4 Timeline of activities for the SEIA and HCV assessments

		2012				2013						
	Activity	1 2	1	2	3	4	5	6	7	8	9	1 0
Field studies – preparation, execution and sharing of results	Development of methods and sampling protocols											
	Initial field visits Participatory mapping and socioeconomic survey											
	Field data collection – full assessment											
	Validation of the participatory maps											
	Public consultation in Mandji											
Preliminary conclusions and concerns	ESIA expert workshop											
	NGO and expert stakeholder consultations											
Reporting	ESIA and HCV reporting											

SEIA Assessment

Field missions were conducted by each Ecosphere expert to examine flora and fauna, fresh water systems, agronomy, soils science, entomology, carbon sequestration, and socioeconomic factors,. Each field study was conducted through methodologies summarized below.

Soils and Geology: Seven soil samples were taken to characterize the soils in the concession. However, a randomised sampling design would have been more appropriate and the soil study might suffer some limitations due to the low number of samples taken. Furthermore, only two replicates were taken at each location, when three replicates are required for robust statistical analyses.

Hydrology and Water Quality: Samples and measures were taken during two field missions in order to gather data on size, depth, water velocity and flows and biochemical and ecological quality of the two main watercourses (Ovigui and Doubanji) and their main tributaries. Water was sampled in 21 locations and analyzed for pH, oxygen, major ions (salinity) and for heavy metal contamination.

Forest Inventory: A systematic survey was carried out in order to characterize the forests types present in the concession area. During the design phase, the survey aimed to cover 0.5% of the total area or 160 ha. In practice, approximately one third of the proposed plots were covered due to physical inaccessibility to many parts of the hilly area of the concession, and the exclusion of customary territory of Guidouma. The forest survey was designed to include 15 transects, every 2 km across the site, running in a north-south direction, parallel to the Ovigui and the Doubanji Rivers. Of the 15 transects planned, the 4 eastern-most transects were

inaccessible. All studies were thus carried out on the first 11 transects to the west of the Doubanji river.

A total of 52 one-hectare (250 m x 4 m) plots were inventoried and in each plot every tree with > 10cm dbh was recorded, measured and identified by scientific name. The forest structure of each plot was characterized using the following variables: tree density, tree basal area, aboveground dry biomass, tree diameter distribution and relative abundance of each tree species in the plot. Aboveground carbon stock was also calculated.

Faunal Survey: A faunal survey was conducted along the same transects used by the botanical teams but due to access difficulties, two of the 11 transects (accessible to field teams) were not visited. The faunal transects covered approximately 90 km.

The entire distance walked was surveyed using the transect methodology, and tracked using a GPS. All direct and indirect (prints, dung, vocalizations, etc.) evidence of wildlife was recorded with GPS coordinates. Results from the transect and recce data were used to calculate encounter rates for certain species or species groups (great apes, duikers). Encounter rates were relatively low for most species, thus limiting the extent of quantitative analysis (e.g. density) possible. The faunal survey was complemented by desk-based wildlife studies to provide further information on fauna of the site.

Aquatic Biodiversity: The biological diversity of the watercourses was assessed by studying the fish and macro-invertebrate populations. Samples were collected in 23 locations. Fish samples were collected using nets of different mesh sizes hung across the streams in the evening and harvested in the morning. Aquatic macro-invertebrates were sampled using a Surber net, and identified in the laboratory. The results were analyzed in order to calculate biodiversity indices for the location and the ecological quality of the watercourses.

Only the Ovigui catchment area could be assessed, due to the demands of the village of Guidouma not to take part in the study, which restricted access to the Doubanji and its tributaries.

Socioeconomic Study: A socioeconomic study was conducted in Mandji town and nine villages which will potentially be impacted by Olam palm operations. Two villages within the range of the future project (Mouladoufouala and Guidouma) did not participate. A qualitative study of resource use was conducted through the use of group discussions and individual semi-structured interviews.

Participatory Mapping: Participatory mapping was carried out in nine villages and Mandji town to identify and map sites and resources of cultural or economic significance to the local population. The mapping was conducted in two stages with designated members of each of the villages:

- Discussions and sketch maps – first community members were asked about their resources, main activities, use and management of forest resources.
- GPS mapping –the social mapping team and representatives of the local communities walked along paths and throughout customary use areas to identify and map sites of importance, such as hunting or fishing grounds, sacred sites, NTFP, etc.

Stakeholders Consultations

Public Consultations

Community consultations were conducted at different times by Olam staff and the assessment team. Part of this consisted of general initial visits to introduce the potential project. Early visits by social survey and mapping teams led to agreements and plans to conduct participatory

mapping and socioeconomic studies in all but two villages. After the participatory mapping, results were presented to each village for validation of the information (locations and place names). As part of the SEIA, Ecosphere presented a summary of SEIA results to local communities and government representatives.

The public consultations had the following participation.

- Secretary General of Prefectures of Tsamba-Magotsi and Ndolou
- Deputies of Tsamba Magotsi and Ndolou
- Senators of Tsamba Magotsi and Ndolou
- Presidents of the Department Councils
- President of the Tribunal
- Ad joint Procurer for the Republic based at the Tribunal of Mouila
- Mayor for the Commune of Mandji
- Commandant of the Gendarmerie Brigade
- Representative of the Agricultural Sectors
- Representative of the Ministry of Water and Forests
- Delegates of Director General of Environment and Nature
- Delegates of Olam Palm Gabon
- Delegates of Ecosphere
- Chiefs and representatives of villages as per Table 5

Table 5: The villages that participated in the discussions and interviews during the socio-economic surveys, participatory mapping and the final public consultations. The villages of Mouloundoufoula and Guidouma did not participate in any of the above processes.

