



**Samling Plywood (Lawas) Sdn Bhd**  
A member of Samling Group of Companies

## **PUBLIC SUMMARY**

**for**

**Forest Management Plan**

**for**

**Layun Forest Management Unit (T/0405)**

**for the period 2022 to 2031**

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Approved by:

James Ho Yam Kuan  
Chief Operating Officer

## Introduction

This is the public summary of the Forest Management Plan (FMP) written for the Layun FMU. Layun FMU is licenced under Forest Timber Licence (FTL) No. T/0405 issued to Samling Plywood (Lawas) Sdn Bhd.

The FMP is for the period from 2022 to 2031. 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 be 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.

## The Resource

The FMU is in the Miri Division, Sarawak. It lies about 80 km from Long Lama town, is accessible from the main logging road which proceeds in a generally easterly direction to the Layun Camp. The Layun Camp serves as the administrative center for the FMU operations. ([Right click here to access Map A-FMU location](#)).

The total area is 142,790 hectares of which 4.0% (5,746 ha) is within the Maringong Protected Forest (PF); 10.4% (14,879 ha) is lies the Telang Usan PF; 58.0% is inside Tutoh-Apoh Forest Reserve; 2.1% (3,048 ha) is within Tenyok Nature Wildlife Reserve (TNWR); 2.1% (3,036 ha) is allocated for Penan Reserve Area and 0.1% (90 ha) is a Communal Forest. The remaining 23.3% (33,237 ha) is State land. ([Right click here to access Map B showing land status](#)).

The elevation ranges from 305m to 914 m amsl. About 0.3% is classed as Terrain Class I, 22.3% as Terrain Class II, 72.9% as Terrain Class III (20°-35° slopes) and a 4.3% in Terrain Class IV (>35°). The remaining 0.2% is Major River.

The Kapit soils is dominant soil which covers approximately 80.2% of the FMU. It is followed by Merit (17.8%) which is having fine particle-size class (35-60% clay). The other soil series i.e. Bekenu/Merit/Nyalau, Kapit/Silantek, Bemang/Bekenu, Meluan and Bemang/Seduau appeared to be minor and together covering about 2.0 % of the FMU.

The FMU has been zoned into: **Protection** (Kerangas, Terrain Class IV, MD1 & MDR1 forests, Water Catchment, TNWR, Buffer zone and Major River), 13,643 Ha (9.6 %); **Community Use**, 20,148 Ha (14.1 %); and **Production**, 108,999 Ha (76.3 %). ([Right click here to access Map G-Forest zoning](#))

## **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 modified excavator wincher, minimizes damage to the residual stand. The FMU is divided into 30 coupes of about 3,633 ha/coupe with, nominally, one coupe harvested each year. The FORMIND 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.

## **Harvesting operation**

The use of Reduced Impact Logging (RIL), with break out and extraction by modified excavator wincher, 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.

## **Forest Resource Assessment**

The Forest Resource Assessment (FRA) forms an essential component of forest management planning. All data collected from the SUs shall be entered into the FORMIND Growth and Yield Simulation Model to generate the preliminary Annual Allowable Cut (AAC).

The FRA results are based on data collected from 41 Sampling Units (SUs) from out of a total 100 SUs. On average, 1,257.37 trees/ha were recorded in the 41 SUs, with a standard deviation of 423.49 trees/ha. The average number of Potential Crop Trees (PCTs) is 26.28 trees/ha, with the standard deviation of 13.58 trees/ha. Having an average of 1,529.17 living trees/ha, this resulted a percentage of 1.7% which is considered very low. The average standing volume across all 41 SUs is  $214.26 \text{ m}^3/\text{ha}$  with the standard deviation of  $82.78 \text{ m}^3/\text{ha}$ . In terms of total stem number, the non-commercial tree species form the majority, making up around 70% of the trees and more than 40% of the bole volume, whereas the Dipterocarps forms most of the total bole volume with more than 50%, hence they can be considered to be more dominant in the higher diameter classes.

## **Allowable Annual Cut**

From the net production area of 108,999 ha in the FMU with an average of 3,633.3 ha per Annual Coupe, the resulting preliminary Annual Allowable Cut (AAC) is **44,800 m<sup>3</sup>/ha**.

Yield control is primarily by area with one coupe harvested each year with the actual annual production not to exceed the AAC.

## **Provisions for monitoring forest growth**

There are ten (10) Permanent Sample Plots (PSPs) were established in the FMU. The tree growth in these PSPs is recorded at regular intervals at two (2) to five (5) years interval. The subsequent growth increment data from these plots will be used to calculate the future AAC. The final number of PSPs to be established will depend on the variability (coefficient of variance) of the FRA sampling units.

