



Syarikat Samling Timber Sdn Bhd
A member of Samling Global Limited

PUBLIC SUMMARY

Forest Management Plan

for

Forest Management Unit (T/ 0294)

Ravenscourt Sdn Bhd

for the period

2016 to 2025

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Approved by:

James Ho Yam Kuan
Chief Operating Officer

Introduction

The Forest Management Plan (FMP) is a comprehensive, integrated plan (FMP) for the long-term Forest Timber Licence (FTL) T/0294 which is issued to Ravenscourt Sdn. Bhd. The Forest Management Unit is known as Ravenscourt FMU. It was expected that the Forest Timber Licence would be renewed for a sixty-years period following certification but this has yet to happen.

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 under the Principles, Criteria and Indicators of the Malaysian Timber Certification Scheme (MTCS) which is endorsed by the Programme for the Endorsement of Forest Certification (PEFC) of well-managed natural forest; and
- 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 FMU shares a common boundary with the Pulong Tau National Park and International border with Kalimantan, Indonesia.

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

The Kapit soil series is dominant soil which covers approximately 80.0% of the FMU. It is followed by Merit (16.4%) which is mostly associated with rolling terrain. The other soil series i.e. Meluan, Bemang/Bekenu, Tutoh, Bekenu/Merit/Nyalau and Kapit/Silantek appeared to be minor with some of them covering less than 1% of the FMU.

The FMU has been zoned into: **Protection** (water catchment, fish conservation, K/MD1/IV, SA, River Buffer Zone, Border Zone and NP Buffer zone): 22,875 Ha (19.39%), **Production**: 86,317 Ha (73.19%) and **Community**: 8,749 Ha (7.5%). ([Click here to access Map 2 showing zoning and other information](#))

Forest Management System

The production forest is managed on a polycyclic system based on prescribed 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, minimises damage to the residual stand. The FMU is divided into 27 coupes of about 3,197ha 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

The use of Reduced Impact Logging (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. Only trees that have been tagged for harvesting and which are within 60m of the skid trail are felled. Sections of the tree number tags are attached to both ends of the log(s) which are 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 FDS.

The logs are then trucked to the official stumping area - Place of Royalty Measurement (PORM) - where the royalty assessment is undertaken by FDS. As part of the assessment the logs are hammer marked "FD" and tagged. A Removal Pass is then issued by FDS; 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: standing tagged tree to the official log pond.

Allowable Annual Cut

Exhaustive FORMIX3 simulations based on the FRA data show that an AAC in the region of 79,900-89,500 m³ on a 25-30 years 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/stream buffer reserve (RBZ/SBR) established the width of which is determined according to NREB specification.

Quarterly Environmental Monitoring Reports (EMRs) 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.

The FMU was selected by NREB to conduct a pilot project for the proposed replacement of the EMR - the Environmental Compliance Audit (ECA). The first cycle, comprising two internal audits and one external audit, was completed in 2019. The ECA was suspended in 2020 due to covid and remained suspended at the time of preparing this edition (#4) of the public summary.

Wildlife

The objectives of wildlife management include recognising the importance of 'CAN': this is the triple concept of "Culture, Adventure and Nature" and embraces how wildlife impacts the cultures of Sarawak's peoples, nature tourism, wildlife as a natural resource for rural peoples and wildlife as requirement to help sustain healthy forest ecosystems.

“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 Batu Buli 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. Posters are displayed at strategic location as visual aids for awareness programs. Monitoring is by observation and recording of sightings. This includes line transects, night-spotting and camera trapping. Wildlife rangers were appointed by SFC to assist the government agencies in implementing the Master Plan. The wildlife rangers also act as facilitators to promote awareness on the need for wildlife protection in their respective areas of responsibility.

Rainfall

The regional rainfall data (2014-2020) are from Long Semadoh (DID Station No. 4255006) and Ba Kelalan (DID Station No. 3956001).

