

MUJONG-MELINAU FMU



1. Background of Mujong - Melinau FMU

Mujong-Melinau FMU is located between Sungai Mujong and its tributary, Sungai Melinau in the central region of Sarawak within Kapit Division and it is about 65 kilometers upriver from the town of Kapit.

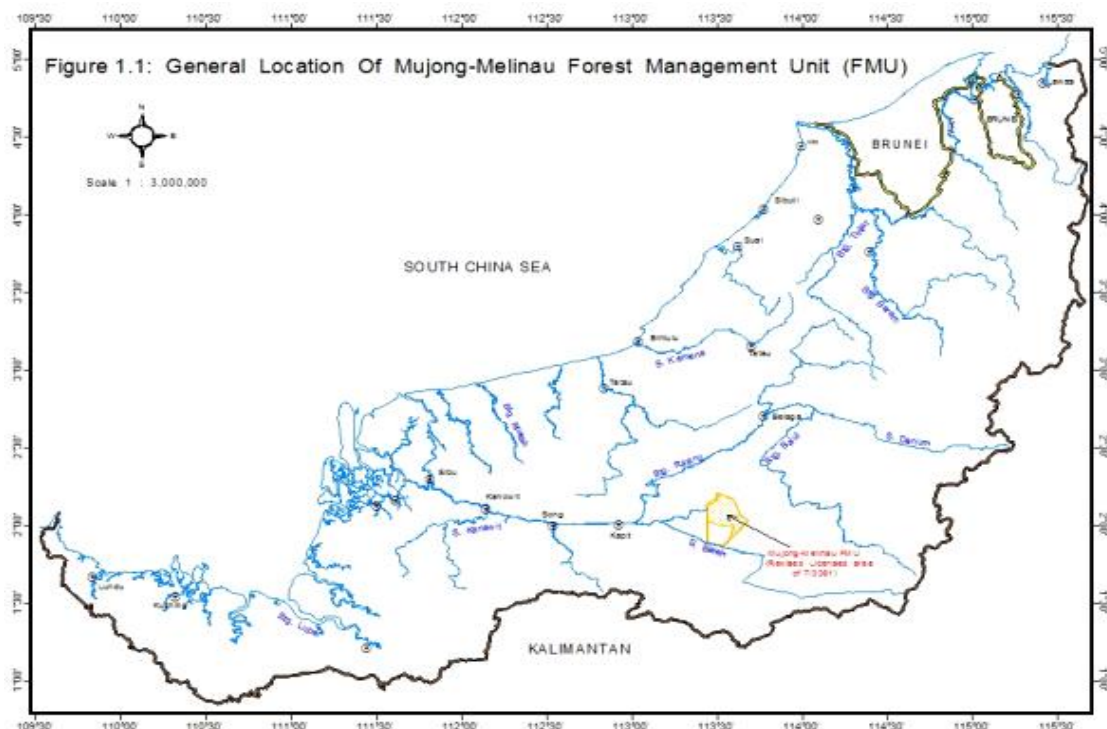


Figure 1.1: General Location of Mujong-Melinau Forest Management Unit (FMU)

2. Forest Resources (Forest growth and dynamic)

An assessment of the growing forest stand based on the interpretation of multiple date satellite imageries taken in May and December 2017 reveals the FMU is still mainly under forest cover comprising three canopy stand classes:

- I) 7,626 hectares of MDFI (Low density stand with less than 33% crowns occupied by overstorey trees);
- II) 22,509 hectares of MDFII (Medium density stand with 33% - 67% crowns occupied by overstorey trees);
- III) And 11,418 hectares of MDFIII (High density stand with more than 67% of crowns occupied by overstorey trees).

