



Syarikat Samling Timber Sdn Bhd A member of Samling Group of Companies

### **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

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#### 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.

This Revised FMP is for the period 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.

FMU obtained **MC&I (Natural Forest)** certification on 4 June 2018 and expires on 3 June 2021. Due to Covid 19 pandemic, FMU had undergo a **Re-Certification Audit** with the new standard of **MC&I SFM MTCS 1002:2021** on 8th - 13th November 2021 and certified on 13th May 2021 valid until 3rd June 2026.

#### Forest Management Plan Objectives

- Forest planning and operations based on **multi-functional concept** which consider the different usage of forest resources and needs of stakeholders involved.
- Forest management practices to maintain or even enhance the forest ecosystem functions as to enable its self-renewal capacity through **Reduced Impact Logging (RIL)**, **rehabilitation** and **silviculture treatment**.
- **Detailed Harvesting Plans** aimed at production of high quality timber at optimum efficiency, reduced environmental impacts and minimise wastage of resources.
- Integration of climate adaption and mitigation plans which has a positive impact on long-term **carbon sequestration** capacity of forest vegetation.
- Multi-stakeholders' consultation through the Community Representative Community (CRC) or Jawatankuasa Keselamatan Kampung (JKKK), Forest Management Certification Liaison Committee (FMCLC) and Forest Management Unit Representative Committee (FMURC) to address issues of common interests and to monitor the operational activities.
- **Continuous improvements** to forest management through certification, research, collaborative partnership, updating methodologies and standards.; 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 office, quarters and workshop is at KM109 - as measured from the Lawas Log pond. (Right click here to access Map 1: Location)

The total area is 117,784 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. (Right click here to access Map 2: Legal 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 83.6% comprising Terrain Class III (20°-35° slopes), 11.5% Terrain Class I & II and a 4.9% 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 (16.3%) 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 3.6% 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): 22,361 Ha (19.0%), **Production**: 86,674 Ha (73.6%) and **Community**: 8,749 Ha (7.4%). (Right click here to access Map 3: 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 **27 coupes** of about **3,210 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.

#### Allowable Annual Cut

From the net production area of 86,317 ha in the FMU with an average of 3,210 ha per Annual Coupe at **25** *m*<sup>3</sup>/*ha* to **28** *m*<sup>3</sup>/*ha*, the resulting preliminary Annual Allowable Cut (AAC) in the region of **79,900-89,500 m3** on a 25-30 years harvest cycle is sustainable indefinitely.

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

The establishment of a network of Permanent Sample Plots (PSPs) is on-going. 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. (Right click here to access Map 4: PSP).

In compliance with DF Circular, a **tree nursery** has been established in the camp site and **restoration site** has been identified and planted with different species.

#### Silviculture

Silviculture is the practice of managing and cultivating forests for timber production, as well as for other ecosystem services such as wildlife habitat, water conservation, and carbon sequestration. It involves the application of scientific and technical knowledge to guide the growth, development and regeneration of forest stands. Silviculture management of the production forest aims primarily to sustain and ideally enhance productivity – at an economically acceptable cost. The Silviculture Decision Support System (SDSS) for treatment of harvested natural forest is based on establishing the relationship between the actual commercial stocking situation and the number of big trees left behind. Enrichment planting (EP) will be considered after diagnostic sampling of the harvested blocks, relevant findings and the overall economics. Diagnostic survey is to determine, by sampling, the stocking and condition of the harvested forest, identify the areas which need silvicultural treatment and determine the type of silvicultural treatment required. Forest Landscape Restoration ensures the restoration of a forested ecosystem that is self-sustaining and that provides benefits to the people and to biodiversity. Overall, silviculture plays a crucial role in balancing the economic and ecological aspects of forest management, ensuring the sustainable use of forest resources for present and future generations.

#### **Environmental Safeguards**

An **Environmental Impact Assessment (EIA)** was approved by Natural Resources and Environment Board (NREB) on **2<sup>nd</sup> April 2009**. With the implementation of the Natural Resources (Audit) Rules 2008 by NREB in 2019, the Licence Holder is required to submit an **Environmental Management Plan (EMP)** which was approved on **13<sup>th</sup> June 2019**.

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.

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. Overall, it could be concluded that the water qualities of Sg. Likawan, Btg. Trusan and Sg. Kelalan in the locality of the project area were found to be moderately good with results mostly comparable to Classes I to II of the NWQS.

Appeal for approval of the postponement of the 2<sup>nd</sup> Cycle (Year 2020-2021) of ECA for Ravenscourt FMU had submitted to NREB on 22 October 2021. The reason was due to pandemic Covid-19 and the implementation of Movement Control Order. The NREB had approved the FMU request to postpone the ECA via their letter dated 14 November 2022.

On 10 January 2024, the FMU has submitted their request to waive the 3<sup>rd</sup> Cycle (Year 2022-2023) of ECA for Ravenscourt FMU. The reason is since there is no environmental impact associated with forest operation as Ravenscourt FMU has not conducted any forest operations since May 2020. To monitor the FMU's environmental status since the operations were halted, the FMU has conducted the water quality monitoring as detailed in Chapter 5-Environmental Status Water Quality.

**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.

#### Sarawak-Sabah Link Road

The Sarawak-Sabah Link Road (SSLR) is network paved road that connect Sarawak and Sabah without passing through Brunei Darussalam. The SSLR project will improve road connectivity in the interior part of northern Sarawak (Miri and Limbang Division). Based on the alignment provided by Public Works Department, the proposed SSLR project will be traversing through several Samling Groups' Forest Timber Licence (FTL) and License Planted Forest (LPF) approximately 161.5 km

The conversion of land shall be finalised upon completion of the project and the conversion area shall be based on the road reserve as indicated in the "as-built drawing" of the project. The final road reserve shall be incorporated in the revised GP and to be submitted to FDS for approval.

#### **Carbon Project**

SaraCarbon Sdn Bhd (SaraCarbon), a subsidiary of Samling Group intends to develop a carbon business within the boundaries of Samling Groups' FTL and LPF in Lawas region with the total area of 276,748 ha. Consent has been given by the respective licensees to SaraCarbon to undertake the Carbon Project. The final boundaries will be explicitly determined and mapped during the completion of project design document. Specifically, the project boundaries will include all areas within the licensed boundaries impacted by Reduced Emissions from Deforestation and Degradation (REDD) and Afforestation, Restoration and Reforestation (ARR) activities. Areas to be excluded are the river reserves; areas which are currently occupied and/or developed by community settlements; and water body land cover class. The FDS is currently reviewing the application for the Lawas Conservation and Restoration Project's Forest Carbon Study Permit, submitted on 10 October 2023. A decision on the application is expected by 1<sup>st</sup> Quarter of 2024.

#### **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.

#### Rapid Assessment of Hornbills by Malaysian Nature Society (Kuching Branch)

The rapid assessment of hornbills was carried out in September and October 2022 with a total of five survey days. During the line transects and point counts, observation of birds were done based on sightings and calls. Eighty-six (86) species of birds were identified in the Ravenscourt FMU and thirty-four (34) species were recorded along the trail in Paya Maga. One of the notable findings was the Black Oriole *Oriolus hosii* which could be observed throughout the Ravenscourt FMU. Other wildlife sightings include the Hose's Langur *Presbytis hosei*, Bornean Striped Palm Civet *Arctogalidia trivirgata*, Yellow-throated Marten *Martes flavigula* and Gibbons which were frequently heard there. Reptile species seen opportunistically included the Oriental Vine Snake *Ahaetulla prasina*, Speckle-headed Vine Snake *Ahaetulla fasciolata* and King Cobra *Ophiophagus hannah*.

