



REPUBLIC OF LIBERIA
FORESTRY DEVELOPMENT AUTHORITY (FDA)

Office of the Deputy Managing Director for Administration

Whehin Town, Mt. Barclay
P. O. Box 3010
Montserrado County
Monrovia, Liberia
West Africa

+231-770770494
+231-886632644

Benjamin.plewon@fda.gov.lr
yousoufby@gmail.com

REF: DMDA/11/9005/2021

November 22, 2021

Nyunnyun Johnson Toweh
Managing Director
Liberia Tree and Trading Company (LTTC)
ELWA Junction, Paynesville
Republic of Liberia

Dear Mrs. Toweh:

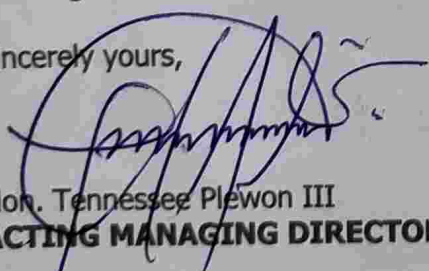
The Management of the Forestry Development Authority extends compliments and writes to inform you that after a thorough review of **LTTC Gbi Annual Operation Plan 2021-2022** by the joint technical team comprising of the Commercial Forestry Department, Community Forestry Department, Legality Verification Department (LVD), Conservation Department, and Research and Development Department (R&D), we hereby approve said Plan having met all basic requirements.

These requirements, which include completeness, accuracy, and quality of information of this Plan, is prescribed in the FDA Guidelines for Forest Management Planning in Liberia and the Ten Code Regulations.

Therefore, Management anticipates full compliance in the implementation of this Plan, as we strive to ensure sustainable Forest Management Practice in Liberia.

Kind regards.

Sincerely yours,

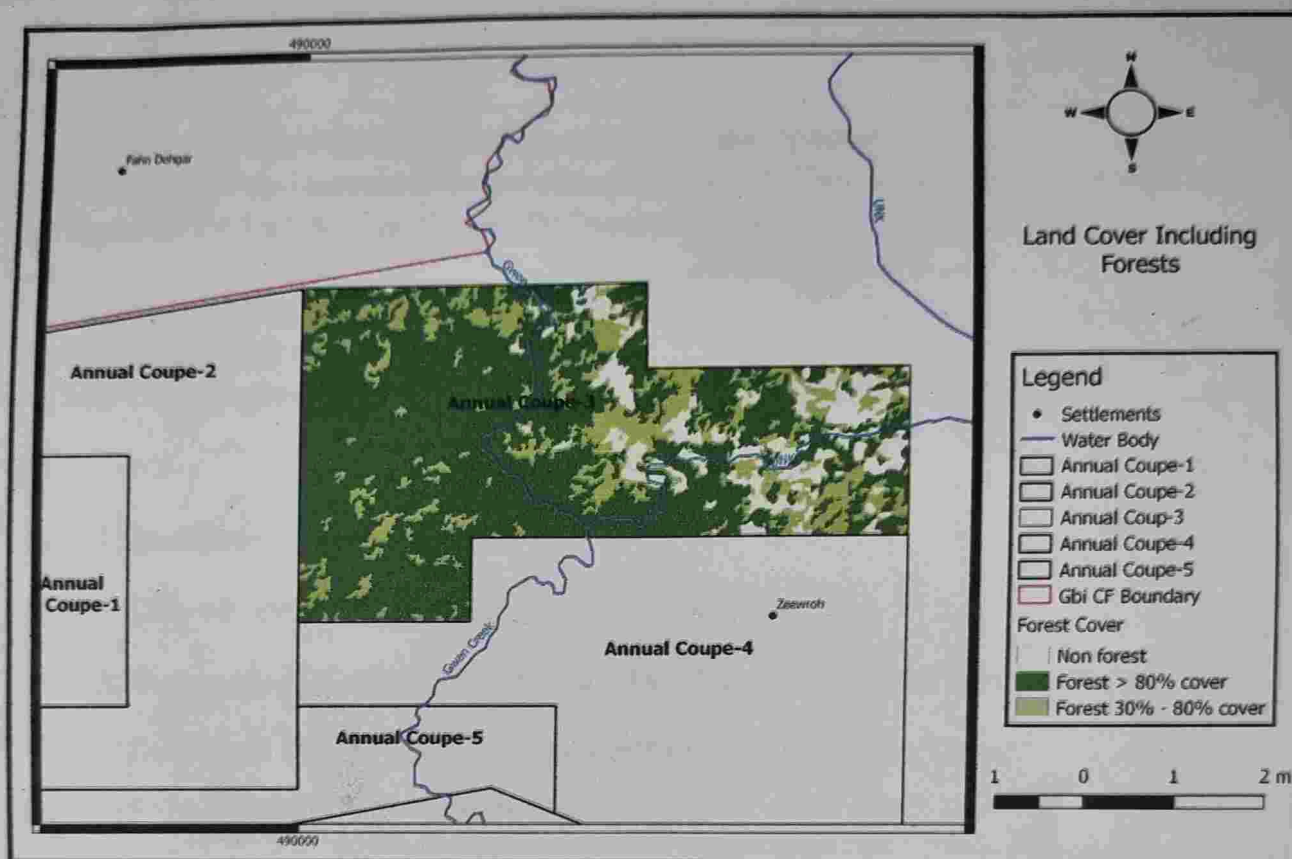


Hon. Tennessee Plewon III
ACTING MANAGING DIRECTOR

Cc: MD
DMD/Operations
TM/Commercial
NAO
File

^{SN} ^{PD} ^{PD}
BTP/JJT/WBP/PFD/stb

ANNUAL OPERATIONIONAL PLAN (AOP) 2021/ 2022 FOR THE MANAGEMENT OF GBI COMMUNITY FOREST LOCATED IN NIMBA COUNTY



**SUBMITTED: FORESTRY DEVELOPMENT AUTHORITY
WHEIN TOWN, PAYNSVILLE
MONTERRADO COUNTY, LIBERIA
September 7, 2021**

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1.0 EXECUTIVE SUMMARY

On the basis of the Community Rights Law (CRL) of 2009 with Respect to Forestland; and having completed the nine (9) steps that are required to gain community Forest status, the Forestry Development Authority (FDA) granted the people of Gbi Chiefdom management rights to enable them manage their Community Forest for a period of fifteen (15) years.

