



GERAK  
SAGA

# MONITORING REPORT

PUBLIC SUMMARY JAN-DEC 2022



**Bengkoka and Tambalugu Class II Forest Reserves**



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# INTRODUCTION

## GERAK SAGA SDN. BHD.



- 100-year Sustainable Forest Management License Agreement ('SFMLA') with the Government of the State of Sabah
- The SFMLA is to develop an Industrial Tree Plantation on 6,467 ha of land located on the Bengkoka Peninsula
- The project lies on the northern tip of the island of Borneo, Pitas district, State of Sabah, Malaysia
- Gerak Saga Sdn. Bhd. (GSSB) undertakes, inter-alia, the extraction of residual timber, the establishment of a managed forest plantation and restoration of natural forest areas
- Scheduled to plant 5,600 ha of Eucalyptus and Acacia species by the year 2025
- Harvesting is based on a ten-year rotation cycle
- Will yield 100,000 m<sup>3</sup> per annum of plantation timber

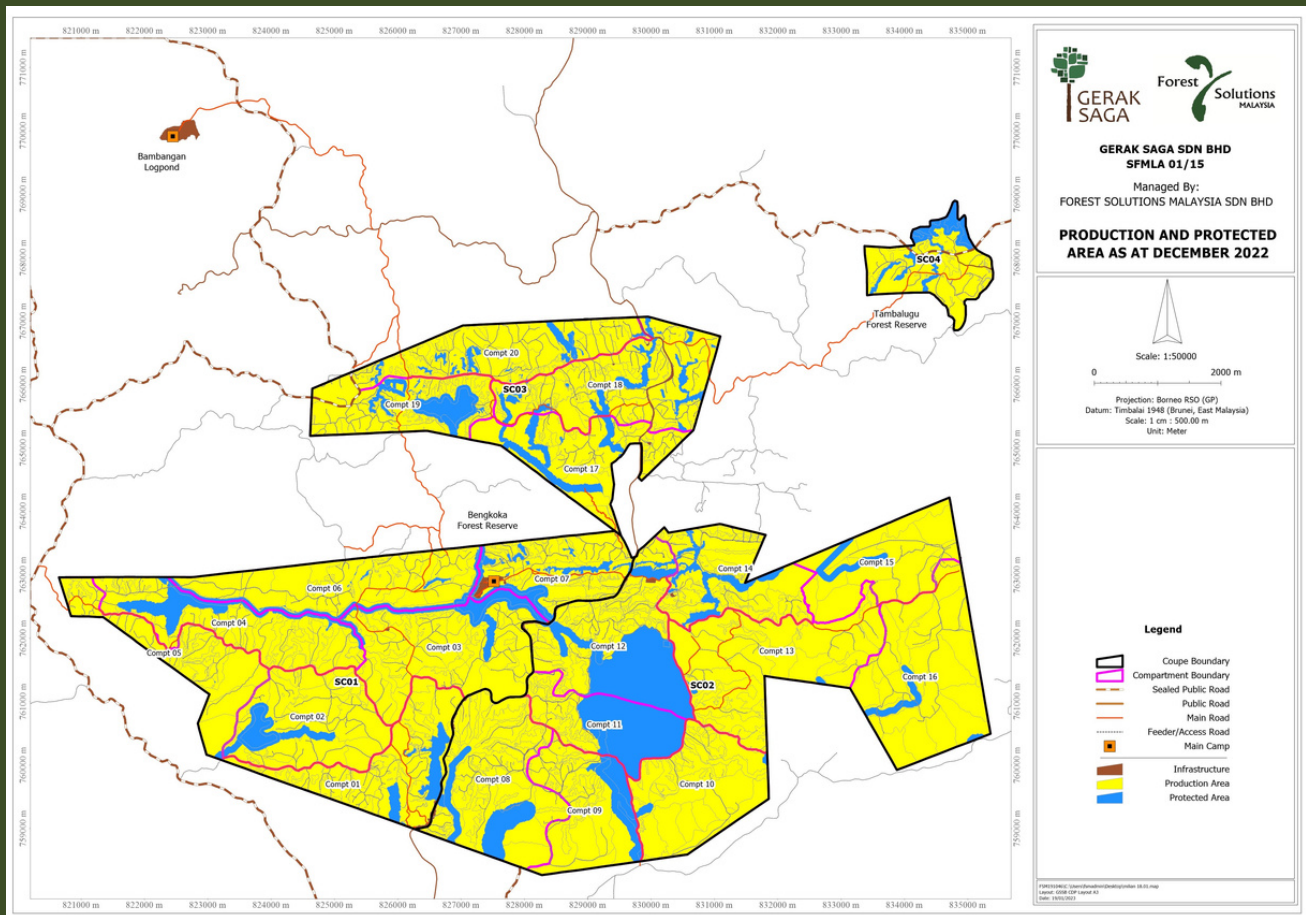
The GSSB operations are managed by Forest Solutions Malaysia (FSM) which currently employs over a hundred employees. FSM has a pool of local and foreign professional foresters with an established track record in sustainable forest management and greenfield startups. FSM values their people as the most important assets and empowers them by providing training and a development platform with a conducive learning environment to equip them with the technical and managerial know-how and exposure for the best performance.