#### 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.

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.

#### Rainfall

The regional rainfall data (2016-2022) 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 36.2 mm. The driest year for the 6-year period at Ba'Kelalan was in 2021 with annual total rainfall at 1,689.0mm whereas the wettest year was in 2017 with annual total rainfall at 3,649.5 mm at Long Semadoh.

The highest mean monthly rainfall was at Long Semadoh at 66.4 mm in the month of May. The lowest average annual total rainfall was 2,148.3 mm which was recorded in 2016 and the wettest year was 3,075.8 mm in 2017.

#### High Conservation Value Areas

A High Conservation Value assessment was undertaken by external consultants in June/July 2016 and is the subject of a separate report. Some salient points are noted below.

| нсу   | Findings  | Management   | Monitoring  |
|---|---|--|---|
|   | i indings   | Recommendations  | Recommendations   |
| 1.1<br>Protected<br>Areas<br>Map HCV 1.1          | <b>Present</b><br>FMU is adjacent to Pulong Tau<br>NP, proposed Batu Iran NP,<br>proposed Batu Buli NP and<br>proposed Sg. Peresek Wildlife<br>Sanctuary.   | <ol> <li>Existing buffer zone of one<br/>(1) km along the common<br/>Malaysian / Indonesian<br/>International Boundary<br/>should be maintained.</li> <li>Existing buffer zone of 500 m<br/>along the common boundary<br/>of Pulong Tau NP should be<br/>maintained.</li> <li>Buffer zones of 500 m should be<br/>established along the common<br/>boundary of proposed BINP,<br/>proposed BBNP and proposed<br/>Sg. Peresek WS.</li> </ol>                                | Buffer zones should be<br>periodically or regularly<br>monitored. Records of<br>patrols are to be kept<br>and made available.   |
| 1.2<br>Threatened<br>and<br>Endangered<br>Species | Present<br>Fauna: A total of 98 species of<br>fauna consisting of 25 mammals<br>(20 mammals and 5 primates),<br>72 avifauna and one (1)<br>invertebrate are recorded. 18<br>mammals (including 13<br>mammals and 5 primates), 15<br>avifauna and one (1)<br>invertebrate are found to be<br>ERT species and listed either<br>under IUCN, CITES or Wild Life<br>Protection Ordinance 1998. The<br>list of ERT fauna is shown in<br>Table attached.<br>Flora: Ensurai (Dipterocarpus<br>ablancifaliue) is the apply Tatally | <ul> <li>Fauna:</li> <li>1. No hunting policy should be developed and gradually enforced.</li> <li>2. DF Circular 6/99 should be made available and strictly followed.</li> <li>3. Workers and adjacent local communities are to be informed of "No Hunting" policy.</li> <li>4. New wildlife posters and written instruction from the Management should be made available on site.</li> <li>5. Regular day and night patrol should be conducted to a solution.</li> </ul> | Fauna:1. Record of entry by<br>outsiders and<br>incidents of hunting<br>should be kept and<br>made available.2. Database on wildlife<br>found in the area<br>should be kept for<br>reference and made<br>available.Flora:1. A<br>monitoring of all<br>Totally<br>Protected<br>Diapter and EBT |

| нсу             | Findings  | Management  | Monitoring   |
|-----------------|---|---|--|
|                 |   | Recommendations   | Recommendations  |
|                 | Protected Plant under WLPO<br>1998 recorded in FMU. There<br>are 24 Protected Plants, 12<br>species of which is not<br>protected under WLPO 1998<br>but threatened plant<br>categorised as CR, EN or VU in<br>the IUCN. They are listed as ERT<br>because of the loss of their<br>habitats and populations. | <ul> <li>discourage and apprehend offenders.</li> <li>6. Signage and fencing can be erected at certain areas especially at the entry points to inform and stop illegal entries.</li> <li>7. Community Education, Participation and Awareness (CEPA) program by the management is highly recommended. <ul> <li>Flora:</li> </ul> </li> <li>1. Tag plants and trees during pre-harvesting inventory.</li> <li>2. The survey data (from 1) should be incorporated into harvesting plan. High concentration of these species should be left alone.</li> <li>3. Totally Protected Plants should be tagged.</li> <li>Adhere strictly to RIL during harvesting.</li> </ul> | <ul> <li>species is recommended in order to understand their survival and regeneration. The data shall be made available for inspection.</li> <li>Internal auditing is to be conducted on the RIL implementation. Measures in RIL Guidelines are (a) Do not damage or push nest trees used by birds and bees and (c) Only tagged trees for felling are allowed to be cut.</li> </ul>   |
| 1.3<br>Endemism | Present<br>Fauna:<br>A total of 21 endemic fauna<br>species consisting of 7 mammals   | Fauna:<br>1. Measures to ensure the<br>existence and survival of the<br>endemic species is in place.  | Fauna:<br>1. Long-term<br>monitoring of the<br>species including the   |
|                 | and 14 avifauna were recorded.<br>Flora:<br>There are 54 species endemic to<br>Borneo and one species<br>endemic to Sarawak. Among<br>these species, 8 species are<br>accorded protection under<br>WLPO 1998 and 11 species are<br>under IUCN Red List.   | <ol> <li>Protect the feeding areas where the fruiting trees e.g. Ficus, Macaranga and Arthocarpus, are found.</li> <li>Hunting of the animals and over-harvesting of their food sources should be controlled and frequently monitored. Flora:</li> <li>For protected plants under WLPO 1998,</li> <li>Tag plants during preharvesting inventory.</li> <li>Adhere strictly to RIL Guidelines during harvesting.</li> <li>Mother trees, follow the criteria specified under guidelines for mother trees.</li> </ol>   | <ul> <li>identification,<br/>recording of sighting<br/>and mapping is<br/>undertaken with<br/>assistance from the<br/>relevant agency or<br/>organisation.</li> <li>2. The data shall be<br/>made available.<br/>Flora:</li> <li>1. For protected plants<br/>under WLPO 1998,<br/>proper<br/>documentation of<br/>tagged plants and<br/>monitoring during<br/>RIL operation.</li> <li>Ensure guidelines on<br/>mother trees are<br/>adhered to.</li> </ul> |
|                 | and 14 avifauna were recorded.<br>Flora:<br>There are 54 species endemic to<br>Borneo and one species<br>endemic to Sarawak. Among<br>these species, 8 species are<br>accorded protection under<br>WLPO 1998 and 11 species are<br>under IUCN Red List.<br>Present  | <ol> <li>Protect the feeding areas where the fruiting trees e.g. Ficus, Macaranga and Arthocarpus, are found.</li> <li>Hunting of the animals and over-harvesting of their food sources should be controlled and frequently monitored. Flora:</li> <li>For protected plants under WLPO 1998,</li> <li>Tag plants during preharvesting inventory.</li> <li>Adhere strictly to RIL Guidelines during harvesting.</li> <li>Mother trees, follow the criteria specified under guidelines for mother trees.</li> </ol>   | identification,<br>recording of sighting<br>and mapping is<br>undertaken with<br>assistance from the<br>relevant agency or<br>organisation.<br>2. The data shall be<br>made available.<br><b>Flora:</b><br>1. For protected plants<br>under WLPO 1998,<br>proper<br>documentation of<br>tagged plants and<br>monitoring during<br>RIL operation.<br>Ensure guidelines on<br>mother trees are<br>adhered to.  |