As required by Chapter 6 section 6.2 of the CRL, the people Gbi Chiefdom in Nimba County has entered into a Management Agreement with **Liberia Tree & Trading Company (LTTC)** in order to manage and operate their approximately 31,155 hectares of forestland for the purpose of timber harvesting. Against this backdrop, **Messrs: Liberia Tree & Trading Company (LTTC)** has prepared its third Annual Operation Plan (AOP) in fulfillment of one of the basic requirements for commercial timber harvesting in Liberia as contained in the Revised Code of Forest Harvesting Practices.

Considering the delineation of the Forest into compartments, annual coupes and blocks in line with the Guidelines for Forest Management Planning in Liberia, **Messrs. Liberia Tree & Trading, Company**; has a total of 21 blocks to work in during the 2021/2022 logging season. These blocks include: M5, M6, M7, M-8, M-9, M10, M11, N-13, N-14, N-15, N-16, N-17, O10, O-14, O-15, O-16, P9, P-12, P13, Q11, Q12.

The development process of this Annual Operational Plan, its contents and structure are set out according to the requirements of the Guidelines for Forest Management Planning in Liberia, and it aims to ensure that the plan can be easily understood by the concerned stakeholders and fully implemented by the **Management of LTTC**.

This AOP provides a set of management goals that **LTTC** aims to achieve, along with series of prescriptions and management actions that will be implemented in order to ensure that these goals are achieved. It describes the forest management activities that are planned on the Gbi Community Forest for the 2021/ 2022 logging season. In this context the economic, social and ecological functions of the forest are of significant importance to **LTTC**, and for improving the quality of life of the aboriginals of Gbi Chiefdom, Tappita Statutory District, Nimba County.

The Document articulates in detail proposed activities that must be approved by the Management of the Forestry Development Authority (FDA), followed by the issuance of harvesting certificate before the commencement of any logging operations. And when approved, the **Management of LTTC** will conduct all timber harvests in a manner that maintains the health of the forest and minimizes disturbance to the environment. As such, the Company's primary concerns regarding the management of Gbi Community Forest is not only the extraction of round logs, but for other forest resources including wildlife, soil and watershed management.

Specifically, this AOP summarizes the measures that **LTTC** will undertake in order to ensure that its timber harvesting operations will mitigate or avoid significant impacts to fisheries, aquatic habitat and wildlife found on/ within the Gbi Community Forest. The Plan also includes measures that are directed toward managing riparian zones to protect and enhance aquatic habitat, minimizing soil disturbance, movement of sediment into watercourses, and identifying potential off-site mitigation which could aid in reducing overall sediment contribution to the system. The operational plan indicates the practical measures to be taken during the 2021/ 2022 logging season, such as the construction of roads, landings and skid trails; harvesting, extraction and haulage operations; and other activities. The operational plan will also be used for monitoring purposes. Against this backdrop, the **Management of LTTC** is expected to manage the Gbi Community Forestland in a manner that maintains social, economic and environmental integrity of the Forest.

2.0 DOCUMENT RECORD SHEET

Table 1: Document Record Sheet

DESCRIPTION	INFORMATION
Name & Contact Address of Contract Holder	Liberia Tree & Trading Corporation, ELWA Junction, Paynesville City, Liberia
Community Forest Management Agreement	CFMA #4
Strategic Forest Management Plan Reference #	SFMP # 4
Strategic Forest Management Plan Approval Date	July 2011
Five Year Management Plan Reference	5YFMP # 01
Five Year Management Plan Approval Date	April 2014
Annual Operation Plan Reference Number	AOP #3
Period Covered by the AOP	2021/ 2022
Date of Submission of AOP to FDA	September 7, 2021
Signature: 	Hon. C. Mike Doryen Managing Director Forestry Development Authority
Signature: 	Nyunyun J. Toweh Managing Director Liberia Tree & Trading Company
Date of AOP approval by FDA	

3.0 REFERENCES

3.1 Location of the Annual Coupe on the Community Forest Area

- Order of Passage within the planning schedule:
The order of passage regarding the planning schedule of LTTC's third AOP considers the evaluation of all applicable information pertaining to the Gbi Community Forest; which includes planning of forest management activities that considered the economic, environmental and social values of the forest. These values have thus been refined as follows:
 - ✓ Economic values - subdivided into Productivity and Quality
 - ✓ Environmental values - no further subdivision; and
 - ✓ Social values - subdivided into health & Safety.

- Location with the Community Forest Management Area

It is provided for in the Guidelines for Forest Management Planning of Liberia that operators of logging companies demarcate their resource areas into compartments for the purpose of sustainable management of the area. It is from this backdrop that LTTC, based on the fifteen-year management agreement of Gbi Community Forest, the Forest has been delineated into three (3) separate compartments; and as essential, each of the compartment will be managed and operated for a period of five (5) because it has been delineated into annual harvestable areas known as annual coupes. In compliant to the above, compartment one was delineated into five (5) annual coupes. Annual coupe three (3) has been delineated and prepared for harvesting for the 2021/2022 logging season. The map below displays the division of compartment one into five annual coupes with annual coupe three (3) highlighted as seen in Figure two:

- Surface Area of Annual Coupe Three

The surface area Annual three of forest compartment one cover about 1,994 ha, which is 20 % of the land area of compartment one.