Technical courses attended by staff include planting and harvesting techniques, chemical handling, fire-fighting, first-aid, proper use of equipment and machinery, satellite imaging and nursery setup. Contractors are also given training and demonstrations of operations-related skills. FSM operate within a rigorous planning, production and auditing process, supported by GPS-based forest mapping and an integrated web-based forest management system.

GSSB recognizes that a successful and sustainable future for Borneo's timber industry resides ultimately in the productivity and quality of its plantations. GSSB carries out research and development programs covering tree breeding, silviculture, pest and disease management, and solid wood quality assessments. The tree breeding trials established are converted to seed orchards for commercial seed production.

# GERAK SAGA

## PLANTATION MAP



**Gerak Saga Sdn. Bhd. Tree Plantation Area is located in Bengkoka Peninsula, the northern part of Borneo Island in Pitas District, Sabah.**



## 1. FSC Criterion 10.1: Results of regeneration activities

Permanent Sample Plots ("PSPs") enable the development of growth models that estimate yield in a future period based on observations collected in the past. PSPs are not a measure of inventory, but rather of average change under specific conditions. PSP data is gathered and processed by the Company's PSP management system.

The purpose of cruising or inventory is to assess the actual yield of a plantation at a specific point in time. In contrast to PSPs, a cruise will sample the entire stand and reflect, to a statistically significant level, stand growth and mortality as driven by genetics and site-specific conditions. The Company will perform a mid-rotation cruise (age 3-5 years) and a pre-harvest cruise of all stands to evaluate actual versus predicted growth. The data collected would be utilized to inform management scheduling, wood-flow planning, and research processes.

To achieve unbiased samples, Point Sampling Plots and Bounded Plots will be established on randomized, systematic grids and processed using the Company's cruising management software.

**Table 1: List of Permanent Sample Plot (PSP)**

Asset No	Location	Assess_age	Assess_year	Sum of assess_no	Sum of trees	Average of dbh_cm	Average of hgt_m
SC01B011-CRP113-PSP014	Coupe 1	2.3	2022	2	69	9.7	12.9
SC01B016-CRP122-PSP006	Coupe 1	2.3	2022	3	61	9.7	14.1
SC01B019-CRP078-PSP010	Coupe 1	2.5	2022	2	60	10.4	13.8
SC01B020-CRP081-PSP016	Coupe 1	2.5	2022	2	72	8	10.5
SC01B021-CRP094-PSP008	Coupe 1	2.4	2022	2	96	7.7	9.5
SC01B023-CRP070-PSP007	Coupe 1	2.6	2022	2	67	9.9	12.1
SC01B026-CRP110-PSP009	Coupe 1	2.4	2022	2	75	8.7	11.5
SC01B030-CRP134-PSP025	Coupe 1	2.5	2022	1	75	10.4	14
SC01B035-CRP007-PSP002	Coupe 1	4.1	2022	4	45	15.1	19.9
SC01B045-CRP140-PSP027	Coupe 1	2.5	2022	1	68	8.4	11
SC01B051-CRP011-PSP001	Coupe 1	3.4	2022	4	64	14	20.2
SC01B053-CRP067-PSP011	Coupe 1	2.6	2022	2	66	10.1	12.9
SC01B058-CRP090-PSP012	Coupe 1	2.4	2022	2	66	8.7	10.8
SC01B059-CRP088-PSP013	Coupe 1	2.5	2022	2	80	10.7	14.6
SC01B064-CRP119-PSP015	Coupe 1	2.3	2022	2	69	9.2	10.9
SC01B087-CRP144-PSP017	Coupe 1	1.9	2022	2	76	9.1	11.7
SC02B001-CRP040-PSP028	Coupe 2	1	2022	1	52	4.9	4.5
SC02B003-CRP041-PSP029	Coupe 2	0.9	2022	1	39	3.2	3.5
SC02B039-CRP038-PSP026	Coupe 2	0.9	2022	1	65	4.4	4.3
SC03B004-CRP090-PSP023	Coupe 3	1	2022	1	67	4.5	4.8
SC03B023-CRP084-PSP030	Coupe 3	1.2	2022	1	77	5.4	6.6
SC03B035-CRP067-PSP020	Coupe 3	3	2022	2	57	12.3	15.3
SC03B036-CRP058-PSP004	Coupe 3	3.3	2022	3	61	11	15.1
SC03B037-CRP069-PSP021	Coupe 3	3	2022	2	42	12.6	13.9
SC03B042-CRP061-PSP019	Coupe 3	3.3	2022	2	60	12.6	17.5
SC03B043-CRP057-PSP005	Coupe 3	3.4	2022	3	57	13.5	18.7
SC03B045-CRP074-PSP018	Coupe 3	2.8	2022	2	51	11.6	14.9
SC03B049-CRP052-PSP003	Coupe 3	3.5	2022	3	44	13.8	16
Grand Total				57	1781	9.63	12.34