Village or Town	Discussions & interviews	Participatory mapping
Mandji Town	Yes	Yes
Diangui	Yes	Yes
Kanana	Yes	Yes
Lambaréné-Kili	Yes	Yes
Fanguindaka	Yes	Yes
Malongo-Mabéyi	Yes	Yes
Boungounga	Yes	Yes
Bemboudié	Yes	Yes
Yombi 3	Yes	Yes
Moudouma	Yes	Yes
Mouloundoufouala	No	No
Guidouma	No	No

Expert and NGO consultations

Following the field studies, Proforest facilitated a workshop with the SEIA consultants in September 2013 in order to collate and discuss results, with the aim to develop a preliminary interpretation of the HCVs present in Mouila Lot 2. Based on preliminary results, Proforest conducted stakeholder consultations in Libreville to collect opinions, concerns and recommendations from concerned stakeholders. Table 6 provides the list of stakeholders consulted.

Table 6 Stakeholders consulted in Libreville, September 2013

Name and Title	Organisation or Institution
• Constant ALLOGO, Focal Point	CARPE and IUCN, Gabon
• Dr. Malcolm Starkey, Conseiller Scientifique	Wildlife Conservation Society (WCS), Gabon
• Dr. Archange Boupoya, Botanist	IRET and WCS
• Idriss Deffry, Programme development specialist	Worldwide Fund for Nature (WWF) Gabon
• Bas Verhage, Gabon Programme manager	
• Franck Ndjimbi, Consultant	Brainforest
• Michelle Lee, Technical Advisor, Landuse Plan	Gabon National Parks Dept. (ANPN)
• Jean Louis Philippart, Directeur des Ressources Forestières, de l'Aménagement et de Gestion Durable	Compagnie Bois Gabon (CBG)

• List of Legal, Regulatory and Other Guidance Referenced

International Conventions, Treaties and Guidelines

Climate Change:

- 519/PR/MEPNV by decree of 11 July 2008 on the establishment and organization of the National Authority for the Clean Mechanism (AN -MDP) Development;
- No 748/PM by order of 11 October 2010 establishing the Multidisciplinary Working Group for the CDM (GT -MDP);
- 002/PR/2010 by order of 25 February 2010 a Gabonese Agency of Studies and Observations Spatiales (AGEOS);
- Decree No. 0122/PR/MRPICIRNDH a Climate Council.

A policy on climate change by Reducing Emissions from Deforestation and Forest Degradation (REDD +), conservation, sustainable forest management and increasing forest carbon stocks also exists and are relevant to international conventions on climate change such as:

- UN Framework Convention on Climate Change (and 0030/ 96 of 28/06/1996 authorizing the ratification of the Convention)
- The Kyoto Protocol ratified by Gabon 20 June 2005 (extended to 2020)

Conventions on the protection of natural resources:

- Rio de Janeiro Convention on Biological Diversity, ratified by Gabon in 1997
- Algiers Convention, adopted by Gabon in 1968

Conventions on the protection of the environment and human health

- Stockholm Convention on Persistent Organic Pollutants (POPs) adopted by Gabon in 2001
- Cartagena Protocol, for genetically modified organisms
- International Convention to Combat Desertification in Countries Experiencing Serious Drought and / or Desertification ratified by Gabon in 1998
- The EHS (Environment, Health, Security) policy of the World Bank

National Legislation

Overarching laws

- The Environmental Code: Act No. 16/93 of 26 August 1993 on the Environmental Code
- The Forest Code: Law No 16/2001 Law of 31 December 2001 on the Forest Code
- The Agricultural Code: Law No 22/2008 Law of 10 December 2008 on the Agricultural Code
- The Labour Code: Law No. 003/ 94 of 21 November 1994 on the Labour Code
- The Social Security Code: Act No 6/75 Act of 25 November 1975 on the Labour Code

With Specific legal context to the project

SEIAs

- Article 67 of the Environmental Code: Decree No. 00539/PR/MEFEPEPN of 15 July 2005 regulating Environmental Impact Studies

Protection of the environment, human health and the fight against pollution

- Order No. 00247/HAEDR/IG/IPP regulating imports of products with impact on the environment
- Decree No. 541 of 15 July 2005 regulating waste disposal
- Decree No. 542/PR/MEFEPEPN regulating the discharge of certain products in surface, ground and marine waters
- Act No 07/ 77 Act of 15 December 1977 on the establishment of a pesticide regulations
- Emissions from liquid effluents
- Decree No. 00198/MRS/E/PN/CENAP in the Environmental Code of Gabon controlling liquid effluents

- Order No. 247/96 of 12 March 1996 on the measures required to import, distribute and use of plants or plant products.