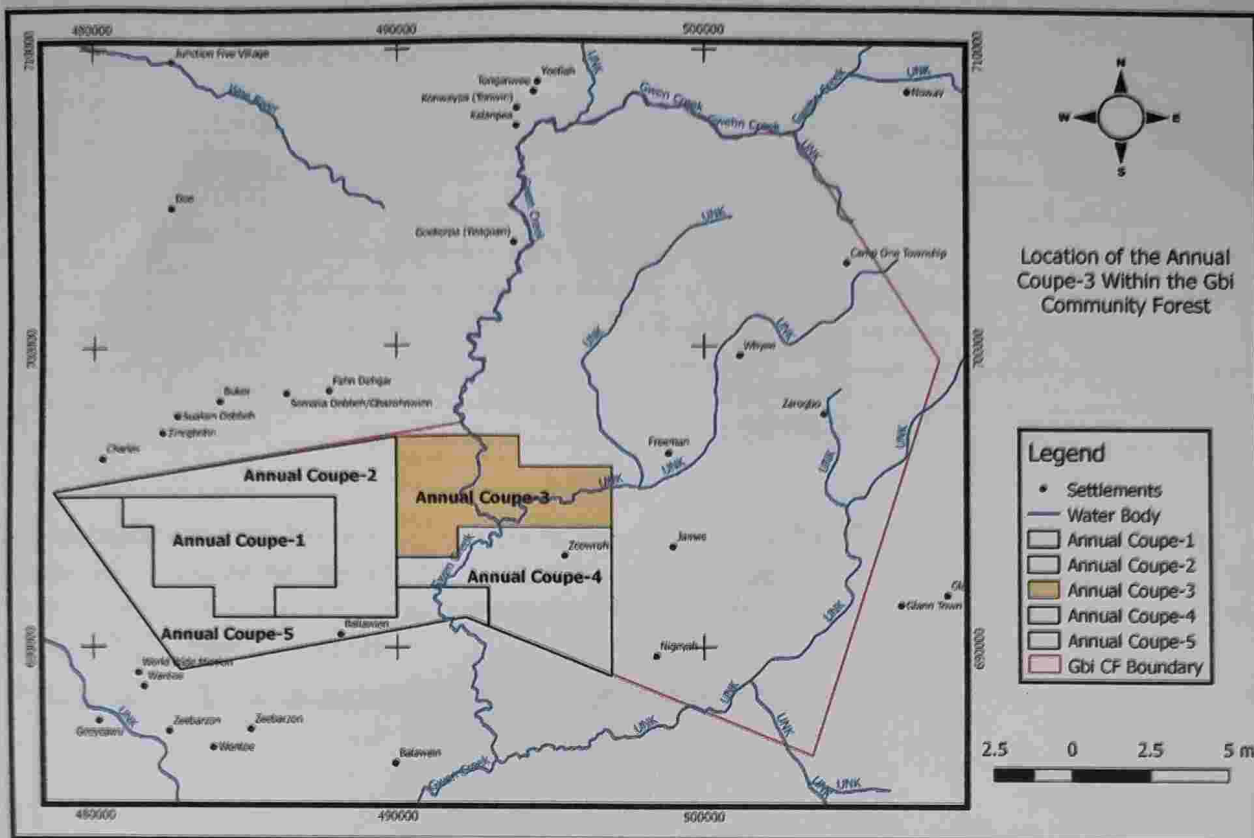


Figure 1: Location Map of Annual Coupe three

3.2 DESCRIPTION OF THE ANNUAL COUPE (BOUNDARIES AND SURFACE AREA)

▪ Boundaries and Surface Area

Annual Coupe three (3) lies east of annual two (2) and north of annual coupe four (4) and is almost entirely surrounded by Gwen Creek. It is at a closed proximity with Camp One Township to the East, and Goekorpa (Yeagoan) to the West. Whyee Town/ Village falls within the South-east portion of the annual coupe (see Annual Coupe three location Map in Figure 1).

▪ Criteria for Sectioning into Annual Coupes

The delineation of all forest compartments into annual coupes is sanctioned by the Guidelines for Forest Management Planning; it mandates that each annual coupe must be equal to 20% of the total harvestable area of the said compartment hence compartment one of Gbi Community Forest has been delineated into five annual coupes.

Table 2: Description of the Annual Coupe Boundaries
Annual Coupe-3, 2021-2022 Boundary GPS Coordinates

No	Latitude	Longitude
1	497000	694000
2	497000	696000
3	494000	696000
4	493984	697025
5	490000	697000
6	490000	693000
7	492000	693000
8	492000	694000

The surface area of the annual coupe is approximately 2,077 hectares of forestlands; however, considering the 4% for exclusion area, the actual harvestable area is 1,994 ha that have been delineated into approximately 20 blocks that are scheduled for harvest during the 2021/ 2022 logging season.