Seven (7) PSPs were re-measured in 2022. The composition of the species is dominated by the Non-Dipterocarps which is 85% whereas the Dipterocarp represent only 15%. By DBH Class, the Non-Dipterocarp in DBH Class (10.0-19.99cm) and (5.0-9.99 cm) shows more trees (264) and (156) in comparison to the Dipterocarp (27) and (17) respectively. It is noticeable that the Non-Dipterocarps and the Dipterocarps are also not evenly represented in the DBH Class (>30cm). Nevertheless, it can be assumed that the future tree crop would be dominated by the Non-Dipterocarps.

## **Environmental Safeguards**

The **first** Environmental Impact Assessment (EIA) Reports for FTL No. T/0405 (March 2010) was approved by Natural Resources and Environment Board (NREB) on 3<sup>rd</sup> May 2010. Due to the changes in the Licensed Area, the new EIA Reports (August 2022) was approved by NREB on 11<sup>th</sup> November 2022.

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 stream buffer reserve (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 has in place the **Waste Management Policy** which is in compliance with the Environmental Quality (Scheduled Wastes) Regulations 2005 and has developed a **Waste Management Plan for Scheduled & Non-scheduled Waste**.

**Fire Management Plan** is an essential component for the prevention, suppression and management of fire within forests and adjacent lands. Fire management plan must be part of an overall land-use management plan, e.g. forestry. An effective fire management plan is highly dependent upon broad-based support from all stakeholders.

**Climate change** mitigation programs (e.g. REDD+) are emerging that can increase the stock of carbon in forests; and that can help the costs of actions (from Carbon Credits) to reduce GHG emissions due to deforestation and forest degradation. Forest management shall assess the cost-effectiveness of climate change adaption and mitigation options and identify the most feasible based on the available technical capacity and supportive policy.

### **Collaboration on Research**

On 26<sup>th</sup> September 2022, the Samling Group has signed a Memorandum of Understanding (MOU) with UPM Sarawak Bintulu Campus on collaborative research projects related to forest management certification.

### **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 1998. Additional measures are the responsibility of the FMU holder, in line with SFC Circular No. 2/2021 dated 21 April 2021, 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.

### **Rainfall**

The regional rainfall data (2010-2020) are from Long Akah (DID Station No. 3347003), Long Seridan (DID Station No. 3950020), Long Atip (DID Station No. 3847035), Long Luteng (DID No. 3547001) and Long Lama (DID Station No. 3744009).

The lowest mean monthly rainfall in the regions are in July at 92.7 mm. The highest annual total rainfall was 6,057 mm recorded at Long Akah in 2010 whereas the lowest annual total rainfall is 2,535 mm recorded at Long Luteng in 2019. Overall, the wettest year in the region was in 2020 whereas the driest year was 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 Gunung Mulu National Park (HCV 1.1).

A number of HCV biodiversity species are present. A total of 41 fauna identified as endangered, or rare or threatened (ERT) (HCV 1.2). Six endemic fauna species were identified (HCV 1.3). There are five areas of critical temporal use (saltlicks) were identified (HCV 1.4).

The FMU is not located within the Heart of Borneo (HOB) Corridor (HCV 2). However, a network of streams with pristine riverine forest reserve serves as a viable wildlife corridor. With the practice of Reduced Impact Logging (RIL) System, the Stream Bank Reserve (SBR) will ensure the riverine forest from not being encroached and damaged.

The Mixed Dipterocarp Forest (MDF) is the dominant and important forest type found in the FMU. Mixed Dipterocarp Low Density (MD1) and Kerangas have minor presence (HCV 3).

The altitude of the FMU ranges from 305 m to 914 m above sea level with the terrain generally hilly to mountainous. About 4.3% is Terrain Class IV - with slopes of more than 35° and 72.9% is Terrain Class III 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 3,300mm, 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 SFC Circular No. 2/2021 should be prominently posted to help reinforce the above.
- The Protection Zones e.g. SBRs, 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.

## **Social Impact Assessment**

In term of continual engagement process, priority would be given for those villages resided within the FMU without compromising the interests of other villages which are located adjacent and/or

outside the FMU. The intention is to prevent any conflict arise with the neighbouring forest timber licences.