The lowest mean monthly rainfall for both regions are in July at 4.2 mm. The driest year for the 10-year period at Long Semadoh was in 2019 with annual total rainfall at 1,941.5 mm whereas the wettest year was in 2017 with annual total rainfall at 3,649.5 mm.

At Ba Kelalan the highest mean monthly rainfall was 7.9 mm in the month of April. The lowest annual total rainfall was 2,005 mm which was recorded in 2016 and the wettest year was 2,562 mm in 2019.

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 Batu Buli 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.

A *Rafflesia* has recently been discovered by the FMU's Conservation Unit that might well be a new species: confirmation will be sought from the appropriate authority.

The FMU provides some linkage between other forest complexes as it adjoins other timber licences, an ITP licence, TPAs and an FMU (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 (SBRs) 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 1,000 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 help to ensure that populations of endemic fauna and flora continue to exist in the FMU.
- Temporal critical use areas and salt licks should be excluded from the operational area. Buffer zones must be established round such areas.
- The FMU is to be managed in a manner that allows 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.

Social Impact Assessment

There are twenty-one settlements located within and adjacent to the FMU with an estimated population of just over 3,166. However, the actual resident population is somewhat 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 nineteen-door settlement at Pa' Berunot and there are Penan settlements at Lg Peresek and

Lg Tevenga. In addition there are four occupied 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) which is locally known as Sidang Injil Borneo (SIB).

The social impact assessment (SIA) undertaken in the Lun Bawang communities of Long Semadoh and Ba' Kelalan 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, a long forgotten burial site was discovered by FMU staff and in Block 20 the Lepo Batu found there is said to have some social or spiritual significance. A burial site was also found by FMU staff at Block 29 of Coupe 1.

A social impact assessment was undertaken by University Putra Malaysia (UPM) which focused on the Penan community in the region of Pa' Adang (aka Lg Adang).

The Penans of the Pa' Adang region are now considered to be settled although they still wander in the forest in search of food and other produce, especially during fruiting season. They live either in individual detached houses or in longhouses of a few doors. Water from the mountain is piped in for utility purposes while a SARES solar system provides electricity.

In late 2019 17 Penan were employed by Samling; they have earned a good reputation with the management as reliable and industrious workers. Unfortunately many Penan have been influenced by outside sources and refuse to accept anti-covid vaccination. As all employees must be vaccinated this restricts the numbers that can be employed. The balance is inevitably self-employed and, although considered to be settled, these Penan, lacking cash, still depend on the nearby forest for at least some of their food and for house building and handicraft materials. Some act as porters and guides for the very occasional visitor and others generate cash income through sales of their forest produce and handicrafts to outsiders.

Socio-economic impacts on the Long Semadoh cluster, Ba' Kelalan cluster and Pa' Adang cluster include issues relating to land, protection of water quality, employment, public safety and health and community services. Community consultation and boundary demarcation should be carried out in order to avoid future conflicts over land use and land rights. Protection of gravity-feed water supply

catchment, proper waste management and no riparian buffer zone encroachment should be implemented to protect water quality. Local people should be given priority in employment and on-the-job training be given. Public safety and health practices are in place. Community development projects and services could be established through the Forest Department's (FDS) Forest Management Certification Liaison Committee.

The SIA report includes the monitoring of the mitigation/enhancement measures of water supply and quality, local economy and social-cultural life. The monitoring techniques may use photographs, field checks and reports by local community, and satellite images. Monitoring should also cover the monitoring of unexpected impacts not identified in the SIA report which may occur during and after forest operations.

The Conflict Resolution Guidelines for SFM are used for resolution of any conflict that might arise between a community and the FMU management that cannot be resolved informally at FMU camp level.

Community Liaison and Development

The Community Representative Committee (CRC) and Forest Management Certification Liaison Committee (FMCLC) 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 might range from planting the deforested areas that were illegally cleared for shifting cultivation; establishment of irrigated 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 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 (currently suspended as the number of workers and staff is well below the threshold required for this 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.