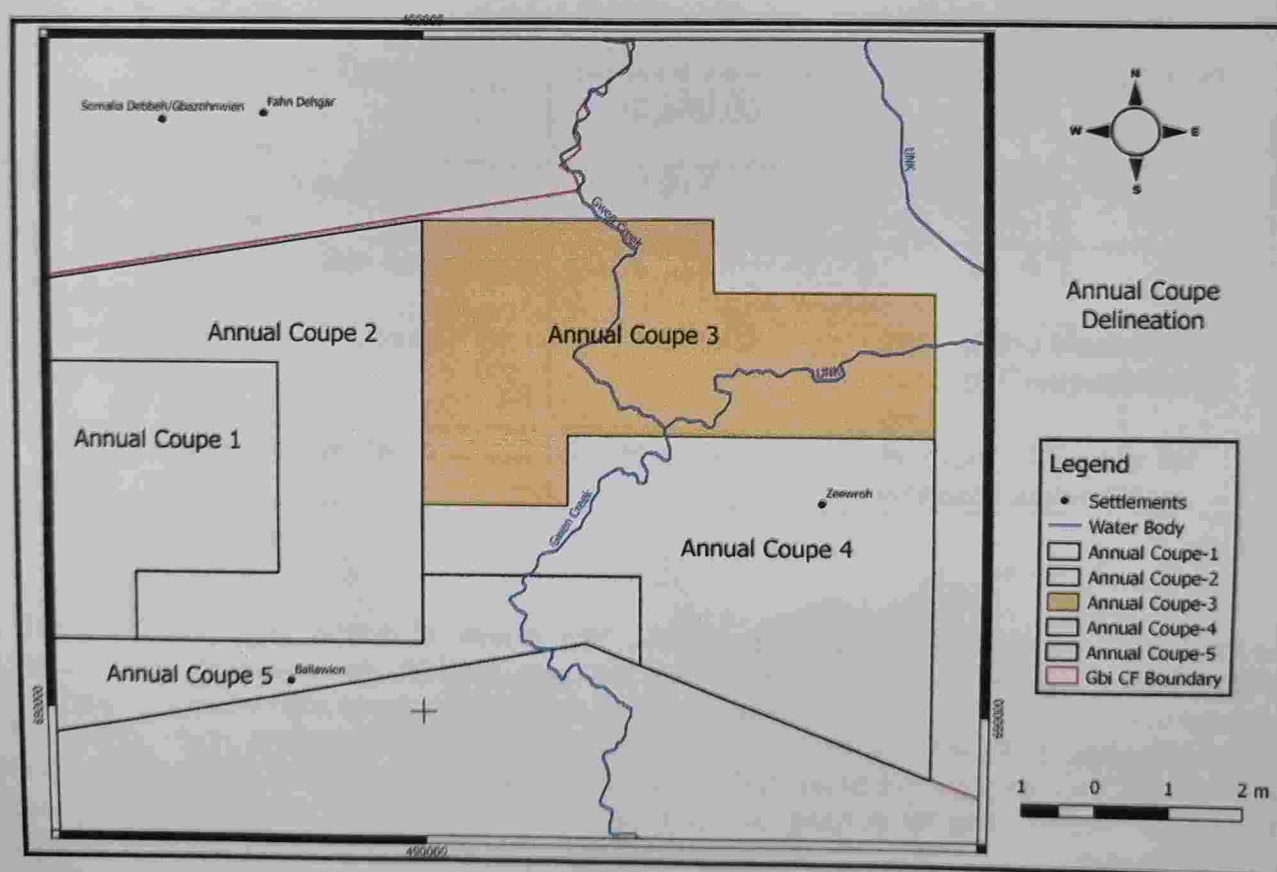


Figure 2: Annual Coupe Delineation Map

- **Specificities (Biophysical & Socioeconomics)**

- I. **Biophysical Background (Soil & Topography)**

All three kinds of soil produced by different conditions of climate and vegetation in Liberia are found in Nimba: lateritic soil or latosols or upland soil, clay or swamp soil, and sandy soil. According to W. E. Reed, lateritic soils generally cover about 75% of Liberia, as these are the most typical soils of the humid tropics, where there are alternating wet and dry seasons. These soil types are predominant in Nimba. According to soil scientists, latosols have only 0.24% nitrogen (plant food) and are very acidic. Their continuous farming requires the constant use of fertilizers, an input that nearly all farming households are too poor to afford and this may explain the situation of annual bush following by subsistence farmers in the County. The **Management of LTTC** will strive to prevent soil erosion of any kind during all of its harvesting activities.

- II. **Forest Stratification**

LTTC has stratified its third annual coupe into zones that include harvestable and non-harvestable, as required by the Guidelines for Forest Management planning in Liberia and the Revised Code of Forest Harvesting Practices. The approximately 2077 hectares of annual coupe three has been stratified, as shown in Table four below:

Table 3: Summary of Surface Area/ Land Use Types on annual coupe four

Land Cover Type	surface area (ha)	Percent of total area
Total Surface Area of Compartment one	10,385.00	100
Total Harvestable Area of Compartment one	2,077	96
Total Non – Harvestable Area of Compartment one	83.08	4
Total Surface Area of Annual Coupe three	1,993.92	20% of the Harvestable Area of Compartment one
Total Number of Harvestable Blocks	19.94 or 20	Number of Blocks for Annual Coupe three

- **Fauna**

The Gbi Community Forest is replete with wildlife species considering the denseness of the forest; however, there has not been any real research done to know the composition of wildlife species except for droppings and dumps from animals moving in and out of the resource area. Therefore, from droppings and dumps from these wildlife species, it is believed bush cow, elephant, duikers, primates, bush hogs have been habitat in the concession. These fauna are being threatened by hunting as wildlife is a major source of protein and income for all Liberians, especially rural community dwellers.

▪ **Socioeconomic Background**

I. Demography Description

The Gbi Community Forest is situated in Gbi Chiefdom in Nimba County, northern Liberia and has population of 3,000 persons with female constituting 65% while male 35%. The predominant tribe is Bassa with Gbi being minor; their source of income comes from hunting, Non- Timber Forest Products and firewood are harvested.

II. Human Locations (Villages & Settlements)

Yeefiah, Tonganwee, Konwaypa (Tonwin) and Kalanpea are settlements that are found in the Northern end of the annual coupe. At the South-west lies Fahn Dehgar, Bukor, Suakon Debbeh/ Gbazohnwein. Besides, Freeman and Zorogbo are found at the Southern end of the annual coupe. The Management of Liberia Tree & Trading Company has also delineated Annual Coupe three into protection, conservation and timber production zones based on the management objectives (see Figure 3). Table three below also shows the boundaries and surface area of Annual Coupe four in terms of latitude, longitude and point descriptions.

III. Infrastructures

Forest roads, landings, skid trails, camps and other facilities are often a necessary part of forest management operations. Best management practices require that such facilities operate in an efficient and cost-effective manner and should implemented without compromising the integrity of the environment. Therefore, **LTTC's** infrastructure development must adhere to the requirements of the Revised Code of Forest Harvesting Practices of Liberia. The Code provides guidelines and standards that, if followed, will allow Gbi Community Forest to be harvested with minimal adverse impact on the forest environment. It provides the basis for ensuring that a continuing economic return can be obtained from forests on the long term and is designed to balance commercial considerations with protection of environmental and social values. Implementation of the guidelines and standards by the Management of **LTTC** will help to ensure that important resources and values of Gbi Community Forest are recognized and protected during the Company's timber harvesting operations.

IV. Local Community Activities

The populations of the towns and villages within the boundaries of the Community Forest are mainly subsistence farmers; and shifting cultivation is their key method of farming. Five (5) priority crops produced by these communities include rice, cassava, okra, pepper and plantain, with few people involve with the production of tree crops, mainly oil palm and rubber. Several species of Non-Timber Forest Products (NTFPs) and other goods and environmental services are also provided by the Forest, but the five (5) priority ones produced by these communities include rattan, honey, bush meat, palm wine and monkey rope. These are harvested and either used locally for construction and handy crafting, food and medicine, or commercially on the local markets.

■ Management Units within Annual Coupe three

Annual coupe three of compartment one of the Community Forest has been delineated into management units as indicated in Table Four below:

Table 4: Summary of Management Units within Annual Coupe three

Unit #	Surface Area (ha)	%
Harvestable Area of Annual Coupe 3	1,993.92	96
Non – Harvestable Area (Protection & Conservation Zone)	83.08	4
Total Area of AC3	2,077 ha	100%

