

GBA FOREST MANAGEMENT PLAN

1. INTRODUCTION

1.1. Management information

This is the management plan for the Gba Community Forest. The Gba Community Forest was established in November 2011 when the FDA and the Gba Community signed a Community Forest Management Agreement authorizing the Gba Community to manage their customary forestlands in northern Nimba. Day-to-day to management of the Gba Community Forest is the responsibility of the Gba Community Forest Management Body. The Gba Community receives support in its implementation of this plan from Arcelor Mittal Liberia (AML) through an annually renewable Memorandum of Understanding; and USAID through the PROSPER and FIFES programs.

1.2. Objectives and Duration of the Plan

1.2.1. Stated objectives of the CFMP

The objectives of this management plan are to:

- Sustainably manage the Gba Community Forest for multiple uses and resources
- Conserve and protect biodiversity
- Collect information to better understand the value of the timber and non-timber resources

1.2.2. Effective date of the CFMP and duration of the plan

The CFMP is valid for up to 15 years. The plan will be evaluated annually and any proposed revisions will be submitted to the FDA for approval.

2. LEGAL FRAMEWORK

Implementation of this management plan is governed by the Community Rights Law of 2009 (CRL) the Community Rights Law Regulation of 2011, the Regulation on the Commercial and Sustainable Extraction of Non-Timber Forest Products, and the Wildlife and National Parks Act of 1987. Other relevant provisions may apply from the National Forestry Reform Law of 2006 (NFRL) and the Environmental Protection and Management Act of 2002 (EPMA).

It is also noted that the Mineral Development Agreement between the Government of Liberia and Mittal Steel Holdings, N.V. grants exclusive right and license to Mittal Steel Holdings N.V. to conduct exploration, development, production and marketing

of iron ore and associated minerals and products, and rehabilitation of the associated infrastructure in a concession area which covers the entirety of the Gba Community Forest. The agreement was signed in August 2005 and is effective for twenty five years, with the possibility of extension for an additional 25 years.

3. FRAMEWORK

3.1. Forestry Development Authority

Consistent with Chapter 5 of the CRL, the FDA has jurisdiction over community forest management and is the only entity that may approve a management plan. The FDA's responsibilities include the provision of technical support and capacity building to the community to implement their management plan. The FDA also monitors the implementation of the management plan and has the authority to terminate the CFMA in the event that the CFMB is not managing the community forest in compliance with the CRL, its regulation or the Management Plan.

3.2. Community Forest Management Body

The CFMB represents the community in all matters and negotiations related to the Community Forest. Consistent with Chapter 4 of the CRL, is responsible for the implementation of the management plan with technical assistance from the FDA, AML and USAID.

4. THE AUTHORIZED FOREST COMMUNITY

4.1. Demographic description

The Gba community is located between and within the two administrative boundaries of situated between Senequellie-Mah and Yarmeh Districts. The Gba community comprise 12 villages and hamlets including: Gbapa, Zolowee, Markinto, Sehyigeh, Vanyanpa, Bonlah, Bentol, Gbobayee, Suakazue, Cassava Village, Leagbala and Bassa Village and a number of small hamlets which have representatives from the Seyhi and Yarmeh clans. The population is made up of two major ethnic groups: Gio and Mano. The main livelihood activities related to forests and land use include farming (shifting cultivation), hunting, fishing, artisanal mining, and collection of NTFP. Many Gba community members have been recently employed to work with AML in unskilled labor positions.

4.2. Description of surrounding landscape and its management

The Gba CF is an important part of a larger landscape consisting of forests, grasslands, rivers, mountains, and other natural features in Nimba County which is noted for its varied topography, soils and climate which supports rich animal and plant diversity.

5. GENERAL DESCRIPTION OF THE COMMUNITY FOREST

5.1. Area and Location

The Gba CF comprises 10,939 hectares including 204 hectares that is managed by Arcelor Mittal Liberia as a Tailing Management Facility (TMF). The Gba CF is bordered to the east by the St. John River which serves as the international border with Guinea. The Saint John River is a

major river in West Africa and the Gba CF is situated within its watershed. The Yah River runs through the center of the CF. The Gba CF area also includes Mounts Yueliton, Gangla and Beeton. Each of these mountains have significant iron ore reserves and may be the site of future mining activities by AML. The southern area of the CF has been the site of significant encroachment in the past 20 years facilitated by a road network developed by loggers in the 1980s and 90s. The southeastern border of the CF borders an exclusion zone around the Toakadeh Mine site, an active mine site under excavation by AML; and an exclusion zone for the proposed site of a Tailings Management Facility (TMF). A map of the Community Forest and surrounding environment is found in Appendix A.