Table 2: List of Crop Assessment for the year 2022

Crop No.	Location	G&Y Regime	No.	Date	Age (Yr)	Plots	Trees	SPHA	DBH (cm)	G (m2.ha)	QMD (cm)	HGT (m)	MTH (m)	TSV (m3.ha)	TSV MAI (m3.ha.yr)
SC01B058-CRP090	Coupe 1	CRP-YLD-EPEL-1667SPHA	1	2/4/2022	2.4	11	22.40	1,143.30	9.30	8.40	9.60	12.40	14.90	44.20	18.4
SC03B042-CRP061	Coupe 3	CRP-YLD-EPEL-1667SPHA	1	14/5/2022	3.3	18	22.00	1,102.80	13.20	17.50	14.40	18.40	22.40	131.70	39.9
SC01B032-CRP009	Coupe 1	CRP-YLD-EPEL-1111SPHA	1	16/5/2022	4.1	11	13.70	692.50	14.70	12.80	15.40	17.80	20.50	89.90	21.9
SC01B048-CRP004	Coupe 1	CRP-YLD-EPEL-1111SPHA	1	19/5/2022	4.3	17	13.70	690.80	15.00	13.90	16.10	18.90	22.30	98.40	22.9
SC01B030-CRP134	Coupe 1	CRP-YLD-EPEL-1667SPHA	1	14/10/2022	2.5	9	30.90	1,590.90	9.70	13.70	10.40	12.70	17.00	75.30	30.1
SC03B023-CRP084	Coupe 3	CRP-YLD-EPEL-1667SPHA	1	1/11/2022	1.2	7	37.70	1,965.40	5.70	5.20	5.80	6.30	6.90	13.60	11.3
SC03B004-CRP090	Coupe 3	CRP-YLD-EPEL-1667SPHA	1	9/11/2022	1.1	16	30.60	1,594.90	4.50	3.90	4.90	5.10	6.30	7.20	6.5
SC01B045-CRP140	Coupe 1	CRP-YLD-EPEL-1667SPHA	1	10/11/2022	2.5	6	25.20	1,326.00	9.00	11.40	10.50	10.20	15.00	46.40	18.6
SC02B039-CRP038	Coupe 2	CRP-YLD-EPEL-1667SPHA	1	27/11/2022	0.9	19	24.60	1,261.10	4.50	2.40	3.10	4.90	5.30	5.10	5.7
SC02B001-CRP040	Coupe 2	CRP-YLD-EPEL-1667SPHA	1	3/12/2022	0.9	14	18.60	988.00	4.00	0.40	0.50	4.30	4.60	2.70	3.0