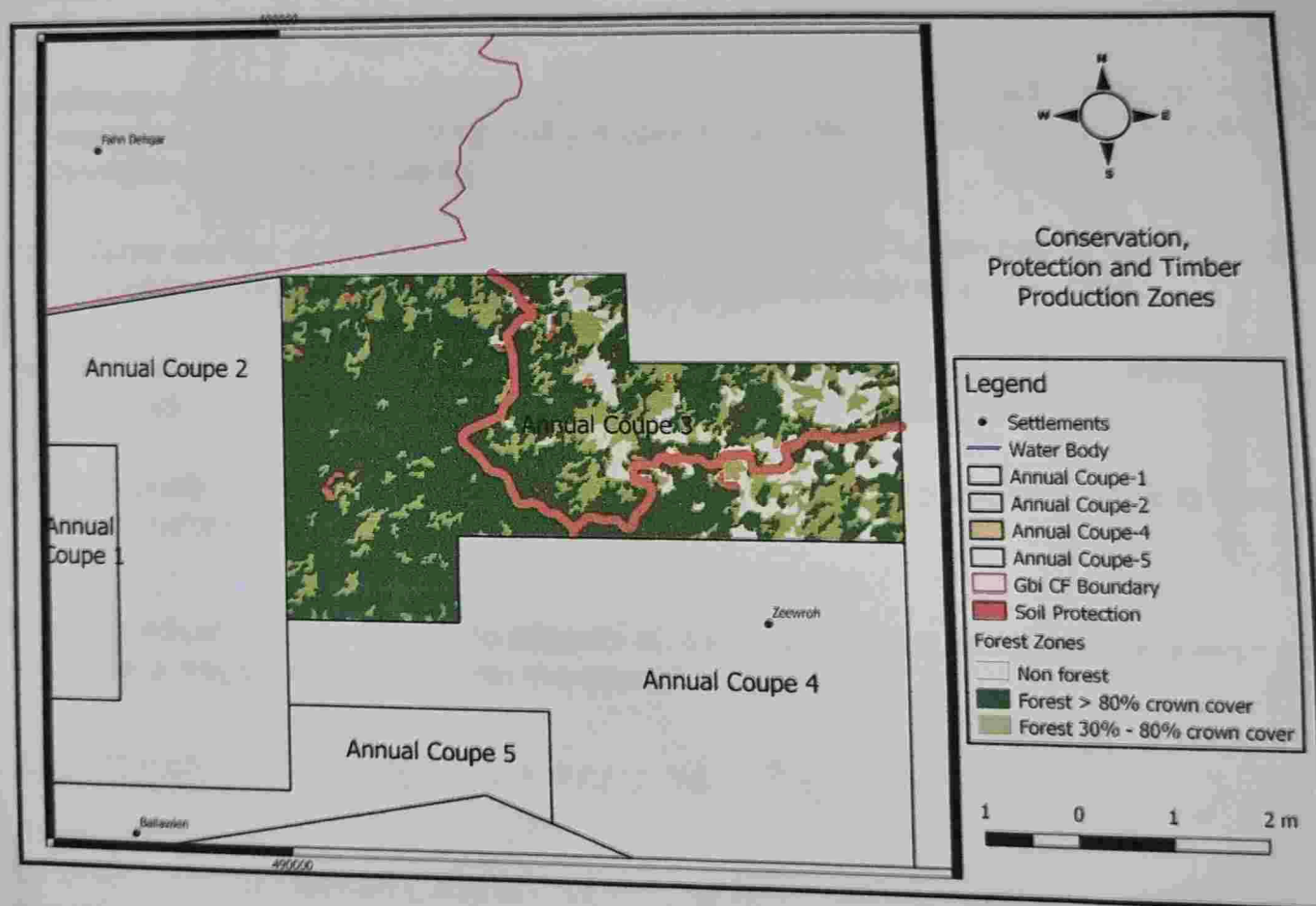


Figure 3: Protection, Conservation and Timber Production Map

■ Past Logging Activities

During our 2020/2021 logging season, our felling was restricted to only blocks that enumerated by our forest technicians, inspected by the CoC Inspectors of the Legality

Verification Department (LVD) and approved by the Managing Director of the Forestry Development Authority.

3.3 ANNUAL AUDIT REPORT

Annual coupe two, of compartment one of Gbi Community Forest was operated during the 2020/ 2021 logging season. And during its operations, the following parameters for sustainable forest management were adhered to in accordance with the section 3.3 of the forest management guidelines, for instance:

- (a) land-use planning – AC 2 was delineated from C1 and worked in line with our 2020/2021 Annual Operation which was developed from the our Five (5) years Forest Management Plan.
- (b) harvest planning – prior to logging in AC 2, blocks were enumerated and trees were tagged in line with Chain of Custody System (CoCS);
- (c) Management parameters (DBH cutting limit), - trees that were felled during our operation met diameter cutting limit per species as prescribed the code of forest harvesting practice of Liberia;
- (d) Volume and the number of harvested trees per species – harvesting of trees was done according to section 4.2 of the Guideline for forest management planning,
- (e) Harvesting rules (minimum required diameter cut limit, location of trees, harvesting limit per block, etc.) and wildlife management were fully respected.
- (f) Unexpected Environmental Impact on soil, stands etc. – logging was done in line with our Environmental Management Plan (EMP)

From all indications, there were no impacts on the environment; likewise, there were no evidence of illegal harvesting within the annual coupe.

4.0 PRE-HARVEST ENUMERATION RESULTS

4.1 Methodology

Chapter 2.2 of the Revised Code of Forest Harvesting Practices of Liberia states that pre-harvest enumeration shall be completed in advance of cutting any trees at the commencement of each harvesting period, and such action must receive approval from the FDA. The Code also details the methodology for conducting inventory exercises in the annual coupe; it further mandates that such activities shall conform to the following standards:

- I. Inventory of all blocks for 100% stocking of trees above 50 cm dbh using regular grid (north-south/ east-west) in each kilometer square blocks to develop tree location map; and
- II. Inventory shall include the markings and tagging with barcodes and recording of all trees from 50cm DBH and above;

4.2 Criteria for the Selection of Harvestable Tree Species

Apart from the 100% inventory of the annual coupe blocks, the following criteria were used for the selection of harvestable tree species:

- I. Minimum required diameter cut limit (MDCL) is of 50cm and above;
- II. Location of trees is considered, especially those located in protected areas or in buffer/exclusion zones or on deep slope; and
- III. Harvesting limit per block will be 30m³/ha on each block.

4.3 Results of Pre-harvest Enumeration (# of trees/ species/ DBH class)

Result of the Annual Coupe Inventory

The Management of LTTC could not include the full inventory results into this AOP due to time and the voluminous nature of the report. Therefore, only an excerpt of the report is presented; the full results, with the total volume will be submitted as soon as possible (please see Table five below).