Protection of natural resources and species with special status

- Decree 0164/PR/MEF of 19 January 2011 regulating the classification of permissible killing of animal species
- Decree of 19 January 2011 0164/PR/MEF regulating the classification of permissible animal hunted

Protection of the rights of local populations

- Decree No. 692/PR/MEFEPEPN of 24 August 2004 laying down the conditions for the exercise of customary use rights
- Decree No 1016/PR/MAEPDR of 24 August 2011 fixing the scale of compensation payable in case of willful destruction of crops, livestock, livestock buildings, fish ponds or fish resources relating to the project.
- Article 2 of Decree No. 0137/PR/MEFEPA concerning setting aside of certain plant species in multipurpose Gabonese forests.
- Decree No. 692/PR/MEFEPEPN 24 August 2004 for harvesting of these species in the context of the exercising customary use rights of village communities.

4. Summary of Assessment Findings (for SEIA Assessments)

- Summary of key findings in respect of socio-economic impacts to country, region and local communities

The site is located in Ndolou and Tsamba-Magotsi departments, Ngounié Province. Figure 3 below shows the villages and small agglomerations of settlements along the two main roads that run along the northern sides of the concession

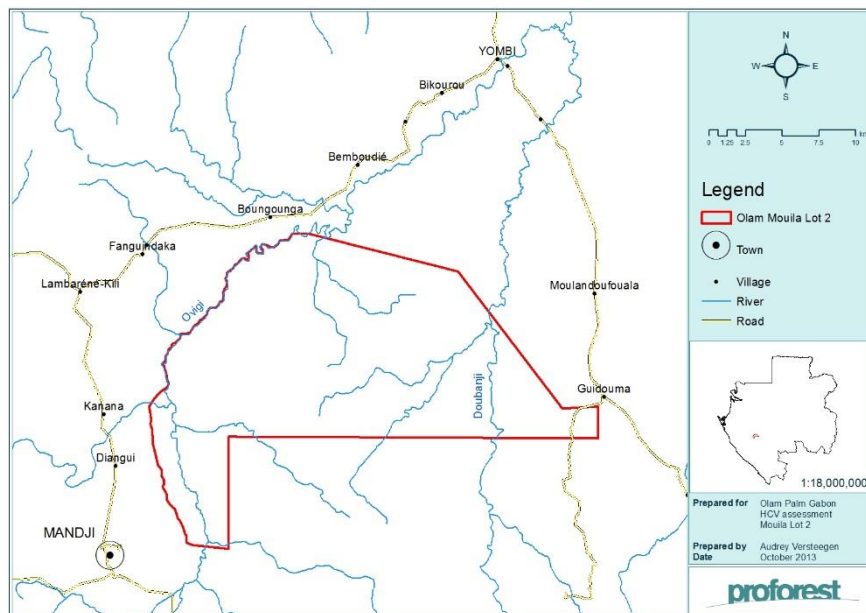


Figure 3: Main villages and towns surrounding the Mouila 2 concession.

Human Population

The 10 affected settlements are listed in the Table 7 below along with the approximate population size and majority ethnic groups.

Table 7: Villages in the study area with village or village grouping names, departments, population sizes and majority ethnic group

Village	Department	Approximate population size	Majority ethnic groups
Malongomabeyi	Ndolou	15	Guisir
Kanana	Ndolou	60	Guisir
Bongounga	Ndolou	120	Akélé
Moudouma	Tsamba-Magotsi	100	Guisir
Fanguindaka	Ndolou	66	Guisir
Diangui (includes Mboumbou, Moupossi & Diangui)	Ndolou	26	Guisir
Bemboudié (includes 12		200	Punu, Guisir &

agglomerations)			Mvounbou
Yombi 3	Tsamba-Magotsi	20	Guisir
Lambaréné-kili (includes Diguella, Paga, Kili, Bimoghoul, Chikavoua & Dissous)		500	
Guidouma		520	Guisir
Mouloundoufouala		321	Guisir

Sources of Income

According to the socioeconomic study, monthly incomes range from less than 50,000 XAF per month to over 200,000 XAF per month.

Sources of household income include the sale of agricultural products, bush-meat, fish, NTFPs and palm wine. Additionally, some people manage small businesses (shops, tailors, restaurants, hair dressers, etc.), work for companies in the area (e.g. forestry, mining) and receive salaries or pensions from the State.

Vegetables, fruits, spices smoked fish, etc. are available daily in markets in Mouila and Fougamou though Mouila has greater volumes and variety. There are also several shops and supermarkets (CKDO, Gaboprix) where one can buy food, materials, utensils, etc. Large grocery stores and shops are usually owned by Malian, Guinean, Mauritania or Lebanese businessmen.

Land Use and Conflict Management

The use of village land is, in principle, under the authority of the village chief. Indeed, for any newcomer to the village, the construction of a dwelling and use of agricultural land are subject to approval from the village chief. However, in practice, these requirements are often not followed.

Conflicts related to village life are often subjected to the village chief, and if no solution is found there, it can be passed to the district chief or to the highest level (the Prefect or the police). Most common conflicts between villagers are often resolved informally.

Infrastructure and Social Services

The road transport links are:

- Libreville – Fougamou road: Fougamou is 330 km from Libreville by car (5-6 hours' drive).
- Fougamou – Mouila road: Fougamou and Mouila are connected by a new road, paved by a Chinese company.
- Fougamou – Mandji road: There is a dirt road that connects Fougamou and Mandji along the Ovigui River.