5.2. History of past and current management

Past use of the Gba CF included: limited commercial logging, chainsaw logging, shifting cultivation, along with hunting and collection of a variety of non-timber forest products (NTFP). Traditionally, the Gba community managed the forest as a place to hunt, collect timber and NTFP, and to clear for farming. It was also used for other cultural activities. In the past, the western area of the Gba CF was identified as the West Nimba State Forest. During the 80s and 90s the forest was logged by several private interests.

More recently, a major area of the Gba CF was identified as a potential Protected Area by FDA and international conservation organizations.

In 2007, AML was granted exclusive rights to explore and develop iron ore and associated minerals in the CF area through the MDA described in the section above. AML's management of the area in addition to mining, includes implementation of an environmental offset program to mitigate the environmental impacts of mining activities. This management plan will support these efforts and be integrated into AML's larger conservation efforts in northern Nimba.

Currently, there is limited management of the landscape and a system of open access for members of the community is the current management regime. Forests guards are providing some oversight and reporting incidence of land clearing and encroachment but their impact is minimal as comprehensive rules have not yet been approved by FDA or disseminated widely within the community. This passive management does not support long-term sustainable forest management and has contributed instead to forest degradation. For example, in recent years, areas within the Gba CF have been cleared extensively for agriculture. In addition, the forest borders Guinea, and communities in that country use and access the resources of the Gba CF for both NTFP collection and clearing land for agriculture.

5.3. Vegetation types

There are 4 major forest types in the Gba CF including: primary low thick bush forest at moderate altitudes (*ghanla*), secondary forest, old growth forest, and swamp. AML has conducted several studies to identify high conservation value forests throughout the area.

5.3.1. *Gbanla Forest*

This forest type covers approximately 311 hectares and is found in the southern area of the Gba CF and within the primary forest within the CF interior. This forest is characterized by very thick bush that is very difficult to penetrate and is dominated by vines and short trees.

5.3.2. *Swamp forest*

Small patches of this forest type are located in the southern area of the Gba CF, primarily in the lowlands around the Yah River and covers approximately 718 hectares. This forest type is dominated by hydrophilic tree species such as Niangon (*Heitiera utili*).

5.3.3. *Secondary successional forest*

Secondary forests comprise approximately 4,844 hectares of the Gba CF and covers most of the area on the southern, eastern and north western areas of the forest. These forests, which are in varying stages of succession, are found at lower elevations and are generally the past sites of shifting cultivation.

5.3.4. *Old growth forest*

This forest type, which has 85% or greater canopy closure is found primarily in the central and northern areas of the CF and covers approximately hectares as estimated from satellite imagery. The old growth forest type has remained intact largely out of benign neglect. Dominant timber tree species are Dahoma (*Piptadeniastrum africanum*), *Chrysophyllum* spp., *Chidlowia sanguinea*, *Parkia bicolor*, *chlorophora* spp., and Ekki (*Lophira alata*).

5.4. Wildlife

As part of AML's environmental impact assessment of proposed mining operations in northern Nimba, a series of desk and field studies were conducted to determine the status of wildlife in the northern Nimba region. Some of these field studies were conducted in Gba CF. Although the study concluded that further research was required to confirm species richness, at least 88 mammal species were identified in northern Nimba. A summary of primate species, mammals, and birds that were recorded through field studies in the Gba Forest are presented in Appendix B. The presence of endangered, threatened and rare species confirms the biodiversity values of the area as well as the importance of managing the habitat upon which they depend. Areas of high conservation value are depicted in the map and are based on assessments conducted by AML.

5.5. Water resources

According to a study of flora and fauna conducted by Arcelor Mittal as part of their environmental impact assessment, the watersheds of the Nimba mountains area provide habitat for a diverse population of freshwater fish. However, as with the wildlife survey described above, additional study is need to determine biological uniqueness. The study reported high diversity in freshwater fish particularly below 500m, including several endemic or near-endemic species.