Table 5: Pre-Harvest Enumeration Results: Number of Trees

NO.	SPECIES CODE	CLASS	DCL	# OF STAND/ SPECIES & DCL CLASS (in cm)							TOTAL STAND
				50 - 59	60 - 69	70 - 79	80 - 89	90 - 99	100 - 109	110 & MORE	
1	CAN	A	60	0	1	9	0	0	0	0	10
2	BRA	A	90	0	0	3	2	3	0	0	8
3	PIP	A	80	9	18	21	31	23	0	3	105
4	TES	A	80	0	1	3	0	2	0	0	6
											129
5	DID	B	60	20	4	2	0	0	0	0	26
6	CYN	B	60	2	10	12	0	0	0	0	24
7	SAC	B	70	9	11	0	2	0	0	0	21
											71
10	PAR	C	60	0	3	2	2	0	0	0	7
11	KLA	C	60	0	1	0	0	0	0	0	1
12	CAL	C	60	1	3	0	0	0	0	0	4
											12

The gross standing volumes per species and diameter class is provided in Table Six I&II below:

Table 6-I: Pre-Harvest Enumeration results: Volumes

GROSS STANDING VOLUMES/ SPECIES & DBH CLASS (IN METER)									
SPECIES CODE	CLASS	DCL	DIA. RANGE	# OF TREES	AVE. DIA (M)	DIA SQ.	HEIGHT (M)	VOL./SPP (M3)	TOT. VOL (M3)
CAN	A	60	60-69	1	0.65	0.4225	11	3.65014	3.650
CAN	A	60	70-79	9	0.75	0.5625	12	5.30145	47.713
BRA	A	90	70-79	3	0.75	0.5625	10	4.41787	13.253
BRA	A	90	80-89	2	0.85	0.7225	9	5.10706	10.214
BRA	A	90	90-99	3	0.95	0.9025	12	8.50588	25.51
PIP	A	80	50-59	9	0.54	0.2916	13	2.977294	26.79565
PIP	A	80	60-69	18	0.65	0.4225	13	4.31381	77.64857
PIP	A	80	70-79	21	0.78	0.6084	14	6.689723	140.4842
PIP	A	80	80-89	31	0.84	0.7056	13	7.204317	223.3338
PIP	A	80	90-99	23	0.96	0.9216	14	10.13354	233.0715
PIP	A	80	100-109	3	1.07	1.1449	12	10.79045	32.37136
TES	A	80	60-69	1	0.65	0.4225	11	3.65014	3.650
TES	A	80	70-79	3	0.75	0.5625	10	4.41787	13.253
TES	A	80	90-99	2	0.95	0.9025	12	8.50588	17.011
								85.665424	867.95908

Table 6-II: Pre-Harvest Enumeration results: Volumes

GROSS STANDING VOLUMES/ SPECIES & DBH CLASS (IN METER)									
SPECIES CODE	CLASS	DCL	DIA. RANGE	# OF TREES	AVE. DIA (M)	DIA SQ.	HEIGHT (M)	VOL./SPP (M3)	TOT. VOL (M3)
DID	B	60	50-59	20	0.55	0.3025	11	2.61341	52.268
DID	B	60	60-69	4	0.65	0.4225	13	4.31380	17.255
DID	B	60	70-79	2	0.75	0.5925	10	4.65349	9.306
CYN	B	60	50-59	2	0.55	0.3025	13	3.08858	6.177
CYN	B	60	60-69	10	0.65	0.4225	15	4.97747	49.774
CYN	B	60	70-79	12	0.75	0.5925	14	6.51489	78.178
SAC	B	70	50-59	9	0.55	0.3025	9	2.13825	19.244

SAC	B	70	60-69	11	0.65	0.4225	11	3.65014	40.151
SAC	B	70	80-89	2	0.85	0.7225	14	7.94432	15.888
								39.89435	288.241
PAR	C	60	60-69	3	0.65	0.4225	11	3.65014	10.950
PAR	C	60	70-79	2	0.75	0.5925	12	5.58419	11.168
PAR	C	60	80-89	2	0.85	0.7225	13	7.37686	14.753
KLA	C	60	60-69	1	0.65	0.4225	13	4.31380	4.31380
CAL	C	60	50-59	1	0.55	0.3025	13	3.08858	3.088
CAL	C	60	60-69	3	0.65	0.4225	14	6.64564	13.936
								30.65921	58.2088

4.4 RESPECT OF THE ANNUAL COUPE DELINEATION RULES

Harvesting operations will be carried out in accordance with the scheduled activities within this AOP. In this light, there are two main rules that govern the Annual Coupes designation with the Forest compartments; however, the rules do not apply to annual coupes of Forest Compartment one; hence, this AOP is an exception to these rules

5.0 PLANNING OF WORKS

5.1 Planning of Logging Activities

Demarcation of annual coupe three and the squared kilometer blocks have been completed along with 100% stocking of trees above 50 cm dbh using regular grid (north-south/ east-west), and the location map of trees have subsequently been developed. Annual coupe three blocks: M5, M6, M7, M-8, M-9, M10, M11, N-13, N-14, N-15, N-16, N-17, O10, O-14, O-15, O-16, P9, P-12, P13, Q11, Q12.

ASSUMPTIONS:

- All blocks/survey lines in the annual coupe are expected to be operated, holding all factors constant;
- Harvesting shall be tailored according to market demand;
- The volume expected per hectare may not be the same because the enumerated blocks may contain different volumes;
- The FOB unit price will vary based on species class (A, B and C); and
- All sections of merchantable trees harvested shall be exported in round and sawn timber forms;