Various goods (agriculture, fish, bush-meat, etc.) and handicrafts (basket, masks, pots, baskets, etc.) are for sale along the roadside. The roads also facilitate commercial activities between the villages.

Though the Ovigui River is navigable and used to be an important transport route, river traffic has largely stopped since the people settled along the road.

Houses are mostly constructed of wood (a structure built from wooden poles and planks) with brick earth walls, the exception being public buildings (schools and clinics) and some individual houses. The roofs are covered with sheet metal and sometimes straw or dried leaves and palm fronds.

Electricity from the public grid is available in Fougamou and Mandji, though power cuts are quite frequent and irregularly distributed in different parts of the towns. However, most villages in the region do not have access to public electricity and instead use generators which were provided as gifts during political campaigns. Fuel for the generators is either provided by some kind of political connection or through monthly contributions from villagers.

People in villages obtain water from public hydraulic pumps, rivers and rainwater. Existing hydraulic pumps were financed and installed by the Gabonese government. Some have been in a state of disrepair for several years due to various failures. Others, which are well maintained and repaired, work well.

The many rivers, streams and natural springs, are particularly used by villages which are not equipped with functioning hydraulic pumps. However it should be noted that the water quality of rivers may be below drinking quality standards. Rainwater is collected in barrels, tubs and buckets and then used both for drinking, cooking and household chores. During the rainy season, this water source is regular but in the dry season, the rains are less abundant, and this water source is thus uncertain.

Education and Health Care

The study area has ten primary schools distributed across Mandji town and six villages. Most schools are public, but there is also a private Catholic school and a Christian Alliance school. All schools, especially in the villages, do not offer a complete cycle from year 1 to year 5 and some do not have a fifth year, which causes students to leave the village to complete the primary education cycle in Mandji. There are seven secondary schools in Mouila, one each in Mandji and in Fougamou each for a total of nine secondary schools unevenly distributed in the study area.

In general there is a bias toward boys, as girls may be excluded from education based on economic or cultural reasons. In the villages, the number of students in 4th and 5th year is lower than that found in the first, second and third years. Some may be absent due to the conditions in the village (no electricity, poor educational facilities, etc.) and others may be sent to the city to complete primary school. The socioeconomic study notes that several schools lack textbooks, tables and benches for students and desks and chairs for teachers.

In terms of medical care, Mouila has the largest and best health facilities. Douya Onoye is the only department to have a Regional Hospital and other structures such as the Centre de Traitement Ambulatoire (CTA), the Base Epidémiologique et de Lutte contre les Endémies et Ripostes (BELER) and a Provincial centre for maternal and child health.

In Tsamba Magotsi, the Fougamou Medical Centre is fairly well equipped and has a research center affiliated with the Albert Schweitzer hospital in Lambarene. Also, in Ngounié province, there is a regional health centre, private clinics and several pharmacies.

Subsistence Activities (see results of the participative mapping for hunting and fishing in Figure 4)

Shifting agriculture is the primary activity in the villages with women carrying out planting, weeding and harvesting and men, land clearing. The staple food crops are cassava and banana. Farmers use their fields for a few years and then clear new land or return to old fallows. Most farms are located from 500m to a few kilometers from the villages and people often construct small huts in the fields so that they can protect against crop damage and raiding by elephants, apes and rodents – a serious threat to crop yields.

Typical meals consist of starches (cassava, banana, yam etc.), vegetables, cassava leaves, fish products and bushmeat (gazelle, porcupine, antelope, bush pig, etc.) and sometimes wild foods (caterpillars, snails, Odika, etc.). Rearing of domestic animals is only practiced at a small-scale with households raising a few chickens and goats, but most animals are left to graze and are un-penned. Domestic animal meat is rarely consumed by households, but rather meat (especially goats) are used as an insurance policy, for paying fines or dowries for example. The majority of households in the study area use firewood for cooking meals. Firewood collection is done in the surrounding forest. Local people gather non-timber forest products (NTFPs) for food, construction, medicinal purposes and small-scale commerce. Gathering activities generally extend over large areas and are conducted at the same time as other activities such as fishing, hunting and agricultural work. Hunting

Hunting is another important activity for households, practiced by men, and taking place throughout customary territories ranging from relatively near to the villages and extending into the forest. Hunters most commonly use snares, placing them along frequently used forest paths and checking them a couple of times per week. A few hunters use shotguns, but this method is more expensive (purchase of guns and ammunition). For hunting, communities travel the longest distances into the forest; however it is performed by a limited number of people. The most commonly hunted species are antelopes (duikers), porcupines, monkeys and red river hogs. Those who target large animals (often protected) species are even fewer in number.

Bushmeat is consumed for household protein or sold to passers-by along the road and other villagers to buy basic necessities (soap, oil, salt or oil). Hunting contributes up to 10,000 XAF per week per household. It is not documented in this study, but some meat may make its way towards Libreville or other cities. Bush-meat is consumed for household protein or sold to travelers along the road and other villagers to buy basic necessities (soap, oil, salt or oil).