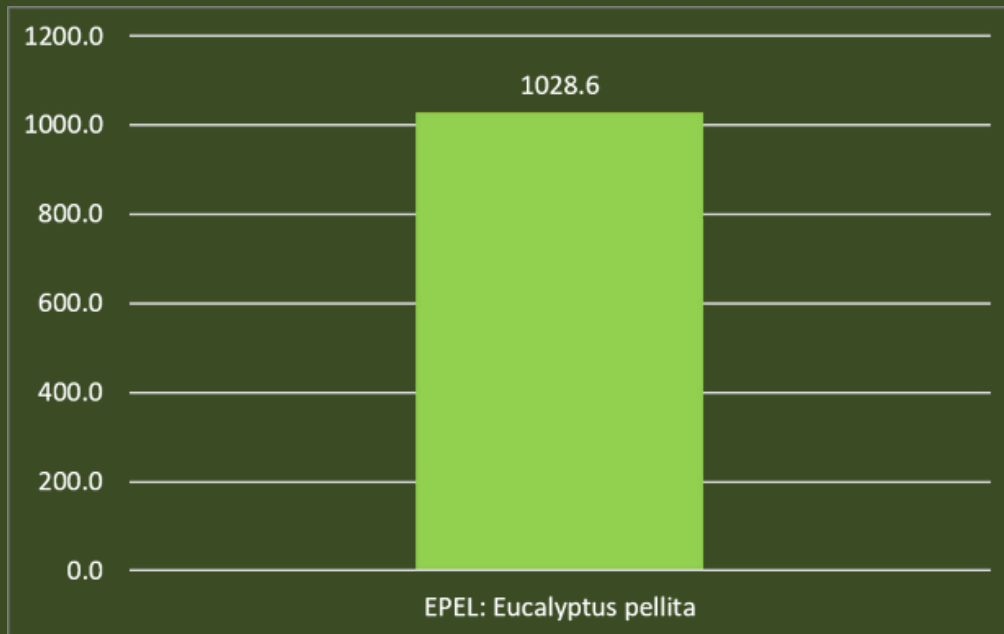


Figure 1: Crop planted (ha) by species Jan - Dec 2022

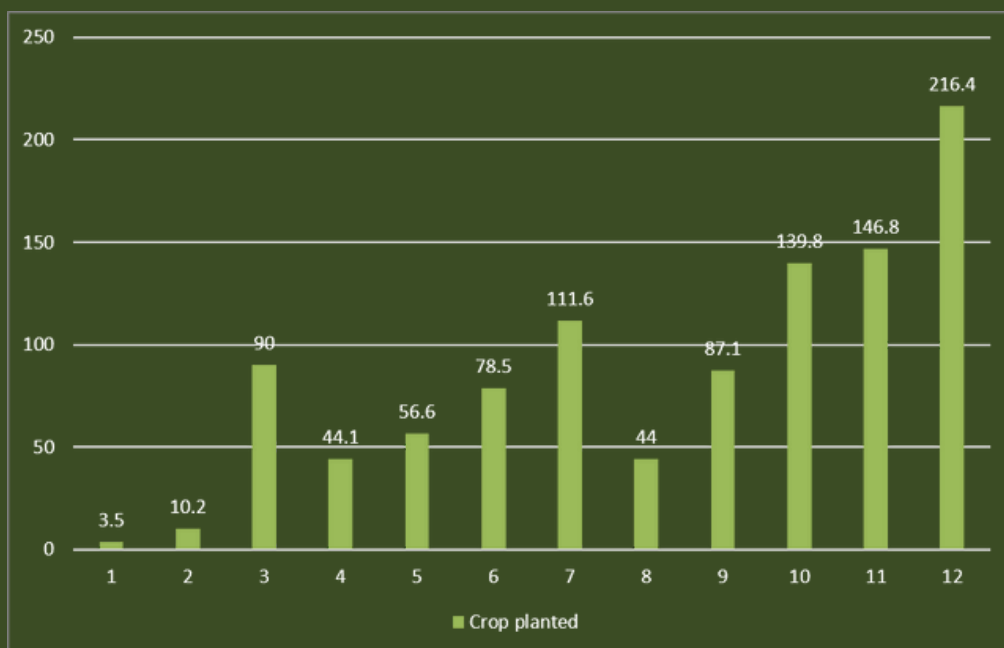


Figure 2: Crops planted (ha) by month from Jan - Dec 2022



### **2. FSC Criterion 10.2: Use of ecologically well-adapted species for regeneration**

In line with the GSSB site conditions, *Eucalyptus pellita* (main species) and *Acacia crassicaarpa* (marginal species) were selected for commercial plantation species due to site tolerance and fast growth. Species trials were established prior to the start of the operation, where 20 different plantation tree species were tested and *Acacia crassicaarpa* and *Eucalyptus pellita* were amongst the top performers. Species trials and PSPs are monitored every year to assess performance.

### **3. FSC Criterion 10.3: Invasiveness or other adverse impacts associated with any alien species within and outside the FMU**

To date, there is currently no recorded invasiveness or other adverse impacts associated with the species planted on GSSB plantations.

The following actions have been taken to prevent such situations from occurring;

- Seed movement and storage records
- Phytosanitary certification application prior to importing and exporting seeds
- Seedling dispatch record from the nursery
- Mapping of species allocation in the plantation sites
- Boundaries checking/patrolling by the Survey Department

### **4. FSC Criterion 10.5: Results of silviculture activities**

All current silviculture practices are ecologically appropriate for the vegetation, species, sites and management objectives. There are no negative impacts recorded from silviculture practices during the period under review.

### **5. FSC Criterion 10.6: Adverse impacts on environmental values from fertilizers**

Environmental monitoring and water sampling are conducted every 4 months to ensure compliance with the Environmental Quality Act 1974. All parameters are within acceptable limits of the National Water Quality Standard of Malaysia for water quality checking. A fertilizer application standard operation procedure is in place and revised annually. Fertilizer is only applied once during planting. The Quality Control (QC) team conducts planting quality audits and corrects fertilizer applications.

### **6. FSC Criterion 10.7: Adverse impacts from the use of pesticides**

Environmental monitoring and water sampling are conducted every 4 months to ensure compliance with the Environmental Quality Act 1974. All parameters to check water quality were below the National Water Quality Standard of Malaysia. An Environmental and Social Risk Assessment (ESRA), it's training, and safety precautions when handling chemical pesticides are implemented to comply with the Occupational Safety and Health Act 1994.



### **7. FSC Criterion 10.8: Adverse impacts from the use of biological control agents**

No biological control agents were used.

### **8. FSC Criterion 10.9: The impacts from natural hazards**

No natural hazards incidents were reported during the review period.

### **9. FSC Criterion 10.10: The impacts of infrastructural development, transport activities and silviculture on RTE, habitats, ecosystems, landscape values water and soils**

Environmental monitoring and audits are conducted by a third-party every 4 months against the Approved Environmental Conditions (AEC) to ensure compliance with the Environmental Quality Act 1974 and the report is submitted to the Environmental Protection Department (EPD) Sabah.

### **10. FSC Criterion 10.11: The impacts of harvesting and extraction of timber on non-timber forest products, environmental values, merchantable wood waste and other products and services**

The harvesting is done in line with a set of policies and procedures. Environmental monitoring and audit are conducted against the Approved Environmental Conditions (AEC) by a third-party every 4 months to ensure compliance with the Environmental Quality Act 1974 and the report is submitted to the Environmental Protection Department (EPD) Sabah. In addition, GSSB has an independent department to conduct quality control on the operations.

### **11. FSC Criterion 10.12: Environmentally appropriate disposal of waste materials**

All waste has been disposed of in line with legal requirements, and as required by the company's policies and procedures. Negative impacts related to this were not observed and we have not received reports or complaints from stakeholders in this regard during the review period





## 12. FSC Criterion 1.4: Evidence of illegal or unauthorized activities

Any illegal or unauthorized activity is identified through patrolling. Any information gathered during patrolling is captured for our record and further action. This year, twenty (20) patrolling activities have been conducted.