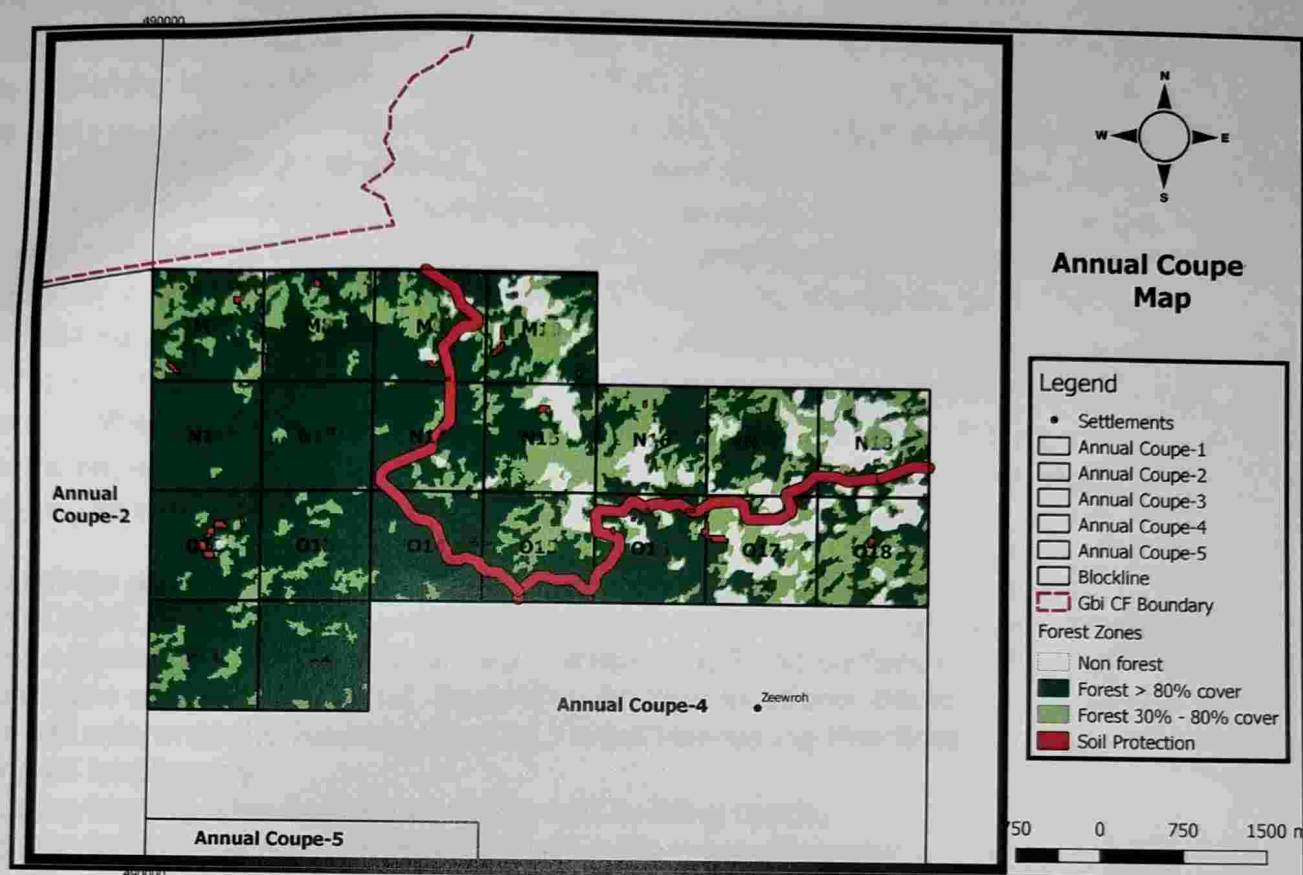


Figure 4: Block Map of Annual Coupe Three

5.2 Planning of other Activities

▪ Silvicultural Activities

Tropical rainforests have the tendency of replenishing itself through natural regeneration after the selective harvesting of matured timber tree species on a particular piece of forestland. For this reason, no silviculture treatment of any kind is required by the Management of LTTC for the Gbi Community Forest.

▪ Planning of the Road Net Work, skid trails and Landing

Forest roads, landings, skid trails, camps and other facilities are often a necessary part of forest management operations. Best management practices require that such facilities operate in an efficient and cost-effective manner and should be implemented without compromising the integrity of the environment. Therefore, LTTC's infrastructure development must adhere to the requirements of the Revised Code of Forest Harvesting Practices of Liberia. The Code provides guidelines and standards that, if followed, will allow Gbi Community Forest to be harvested with minimal adverse impact on the forest environment. It provides the basis for ensuring that a continuing economic return can be

obtained from forests on the long term and is designed to balance commercial considerations with protection of environmental and social values. Implementation of the guidelines and standards by the Management of LTTC will help to ensure that important resources and values of Gbi Community Forest are recognized and protected during the Company's timber harvesting operations. To some extent, few road networks are found within and around the annual coupe; however, these need to be rehabilitated before use. We will maintain these roads as necessary in order to protect water quality and the road system asset value. Road maintenance activities will follow the maintenance guidance provided by the Revised Code of Forest Harvesting Practices of Liberia, with maintenance work focusing on ensuring proper drainage to prevent sediment entering streams and other water courses. Where it may be required, the **Management of LTTC** commits to constructing safe, efficiently planned roads which respect all environmental and legal considerations; all new roads constructed as part of this AOP will be spurs.

Also, log landings are areas used to collect and process logs for transport. Due to concentrated traffic and heavy equipment, log landings experience a high degree of soil disturbance, soil compaction and rutting. Storm water runoff and surface erosion may increase on these exposed areas and, depending on their locations, could impact water quality. We will reference the Revised Code of Forest Harvesting Practices of Liberia in constructing all landings by:

- I. Locating landing sites before designing and building roads;
- II. Locating landings at least 75 feet from all non-harvestable zone;
- III. Locating landings on well-drained soils, which dry out quickly, or on dry places; and
- IV. We will construct landings with a 2-5% slope for drainage;

Furthermore, the paths established to transport logs from the stump to the landings are referred to as skid trails. These are meant for temporary use during timber harvesting operations. The location, design and constructed skid trails can produce large amounts of sediment if not properly done. If allowed to enter water bodies, sediment from the construction of skid trails can cause water pollution problems. So, considering the above, the Revised Code of Forest Harvesting Practices of Liberia will be utilized by the Management of LTTC when constructing skid trails on the Gbi Community Forest. And to achieve this, we will:

- I. Avoid skidding across the roadway because this would lead to deterioration of the road formation and drainage facilities;
 - II. Avoid the use of heavy machinery on saturated soils to minimize erosion, ponding, rutting, mixing and compaction of the soil;
 - III. Avoid hauling on wet roads to minimize erosion, ponding and rutting, and deterioration of the road formation; and
- Place debris and waste so as not to restrict drainage of the landing.

- **Procedures for Planning and Monitoring of the Logging Operations**

Tree marking, skid trails, felling, log preparation, skidding and transporting will follow all of the prescriptions of the Revised Code of Forest Harvesting Practices of Liberia.

LTTC has inventoried the Forest, complete pre-harvest enumeration of the annual coupe blocks and skid trails identified will be constructed in line with of the provisions of the Revised Code of Forest Harvesting Practices in Liberia. All that we will do during this logging season will conform to the procedures of the guidelines. As logging operations are being implemented, a team of forest technicians of LTTC, will keep monitoring the process to ensure that tree marked for felling are harvested, felling takes place in approved blocks and within the contract area.