Fishing

Fishing is mainly practiced in the dry season when agricultural activities are less intense and some agricultural camps can also serve as fishing camp. Both men and women fish, though they generally use different methods. Women's fishing is generally for household consumption and is practiced in small streams during the dry season. In contrast, men's fishing occurs throughout the year and the catch is most often sold for cash income. The most commonly fished species include yarra, silure, carp and catfish. The study also noted that crocodiles are captured. This is of concern because dwarf crocodiles *Osteolaemus tetraspis* are protected by national law. According to the socioeconomic study, the Gisir people do not eat fish. If this is

indeed the case, this should be considered when trying to recommend alternative sources of protein if bush-meat populations decline after palm plantation development

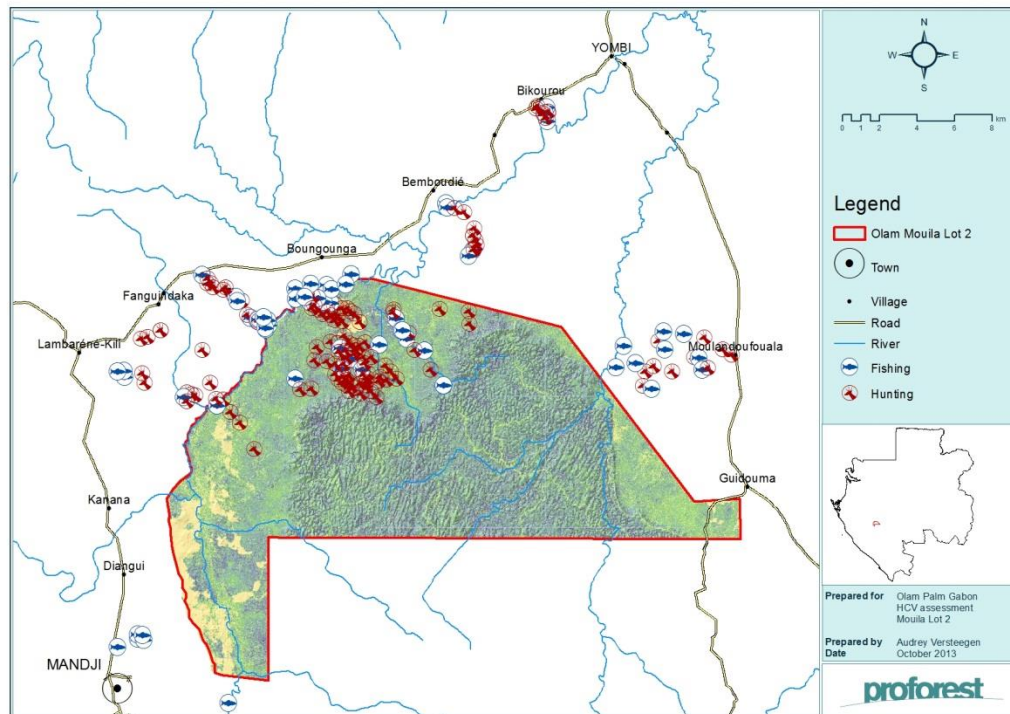


Figure 4: Hunting and fishing sites of surrounding villages as determined by participative mapping

Artisinal Logging

Artisanal logging (generally with pit saws) is practiced by communities for both household use (construction of houses, canoes and bridges) and for commerce. Families with customary land rights believe that they have ownership over forest territories and therefore the right to log commercial tree species.

Cultural Values (see Figure 5 for sacred sites as determined by participative mapping).

During discussions and mapping activities, people discussed their village history, and specifically how earlier generations migrated to the area and created the current-day villages. This history is visible in the form of ancient villages, tombs and sacred sites. One particular site known as the Holy Cross of Echira (Sainte Croix d'Echira) is considered to symbolize the birthplace of the Echira people, and the site is of critical importance for the population; they are strongly attached to it and do not wish to see it disappear. This site could be de-classified from the Olam permit or special measures are needed to ensure its absolute protection.

Old villages can be found several tens of kilometers from the main roads and sites of current-day villages. Some people still practice activities such as hunting or agriculture in these former villages.

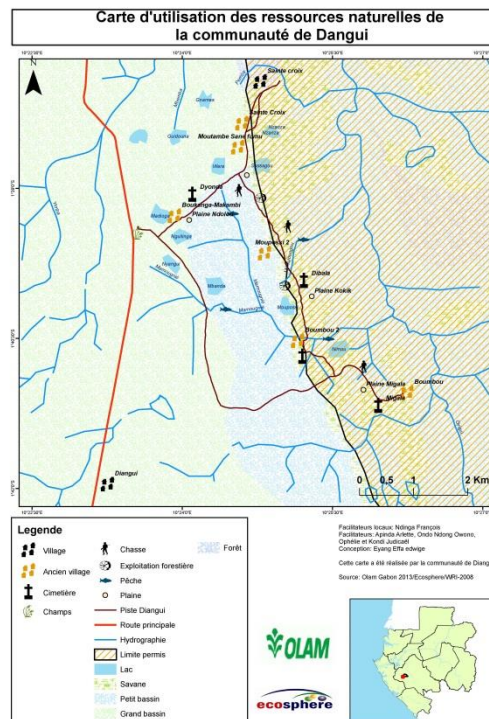


Figure 5: Participative mapping of the village Dangui with several exemplar sacred sites

- **Summary of Key Findings of Socio-economic Impact in Respect to Emergent Communities**

Jobs will be created through development of the plantation and its infrastructure. Subcontractors are expected to also hire their workforce locally. The jobs being created will fall under two categories: temporary, which are those lasting for a limited amount of time (i.e. road construction) and permanent, more sustainable roles (harvesters, maintenance workers, social workers, administration, health and safety). The development is likely to generate a dynamic economy in the region.