**Table 2: Patrolling Schedule 2022 and Achievement Jan - Dec 2022**

Activities	Coupe	Target	Unit	Achievement 2022					
				Q1	Q2	Q3	Q4	Total	%
Boundary Patrolling									
Along main road of the licensed area	1,2,3, 4	8	Activity	3	3	3	-	9	113
Along main road from Bongkol junction – Kg. Gumpa – Kg. Kapok	SC01, SC03	4	Activity	3	2	2	-	7	175
Along main road from Bongkol junction – Kg. Bongkol – Kg. Kakarangan	SC02	2	Activity	-	2	2	-	4	200
Total	-	14	-	6	7	7	-	20	143

## 13. FSC Criterion 1.5: Compliance with applicable laws, local laws, ratified international conventions and obligatory codes of practice

GSSB has policies and procedures to ensure all applicable laws, ratified international conventions and obligatory codes of practice are adhered to through regular training, toolbox talks and compliance assessment involving all operations.





## 14. FSC Criterion 1.6, 2.6 and 4.6: Resolution of disputes and grievances

Table 3: Record to date of the Grievance Management Information System (GMIS)

No	Coupe	Village	Status
1	2	Kakarangan	Open
2	3	Sorupil	Open
3	3	Sorupil	Open
4	3	Sorupil	Open
5	3	Sorupil	Open
6	2	Pagasaon	Close
7	4	Suang Duyung	Open
8	2	Sorupil	Open
9	4	Suang Duyung	Open
10	4	Suang Duyung	Open
11	4	Suang Duyung	Open

## 15. FSC Criterion 2.1: Programs and activities regarding workers' rights

Workers' rights are protected in line with national legislation and the requirements of the Human Resources and associated policies.

## 16. FSC Criterion 2.2: Gender equality, sexual harassment and gender discrimination

GSSB has policies and procedures to promote gender equality, and has mechanisms for reporting and eliminating sexual harassment and discrimination based on gender.





## 17. FSC Criterion 2.3: Programs and activities regarding Occupational Safety and Health (OSH)

GSSB has prepared and is implementing the occupational safety and health policies and procedures to comply with local and international law such as Occupational Safety and Health Act 1994 and International Labour Organization (ILO).

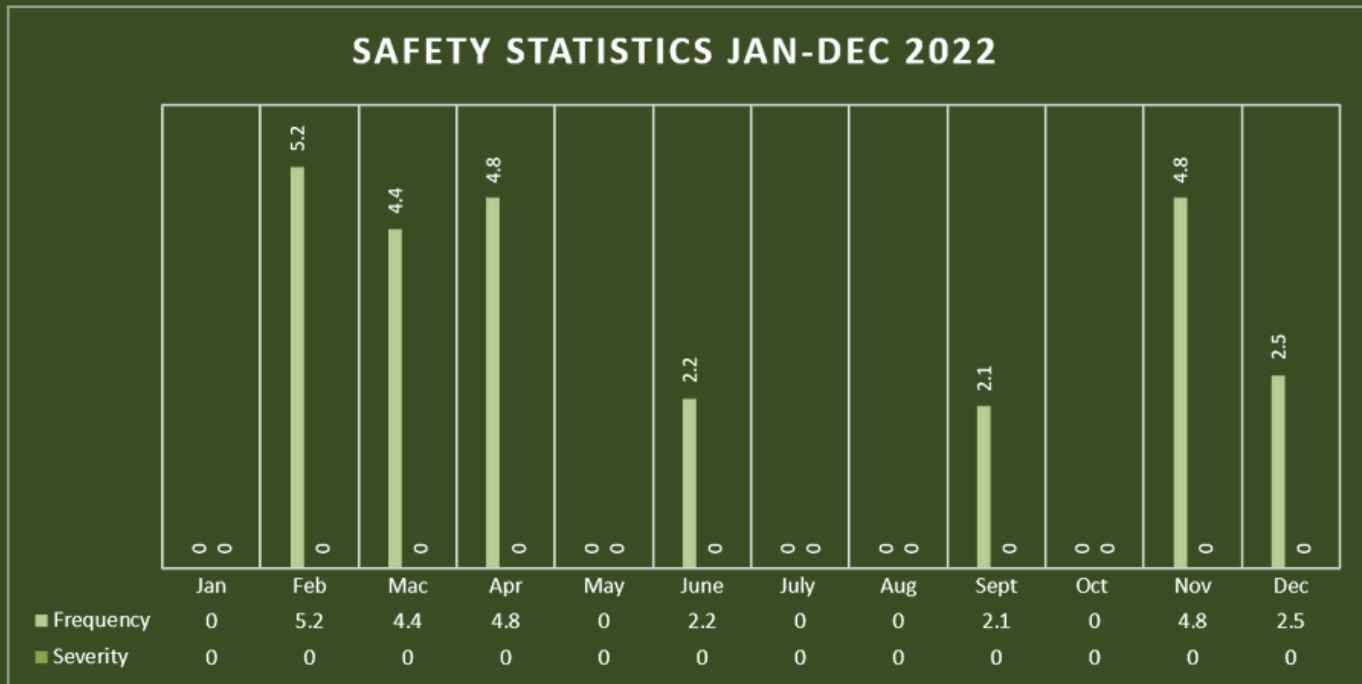


Figure 3: Gerak Saga safety statistics

During the period under review, no lost time injury (LTI) was recorded, two (2) non-lost time injuries were recorded, six (6) damage to the property and two (2) near misses recorded.