Table 2.1: Breakdown of Forest Canopy Stand Classes within Mujong-Melinau FMU

Forest Canopy Stand Classification	Operable area (ha)	Water catchment (ha)	Area subject to current/past claimed SA activities (ha)	Total (ha)
MDFI	4,978	88	2,560	7,626
MDFII	11,971	308	10,230	22,509
MDFIII	6,164	102	5,152	11,418
Sub-total	23,113	498	17,942	41,553
Open area	42	5	96	143
Total	23,155	503	18,038	41,696

2.1 Timber Stocking

The average timber stocking for Dipterocarp species accounts for 32.0% and the remaining 68.0% comes from non-Dipterocarp species. Based on the cutting limits of 50cm DBH for Dipterocarp and 45cm DBH for non-Dipterocarp imposed by Forest Department Sarawak, the potential harvestable for Dipterocarp trees is 14.7 m³ per hectare or 6.7% while non-Dipterocarp trees accounts for 25.1 m³ per hectare or 11.4%. The potential harvestable volume per hectare is 39.8% making up 18.1% of the average timber volume per hectare of all tree species.

3. Forest Management System

The area under this FMP will be referred to as the Mujong-Melinau FMU with a size of about 41,696 hectares. This plan replaces the original Felling Plan for Mujong-Merirai Stateland Forest, which was written for T/3361 when the Licence was issued in 1998. The new Forest Management Plan of the Mujong-Melinau FMU covers portion of Forest Timber License No. T/3361 which excludes the southern part of the area meant for Licensed Planted Forest No. LPF/0030. This plan will cover a period of 15 years from 2018 to 2033.

3.1 The Forest Management Plan of Mujong-Melinau takes into account that 69% of the FMU will eventually fall under Mujong-Majau Protected Forest and the harvesting will need to comply with certification standards for sustainable forest management. Cutting limits shall be introduced within the production forest area of Mujong-Melinau FMU.

The limits imposed by Forest Department Sarawak are as follows:

- 50cm DBH for Dipterocarp species.
- 45cm DBH for non-Dipterocarp species.

4. Environmental and Social Impact Assessment

4.1 Environmental Impact Assessment (EIA)

An Environmental Impact Assessment (EIA) for Mujong-Melinau FMU was carried out by Consultant in April and the approval was issued by Natural Resources and Environmental Board (NREB) in June 2016.

The mitigation measures and best management practices cover biodiversity conservation, forest harvesting operation, control of soil erosion and sedimentation, protection of water quality, waste disposal management, occupational health and safety, road and river traffic safety, socio-economic consideration and abandonment plan.

4.2 Social Impact Assessment (SIA)

Social Impact Assessment was conducted by Consultant for the re-entry timber harvesting under the FTL No.T/3361 Mujong-Melinau FMU. There are 9 settlements located inside the FMU and 6 other settlements are considered to be Project-Affected Communities (PAC's) as they are located within 3 kilometers from the FMU. These 15 settlements are predominantly belonging to the Iban community.

Most of the settlements or longhouses are connected to the logging road networks within the FMU and surrounding areas which enable the inhabitants to travel by land to Nanga Mujong. While for those longhouses that are remote and not connected to the logging system will be using longboats travel down to Nanga Mujong.

5. Community Liaison and Development

Community Development is a process where the local people and the relevant stakeholders come together on a common platform to improve the local community's livelihood and to build a strong and resilient community based on justice, equality and mutual respect. The objective of the community development would be to:

- Create opportunities to learn new skills.
- Reduce poverty, illiteracy and malnutrition.
- Improve health and well-being.

- Ensure effective management of forest resources with due consideration for;
 - The user rights of the local community
 - The eventual gazettement of Mujong-Majau Protected Forest.