A monitoring committee (a standing committee of company and community representatives) will be set up to advise and initiate developmental projects as well as oversee employment issues such as hiring of locals, working conditions and capacity building of workers

- **Issues Raised by Stakeholders and Assessors Comments**

Public Consultations

Public consultations were held in 9 villages and Mandji town. As listed above the consultations involved local and national government authorities, politicians representing the area, village representatives and representatives from Ecosphere and Olam Palm Gabon. The villages of Mouladafoula and Guidouma did not participate due to the first concern expressed below. The other concerns expressed are summarized below.

- Due to the presence of Lot 1 in the east and the proposed concession of Lot 2, the villages perceive that they are hemmed in and thus anticipate the loss of land for

agriculture and the loss of native customary rights. Therefore the two villages (Mouladafoula and Guidouma) objected to the proposed development of Lot 2.

- Almost all villages expressed their concern on the loss of customary rights and livelihoods, particularly with respect to land for village farming and wanted the company to respect these by the identification and setting aside of areas for village use and/or compensation through material means that contribute towards social development.
- Due to strong dependence on rivers and other water bodies for fishing, drinking water and bathing, many villages expressed concern of the use of phyto-sanitary (agrochemical) products by the company and consequent contamination of water bodies. They wanted the company to put clear safe-guards in place to prevent this.
- Due to presence of sacred sites such as cemeteries, ancient villages and the Holy Cross of Echira (Sainte Croix d'Echira) they wanted assurance from the company that these would be protected by the setting aside of adequate areas.
- Due to their dependence on wood for house construction etc. the villagers requested access to wood on the concession prior to land clearing by the company.
- Overall they urged the company to respect their customs and traditions while developing the project
- While they welcomed employment opportunities that development would generate they were concerned about the tenure and conditions of employment in the face of compromises they would make for the company and the migration of foreign workers that could erode their cultural traditions and impact their livelihoods
- They were concerned about the loss of habitats for elephants and the possible escalation of elephant damage of their crops.

The company and the government authorities responded that these concerns would be duly considered and appropriately acted upon. Indeed the environmental and social management plans and the recommendations of the HCV assessment provide several recommendations pertinent these concerns. The company is therefore compelled to follow these recommendations

Stakeholder Consultation in Libreville

In September 2013 Proforest conducted stakeholder consultation to discuss the HCV assessment results for the Mouila Lot 2 project, proposed by Olam Palm Gabon (see list of participants above).

Below is a summary of stakeholder concerns (full summaries of consultation notes are available in Proforest's full HCV report):

Process of Concession Acquisition

Both social and conservation NGO representatives expressed concern over the process of concession acquisition, namely the transfer of forest domain land to an agricultural use. According to Olam, the Ministry of Economy, Employment and Sustainable Development issued Olam Palm Gabon (OPG) with a Bail Emphytheotique in November 2012 for 31,80 ha for development of a new oil palm plantation in Mouila Lot 2. This is outside of the direct scope of the HCV assessment, but it is important for RSPO and NPP compliance. Proforest has recommended that Olam effectively communicate the land acquisition process (and evidence of permits) to concerned stakeholders to ensure transparency.

A question of Process for Development

Most stakeholders acknowledge that the choice of this site (Mouila 2) is appropriate in terms of distance from protected areas, proximity to roads, etc. However, stakeholders want to see that the process for determining whether and how much forest conversion will take place, is systematic and objective and can be repeated consistently for all of Olam's future developments. They would like to see a holistic and landscape (even national or provincial) view, rather than piece-meal developments.

Biodiversity

- WCS and WWF expressed concern that some of the methods used were not rigorous enough to adequately characterise the biodiversity of the site. They mentioned specifically the lack of surveys for savannah patches and herbaceous plants.
- Develop a conservation management plan for great apes (gorillas, chimpanzees) and elephants

Collaborate with Neighbours

Stakeholders recommended that Olam collaborate with neighbours such as CBG (FSC certified logging concession) and a mining company to share biodiversity and inventory data and to manage wildlife.

Local Communities

- Ensure that social impacts of immigration to the area (e.g. increased pressure on natural resources) are adequately addressed by management plans.
- Conduct a high quality FPIC process

5. Summary of Assessment Findings for HCV Assessments

• Data Sources and Quality

Coordination of assessments like this comes with certain risks and challenges which Proforest aims to minimize or eliminate. For instance, in cases where discipline specialists did not adhere to sampling plans, methods or technical advice, Proforest has sought to supplement the information as much as possible from relevant literature, expert consultation and experience. Additionally, Proforest has made use of the precautionary approach to HCV identification: meaning that where the information is not adequate to justify the absence of an HCV, an HCV may be assumed to be potentially present until further evidence shows otherwise.