## 18. FSC Criterion 2.4: Payment of wages

All wages are paid within the agreed timelines and meet or exceed minimum requirements.

## 19. FSC Criterion 2.5: Worker Training

The management carries the analysis of training requirements and is fed into the training plans implemented. This year, one-hundred thirty-eight (138) internal training modules have been conducted and fourteen (14) external training has been attended.

## 20. FSC Criterion 2.5 and 10.7: Where pesticides are used, the health of workers exposed to pesticides

GSSB operations do not use chemical pesticides listed in the FSC List of Highly Hazardous Chemical Pesticides. In addition, only trained personnel with appropriate personal protective equipment (PPE) are permitted to handle and utilize pesticides in the field. Negative effects on workers are yet to be observed or recorded.



## 21. FSC Criterion 3.1 and 4.1: The identification of indigenous peoples and local communities and their legal and customary rights

GSSB conducts Social Impact Assessments (SIA) to determine the effect of operations on communities and finds effective ways to mitigate relevant issues with FPIC as the desirable outcome. Thirteen (13) villages within close proximity to the GSSB concession have been identified and the identification of legal and customary rights is being monitored during community engagement.

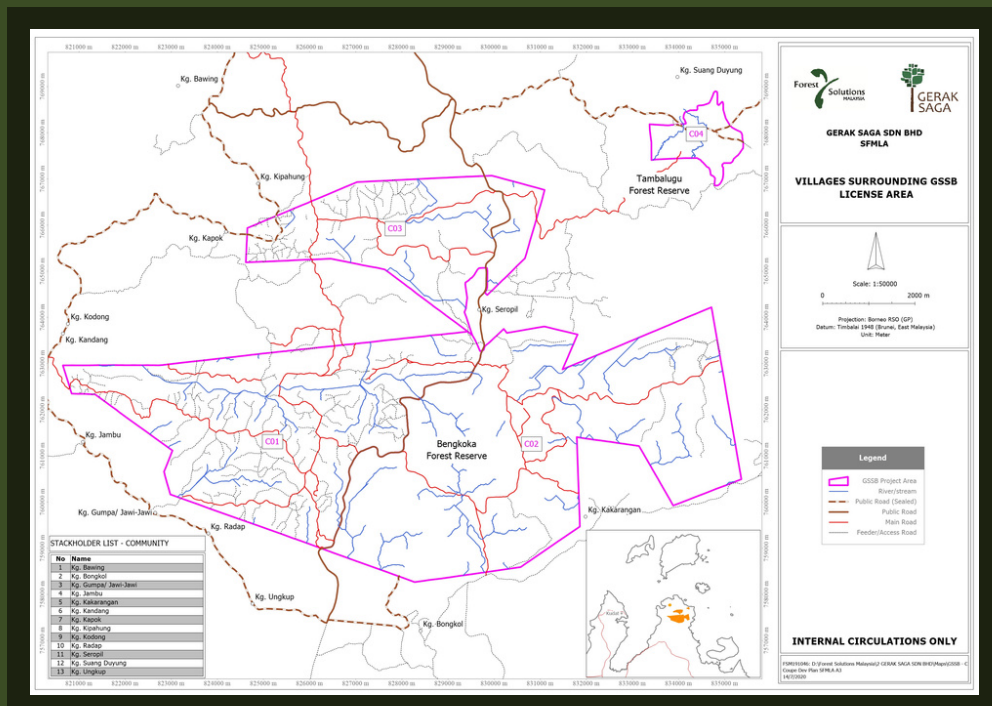


Figure 4: Map showing the 13 villages within close proximity to Gerak Saka concession boundary.

## 22. FSC Criterion 3.2 and 4.2: Full implementation of the terms in binding agreements

No agreement was entered into under both criterions.

