



Syarikat Samling Timber Sdn Bhd
A member of Samling Global Limited

PUBLIC SUMMARY

Forest Management Plan

for

Forest Management Unit (T/ 0294)

Ravenscourt SdnBhd

for the period

2016 to 2025

Introduction

This is a comprehensive, integrated Forest Management Plan (FMP) for the long term Forest Timber Licence (FTL) T/0294 issued to Ravenscourt Sdn. Bhd. and known as Ravenscourt FMU.

It is expected that the Forest Timber Licence will be renewed for a sixty year period following certification.

The first period of the FMP is from 2016 to 2025. There will be a mid-term review in the fifth year to allow any policy changes and developments to be incorporated.

Management Objectives

- to manage the forest resource in an economically viable manner that is ecologically sustainable, socially acceptable and of multiple benefits to the FMU's stakeholders; and in doing so
- Comply with, and become certified using, the Principles of the Malaysian Timber Certification Scheme.
- To take due and appropriate recognition of the FMU being in the Heart of Borneo corridor.

The Resource

The FMU is in the Lawas District of Limbang Division, Sarawak. It lies about 113 km south of Lawas Town from where there is access for the main part using a logging road constructed and maintained by Samling. Ravenscourt Camp, with administrative center, quarters and workshop is at KM109 - as measured from the Lawas log pond.

The total area is 117,941 hectares, more than 90% of which is forested, mainly with upland mixed dipterocarp forest, a forest type which more or less contiguously surrounds it.

Approximately 70% of the FMU is within the Limbang Protected Forest and 21% is inside the proposed Trusan-Kelalan Protected Forest. The remaining area of the FMU is occupied by local communities. ([Click here to access Map 1 showing land status](#))

The elevation ranges from 600m to 1,500m with 73% comprising Terrain Class III (20°-35° slopes) and a 16% in Terrain Class IV (>35°).

The FMU has been zoned into: **Protection** (water catchment, fish conservation, K/MD1/IV and border zone): 18,357 Ha (15.7%), **Production**: 90,543 Ha (76.8%) and **Community**: 8,749 Ha (7.5%). ([Click here to access Map 2 showing zoning and other information](#))

Forest management

The production forest will be managed on a polycyclic system based on proscribed cutting limits (Selective Felling System) with the next harvest, and all subsequent harvests, provided by the residual stems (potential crop trees) and continued recruitment from natural regeneration. Use of a Reduced Impact Logging system, with extraction by excavator based log fisher, is intended to minimise damage to the residual stand. The area is divided into 27 coupes of about 3,300ha with, nominally, one coupe harvested each year. The FORMIX3 growth simulation model used by Samling derives a sustainable annual cut (AAC) at an optimal cutting cycle based on the DBH cutting limits currently imposed by FDS of 45cm and 50 cm for non-dipterocarps and dipterocarps, respectively. Using the data from the FRA the optimal cutting cycle was determined as being between 25 to 30 years.

Harvest system

Standard RIL harvesting is not permitted on slopes of more than 35°.

The use of RIL, with break out and extraction by excavator based log fisher, is intended to minimise damage to the residual stand and regeneration both of which will form the next or subsequent harvests. Trees that have been tagged for harvesting and which are within 60m of the skid trail are felled and then winched to the skid trail. From there they are skidded by tractor to the landing.

At the landing the logs are measured and the LPI and CB tags are affixed at both ends of every log together with the hammer imprint of the licensee's property mark. The details of logs extracted are recorded on the Daily Production Return form which must be submitted to the One-Stop Compliance Centre and Customer Service Centre of SFC.

The logs are then trucked to the official stumping area where the royalty assessment is undertaken by SFC. As part of the assessment the logs are hammer marked "FD" and tagged. A Removal Pass is then issued by SFC; this serves as a legal permit to transport the logs to the mill or export point. It is the last link in the FMU's chain-of-custody.

Allowable Annual Cut

Exhaustive FORMIX3 simulations based on FRA data show that an AAC in the region of 90,000m³ on a 25-30 year harvest cycle is sustainable indefinitely.