• HCV Toolkits Employed

Global generic guidance is provided by the HCV Resource Network, but countries also develop national HCV interpretations to further adapt the approach to national and local concerns. In 2008, forestry stakeholders in Gabon developed a national HCV toolkit, which has been used in certification processes resulting in successful FSC certification for forestry companies in Gabon. This draft HCV national interpretation was produced before large-scale agricultural plantation development was taking place. The definitions proposed in the earlier draft now need to be reviewed in the context of significant habitat loss through plantation development (Rayden 2012). Since 2011, a consortium of conservation organisations has worked on updating and refining some of the guidance in the 2008 HCV national interpretation (Rayden 2012), but at the

time of this HCV assessment, this guidance has not yet been fully developed. The reference documents used to interpret and identify HCVs during this assessment include: Good practice guidelines for High Conservation Value assessments (2008), the HCV National Interpretation for Gabon (2008) and recently published Common Guidance for HCV Identification (2013).

- **Decisions on HCV status and Related Mapping**

Table 8: Summary of HCV assessment findings and approximate area (ha) of each HCV area. Note that some of the areas for different HCVs overlap.

HCV	Definition	Present	Potentially Present	Absent	Approx. area (ha)
HCV1	Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.				overlaps with HCV 4 area
HCV 2	Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.				N/A
HCV 3	Rare, threatened, or endangered ecosystems, habitats or refugia.				
HCV 4	Basic ecosystem services in critical situations including protection of water catchments and control of erosion of vulnerable soils and slopes.				17,522 ha
HCV 5	Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or indigenous peoples.				4,382 ha
HCV 6	Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.				Included in HCV 5 area above

A preliminary map of HCV areas is shown in Figure 6 and provides a draft spatial plan designed to meet the objectives of biodiversity conservation and ecosystems services for HCV 1 and HCV 4 as well as safeguarding areas necessary for the local communities (HCV 5 and HCV 6). The steep hill areas and slopes are covered with a more mature forest and the vegetation on the slopes is essential for their stabilization and soil erosion control. The hilly areas and slopes should be considered HCV 4 in its entirety. The entire area should be excluded from conversion in order to provide refuge to faunal species, especially species such as elephants and great apes which may move between Moukalaba-Doudou National Park, the CBG forestry concession and parts of Mouila Lot 2.