## 23. FSC Criterion 3.2, 3.3 and 4.2: Indigenous Peoples and community relations

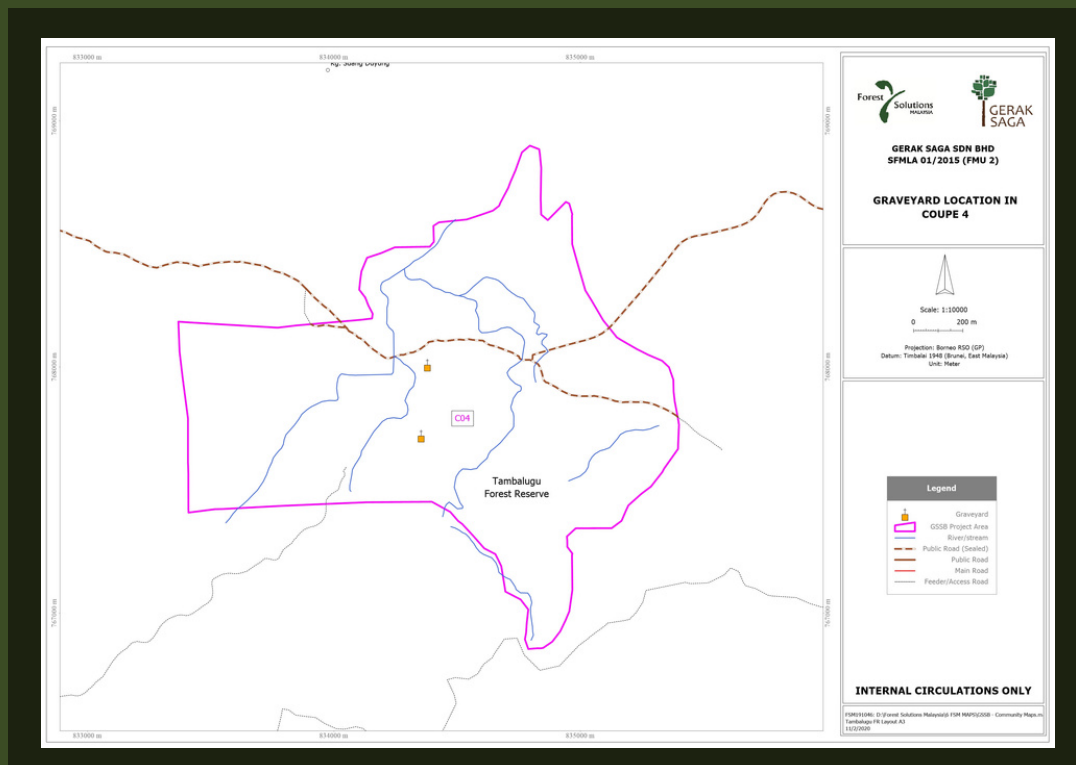
GSSB conducts regular and ongoing engagement with communities in close proximity to the plantation to encourage sustainable dialogue and improve relations.

## 24. FSC Criterion 3.5 and 4.7: Protection of sites of special cultural, ecological, economic, religious or spiritual significance to Indi. Peoples and local communities

Two (2) graveyards were identified in 2016, the claimant was consulted and joint marking was done on the ground. The area has been excised with a 50-meter buffer. Since then, the area of the graveyard was regularly monitored and the boundary is re-painted based on the monitoring schedule.



Figure 5: Gerak Saga's community engagement strategies





## **25. FSC Criterion 3.6 and 4.8: The use of traditional knowledge and intellectual property**

GSSB does not use traditional knowledge in the operation.

## **26. FSC Criterion 4.2, 4.3, 4.4 and 4.5: Local economic and social development**

Through community engagement, GSSB had continuously conducted the identification, implementation and monitoring of beneficial community projects ensuring the sustainable improvement of livelihoods. One of such project was completed in Kg Suang Duyung whereby the water and sanitation projects impacted over 400 lives in the village. Another example can be seen in the company's commitment to recruiting locals as field workers. This initiative provides opportunities for the locals to improve their economic well-being while being part of Gerak Saga's mission.

## **27. FSC Criterion 5.1: The production of diversified benefits and/or products**

GSSB is constantly assessing the potential of new and diversified products, markets and benefits.

## **28. FSC Criterion 5.1: The maintenance and/or enhancement of ecosystem services**

GSSB has implemented the protection of ecosystem services and enhancement through restoration activities in stages. Regular monitoring and assessment to ensure the protection of the ecosystem services and restoration activities which are allocated annually through the 30-year rehabilitation plan.

## **29. FSC Criterion 5.1: Activities to maintain or enhance ecosystem services**

GSSB is implementing the protection of ecosystem services and enhancement through restoration activities in stages. Protection by regular monitoring and assessment to ensure the protection of the ecosystem services and restoration activities allocated annually through the 30-year rehabilitation plan.

## **30. FSC Criterion 5.2: Actual compared to projected annual harvests of timber and NTFP**

GSSB achievements have been affected since the Movement Control Order (MCO) was enforced in March 2020 and continued until the third quarter of 2021 due to the COVID-19 outbreak. However, the Annual Work Plan (AWP) is followed, monitored and revised. GSSB is only harvesting Acacia species.