| нсу                                     | Findings  | Management  | Monitoring   |
|---|---|---|--|
|   |   | Recommendations   | Recommendations  |
| Critical<br>Temporal Use<br>Map HCV 1.4 | hornbill (Buceros<br>rhinoceros), Wreathed<br>hornbill (Rhyticeros<br>undulates) and Helmeted<br>hornbill (Buceros vigil) were<br>sighted at Coupe 08A where<br>hollow trees and food trees<br>are abundant. Rare and<br>endemic Bornean Black<br>oriole (Oriolus hosii) was also<br>sighted at Coupe 08A.<br>Saltlick: One saltlick is<br>purportedly located in either<br>C/17A or C/19A based on<br>secondary data. No accessibility<br>at present.  | <ul> <li>Sites of potential nesting, roosting and fruiting trees should be protected and excluded from logging blocks.</li> <li>These sites should be properly zoned and marked on map, and demarcated with buffer zone on the ground.</li> <li>No hunting policy and frequent monitoring are adhered to.</li> <li>Saltlicks:</li> <li>Will survey, demarcate and protect the saltlicks when accessibility is possible.</li> </ul>  | <ul> <li>Critical sites for<br/>feeding, nesting<br/>and roosting<br/>should be<br/>monitored and<br/>updated on<br/>frequent basis.</li> <li>Data and record<br/>are kept and<br/>made available.</li> <li>Saltlicks:         <ul> <li>Saltlicks would be<br/>monitored and<br/>protected.</li> </ul> </li> <li>Data and record are<br/>kept and made<br/>available.</li> </ul> |
| 2<br>Level Forest<br>Map HCV 2          | Present:<br>Under the HOB Initiative<br>Sarawak, the entire FMU is<br>included in the HOB wildlife<br>corridor network with HOB<br>Sabah, Brunei and Kalimantan.<br>Being adjacent to Pulong Tau NP<br>which shares common<br>boundary with Kayan<br>Mentarang NP and about less<br>than 20 km away from Mulu NP,<br>the FMU becomes a critical<br>wildlife corridor for seed<br>dispersal and wildlife to move<br>from one area to another bigger<br>landscape in either side of<br>Sarawak, Sabah or Indonesia. | <ol> <li>Multi-region Initiatives:<br/>An adequate size of wildlife<br/>corridors linking the TPA<br/>networks and HOB areas<br/>should be established. The<br/>connectivity should follow<br/>the natural contours<br/>according to the river system<br/>linking the networks of<br/>protected areas outside of<br/>the FMU. The river buffers<br/>along the main rivers as well<br/>as selected forested area<br/>linking the rivers such as<br/>water catchment area can<br/>provide this connectivity. The<br/>protected zone or wildlife<br/>corridor should be<br/>documented in the FMP and<br/>marked in the GP/DP before<br/>any logging operation takes<br/>place.</li> <li>River Buffer Zone:<br/>Buffer zone of 50 m is<br/>recommended along the<br/>major rivers i.e. Sg. Limbang<br/>and Btg. Trusan and their<br/>tributaries serving as coupe<br/>boundary i.e. Sg. Adang, Sg.<br/>Rutoh, Sg. Kelalan and Sg.<br/>B'or. Apart from that, head</li> </ol> |  |

|           | Findings                        | Management                                      | Monitoring             |
|-----------|---------------------------------|---|------------------------|
| HCV       | Findings                        | Recommendations                                 | Recommendations        |
|           |                                 | machinery shall work near or                    |                        |
|           |                                 | cross the water bodies.                         |                        |
|           |                                 | 3. Reduced Impact Logging                       |                        |
|           |                                 | (RIL):  |                        |
|           |                                 | Adopt and adhere strictly RIL                   |                        |
|           |                                 | method to maintain the                          |                        |
|           |                                 | biodiversity environment of                     |                        |
|           |                                 | the area which is sufficient to                 |                        |
|           |                                 | sustain the ecosystem                           |                        |
|           |                                 | without adverse disturbance.                    |                        |
|           |                                 | The prescribed and                              |                        |
|           |                                 | prohibited activities inside                    |                        |
|           |                                 | the protection zone under RIL                   |                        |
|           |                                 | Guidelines are:                                 |                        |
|           |                                 | <ul> <li>Skid trails are not allowed</li> </ul> |                        |
|           |                                 | inside the buffer zone.                         |                        |
|           |                                 | <ul> <li>Felling of trees is not</li> </ul>     |                        |
|           |                                 | allowed inside the buffer                       |                        |
|           |                                 | zone.   |                        |
|           |                                 | <ul> <li>Felling of harvestable</li> </ul>      |                        |
|           |                                 | trees should be away                            |                        |
|           |                                 | from the buffer zone.                           |                        |
|           |                                 | <ul> <li>Strictly, no heavy</li> </ul>          |                        |
|           |                                 | machinery is allowed                            |                        |
|           |                                 | within the buffer zone.                         |                        |
|           |                                 | 4. Inter-state and international                |                        |
|           |                                 | boundary:                                       |                        |
|           |                                 | A buffer zone of 50 m for inter-                |                        |
|           |                                 | state boundary and that of one                  |                        |
|           |                                 | km for international one are                    |                        |
|           |                                 | demarcated which can serve as                   |                        |
|           |                                 | important wildlife corridor                     |                        |
|           |                                 | connecting the Fivio with HOB                   |                        |
|           |                                 | Sites and other TPA networks in                 |                        |
|           |                                 | Safawak, Saban, Brunei and                      |                        |
|           |                                 |   |                        |
|           | Present                         |   |                        |
| 3         | Most of the Kerangas forest can | 1. Different forest types are                   | Monitoring the changes |
| Ecosystem | be found on the ridges and      | mapped and be included in                       | of the forests in the  |
| Map HCV 3 | sandy terraces. The two most    | the FMP for better                              | area through latest    |
|           | common plant family found in    | management.                                     | satellite imagery.     |
|           | the Kerangas forest are         | 2. RIL method is strictly adhered               |                        |
|           | Myrtaceae and Clusiaceae with   | to in order to reduce the                       |                        |
|           | lacking of undergrowth due to   | impact of logging activities on                 |                        |
|           | poor nutrient. Lower montane    | ecosystem.                                      |                        |
|           | forest is an extension of hill  | 3. No logging activities shall be               |                        |
|           | dipterocarp forest where the    | carried out in Kerangas forest                  |                        |
|           | predominant dipterocarp         | as most of the trees are pole-                  |                        |
|           | species include montane         | size and are not suitable to be                 |                        |
|           | dipterocarp such as Meranti     | harvested for timber.                           |                        |
|           | bukit (Shorea platyclados).     |   |                        |