5.6. Threats to the Community Forest

The Gba CF faces a number of direct and indirect threats to its integrity as a whole and to its biodiversity resources specifically. With support from USAID, the Gba community conducted several threats assessments to determine the major direct and indirect threats to biodiversity in the Gba CF. Findings from hunters and household surveys, Forest Guard reports, and transect surveys identified the following as major threats to biodiversity: shifting farming, uncontrolled hunting and fishing, fire, destructive logging (including chainsaw logging commonly known as pitsawing). Since the accessible forest has already been logged, there is currently no large-scale logging in northern Nimba County. Nevertheless, sawyers are impacting large areas in Liberia and, critically, the process is highly inefficient because it can waste up to 70% of the available timber (Blackett et al 2009). These threats have been confirmed in studies by AML and CI.

Local bushmeat hunting presents a particularly difficult challenge since bushmeat provides the main source of protein for Gba community residents. Although rodents comprise the majority of bushmeat, primates are particularly threatened because their long reproductive cycles mean slower population increase. There are reports of growing numbers of hunters from Guinea crossing the border and farming and hunting in the Gba CF. Extraction of rattan is also reportedly being conducted at unsustainable levels for export to Guinea. Small scale diamond mining is also contributing to forest destruction.

6. SOCIAL MANAGEMENT

6.1.Consultation process between the CFMB and FDA

This plan calls for **quarterly meetings between the CFMB and the FDA, AML and other stakeholders**. The technical manager of the Department of Community Forestry of the FDA will always be invited to these meetings, along with representatives of the Conservation and Commercial Departments. Such a gathering is expected to create a platform for open and quality discussion about a range of resource management planning, administrative and institutional issues and challenges that are bound to emerge. People in the community, for example, may seek advice in an informal fashion for technical forest management activities they may want to undertake

6.2.Benefit Sharing

Consistent with Chapter 10 of the CRL Regulation, funds derived from community forest management must be managed by the CFMB under the supervision of the Community Assembly. Following the registration of the CFMB as a legal entity, a bank account will be opened to manage funds derived from the CF and from partners.

7. FOREST ZONING AND TYPES [OPTIONAL]

7.1. Zoning

There are 4 major management zones found in the Gba CF. A map of these zones is presented in Figure 1 below. Zone 1 covers the southwest area around Vayapah Town; Zone 2 covers the northwest area around Bentol and Bono Towns; Zone 3 covers the eastern area centered around Gbapa Town, and Zone 4 covers the central area of the CF and is the heart of the Gba Community Forest. Villages located within each zone will have primary responsibility for implementing management activities within their respective zone. Within zones 1, 2 and 3, farming may continue in the secondary forests according to rules that will be developed by the CFMB, and approved by the Executive Committee and the FDA. In Zone 4, there will be restricted uses that will be governed by rules that will also be developed by the CFMB and approved by the FDA and Executive Committee.

There are four major forest types in the Gba CF. These forest types include swamp, secondary, old growth or primary forest, lowbush old growth forest (*gbanla*). Within these areas, high conservation value forests have also been identified by AML surveys and a description of these is also found.

7.1.1. Zones 1, 2, and 3

Swamp forests in Zones 1, 2, & 3 serve as habitat for fish, mammals, and other types of aquatic life. It also is a critical watershed supporting many creeks, streams and rivers in this and adjacent communities. Accordingly, swamp forest within these zones will be managed and protected against logging, farming and mining. Collection of NTFP and fishing will be permitted consistent with rules that are developed.

The most significant portion of Zones 1, 2, and 3 comprise secondary successional forests.

In forests that have been fallow for more than 10 years, pioneering species such as *Xylopia* (*Xylopia quintasii*) and *Musanga* (*Musanga cecropioides*), among others, dominate. Scattered trees of pole size are found in this type of forest as well as few trees more than 60cm or more in diameter that have not been felled by swidden agriculturalists because of their size.

Felling of trees in these forest types will be restricted to selective harvesting. Permits will be required to conduct any felling operations, and an operations plan must be developed and filed with the FDA and the CFMB which will monitor these activities.

Although a preliminary inventory has been conducted, further information needs to be collected and an analysis of current data conducted in order to determine an estimate of volume in the Gba Forest on a per hectare basis. This should be done to determine an annual allowable cut level which is sustainable.