A Social Impact Assessment (**SIA**) was conducted on 13<sup>th</sup> to 20<sup>st</sup> March 2022 the continued on 15<sup>th</sup> to 24<sup>th</sup> May 2022. There are thirty-six settlements were identified from the SIA which is located within and adjacent to the FMU. The main ethnicity of the communities is Kayan, Kelabit and Penan – most of whom are Christian and belong to the Borneo Evangelical Mission (BEM) which is locally known as Sidang Injil Borneo (SIB). The list of identified/affected local communities was listed in table below and shown on Map 3. [\(Right click here to access Map N-Location of settlements\).](#)

| No. | Name               | Ethnicity | Location |          |
|-----|--------------------|-----------|----------|----------|
|     |                    |           | Within   | Adjacent |
| 1   | Long Seridan A     | Kelabit   | ✓        |          |
| 2   | Long Seridan B     | Kelabit   | ✓        |          |
| 3   | Long Meraan        | Penan     | ✓        |          |
| 4   | Long Ludin         | Penan     | ✓        |          |
| 5   | Long Lesuan        | Penan     |          | ✓        |
| 6   | Long Urang         | Penan     | ✓        |          |
| 7   | Long Leng          | Penan     | ✓        |          |
| 8   | Long Nen           | Penan     | ✓        |          |
| 9   | Long Kerangan      | Penan     | ✓        |          |
| 10  | Long Latei         | Penan     | ✓        |          |
| 11  | Long Jenalong      | Penan     | ✓        |          |
| 12  | Long Kevok         | Penan     | ✓        |          |
| 13  | Long Bedian        | Kayan     |          | ✓        |
| 14  | Long Kawa          | Penan     | ✓        |          |
| 15  | Long Siang         | Penan     | ✓        |          |
| 16  | Long Selulung/Puak | Penan     | ✓        |          |
| 17  | Ba' Bareh          | Penan     | ✓        |          |
| 18  | Long Kawi          | Penan     | ✓        |          |
| 19  | Ba' Pakan          | Penan     |          | ✓        |
| 20  | Long Lilim         | Penan     |          | ✓        |
| 21  | Long Kahoh         | Penan     |          | ✓        |
| 22  | Long Luteng        | Penan     |          | ✓        |
| 23  | Long Itam Bunau    | Penan     |          | ✓        |
| 24  | Long Na'ah         | Kayan     | ✓        |          |
| 25  | Long Sengayan      | Penan     | ✓        |          |
| 26  | Long Liam          | Kayan     |          | ✓        |
| 27  | Long Keliman       | Kayan     |          | ✓        |

Social impact assessment concluded that:

- FMU operations have provide positive impact to the local communities in term of road accessibility.
- FMU has provided job opportunity to the local communities and with the road accessibly it increases the awareness among the community regarding the importance of providing education to their children.
- Co-operation and understanding between the FMU, government agencies and local communities is needed to minimise the negative impact and increases the benefits from the establishment of FMU.

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. In addition, the committee establishment is also to foster good relationship and facilitate communication between the local communities, the FMU and government agencies. The CRC and FMCLC will provides a forum where discussion can take place between stakeholders to discuss matters of common interests.

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.

### **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 workplaces.

### **Monitoring**

Monitoring is required to ensure that the environmental protection measures are implemented and that they are effective and comply with mitigation requirements. The FMU has formulated an Environmental Policy (EP) in compliance with the PEFC-endorsed Malaysian Timber Certification Scheme (MTCS) for well-managed natural forests.



As mentioned under the section **Provisions for monitoring forest growth** a system of permanent sample plots (PSPs) will, after some years, provide data that allow monitoring of the composition and observed changes in the flora. The PSP data will also provide for the monitoring of forest growth and dynamics in terms of growth rates, recruitment, regeneration and general condition of the forest.

Wildlife 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.

The Layun FMU has only recently been established. This means that the monitoring of some of the attributes as required by the MC&I is also a new feature in the FMU's management portfolio. In this regard the following summary might usefully be noted:

- 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 are monitored through the establishment of permanent sample plots (PSPs). The environmental impact of harvesting on flora will also be captured by PSP data and post-harvest assessment.
- Data from the HCV assessment will be used to assist in monitoring fauna in conjunction with *ad hoc* records of observations by FMU staff. As part of their duties they will be responsible for toolbox talks that will develop staff awareness and competence to assist in observing and recording.
- The HCV assessment (HCV5) suggested varying degrees of dependence by local community on some attributes of the FMU. This dependence and any changes will need to be monitored.
- To protect and demarcate an agreeable boundary of HCV6.
- Costs will be monitored by budgetary controls in which productivity and the efficiency of forest management will of necessity also feature.