As currently determined the AAC is not species selective, i.e. the AAC is not restricted to a particular list of species. With the objective of maximizing the yield by using lesser known species previously not harvested, Samling's downstream accept logs of almost all species that are from trees of unprotected species with a DBH above the cutting limits and which will yield a log of reasonable grade.

The AAC will be re-evaluated at the mid-term review using data from additional FRA sampling units. (It is unlikely that the PSP data will have provided any meaningful results by that time.)

Provisions for monitoring forest growth

The establishment of a network of Permanent Sample Plots (PSPs) is in progress. The PSPs are selected from the FRA sampling units so as to represent the variability of the forest condition over the productive forest area. It is planned that re-measurement will, initially, be at two year intervals. The final number of PSPs to be established will depend on the variability (coefficient of variance) of the FRA sampling units.

Environmental Safeguards

An Environmental Impact Assessment (EIA) was approved by Natural Resources and Environment Board (NREB) on 2 April 2009.

The EIA report includes the study of environmental impact considerations, the conservation of the natural forest, water quality, waste disposal, use of pesticides and biological agents, mitigation measures for road construction and maintenance, tree felling and log skidding by tractors, environmental quality control and non-organic waste disposal, silvicultural management, forest protection/fire prevention, wildlife protection, protection of scenic landscapes and those with recreational potential, and safety and health of workers.

All rivers and streams that flow year round must have buffer zones (RBZs) established the width of which is determined according to NREB specification.

Quarterly Environmental Monitoring Reports (EMR) are undertaken by external consultants and have been submitted to the NREB regularly following approval of the EIA. The main focus of the Environmental Monitoring Report (EMR) is on water quality and any damage due to the harvesting operations. The monitoring works for damages due to harvesting operations, as provided for under the Forest Ordinance, will continue for at least a year after the blocks are closed.

Wildlife

“A Master Plan for Wild Life in Sarawak” was approved by the Cabinet as official policy in January 1997. The Master Plan dealt with the immediate issue of stopping over-exploitation by hunting and the provision of more natural habitats in which wildlife could continue to live. The principal ordinance relevant to the protection, management and conservation of wildlife in Sarawak is the Wild Life Protection Ordinance 1990. Additional measures are the responsibility of the FMU holder, in line with DF Circular No. 6/99 dated 30 April 1999.

There are existing trans-boundary collaborations between a) Pulong Tau National Park in Sarawak and Kayan-Mentarang National Park in Indonesia, and b) Batang Ai National Park, Lanjak-Entimau Wildlife Sanctuary in Sarawak and Betung Kerihun National Park in Indonesia. The FMU shares a common boundary with Pulong Tau

National Park, the proposed BatuBuli National Park and with the proposed Batu Iran National Park. The FMU plays a role in the Heart of Borneo (HoB) Corridor Project through provision of a wildlife corridor between Sabah to the north-east, Brunei to the west and Indonesian-Kalimantan to the south-east via the Mulu National Park and Buda National Park.

Toolbox talks given to staff and workers are designed to increase the level of awareness of the importance of all aspects of wildlife conservation. Monitoring is by observation and recording of sightings.

High Conservation Value Areas

A High Conservation Value assessment was undertaken by external consultants and is the subject of a separate report. Some salient points are noted below.

The FMU is adjacent to several TPAs (HCV 1.1): Pulong Tau NP, Kayan-Mentarang NP, the proposed BatuBuli NP and the proposed Batu Iran NP. The proposed Sungai Peresek Wildlife Sanctuary (357ha) for fish conservation is located in the north-west sector of the FMU.

A number of HCV biodiversity species are present. A total of 34 fauna and 36 flora species were identified as endangered, or rare or threatened (ERT)(HCV 1.2). Twenty endemic fauna and 55 flora species were identified (HCV 1.3). Areas of critical temporal use were also identified (HCV 1.4); e.g. Coupe 8A was identified as a potential site of Critical Temporal Use (CTU) with respect to large avian fauna, primarily hornbills.