| нсу   | Findings  | Management  | Monitoring   |
|---|---|---|--|
|   | Above 1,200 m to 1,500 m the  | Recommendations   | Recommendations  |
|   | Above 1,200 m to 1,500 m, the<br>forest changes drastically where<br>the trees are generally shorter<br>with presence of mosses on<br>forest floors and tree trunk. The<br>dominant species is from family<br>Fagaceae. Mossy montane<br>forests are found mostly on the<br>high elevation area, summit of<br>hills and terrain IV. Common<br>plants found here are pine tree<br>( <i>Rhu bukit</i> ), tree fern ( <i>Cyathea</i><br><i>sp.</i> ) and montane fern such as<br><i>Dipteris conjugate</i> . Riparian<br>forest is accorded the lowest<br>priority according to the Toolkit.   | No logging activities are carried<br>out inside buffer zone along the<br>main rivers and streams.   |  |
| 4.1<br>Watershed<br>Protection<br>Map HCV 4 | Present:<br>1. Two major rivers, Btg. Trusan<br>and Sg. Limbang, and their<br>main tributaries form the<br>natural watercourses in the<br>FMU which drain directly into<br>Brunei Bay. Sg. Limbang<br>catchment covers the north-<br>west and western area of the<br>FMU whereas Btg. Trusan<br>catchment is over the north-<br>east and eastern area. The<br>raw water intake point of the<br>Lawas Water Treatment<br>Plant (WTP) at the northern<br>side is outside the FMU<br>whereas that of Trusan WTP<br>is downriver of Btg. Trusan.<br>Under the Sarawak Water<br>Ordinance 1994, all logging<br>activities are prohibited<br>within 8 km radius from the<br>water intake point. Hence,<br>the critical point for<br>protection is far beyond the<br>FMU. Nevertheless, any<br>activity beyond the 8 km<br>radius no-logging activity<br>zone that results in river<br>pollution will affect the<br>quality of downriver water<br>supply.<br>About 18,586 ha of the FMU is<br>designated as Terrain Class IV.<br>These areas are considered as | <ul> <li>River buffer zones are conserved along the major rivers and tributaries in the FMU.</li> <li>Terrain Class IV areas are mapped and be included in DP.</li> <li>No logging operation is allowed.</li> <li>These areas are preserved for biodiversity conservation and erosion control.</li> </ul> | Class IV terrain areas<br>and buffer zones are<br>mapped on DP before<br>submission and<br>application for Permit<br>to Enter Coupe. |

| нсу                       | Findings  | Manag   | gement  | Monitoring  |
|---------------------------|---|---|---|---|
|                           |   | Recomm  | endations   | Recommendations   |
|                           | inoperable area. Surrounding<br>the FMU is mountainous range<br>rising over 1,500 m which is<br>more prominent towards the<br>south-west and along Gunung<br>Murud range. The prominent<br>peaks are Gunung Murud (2,422<br>m) being the highest, Batu Buli,<br>Batu Lawi and Batu Iran.  |   |   |   |
|                           | Present   |   |   |   |
| 4.2<br>Erosion<br>Control | <ol> <li>Riparian area is any land<br/>adjacent to streams and<br/>rivers. The width of the rivers<br/>and streams influence<br/>riparian vegetation. Different<br/>species composition and<br/>other forest type such as<br/>mixed. Diptorocarp. forest</li> </ol>   | To control eros<br>should be set u<br>rivers and<br>Guidelines for<br>Reserves proc<br>specifies the fol  | ion, buffer zone<br>p along all major<br>streams. The<br>Rivers and River<br>duced by DID<br>lowing:  | 1. Periodical and<br>random auditing of<br>the buffer zones<br>should be done as to<br>ensure compliance<br>with the regulations.<br>Water analysis is done<br>to monitor the health of |
|                           | clearly define the riparian   |   | River   | the rivers before and   |
|                           | zones. Three major rivers are<br>Btg. Trusan, Sg. Limbang and   | River Width<br>(m)  | Reserve<br>Width/Buffer   | after the harvesting operation to ensure the  |
|                           | Sg. Kubaan. Btg. Trusan is a  |   | (m)   | buffer zone is  |
|                           | fairly large river which flows  | >40   | 50  | functioning and   |
|                           | east-west towards the   | 20-40   | 40  | properly set up.  |
|                           | northern part of the FMU. Its   | 10-20   | 20  |   |
|                           | major tributaries are Sg.   | 5-10  | 10  |   |
|                           | Kelalan, Sg. B'or, Sg. Ribut<br>and Sg. Tawing which are<br>generally smaller, less than<br>20 m wide, and shallow<br>during normal flow. The river<br>water is generally fast-<br>flowing due to high<br>difference between land<br>gradient. The major<br>tributaries of Sg. Limbang are<br>Sg. Adang, Sg. Rutoh, Sg.<br>Tabun and Sg. Madihit. There<br>are other relatively small<br>rivers and streams,<br>measuring less than 10 m<br>wide flowing from the<br>highland and mountainous<br>range of Gunung Murud,<br>Batu Lawi, Batu Buli and Batu<br>Iran. Besides, there are<br>smaller streams and creeks.<br>The flowing water is<br>influenced by the amount of<br>rain received. During dry<br>season, no water flow into | S-10<br><5<br>As almost all<br>streams is rathe<br>20 m width, a b<br>m on both bar<br>and streams is<br>tractor shall<br>operate inside t<br>Additional funct<br>zone is to ma<br>function for su<br>in HCV 2. | 10<br>5<br>the rivers and<br>or small, less than<br>ouffer zone of 20<br>oks of the rivers<br>s sufficient. No<br>be allowed to<br>the buffer zones.<br>tion of the buffer<br>intain its forest<br>rvival of wildlife |   |

| НСУ                                       | Findings  | Management   | Monitoring  |
|---|---|--|---|
|   | this area. The vegetation<br>along the smaller creeks is<br>not clearly defined with other<br>forest type. Extremely steep<br>slopes at upriver will form<br>fast-flowing waterfall. The<br>undulating steep slopes and<br>ridges, forming fast-flowing<br>rivers and steep terrains, are<br>prone to erosion, especially<br>during high pouring raining<br>season.<br>Terrain Class IV is discussed in<br>details in HCV 4.1. The<br>vegetation found near the steep<br>slopes is critical to hold the<br>loose soils from eroding<br>downhill during heavy<br>downpour. The loose soils no<br>longer supported by the roots of<br>emergent trees, and the rest of<br>other vegetation, which used to<br>act like a sponge that absorb<br>rain water during rainy down<br>pour. Landslide or erosion can<br>occur on skid trails and logging<br>roads that were built along<br>steep slopes, even with slight<br>rain. | Recommendations  | Recommendations   |
| 4.3<br>Barriers to<br>Destructive<br>Fire | There is no wild forest fire<br>recorded inside FMU or<br>surrounding area before.<br>However, the part of the 500 km<br>Sabah-Sarawak Gas Pipeline<br>(SSGP) cut through the FMU. On<br>11 June 2014, there was an<br>explosion which ripped apart<br>section of the gas pipeline<br>located between Lawas Town<br>and Long Sukang. Hence, future<br>incident of malfunction of the<br>gas pipeline system may cause<br>serious fire outbreak and<br>therefore, the FMU is<br>potentially prone to fire.   | The buffer zones along the<br>rivers and streams are to be<br>maintained as these buffer<br>zones are natural barrier for any<br>fire outbreak.<br>Furthermore, it is important to<br>set up buffer zone of 50 m along<br>the SSGP to serve as natural<br>barrier for incident of fire<br>caused by pipeline explosion. An<br>emergency response plan is<br>recommended to be in place in<br>case of explosion of the<br>pipeline. This plan is critical to<br>immediately shut down the<br>pipeline system to avoid<br>spreading of fire. | Periodic auditing is<br>conducted to ensure<br>the integrity of the<br>buffer zones and the<br>emergency response<br>team to be alert and on<br>standby all the time. |
| 5   | There are (19) settlements located within and adjacent to   | Building trust and fostering a good relationship through the   | Annual monitoring of the surrounding water  |