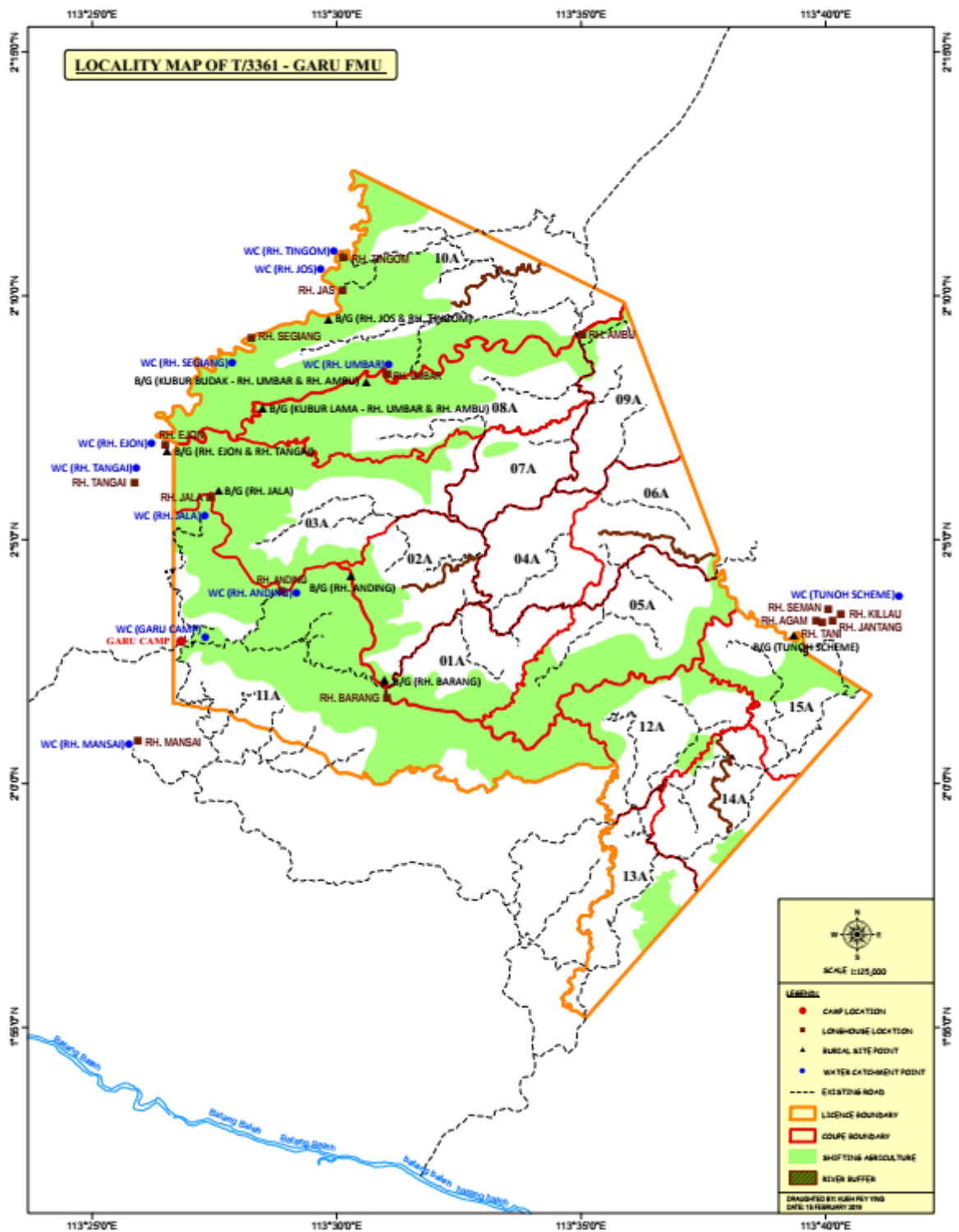


Figure No. 5.1: Locations of settlements inside the FMU and adjacent within 3-kilometer radius.

Joint-Consultative Committee (JCC) or Community Representatives Committee (CRC) was established as recommended in the EIA or SIA report under “Mitigation measures”. The main tasks of JCC or CRC are as follows;

- To handle socio-economic issues related to Sustainable Forest Management (SFM) activities in FMU.
- To promote conservation and community development in FMU.
- To identify, plan and implement community development projects.
- To serve as platform for the local communities to voice their grievances and to resolve issues / disputes or conflicts through mutual trust and commitment by both parties.
- To implement the relevant mitigation measures involving the cooperation, understanding and participation of both parties.



Figure No.5.2: Community Representatives Committee (CRC)

Forest Management Certification Liaison Committees (FMCLC) was established on 23rd May 2019. The FMCLC establishment is to foster good relationship and facilitate communication between the local communities, management and the government. In addition, it provides a forum where discussion can take place between stakeholders to discuss matters of common interests.



Figure No.5.3: Forest Management Certification Liaison Committees (FMCLC)

6. HCVF and Wildlife Management

Wildlife management is important to ensure FMU area is adequately managed for wildlife protection to ensure the long-term diversity and health of the forests in the FMU area. In addition, it is to promote regeneration after forest harvesting activities.