The Covid-19 pandemic which started in early 2020 in Malaysia has presented a unique challenge in terms of providing a safe working space for the employees. In-house SOPs were developed according to the regulations stipulated by Sarawak Disaster Management Committee and the Malaysian Health Ministry. The timber industry was allowed to operate with strict SOPs by Ministry of International Trade and Industry (MITI).

Monitoring

The SFM aspect of the FMU is still a relatively 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. Coupe 1 had been completed and the harvesting operation moved to Coupe 2 when on 6 March 2019 was it was decided to suspended harvesting. This was due to the poor market with low prices compounded by the very high percentage of MLH species.

- **Yield** of forest products (logs) harvested is monitored through the FMU's production records for royalty assessment held in the camp office. This information is P&C.
- **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). PSP data were captured in 2020 and 2021 but are still insufficient as of to date to give useable results.
- Data from the HCV assessment is used to assist in **monitoring fauna** in conjunction with ad hoc records of observations by FMU staff. Annual line transect assessment, night-spotting and camera trapping are conducted to further monitor the wildlife population in the FMU. Toolbox talks have been given annually to develop staff awareness and competence in this respect.

From latest wildlife monitoring undertaken in July 2021 line transect data were analyzed using Species Richness Index, Species Diversity Index (Shannon-Weiner Index), Species Evenness Index with the following results:

a. Species Richness (S)

$$S = 5$$

*Previous monitoring: $S = 12$

b. Species Diversity (H)

$$H = 1.30$$

*Previous monitoring: H = 2.13

c. Species Evenness (E)

E = 0.81

*Previous monitoring: E = 0.86

- Given that the HCV assessment (HCV 5 & 6) identified little or no dependency on the FMU's forest area by those Lun Bawang living in or nearby the FMU the impact of harvesting (and any other forest management operations) carried out in the FMU has no or negligible social impact other than in providing employment for those with the relevant skills or who wish to obtain such skills. Social Impact Monitoring was conducted after completing Coupe 01A to identify any impacts of the harvesting operation in Coupe 01A to the settlements nearby: no adverse impacts were identified. Social Impact Monitoring was conducted in the Pa Adang community in January 2022. There has been no harvesting in the community area for many years and no adverse impacts of any nature were recorded during monitoring engagement. Samling has continued with the CSR items, eg provision of school transport (to Lg Lopeng) and of accommodation at Merarap Camp as a rest house *en route* to Lawas Town, and the use of Samling's radio repeater station for radio communication.
- With the exception of Lg Tevenga and Lg Peresek, the Penan communities are settled well inside STIDC's Forest Timber Licence (FTL) T/9161. Any of these Penan who wish are free to roam and forage in the two contiguous FTLs. Lg Tevenga and Lg Peresek, the two communities within or bordering Ravenscourt FMU, are located in, or in the close vicinity of about 4,500 hectares of primary forest which was never disturbed in any way by Samling. Harvesting in the remaining nearby production forest area ceased about twenty years ago and operations will not return to this area – Coupes 25, 26 and 27 - for at least another 25 years. Not far to the south-east of the locations of these two communities is the large national park complex comprising Pulong Tau, its extensions and the proposed Batu Iran and Batu Buli in which the Penan are also free to roam. The foregoing was shared (using the FMU map) with the Pa Adang community during the recent community engagement conducted by Samling and FDS at Pa Adang on the 26th January 2022.
- **Costs** are monitored by budgetary controls in which productivity and the efficiency of forest management also feature. NB actual costs are P&C but relative costs are shown here.

Specifically addressing Item (d) of Criterion 8.2 are:

Costs: monitoring and analysis of costs over the budget year - July 2018 to June 2019 (the latest relevant year as harvesting stopped in March 2019) - shows that actual cost of production to log pond (RM/m³) was 1.4% under budget.

Productivity: over the same budget year productivity averaged 2,415m³/month.

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