| нсу  | Findings   | Management   | Monitoring   |
|--|--|--|--|
|  | i indings  | Recommendations  | Recommendations  |
| Basic Needs<br>of Local<br>Communities<br><u>Map HCV</u><br><u>Summary</u> | the FMU with estimated<br>population of 2,990. Twelve (12)<br>settlements are situated in Ba<br>Kelalan, six (6) in Long Semadoh<br>and one (1) in P' Brunot. The<br>people of the main communities<br>are Lun Bawang and most of<br>them are Christians.<br>Five (5) Penan settlements are<br>outside the FMU. However,<br>Penans of Long Adang and Long<br>Gita are considered relevant<br>since their hunting ground and<br>collection of forest produce<br>extended to the FMU.  | KK, JKKK or CRC and FMCLC.<br>FMCLC should comprise of<br>multi-stakeholders including<br>government agencies and the<br>District Office, FMU, CRC and<br>other relevant stakeholders.<br>Both committees act as a<br>platform for future consultation<br>among the local communities<br>and for discussing related<br>matters to SFM and community<br>participation and development.  | catchment areas is<br>conducted to ensure no<br>illegal felling or<br>encroachment.<br>Monitoring should be<br>carried out together<br>with the JKKK or CRC<br>and other local<br>communities. |
|  | PRESENT<br>Collection of Jungle Produce:<br>The locals are still collecting raw<br>materials such as timber for<br>minor construction of their<br>house; rattan, bamboo and<br>palm root for making handicraft<br>such as floor mat, basket, tray<br>and hat. These activities are<br>mainly carried out for their own<br>use. Nevertheless, some of<br>them are making handicrafts for<br>sale but the demand is very<br>limited. Apart from collecting<br>jungle produce for raw<br>materials, the locals also collect<br>wild fruits and vegetables for<br>their own consumption<br>whenever the need arise. Most<br>of the households are having<br>their small vegetable garden to<br>meet their daily needs.<br>Hunting and Fishing: Both<br>activities are carried out mainly<br>for self-consumption and do not<br>contribute to their household<br>income. Game animals usually<br>caught are wild boar, muntjak<br>deer and other small animals.<br>The locals also rear fee ranch<br>poultry and pig to reduce too<br>much reliance on wild meat.<br>Fishing is carried out<br>their protein needs. The species<br>of fish caught are mainly Baung, | <ol> <li>FMU is to carry out the proper demarcation of water catchment areas identified as the source of water supply for min-hydropower generation and irrigation system for wet paddy farming.</li> <li>The boundary issue is to be resolved as soon as possible in order to avoid confusion in the future. The FMU and FORMADAT (on which the local communities have put their trust) are to consult each other on the mapping of common boundary.</li> </ol> |  |

| нсу | Findings                          | Management      | Monitoring      |
|-----|-----------------------------------|-----------------|-----------------|
| пст | Filidiligs                        | Recommendations | Recommendations |
|     | Keli (catfish) and sometimes      |                 |                 |
|     | Semah along Sg. Trusan and Sg.    |                 |                 |
|     | Kelalan and their tributaries.    |                 |                 |
|     | However, the locals claim that    |                 |                 |
|     | the sources are decreasing.       |                 |                 |
|     | Water Source: The river           |                 |                 |
|     | systems of Btg. Trusan and Sg.    |                 |                 |
|     | Kelalan and their tributaries     |                 |                 |
|     | plays a significant role to the   |                 |                 |
|     | livelihood of the local           |                 |                 |
|     | communities. The rivers are the   |                 |                 |
|     | heart of the agriculture activity |                 |                 |
|     | as they provide irrigation water  |                 |                 |
|     | for wet paddy planting and        |                 |                 |
|     | grazing area of the buffaloes.    |                 |                 |
|     | Most importantly, the rivers are  |                 |                 |
|     | also the main source for their    |                 |                 |
|     | daily water supply and for        |                 |                 |
|     | energy generation from the        |                 |                 |
|     | mini-hydro power station          |                 |                 |
|     | installed at some of the rivers.  |                 |                 |
|     | Issues of Concern: The            |                 |                 |
|     | perception of the local           |                 |                 |
|     | communities within the FMU        |                 |                 |
|     | either in Ba Kelalah or Long      |                 |                 |
|     | Semadon region are still          |                 |                 |
|     | grounded on their past history    |                 |                 |
|     | Firstly, their primary concern is |                 |                 |
|     | that their water source would     |                 |                 |
|     | he hadly affected if logging      |                 |                 |
|     | activities are carried out again  |                 |                 |
|     | by the FMIL The sentiment is      |                 |                 |
|     | felt more by the local            |                 |                 |
|     | communities of Long Semadoh       |                 |                 |
|     | region. The local communities     |                 |                 |
|     | of Ba Kelalan region have no      |                 |                 |
|     | major issues as long as the       |                 |                 |
|     | current forest areas within their |                 |                 |
|     | region are maintained at status   |                 |                 |
|     | quo. Of concern to Ba Kelalan     |                 |                 |
|     | communities was the               |                 |                 |
|     | preservation of their historical  |                 |                 |
|     | sites in relation to the early    |                 |                 |
|     | settlement of their ancestors     |                 |                 |
|     | which FORMADAT has recorded       |                 |                 |
|     | some of the information.          |                 |                 |
|     | Secondly, the local communities   |                 |                 |
|     | are not well informed on the      |                 |                 |
|     | FMU boundary. Ba Kelalan          |                 |                 |
|     | region is excluded from the       |                 |                 |
|     | operational area but inside the   |                 |                 |

| НСУ  | Findings   | Management<br>Recommendations   | Monitoring      |
|--|--|---|-----------------|
|  | FMU area. At the same time,<br>FORMADAT, together with the<br>local communities and WWF,<br>has mapped out the boundary<br>particularly that of the water<br>catchment area and historical<br>sites. The FMU map shows that<br>the Ba Kelalan settlements,<br>Long Tanid, Long Beluyu and<br>Long Kerebangan are inside it<br>whereas Long Semadoh is<br>considered adjacent to it.  |   | Recommendations |
| 6<br>Cultural<br>Identity of<br>Local<br>Communities<br><u>Map HCV</u><br><u>Summary</u> | <b>Present</b><br>Existence of burial grounds and<br>historical sites are reported by<br>local communities. Some of old<br>burial sites are no longer<br>accessible whereas recent<br>burial sites are mostly located<br>near to their settlements. For Pa<br>Brunot, the village burial site is<br>situated within Coupe 3A. For<br>Long Semadoh region, Bukit<br>Balud is considered as a very<br>important site and is known as<br>"Bukit Doa" where spiritual<br>activity is held. Other important<br>sites are "buaya tanah" and salt<br>spring. In the old days, buaya<br>tanah at Buduk Nur and Long<br>Tanid was used as a site to<br>celebrate the achievement and<br>victory whenever an enemy was<br>captured and its head<br>proclaimed. Salt springs can be<br>found at Ba Kelalan region and<br>Pa Brunot. | <ol> <li>To demarcate an agreeable<br/>boundary for burial site, salt<br/>spring and <i>buaya tanah</i> of Pa<br/>Brunot.</li> <li>For Ba Kelalan and Long<br/>Semadoh, FMU and<br/>FORMADAT are to work<br/>closely with regards to<br/>identification and locations<br/>of the cultural, historical and<br/>spiritual sites.</li> <li>Based on the data gathered,<br/>FMU and FORMADAT are to<br/>consult the locals on the<br/>agreed boundary and to map<br/>it for future reference.</li> <li>FMU shall adopt the Conflict<br/>Resolution Guidelines for SFM<br/>for community consultation and<br/>in the event of that any conflict<br/>or disagreement arises.</li> </ol> |                 |

### Social Impact Assessment

The social impact assessment was conducted by Universiti Putra Malaysia Kampus Bintulu (UPMKB), Sarawak on **2** – **7 March 2023**. Based on records, there are 14 villages within, and 3 villages are adjacent to the Ravenscourt FMU. (Map 5-Location of Settlements).