The High Conservation Value (HCV) Forest has been assessed and identified within FMU. The HCV areas that will be managed and monitored by Subur Tiasa Holdings Bhd. as Protection Area are the riparian or stream bank buffer, area under Terrain Class IV, critical sites and gravity-feed water catchments that are all located outside the SA area/community use area. These Protection Areas will be monitored through regular ground patrolling.



Figure No.6.1: Signage installed for HCV area

Field assessment was undertaken by an independent team of experts to identify the High Conservation Value Forests (HCVF), and wildlife assessment survey within FMU area. Three methodologies used to do the wildlife assessment survey which included fauna field survey, flora field survey and interviews.

A wide variety of wildlife was detected and recorded as outlined in Tables 6.1 and 6.2.

Table 6.1 Fauna species recorded

Category of fauna	No. of species recorded	No. of species that are considered as ERT*	No. of endemic species
Mammal	31	25	3
Bird	63	15	2
Herpetofauna (amphibians & reptiles)	30	3	6
Insecta	1	1	0
Total	125	44	11

Table 6.2 Flora species recorded

Number of tree species recorded	346
Number of ERT* species	29
Number of ERT* species that are classified as endemic to Borneo Island	9

Endangered Rare and Threatened (ERT)

Endangered (**E**) - species of animals and plants that seriously a risk of extinction in future.

Rare (**R**) – species of animals or plants hardly to see and found uncommon, few of number and not abundant.

Threatened (**T**) – species of animals or plant very likely to become extinct.

Mujong-Melinau FMU will implement the control measures for Wildlife management as outlined below.

- i. Identification and demarcation of Terrain IV area, buffer zones and protection or conservation areas.
- ii. Identification and marking of trees for protection
- iii. Control of hunting by timber workers, outsiders and local people.
- iv. Control of access at the main entry point of FMU
- v. Education, awareness programme and publicity
- vi. Implementation of wildlife protection and conservation programme



Figure No.6.2: Awareness and wildlife poster distribution to local communities

7. Pre-Harvesting & Harvesting Operations

7.1 The pre-harvesting activities encompass the following;

- Design standard of the new road infrastructure, demarcation of boundaries, stream bank buffer reserve, protection zones and terrain IV.
- Locating log landing, operational inventory until the preparation on Reduced Impact Logging planning.

The logging operator shall be guided by the RIL GUIDELINES for ground-based harvesting system – Volume I and II as contained in “*The Green Book – MANUALS, PROCEDURES AND GUIDELINES FOR SUSTAINABLE FOREST MANAGEMENT CERTIFICATION IN SARAWAK (NATURAL FOREST)*” of FDS/SFC

7.2 Harvesting operations activities basically has two components;

- Tree Felling Operation, and
- Log extraction system selection which is ground-based system.

The logging operator SOP is based on the RIL GUIDELINES for ground-based harvesting system – Volume II as contained in “*The Green Book – MANUALS, PROCEDURES AND GUIDELINES FOR SUSTAINABLE FOREST MANAGEMENT CERTIFICATION IN SARAWAK (NATURAL FOREST)*” of FDS/SFC

8. Silviculture Management -Enrichment Planting & Rehabilitation

Silviculture management is needed to attain a maximum possible production from the residual stand of logged over forest during the next cutting cycle through the application of suitable treatment methods such as regeneration release, enrichment planting, rehabilitation or reforestation.

Upon completion of harvesting in each coupe, enrichment planting will be carried out in selected compartments with low-density stand (MDFI) and rehabilitation works will be done in the open or highly degraded areas such as old skid trails, abandoned log landings and sides of abandoned logging roads. The species to be planted will be focused on the local indigenous species and fast growing non-Dipterocarp species such as Kelempayan, Binuang and Sentang.

9. Occupational Safety & Health

Mujong-Melinau FMU is committed towards providing a healthy, and safe working environment for all persons involved in its business and operation activities as acknowledged in the “Safety and Health Policy Statement”.

Mujong-Melinau FMU Safety and Health committee was formed in 2016 to comply with the mandatory requirements under OSHA, 1994 to ensure safe management of forestry operations and to secure the safety, health and welfare of employees at work. Other relevant safety practices, guidelines, and regulations which are applicable to the various forestry activities within the FMU will be referred and used accordingly.