The FMU provides some linkage between other forest complexes as it adjoins other timber licences, an ITP licence, TPAs and a FMUs (HCV 2). Dipterocarp forest, much of it cut-over, covers the greater part of the FMU. This forest type is well represented in the HoB (HCV 3) and cannot be considered as endangered.

The altitude of the FMU ranges from 600m to 1,500m above sea level with the terrain generally hilly to mountainous. About 16% is TCIV - with slopes of more than 35° and 73% is TCIII with slopes of 20° to 35° (HCV 4.1). To maintain the integrity of the river systems buffer zones (RBZs) are mandatory in which all harvesting and mechanical activity are prohibited. The width of the river buffer zone is determined by the width of the river or stream and is prescribed by NREB (HCV 4.2).

The Sabah-Sarawak Gas Pipeline (SSGP) passes through the FMU. It is underground for the greater part of its length; this, together with reasonably evenly distributed monthly rainfall that averages annually in excess of 2,200mm, means that the pipeline should not be considered as a major fire hazard. However, the FMU must always be alert to its potential to be a hazard.

The recommendations for the FMU to maintain the above HCV attributes are as follows:

- Buffer zone of 500 m wide should be established and maintained along the boundaries of TPAs.
- A 500 m wide buffer zone along the inter-state (Sarawak-Sabah) border and a one km wide buffer along the international border (Malaysia-Indonesia) should be established.
- A “No Hunting” policy should be maintained and enforced to the extent possible.
- The DF Circular No. 6/99 should be prominently posted to help reinforce the above.
- The Protection Zones e.g. RBZs, border buffer zones, steep areas etc. should ensure that populations of endemic fauna and flora continue to exist in the FMU.
- Temporal critical use areas and saltlicks should be excluded from the operation area. Buffer zones must be established round such areas.
- The FMU is to be managed in such a manner that enables wildlife to move from one part of the forest to another as operations move from coupe to coupe.
- Boundaries adjacent to the conservation zones, terrain class IV and shifting cultivation area should be clearly demarcated on the map for reference.
- RIL harvesting techniques should be used.
- An emergency response plan should be developed for the Sabah-Sarawak Gas Pipeline.

Settlements: basic needs and cultural identity

There are twenty-one settlements located within and adjacent to the FMU with an estimated population of just over 2,500. However, the actual resident population is considerably less with a large number of males seeking employment elsewhere in Sarawak and beyond. The settlements occur as two main clusters: twelve of which are situated in the vicinity of Ba Kelalan with six are around Long Semadoh. There is a seven door settlement at Pa' Berunot and a 14 door Penan settlement at Lg Peresek. In addition there are four Penan settlements well to the west of the FMU's western boundary near Sg Adang. Apart from the Penan, the main ethnicity of the communities is Lun Bawang most of whom are Christian and belong to the Borneo Evangelical Mission (BEM) - locally known as Sidang Injil Borneo (SIB).

The social assessment (HCV5 and 6) undertaken by SFC clearly shows that the forest area of the FMU is *not* fundamental to meeting the basic needs of the local communities. The communities have large areas of wet paddy that provide their rice staple and most households have their own vegetable gardens and raise poultry, pigs and quite frequently, buffalo. There is also some fish farming. The forest provides limited amounts of wild fruit and vegetables and there is some supplementary hunting. The forest provides some timber for house construction (often cut from logs that have been extracted and then rejected by Samling) and there is some limited collection of forest products such as rattan and bamboo for making handicrafts, mainly for their own use. Production of salt from salt springs is a very old tradition and still continues and provides some income for a few individuals at Ba Kelalan. Some areas are important for the cultural identity of the communities, e.g. burial sites and areas with a

spiritual association (Bukit Balud - aka 'Bukit Doa' - and *Buaya Tanah*). In Block 19 of Coupe 1A, whilst undertaking 100% enumeration, along a forgotten burial site was discovered and in Block 20 the Lepo Batu found there is said to have some social or spiritual significance.