Should communities wish to harvest timber, this analysis could be done with the support of FDA or USAID programs. FDA could also assist the communities to identify the location from which the volume could be removed. Considerations such as ease of operations, potential damage to other trees within the stand, and the importance of the area for wildlife and NTFP will also be taken into consideration in the development of any operational plan associated with timber harvesting. In addition, any harvesting will comply with FDA harvesting regulations and best practices will be employed (e.g. maintain stream buffers and restrict harvesting of trees that provide a food source for endangered species).

Finally, areas of high conservation value will be identified in these areas with the assistance of AML. These areas will be defined as restricted areas and all human activity will be prohibited in these areas.

7.1.2. Zone 4

Zone 4 is dominated by old growth forest type. The intact old growth forest provides critical habitat for many species including endangered chimpanzees. Accordingly, the management objectives for the old growth areas of the forest will be **conservation of forest resources and protection of watersheds** and most of the old growth areas will be categorized as **limited use zones**. NTFP extraction and hunting of non-Protected Species will be permitted within the old growth forest, but felling of trees will be restricted. A permit system will be instituted in the Gba Forest for the collection of NTFP and hunting (discussed in later section) which will enable the CFMB to monitor activities in the old growth forest and develop rules for use sustainable use.

8. MANAGEMENT OF THE FOREST

8.1. Demarcation and Boundary Maintenance

8.1.1. Current Situation

The Gba CF was demarcated in September 2011, with the support of FDA and LRCFP. The Gba Community undertook the demarcation of the Gba CF after a series of community consultations. At the time of the demarcation, the community agreed upon and willingly demarcated the boundaries of the forest. However, since that time, many community members in Zones 1, 2 and 3 have expressed dissatisfaction with the boundary line because it includes lands that communities are currently

using for farming. Resolution of these conflicts must be a primary focus of Year 1 management activities.

8.1.2. Management Activities

Resolution of boundary conflicts described above will be a primary focus of activities through consultations with community leaders and affected community members. The establishment of new farms will be strictly prohibited within the CF. Demarcation of existing farms will be undertaken to monitor compliance with the prohibition on new farm establishment in the Gba CF.

The boundary of the Gba CF will need to be maintained on an annual basis. Trees, such as cocoa, will be planted along the boundaries to create a visual boundary. Areas will be identified and prioritized for tree planting activities in an annual basis. These trees also have the potential to provide supplementary income to the CFMB. Brushing of the line will be done annually to maintain the boundaries. Signs in English and French indicating where the boundary is located and depicting the boundaries will be erected in strategic locations and in both English and French languages. The CFMB will have primary responsibility for implementing management actions associated with boundary demarcation and maintenance.

8.2. Inventory of resources

8.2.1. Current Situation

An inventory of forest resources was conducted in 2011. However, the inventory covered less than 0.5% of the total area of the Gba CF and could not be used to determine a sustainable level of harvesting for future activities.

8.2.2. Management Activities

In order to make management decisions regarding potential harvesting of timber, it will be necessary to conduct a more thorough inventory of forest resources. Technical assistance for this will be requested from the FDA.

8.3. Fire management

8.3.1. Current Situation

Rules regarding fire have been developed by the CFMB and presented to the FDA for approval. These rules promotes the responsible use of fire within the CF and prohibits fire for clearing bush.

8.3.2. Management Activities

Education and awareness of the rules will begin immediately within the Gba Community. Enforcement will be pursued through patrols, fines, and other forms of penalty.

8.4. Water and Fish management

8.4.1. *Current Situation*

Rules regarding water and fish have been developed by the CFMB and presented to the FDA for approval. These rules prohibit the use of mosquito nets, and other forms of destructive fishing in the CF. The rules also prohibit the use of chemical and other pollutants in the CF waterways.

8.4.2. *Management Activities*

Management activities will focus on outreach and awareness within the Gba Community. Enforcement will be done through the forest guards and community reporting. The CFMB will also seek support from AML to receive training in and participate in water quality monitoring.

8.5. Wildlife management

8.5.1. *Current Situation*

Rules regarding the hunting of wildlife have been developed by the CFMB and presented to the FDA for approval. These rules prohibit hunting of Protected Species, pregnant and immature animals. They also prohibit the sale of bushmeat outside of the community. The rules also require a permit issued by the CA or CFMB in order to use the CF for hunting.

8.5.2. *Management Activities*

Management activities will focus on outreach and awareness within the Gba Community. Enforcement will be done through the forest guards and community reporting through the permit system.