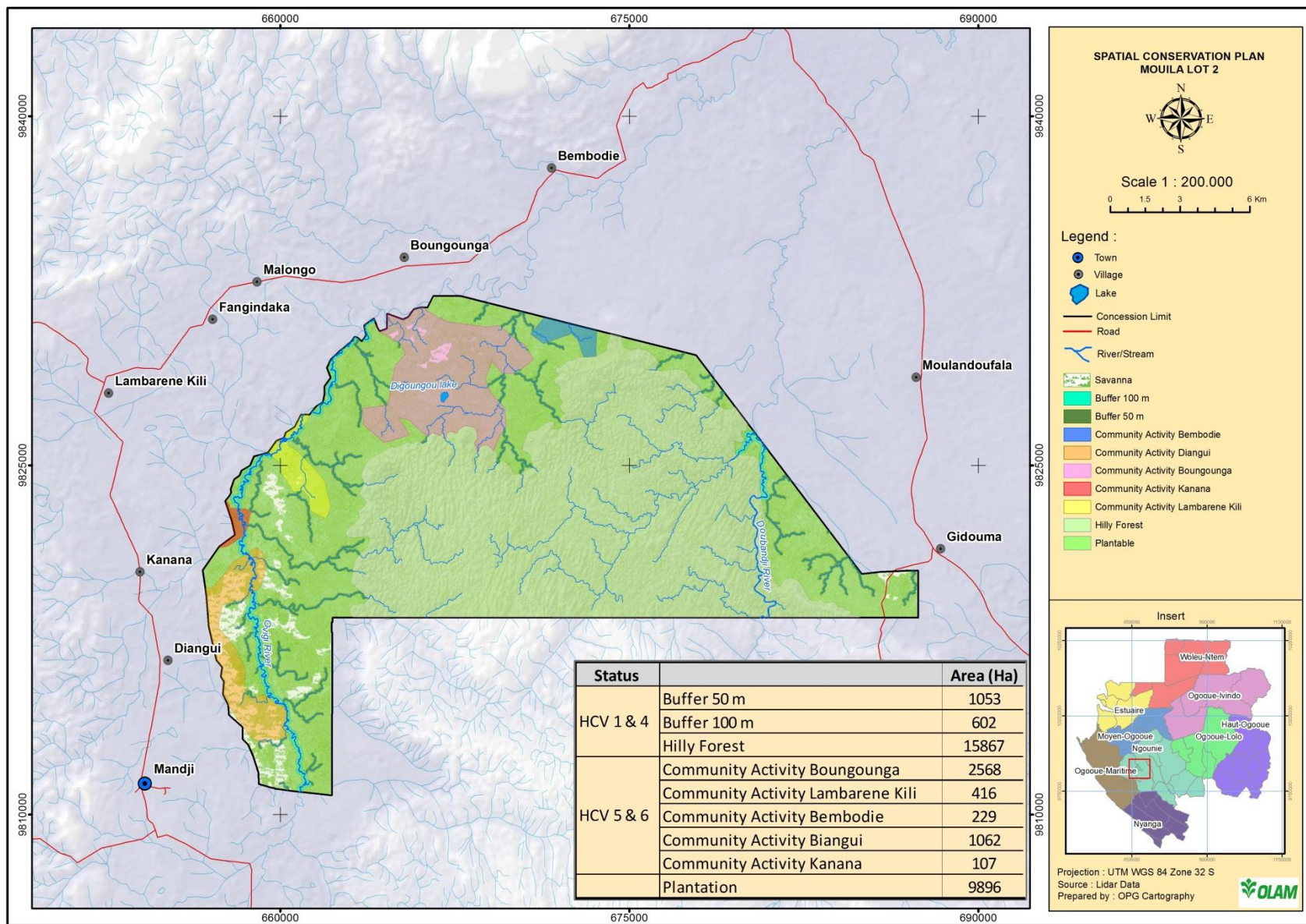


Figure 6: Provisional HCV map for Mouila Lot 2. This scenario would mean there is approximately 9,896 ha presently available for palm development (due to ongoing negotiations with the village of Guidouma in the east, which currently claim more than 2000 ha). The light blue and green zones represent main rivers and their tributary buffer zones. The light green area is the hilly forests. HCV 5 & 6 areas are represented by polygons near the villages. Note that the far eastern edge of Lot 2 was not surveyed (due to the Guidouma claim), but would likely be an HCV 5 & 6 area.

- **HCV Management Recommendations**

1. HCVs elements	2. Threats	3. Management recommendations
HCV 1 Concentrations of rare, threatened, endangered or endemic species <ul style="list-style-type: none"> • Unidentified fish species of potential conservation interest (Doubanji) • Potential endemic herbaceous plants at high altitude (hill forests) 	<ul style="list-style-type: none"> • Habitat loss • Pollution/sedimentation • Increased fishing pressure • Hunting/disturbance • Human/wildlife conflict 	<ul style="list-style-type: none"> • Great ape management plan • Elephant management plan • Hunting controls • Protection of hill forests
HCV 4 Basic ecosystem services in critical situations including protection of water catchments and control of erosion of vulnerable soils and slopes. <ul style="list-style-type: none"> • Provision of water for local people • Water catchment services (purification, recharge) • Prevention of soil erosion (slope forests) 	<ul style="list-style-type: none"> • Permanent drying of seasonal streams • Reduced flow of rivers and tributaries due to erosion • Chemical pollution (pesticide & fertiliser) • Reduced water quantity due to forest loss in hilly plateau 	<ul style="list-style-type: none"> • Buffer zone delimitation and management • Plantation chemical/waste control system • Protection of hill and slope forests
HCV 5 Local people's basic needs <ul style="list-style-type: none"> • Forests and water courses providing food, fuel and income 	<ul style="list-style-type: none"> • Loss of access rights • Damage to resources • Social conflicts • Loss of revenue • Reduced access to food (especially protein) 	<ul style="list-style-type: none"> • FPIC procedure • Community land agreement + demarcation • Negotiated access rights • Development assistance
HCV 6 Cultural values <ul style="list-style-type: none"> • Sacred lakes, old villages, cemeteries, etc. 	<ul style="list-style-type: none"> • Loss of access rights • Damage to resources • Social conflicts 	<ul style="list-style-type: none"> • FPIC procedure • Community land agreement + demarcation • Negotiated access rights

Free, Prior and Informed Consent

The process to obtain FPIC among villages surrounding the concession is an on-going process which has commenced. From the 6 steps recommended for completing the FPIC process, each of which have several key components, the social team of Olam Palm Gabon have completed the following actions against each step:

1. Step 1(SEIA): The SEIA has been submitted to the Director General of Environment, subsequent to public consultations informing all stakeholders about the impacts of the project and addressing any concerns raised. The SEIA also includes a study for the impact of the project on subsistence activities (farming, hunting, gathering, collection and fishing) in and around the concession area and the recommended action to mitigate this.
2. Step 2: (Elaboration of the FPIC process with stakeholders): The details of the FPIC process have been elaborated with local communities and relevant provincial and national government agencies. An information campaign on impacts of the project is presently underway. A register of information requested, issues, claims and complaints has been opened in the offices of Olam, the Prefectures of Mouila and Fougamou and villages potentially affected by the project. Furthermore a list of all stakeholders is maintained and a record of communications, consultations and actions arising from these, is regularly updated.
3. Step 3: (Identification of stakeholders, definition of participative modes of consultations, representation and negotiations): A steering committee to monitor and guide the FPIC process has been established.
4. Step 4 (Identification of the persons affected by the project and estimation of compensation required): An agricultural inventory was carried out to identify owners of crops, farms and timber permits within the concession, allowing Olam Gabon to plan for compensation of owners in accordance to Gabonese law.

The last two steps, 5 and 6, facilitate obtaining free, prior and informed consent from the villagers and other stakeholders formally, validated through a social contract and a ritual ceremony. Execution of all steps (actions) is supported by documentary evidence signed by the relevant stakeholders and Olam Palm Gabon.

Internal Responsibility

This document is the summary of SEIA (Social and Environmental Impact Assessment) and HCV (High Conservation Value) assessments for 31,800 hectares concession in proximity to Mandji Town proposed for development of oil palm plantations by Olam Palm Gabon and has been accepted by the Management of Olam Palm Gabon. We the undersigned accept responsibility for the assessments and summary.



Signed on behalf of SEIA assessors

Ecosphere SARL, Gabon

A handwritten signature in cursive script that reads "Ellen Brown".

Signed on behalf of HCV Assessors

Ellen Brown, Proforest Ltd, UK

A handwritten signature in black ink, appearing to read "Arun Venkataraman".

Arun Venkataraman

Signed on behalf of

Olam Palm Gabon