The Conflict Resolution Guidelines for SFM for community consultation is adopted for resolution of any conflict that might arise.

Community Liaison and Development

The FMU Conservation and Community Development (CCD) Committee, Community Representative Committee (CRC) and SFM Liaison Committee serve as platforms for achieving a balance of the economic, environmental and social interests.

For the community development projects, the "help for self-help" principle is applied. Accordingly, the local community participate in, and are responsible for, those functions and activities of development measures that they can provide by their own means. Assistance for the community development project might come from FDS, the FMU holder and any agency (whether government or non-government) able to provide know-how and/or funds that are not otherwise available to the community.

These projects could range planting the deforested areas that were illegally cleared for shifting cultivation; establishment of irrigation and wet rice schemes as a viable alternative to slash and burn cultivation; fish ponds; alternative tree crops using indigenous fruits such as petai, dabai, mata Kuching, etc.; the collection of other non-timber forest products e.g. rattan, gaharu, herbs, etc.; salt spring salt production; handicrafts; and homestay.

Forum Masyarakat Adat Dataran Tinggi Borneo (FORMADAT) is a trans-boundary, grassroots initiative by the indigenous peoples of the Highlands of Borneo. FORMADAT comprises the sub-districts of Bario, Ba Kelalan and Long Semadoh in Sarawak; Long Pa Sia in Sabah; and Krayan Induk and South Krayan in Indonesia. The FORMADAT committee in Long Semadoh has set up a committee for Long Semadoh Rivers Conservation Project. The intention is that selected riverbanks in the vicinity of Long Semadoh will be protected from further erosion by local community activities using a "Local Tree and Bamboo Planting on Riverbank Programme" and "River Adoption and Protection Programme" both undertaken by community *gotong-royong* initiatives.

Health, Safety and Environment

The FMU operates under Samling's Health, Safety and Environment Policy and follows the Safe Practice Guidelines. In addition to their work instructions and toolbox talks, the workers are either sent for training courses, or trained within the FMU in the prescribed activities (directional felling, the proper usage of chainsaws and safety aspects, log extraction and log loading) by designated trainers. This is periodically reviewed. There is in-house training of occupational safety and health practices for the workers. A Safety and Health Committee ensures compliance with the Occupational Safety and Health Act

1994, and the relevant legislative regulations and guidelines that are applicable to the respective work places.

Monitoring

The SFM aspect of the FMU is still a new feature and as such monitoring of various attributes is also a new feature in the FMU's management portfolio. Harvesting started in July 2017 and it took several months for the crews to become familiar with RIL and general FMC requirements and to build production up to an acceptable and reasonably consistent level.

- **Yield** of forest products (logs) harvested is monitored through the FMU's production records for royalty assessment held in the camp office.
- **Growth** rates, regeneration and condition of the forest together with the composition and change of the flora is monitored through the establishment of permanent sample plots (PSPs).
- The environmental impact of harvesting on flora will also be captured by PSP data.
- Data from the HCV assessment is used to assist in monitoring fauna in conjunction with ad hoc records of observations by FMU staff. Toolbox talks will develop staff awareness and competence in this respect.
- Given that the HCV assessment (HCV 5 & 6) identified little or no dependency on the FMU's forest area by those living in or nearby the FMU the impact of harvesting (and any other forest management operation) carried out in the FMU will have no or negligible social impact other than in providing employment for those with the relevant skills or who wish to obtain such skills.
- **Costs** are monitored by budgetary controls in which productivity and the efficiency of forest management also feature.

Specifically addressing Item (e) of Criterion 8.2:

Costs: monitoring and analysis of costs over the half year budget period - July 2018 to January 2019 shows that actual cost of production (RM/m³) was 17.3% over standard cost.

Productivity: over the same budget period productivity averaged 2,398m³/month for three crews.

Forest management efficiency: 81.3% of the projected volume for Coupe 1 was extracted and assessed for royalty.