8.6. Non-Timber Forest Products management

8.6.1. *Current Situation*

Rules regarding NTFP collection have been developed by the CFMB and presented to the FDA for approval. The rules also require a permit issued by the CA or CFMB in order to use the CF for NTFP collection and self-reporting of CF use.

8.6.2. *Management Activities*

Management activities will focus on outreach and awareness within the Gba Community. Enforcement will be done through the forest guards and community reporting through the permit system.

8.7. Mineral extraction

8.7.1. *Current Situation*

Although AML has exclusive rights to the area for exploration of minerals, artisanal mining for diamonds and other ore are activities in and around Gba CF. Rules have been developed forbidding all non-AML mining activity in the CF. These rules have been presented to the FDA for final approval.

8.7.2. *Management Activities*

The prohibition on mining activities will be enforced through the Forest Guards and community reporting.

9. ENFORCEMENT OF RULES, MONITORING AND REPORTING

9.1. Enforcement and Monitoring

9.1.1. *Current Situation*

The Gba CFMB with assistance of the CA is in the process of putting in place a permit system. The permit system will help the CFMB to collect information about community use of the CF and its resources. It will also serve as a way to limit access and use, and protect valuable resources in the CF.

The CF Forest Guards also patrol the forest with support from AML. Forest Guards play both an enforcement and education role within the community.

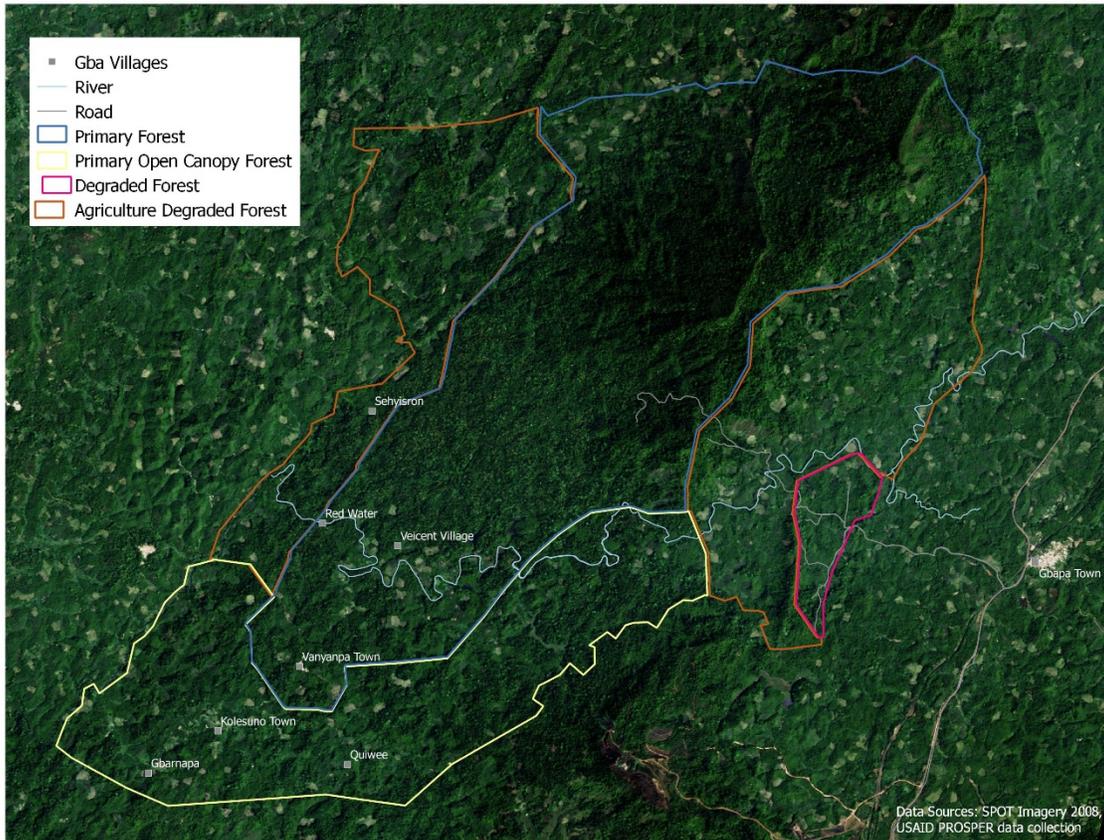
A Conservation Agreement could also provide incentives for enforcement by linking performance to rewards. The possibility of a Conservation Agreement will be explored with AML.