| No. | Village    | Ethnicity  | Establishment year |
|-----|------------|------------|--------------------|
|     | Within FMU |            |                    |
| 1   | Long Muda  | Lun Bawang | 1930               |
| 2   | Long Kumap | Lun Bawang | 1923               |
| 3   | Talal Buda | Lun Bawang | 1956               |

| No. | Village               | Ethnicity  | Establishment year |
|-----|-----------------------|------------|--------------------|
| 4   | Long Nawi             | Lun Bawang | 1973               |
| 5   | Long Ritan            | Lun Bawang | 1920               |
| 6   | Long Rusu             | Lun Bawang | 1920               |
| 7   | Long Lemutut          | Lun Bawang | 1962               |
| 8   | Long Langai           | Lun Bawang | Before 1970        |
| 9   | Puneng Kelalan        | Lun Bawang | 1900               |
| 10  | Long Rangat           | Lun Bawang | 1990               |
| 11  | Long Ubau             | Lun Bawang | 1970               |
| 12  | Long Tanid            | Lun Bawang | 1945               |
| 13  | Long Beluyu           | Lun Bawang | 1973               |
| 14  | Long Kerebangan       | Lun Bawang | 1957               |
|     | Adjacent FMU          |            |                    |
| 15  | Pa' Berunut           | Lun Bawang | 1987               |
| 16  | Long Semadoh<br>Rayeh | Lun Bawang | Before 1900        |
| 17  | Long Semadoh<br>Neseb | Lun Bawang | Before 1940        |
|     | Abandoned Village     |            |                    |
| 18  | Pa Tawing             | Lun Bawang | -                  |

During the field survey, one village within the FMU, Pa Tawing, has been found to be abandoned as the occupants have migrated to other villages.

The following villages i.e. Long Adang, Long Pusit, Long Gita, Long Nyakit and Long Keneng were not in the assessment due to:

- (i) The villages are well inside STIDC's forest timber licence T/9161, operated by Lee Ling Sdn Bhd;
- (ii) They are situated on the upper reaches of the Batang Limbang which, together with two of its tributaries, Sungai Adang and Sungai Rutoh, drains part of the FMU and then flows down past Limbang Town before finally reaching Brunei Bay. Prior to suspension in February 2020, the harvesting operation was in Coupes 01A and 02A both of which drain into the Batang Trusan, an entirely different drainage to that of the Batang Limbang. This has meant that, even prior to the suspension in 2020, the FMU's forest operations in no way directly affected the communities of the Pa Adang cluster;
- (iii) No rights are recorded in the Gazette Notification as being granted to these five communities.
- (iv) These five communities have no user rights within Ravenscourt FMU [as per the High Court judgment delivered on the Writ of Summons dated 22 July 2011]. Similarly, though 24 other communities have been granted rights within the Limbang Protected Forest, which covers the greater part of the FMU, no rights are recorded in the Gazette Notification as being granted to these five.
- (v) Extracted from social impact monitoring report, the communities within Pa' Adang area comprise of Long Adang, Long Pusit, Long Gita, Long Nyakit and Long Keneng have expressed their reluctance to engage with the FMU and form the CRC.

The social impact assessment also did not conduct for the local Penan community of Long Peresek which is adjacent to the FMU:

| Village      | Village head | GPS Coordinate                  | Associated<br>Coupe | Coupe Year |
|--------------|--------------|---------------------------------|---------------------|------------|
| Long Peresek | Selai Sigai  | N03°59'42.67"<br>E115°16'53.09" | Adjacent to<br>C25A | 2046       |

The nomadic Penan group known as Long Tevenga consists of several families under the leadership of Peng Megut. The group has several temporary shelters (sulaps) in STIDC's FTL that lies immediately to the north of the Ravenscourt FMU. The location of the four sulaps which Ravenscourt FMU has located to date are shown in <u>Map 5</u>. The GPS coordinate are given below:

| Village         | Village head | GPS Coordinate | Associated<br>Coupe   | Coupe Year |
|-----------------|--------------|----------------|---|------------|
| Long Tevenga #1 | Peng Megut   | N04°0'50.31"   | FTL T/9161 Sarawak Timber<br>Industry Development<br>Corporation(STIDC) |            |
| (Sulap)         | i eng megut  | E115°12'2.88"  |   |            |
| Long Tevenga #2 |              | N04°0'5.89"    |   |            |
| (Sulap)         | Peng Megut   | E115°10'43.70" |   |            |
| Long Tevenga #4 | Dong Mogut   | N04°3'26.90"   |   |            |
| (Sulap)         | Peng Megut   | E115°15′42.79″ |   |            |
| Long Tevenga #5 | Dong Mogut   | N04°2'44.96"   |   |            |
| (Sulap)         | Peng Megul   | E115°16'33.06" |   |            |

Also shown on <u>Map 5</u> is the location of Long Tevenga #3 which Samling's investigations in early 2023 showed to be abandoned. GPS N04°00'05.90" E115°10'43.70". This abandoned cluster of houses was said by the FMU to be associated with the Long Tevenga Penan group who had then abandoned the location and resumed their nomadic life style.

The assessments of Long Peresek and Long Tevenga were not conducted due to the following reasons:

- (i) Long Peresek lies to north of the FMU's forest timber licence boundary that is mutual with STIDC's T/9161, operated by Lee Ling Sdn Bhd (see Figure 1). Four of the known temporary shelters (sulaps) of the nomadic Penan group of Long Tevenga are also within this STIDC licence area. Based on information provided by the FMU, there have been no forest operations directly or indirectly affecting these communities for the past 20 years (2002: Coupe 11 and Coupe 12). Moreover, the FMU only plans to start forest operations in Coupe 25A in 2046 (adjacent to Long Peresek) and in 2048 at Coupe 26A where the abandoned Long Tevenga 3# is located;
- During the March 2023 SIA field visit villagers from Long Peresek were encountered on the road leading to their village but the SIA team was not allowed to enter the village to conduct SIA interviews. Although at this encounter the community did not express any specific concerns to the SIA team they clearly did not want to be interviewed;
- (iii) The additional information supplied by the FMU that supported the impression of a community that did not want to engage with the FMU (see Appendix 4 and Appendix 5 evidence that Long Peresek did not want to form a CRC or being any part of the company);
- (iv) Clearly in the case of Long Peresek, the community does not wish to engage with the FMU and furthermore none of the FMU's forest operations directly or indirectly affect this community;
- (V) The Long Peresek community does not have any user rights within the FMU [as per the High Court judgment delivered on the Writ of Summons dated 22 July 2011]. Although

22 other communities have been granted rights within the Limbang Protected Forest, which covers the greater part of the FMU; and

(vi) No rights are recorded in the Gazette Notification as being granted to Long Peresek.

During the March 2023 SIA field visit attempts were made to engage with the Long Tevenga group by visiting their temporary shelters (sulaps) as shown in <u>Map 5</u>. Unfortunately, every sulap visited was unoccupied.

Notwithstanding that the Long Peresek community and Long Tevenga nomadic group were not included in this FMP (2016-2025), it is recommended that this community and the nomadic group should be monitored regularly when the FMU started their harvesting operation in future i.e. Coupe 25A (Year 2046) which is adjacent to Long Peresek and Coupe 27A (Year 2048) which the abandoned Long Tevenga well inside this coupe. The social impact monitoring will be carried out at that particular of time in order to assess the FMU's forest operations whether or not will directly affected them.

In conclusion, forest management operations have positively impacted the local communities. These are through job employment which eventually improve household incomes and economic status of families, where local communities have yet to fully take the opportunity while timber roads provide access to nearby township or urban areas.

One detrimental effect due to road access is competition for forest resources between locals and outsiders such as hunting for game animals, which generally promoted a decline in the forest resource. Easy access also contributed to migration out from rural areas and into the urban areas. However, there is generally a mixed perception on the benefits of the road access towards the community. Another detrimental effect is the decline in water supply and quality.