- I. **Harvest Monitoring and post-harvest Diagnosis**

- **Post-harvest Diagnosis and Field Controls**

Roads are largely impacted environmentally during logging activities due to erosion of the surface and the drainage structures. Henceforward, balancing the need for access into the forest, while minimizing environmental impacts, LTTC will adhere to its Environmental Management Plan (EMP) as we conduct logging operations. We will also ensure proper forest road network, which allows adequate access and minimizes impacts to the environment on the Community Forest.

- II. **Post-harvest Activities**

- **Management of KM-Square Block Closure**

In line with the GFMP, blocks shall be closed upon the completion of harvesting of the approved yields. In each 5-year compartment however, a re-entry may be requested for blocks not entered into during the previous year.

- **Road Maintenance and Closure**

Maintenance of primary and secondary forest road network will be of priority. All side drains, turnout drains and culverts that will not be removed shall be left in good working condition. Similarly, roads that are not to be used until the next rotation shall be closed. For roads that are intended to be decommissioned, log culverts and temporary bridges shall be removed to allow unobstructed water flow.

- **Measures to Mitigate Natural Impacts**

LTTC will mitigate any natural impact once they are encountered during our operations.

- **Social Program**

To ensure that people are aware of our plans and policies toward community enhancement programs, the Management of LTTC will hold consultation with stakeholders, listen to them and together roll out program that will enhance the lives of the forest dwellers.

■ Environmental Program

Environmental issues that are considered of importance during timber harvesting operations include but not limited to: water quality and quantity, soil erosion and the pollution of rivers, streams and other waterways. The Revised Code of Forest Harvesting Practices of Liberia provides measures that must be followed when undertaking logging operations so as to curtail impacts of the above parameters on the forest environment. By utilizing the Code, the **Messrs. Liberia Tree and Trading Company** is committed to preserving and protecting the environment in its operational areas so as to ensure that future generation can also enjoy the benefits of the resources of Gbi Community Forest.

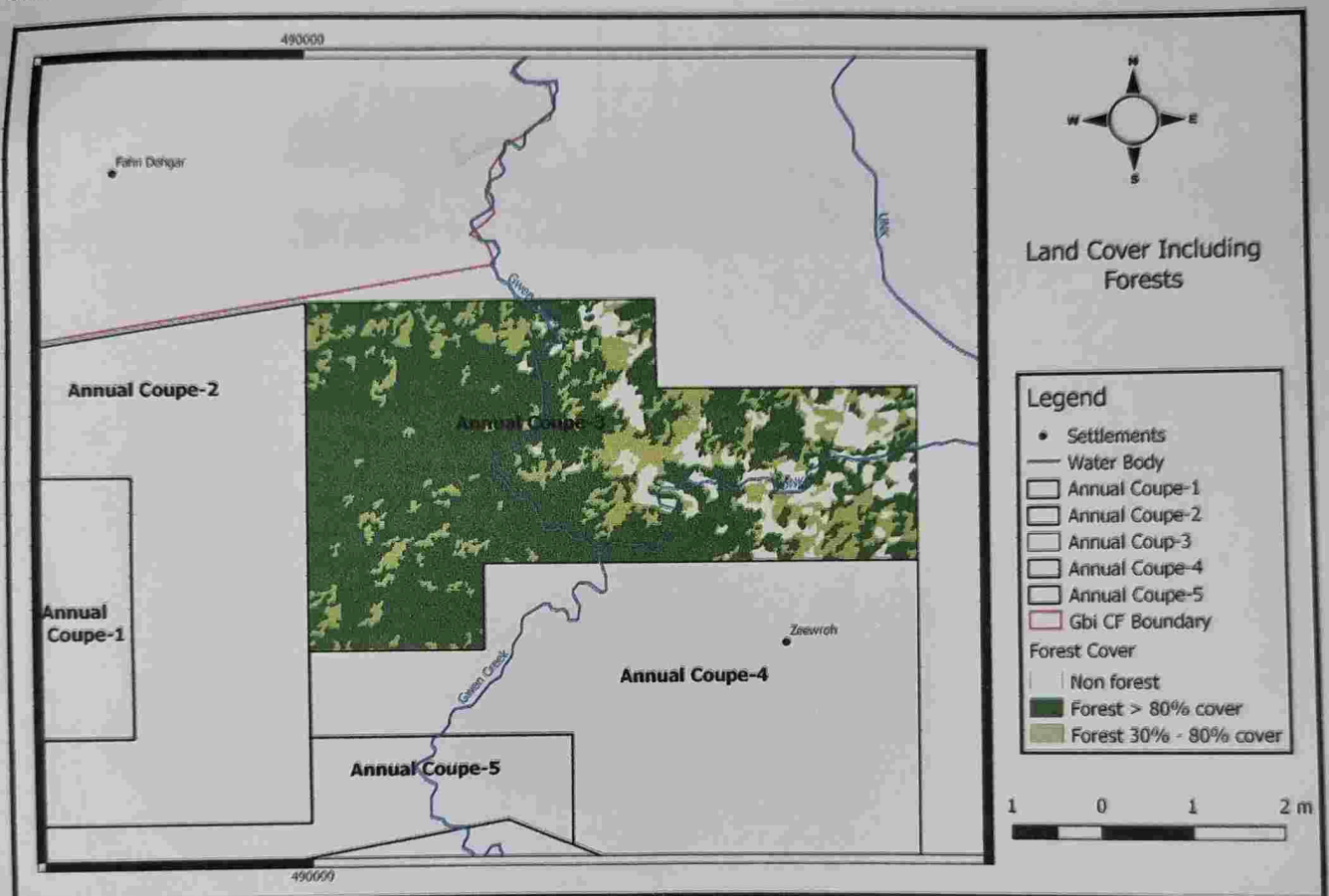


Figure 5: Vegetation Map for AC3 of Gbi Community Forest

5.3 Activity Planning/ Implementation Chart

The planned activities that are to be implemented during the lifespan of this AOP are presented in Table Seven below:

TABLE 7: ACTIVITY FORECAST/IMPLEMENTATION CHART

Activity	Quarter 1				Quarter 2				Quarter 3				Quarter 4			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Demarcation of Annual Coupes boundaries																
Pre-harvest enumeration																
Submission of the AOP to FDA for approval																
Construction of road networks																
Harvesting Operations																
Other Activities																