9.2. Reporting

Any illegal activities that occur within the community forest will be reported to the Forestry Development Authority. For violations of law or regulations outside of the authority of the FDA, the FDA will assist the community to identify the appropriate authority to alert.

Consistent with the CRL Regulation, the CFMB will report to the Executive Committee on community forestry-related activity on a quarterly basis, and to the Community Assembly on a semi-annual basis.

APPENDIX A: Forest Type Map of the Gba CF (Zones)



APPENDIX B: Summary tables of species of conservation value drawn from field survey results of Arcelor Mittal Field Studies in and around the ENNR

Table B-1: Primate Species recorded or suspected in the GbaCF area

Name/group	Scientific Name	IUCN Status	Liberian Protected Status
West African Chimpanzee	<i>Pan troglodytes verus</i>	EN	WNPA 1988
Western black and white colobus	<i>Colobus polykomos polykomos</i>	VU and decreasing	WNPA 1988
Sooty mangabey	<i>Cercocebus atys atys</i>	VU	
Diana guenon ?	<i>Cercopithecus Diana Diana</i>	VU and decreasing	WNPA 1988
Olive colobus ?	<i>Procolobus verus</i>	NT and decreasing	WNPA 1988
Campbell's guenon	<i>Cercopithecus campbelli campbelli</i>		
Greater spot-nosed monkey ?	<i>Cercopithecus nictitans stampflii</i>		
Lesser spot-nosed monkey	<i>Cercopithecus petaurista buettikofferi</i>		
Western potto	<i>Perodicticus potto</i>		
Demidof's bush baby	<i>Galagoides demidoff</i>		
Thomas' bush baby ?	<i>Galagoides thomasi</i>		
Northern lesser bush baby	<i>Galago senegalensis</i>		

Key: ? = Presence suspected; EN = Endangered; VU = Vulnerable; NT – Near-threatened; WNPA 1988 = Protected in Liberia under the Wildlife and National Parks Act of 1988

Source: Arcelor Mittal, 2010

Table B-2: Large mammal species recorded or suspected in the Gba CF area

Name/group	Scientific Name	IUCN Status	Liberian Protected Status
Jentink's duiker ?	<i>Cephalophus jentinki</i>	EN	WNPA 1988
Zebra duiker ?	<i>Choeropsis liberiensis</i>	EN	WNPA 1988
Bongo?	<i>Tragelaphus eurycerus</i>	VU	WNPA 1988
Ogilby's duiker?	<i>Cephalophus zebra</i>	NT	WNPA 1988
Yellow-backed duiker	<i>Cephalophus silvicultor</i>		WNPA 1988
Liberian mongoose?	<i>Liberiictis kuhni</i>		WNPA 1988
Leighton's linsang?	<i>Poiana leightoni</i>	VU	
Bourlon's genet?	<i>Genetta bourloni</i>	DD	
Leopard	<i>Panthera pardus</i>	NT	WNPA 1988
African golden cat?	<i>Profeliis aurata</i>	NT	WNPA 1988
African white-bellied pangolin	<i>Phataginus tricuspis</i>	NT	
Western palm squirrel?	<i>Epixerus ebii</i>	DD	
Pygmy water shrew?	<i>Micropotamogale lamottei</i>	EN	

Key: ? = Presence suspected; EN = Endangered; VU = Vulnerable; NT = Near-threatened; dd = Data deficient; WNPA 1988 = Protected in Liberia under the Wildlife and National Parks Act of 1988

Source: Arcelor Mittal, 2010

Table B-3: Bird species recorded or suspected in the Gba CF area

Name/group	Scientific Name	IUCN Status
Green-tailed Bristlebill	<i>Bleda eximius</i>	VU
Yellow-bearded greenbul	<i>Criniger Olivaceus</i>	VU
Nimba flycatcher	<i>Malaenornos annamarulae</i>	VU
Black-headed Rufous Warbler	<i>Bathmocercus cerviniventris</i>	VU
Rufous-winged Illadopsis	<i>Illadopsis rufescens</i>	VU
Copper-tailed Glossy Starling	<i>Lamprotornis cupreocauda</i>	VU
Total Species of global conservation concern: 6		

Approved on this ____ day of _____ in the year _____

FDA Managing Director

Date: _____

FDA Community Forestry Director

Date: _____

Witness

Date: _____