FMU has contributed in their own way to assist and elevate the socio-economy of local communities. However, past experiences of the respondents seem to overwhelm them where they have mixed perception on the forest management operations. As the FMU is in the process of re-certifying, hence, the respondents may not have experienced any new changes in the forest management operation during this short period of time. Various co-joint programmes with CRC or JKKK and government agencies can be proposed and implemented to enhance and maximise the benefits of forest management 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. Conflict Resolution Guidelines is available @: https://samling.com/sites/default/files/2023-08/FLOWCHART\_13072022-new2-1\_0.jpg

A Forest Management Certification Liaison Committee (FMCLC) meeting was held annually i.e. on 26<sup>th</sup> January 2022 and 27<sup>th</sup> June 2023. The FMCLC meeting conducted involving all three CRCs from the whole Lawas Region, Forest Department of Sarawak, Land and Survey Department, District Office Lawas and Syarikat Samling Timber Sdn Bhd. This leads to a fruitful conclusion and better understanding of the role of CRC and various department plays in village development. However, no Ketua Kaum or representatives from Long Peresek and Long Tevenga attended the FMCLC meeting.

The decision to form a CRC is entirely voluntary. It should be formed only at the wishes of the community in question. However, when a community decides to form a CRC then the FMU shall accommodate and agree to such a decision.

The use of the Borang Aduan/Complaint Form, is a fundamental mechanism for resolving conflict. It allows individuals or groups to formally express their dissatisfaction or grievance regarding a particular issue or situation. The form also serves as a means to ensure that the complaints are properly documented, investigated and resolved in a fair and timely manner. The "Borang Aduan/Complaint Form" is available @ <u>https://samling.com/node/207</u> or by using the QR code located at the bottom of the home page of Samling's website after which it may be completed and submitted on line.

#### **Community Development**

The community development projects, the "help for self-help" principle is applied. Local communities shall participate and be responsible for those functions and activities of development measures that they can provide by their own means. Facilitators for the community development project will come from FDS, the FMU holder and any agency (whether government or non-government organization) who shall provide know-how and/or funds that are not available at the community level. The objective of community development under social forestry to:

- Involve local people in forest management, i.e. community-based forestry.
- Promote growth of forest products, resource protection and conservation.
- Encourage development of skills in resource use and management of food, fuel, timber and cash incomes.
- Enhance self-reliance which leads to reduced dependence on forests by providing food security and regular incomes.

Samling has continued the community development by provision of machinery for construction of agriculture infrastructure; engaged and trained the local communities as field assistants in seed collection; planting and maintenance of the forest areas under rehabilitation; promoting the spring salt; handicrafts and homestay. Samling also encouraging the local communities to plant indigenous fruits (e.g. petai, dabai, mata Kuching, etc.) and other non-timber forest products (NTFP) (e.g. rattan, gaharu, herbs, etc.). Samling also provide 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.

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 subdistricts 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". The FORMADAT/WWF's project is completed. (Map 6 River Remediation)

Puneng Trusan Landslide Remediation Project also being initiated by the FORMADAT/WWF/Samling. The remediation work has been extended to cover a new Upper Section at Punang Trusan where landslide has occurred. The project is completed.

Community development projects (CDP) under the ITTO and the FDS with support from the FMU were implemented for the benefit of Lun Bawang community at Ba Kelalan and Penan community at Sg. Adang such as nature jungle trails at SK Ba Kelalan, Long Langai; nature facility at Botanical Garden, Long Langai; rehabilitation of logged-over forests in Batu Lawi area; buffer zone management of Pulong Tau National Park; housing at Penan Medamot; and suspension bridge crossing Sg. Adang.

<u>Status Update for Litigation Cases</u>: Miri Hiqh Court Suit No. MR-21-4-2011 / Court of Appeal Civil Appeal No. Q-01-122-03/2012 / Federal Court Civil Appeal No. 01 (0-39-06/2015(Q)

- Plaintiffs 1. Racha Ak Urud @ Peter Racha Urud (Kelabit)
  - 2. Edison John Urud (Kelabit)
  - 3. Jalung Jok (Penan)
  - 4. Menit Along (Penan)
  - 5. Agung Taie (Lun Bawang)
  - Wilfred S. Lasong (Lun Bawang) All representing (Long Napir, Abpa/Fa Merit, Fa Rupu, Abpa/Fa Adang, Ba peresek, Ba Nyakit, Long Gita, Long Adang, Long Sulung, Long Raya, Long Tevenga (Ba' Meli'it), Long Sebayang, Long Keneng and Long Tegan)
- Defendents 1. Ravenscourt Sdn Bhd (FTL No. T/0294)
  - 2. Billion Venture Sdn Bhd
  - 3. Limba Jaya Timber Sdn Bhd
  - 4. Kubang Sri Jaya Sdn Bhd
  - 5. Director of Forests Sarawak
  - 6. State Government of Sarawak

At the hearing, the Federal Court granted leave to appeal with the following 2 questions:

- (i) whether natives of Sarawak, who have been re-settled, can proceed with a claim based upon violation of their constitutional rights to land, property or to livelihood:
  - a) in respect of land in their previous settlement which they no longer possess or have, accordingly to native customary law, been abandoned by them;
  - b) if the answer to (i) is in the affirmative, whether legal action in pursuit such a claim may be defeated if the same is commenced outside the limitation period prescribed by the Public Authorities Protection Act, 1948 or the Sarawak Limitation Ordinance or unexplained undue delay.

Ravenscourt won the appeal to the Federal Court, the case is now struck out. The Federal Court affirmed the finding of the High Court that the Plaintiffs have no user rights within Ravenscourt FMU (the Penans, Kelabits and Lun Bawangs) as they have not used and have abandoned the claimed NCR lands as they have moved away in the 1960s and 1970s.

#### Health, Safety and Environment

The FMU operates under Samling's Health, Safety and Environment Policy and compliance with the Occupational Safety and Health Act 1994 and the relevant legislative regulations and

guidelines that are applicable to the respective work places. Forest Management to ensure all risk related to forest activities to be documented and reviewed periodically. 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 the committee.

#### Monitoring

**RIL compliance assessment** was conducted in 2020 for a total of 23 blocks of Coupe 01A and the scores are **92.5%** compliance with RIL Guideline.

**HCV monitoring:** Based on the results of the HCV monitoring conducted in 2022 and 2023, it was found that all sites are still intact and the buffer zones are adequate. However, some of the signage needs to be refurbished.

**Social impact monitoring (SIM):** The Social Impact Monitoring (SIM) carried out in September 2023 reveals improvements in utilities, facilities, socio-cultural life, and awareness of various aspects of forest management. However, there is still a high dependence on forest resources for livelihood. The local communities enjoy several advantages from logging operations, including improved accessibility to their kampong through existing logging roads, incentives, donations, and access to government/non-government development projects. Unfortunately, the suspension of logging operations has resulted in a reduction of job opportunities for the local communities. However, the quality and quantity of water supply for the local communities have not been significantly affected, and road safety is being maintained.

During the SIM, the villages that participated were Long Muda, Long Kumap, Talal Buda, Long Nawi, Long Ritan, Long Rusu, Long Lemutut, Long Langai, Puneng Kelalan, Long Rangaat, Long Ubau, Long Tanid, Long Beluyu, Long Kerabangan, Pa' Berunut, Long Semadoh Rayeh, and Long Semadoh Neseb.

Specifically addressing Item (d) of Criterion 8.2 are:

- Yield: The volume timber harvested from Ravenscourt Coupe 01A is 32,851 m<sup>3</sup>. The area of 28 harvested blocks out of 30 blocks are 1,905 ha. Therefore, the density of harvested timber is 17.25m<sup>3</sup>/ha. Currently, the FMU has no intention to harvest the non-timber forest products.
- Composition and Observed Changes in the Flora and Fauna
   Wildlife monitoring conducted using two main methods. Line transect and camera trapping. The data collected from line transects are analysed using Species Richness Index, Shahnon-Weiner Index and Species Evenness Index. The summary of the analysis of the monitoring is shown below:

| Description |                       | 2020 | 2021 | 2022   |
|-------------|-----------------------|------|------|--------|
| а           | Species Richness (S)  | 12   | 5    |        |
| b           | Species Diversity (H) | 2.13 | 1.30 | Note 1 |
| С           | Species Evenness (E)  | 0.86 | 0.81 |        |

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**Note 1**: Due to very few animal count, the data on species richness, species diversity and species evenness could not be analyzed and compared against the previous year monitoring.

The above results show that the diversity of wildlife observed is lower compared to other FMUs under Samling but are not dominated by any certain species. Another observation made was that no signs of Bearded Pig (*Sus barbatus*) was recorded. This implies that the population have yet to recover from the African Swine Flu epidemic.

In 2023, the monitoring was carried out via camera trap at Line Transect 01, Station 25 GPS coordinates of N 04° 05′ 42.1″ / E 115° 28′ 07.3″. In summary, a total of 11 animal sightings of 7 animal species had been recorded, with Pig-tailed macaque and Banded civet occurred the most. Among the animal species sighted, only 1 of them are Totally Protected under the WLPO 1998 and 5 of them are Protected animal species. There are at least 3 of the animal species which are at the verged of extinction if control measures of these species are not taken seriously, namely Pig-tailed macaque, Banded civet & Tufted ground squirrel. Overall, the majority of the animal species sighted have shown decreases in population, with the exception of Malayan civet which has shown stability in population worldwide.

- Environmental: To monitor the FMU's environmental status since the operations were halted, the FMU has conducted the water quality monitoring as detailed in Chapter 5-Environmental Status Water Quality. Water quality monitoring conducted in 1<sup>st</sup> Quarter 2023 concluded that the water qualities of Sg. Likawan, Btg. Trusan and Sg. Kelalan in the locality of the project area were found to be moderately good with results mostly comparable to Classes I to II of the NWQS.
- Costs and Productivity of Forest Management
   Costs, Productivity and Forest management efficiency: Harvesting suspended since March 2019.

• Growth Rates, Regeneration and Condition of the Forest

**PSPs 2022 monitoring data analysis and results**: The MAI for Class A dipterocarp >30cm is 1.6 cm dbh, higher than that of non-dipterocarp of the same class size (MAI=0.8cm dbh). In Class B, the MAI for dipterocarp and non-dipterocarp having the same dbh of 0.6cm. The same cannot be said regarding Class C dipterocarp, where its MAI=0.1cm dbh is lower than MAI=0.3cm dbh of non-dipterocarps. This initial data shows that growth spurts of dipterocarp species begins when it reaches 10.0cm dbh. The overall recruitment in the dipterocarp for Class A and Class B were significantly lower at 8% as compared to non-dipterocarp for both class at 92%. In conclusion, the FMU should implement habitat restoration and conservation, silvicultural practices, promote seed dispersal and collaboration with local communities.

**PSPs 2023 monitoring data analysis and results**: A total of 1,161 trees were assessed and identified for PSP No. 4, 7, 9, 10, 11, 12, 13 and 14 in Ravenscourt FMU. From 1,161 trees, 35 trees are dead. Dipterocarp tree species makes up 5% of overall tree species, which makes 95% of other trees are non-dipterocarp tree species. Most of the dipterocarp trees and non-dipterocarp trees are in Group B, followed by Group A and Group C. Mean Annual Increment (MAI) for PSP No. 4, 7, 9, 10, 11 and 12 is 0.48 cm. In conclusion, the FMU should implement the measures to improve the recruitment of dipterocarp species, such as

habitat restoration and conservation, silvicultural practices, promote seed dispersal and collaboration with local communities.

#### PHI Assessment for Coupe 01A Block 14 and Block 15:

The result of PHI data analysis for Block 14 is tabulated below:

| Group    | DBH (cm)     | No. of trees per Ha<br>(Actual) | No. of trees per Ha<br>(Standard) |
|----------|--------------|---------------------------------|-----------------------------------|
| Tree A   | ≥30.0        | 96                              | 32                                |
| Tree B   | 10.0-29.9    | 506                             | 400                               |
| Tree C   | 5.0-9.9      | >100%                           | >50% of plots                     |
| Seedling | Height >1.5m | >100%                           | >30% of plots                     |

Since **all criteria are met**, it concluded that Block 14 has **no priority** for enrichment planting program.

The result of PHI data analysis for Block 15 is tabulated below:

| Group    | DBH (cm)     | No. of trees per Ha<br>(Actual) | No. of trees per Ha<br>(Standard) |
|----------|--------------|---------------------------------|-----------------------------------|
| Tree A   | ≥30.0        | 99                              | 32                                |
| Tree B   | 10.0-29.9    | 418                             | 400                               |
| Tree C   | 5.0-9.9      | >100%                           | >50% of plots                     |
| Seedling | Height >1.5m | 0%                              | >30% of plots                     |

For Block 15, **1 criterion is not met**, therefore Block 15 has **low priority** for enrichment planting program. Enrichment planting program may be conducted at own consideration.

The first **Rafflesia** (*Rafflesia pricei*) assessment for Ravenscourt FMU was done during the establishment of PSP No.7 on January 2016 by FMCU team. The flower bud on the root of host plant takes 8-9 months to full bloom. In January 2020, a cluster of Rafflesia flowers (*Rafflesia spp.*) was spotted adjacent to PSP No. 7 in Coupe 12A. The cluster was considered unique because it only had four petals or perigones, with the possibility of it being a new species. However, subsequent flowering exhibited the normal five petals, thus the cluster was then identified as *Rafflesia pricei*. This species occurs at 800-1,300 m amsl which is consistent with the altitude the cluster was found. A stakeholder consultation on the Rafflesia was done with the community of Pa' Berunut village on 9<sup>th</sup> March 2020. In year 2020, the monitoring on this Rafflesia site was done seven times from May 2020 to September 2020. On 12<sup>th</sup> January 2021, a 15m x 21m plot was establish to determine the range of the Rafflesia and its host plant (*Tetrastigma leucostaphylum*). Eleven monitoring on the Rafflesia had been done from January to November 2021. There was no monitoring done in year 2022. The latest monitoring was done on 15<sup>th</sup> May 2023 and all buds sighted are dead and no new bud or flower bloom were found.

The *in-situ* conservation plot involves monitoring the cluster population of Bindang (*Agathis spp.*). This cluster of Bindang can potentially be used as a source of seedlings for forest landscape restoration program, as a form of *ex-situ* conservation. As at December 2023, the number of Bindang trees recorded in three (3) plots. In summary, majority of the Bindang trees in Ravenscourt FMU have shown significant increase in diameter. However, only two Bindang trees

have remain unchanged in diameter which are tree BA-01 from plot BP-01 and tree BB-01 from plot BP-03. The tree with the biggest DBH is tree BA-01 from plot BP-03 (61.2cm), while tree with the smallest DBH is tree BB-01 from plot BP-03 (24.3cm). MAI for the Bindang trees in Ravenscourt FMU for year 2022 to 2023 is 0.27cm.

Progress of **forest landscape restoration** as at 31 December 2023, approximately 3.1 hectare have been planted at the degraded area in Ravenscourt FMU.

February 2024