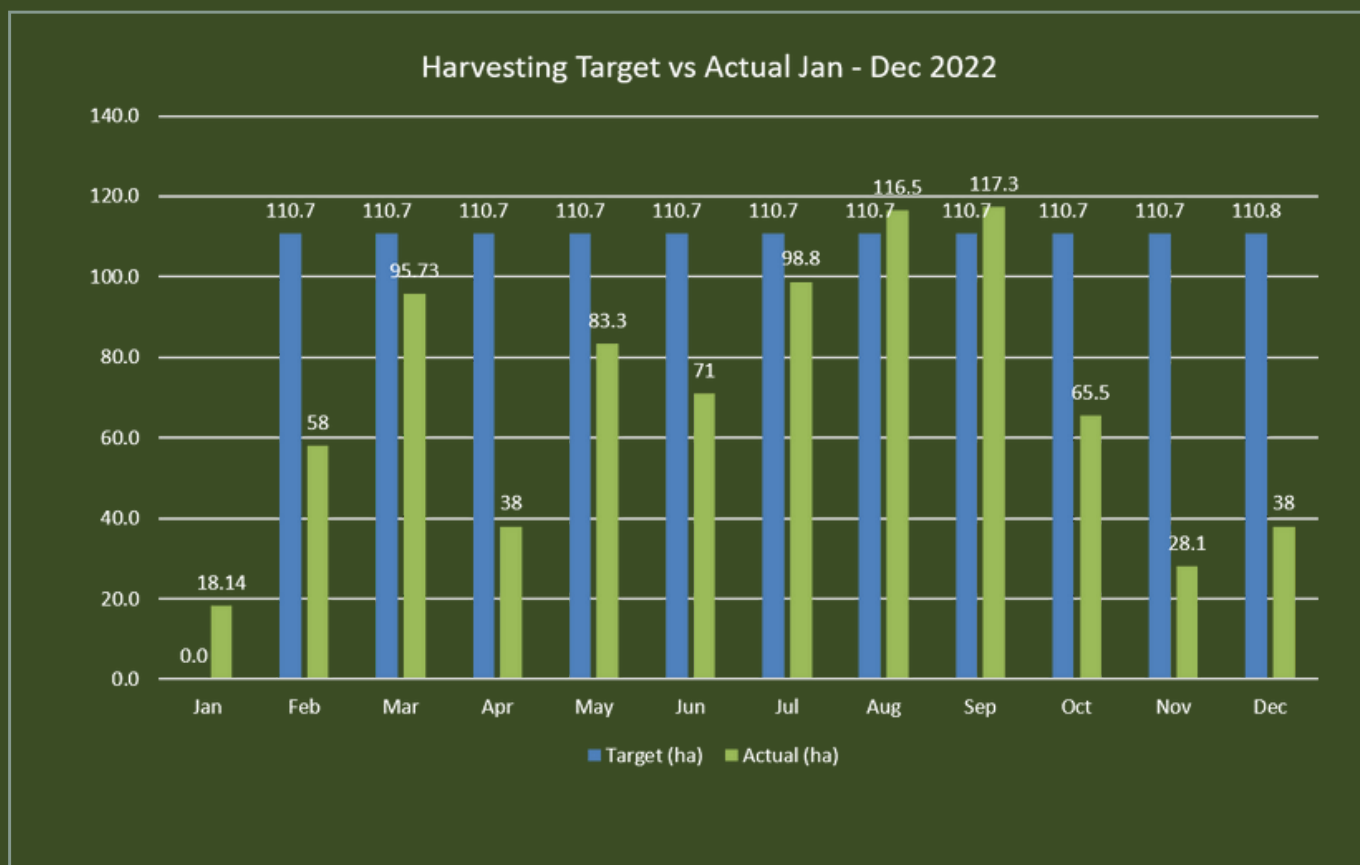


Figure 7: Actual vs planned harvesting target Jan- Dec 2022

### 31. FSC Criterion 5.4: The use of local processing, local services and local value-added manufacturing

The suppliers of services are mainly local, allowing the company to effectively contribute to the growth of the local economy.

### 32. FSC Criterion 5.5: Long-term economic viability

These can be available on request, with confidential information removed, at the cost of production.

### 33. Criterion 9.1: HCV 5 and 6 identified in Criterion 9.1

Graveyards belong to the local community in Kampung Suang Duyung located in Coupe 4 (Tambalugu Forest Reserve). The graveyards have been identified, and joint marking on the ground by our team and the community with a 50-meter buffer and indicated in the coupe development plan map. Maintenance and repainting of the boundary are conducted based on the monitoring schedule of our survey crew.



**34. FSC Criterion 5.2: The maintenance and/or enhancement of ecosystem services (when the Organization makes FSC promotional claims regarding the provision of ecosystem services or receives payment for the provision of ecosystem services)**

Not applicable.

**35. FSC Criterion 6.1 and 6.3: Environmental values and ecosystem functions including carbon sequestration and storage; including the effectiveness of actions identified and implemented to prevent, mitigate and repair negative impacts to environmental values**

Where negative impacts are identified, these are prevented, mitigated or repaired as appropriate.

**36. FSC Criterion 6.4: Rare, threatened and endangered (RTE) species and the effectiveness of actions implemented to protect them and their habitats**

The rare, threatened and endangered species on the plantation are identified and their habitats are protected.

**37. FSC Criterion 6.5: Representatives sample areas and the effectiveness of actions implemented to conserve and/or restore them**

The rehabilitation and/or restoration plan works through various treatments such as enrichment planting, silviculture treatment, and removal of undesirable plant species in the degraded protection areas are still in the early stage of planning and implementation.

**38. FSC Criterion 6.6: Naturally occurring native species and biological diversity and the effectiveness of actions implemented to conserve and/or restore them**

In GSSB, only Acacia species were harvested and most of the remaining native plant communities are available in the protected areas. Restoration activities are planned and implemented on-site to maintain and enhance biological diversity. In addition, the company has standard operating procedures to protect the identified biological diversity within the licensed area.

**39. FSC Criterion 6.7: Water courses, water bodies, water quantity and water quality and the effectiveness of actions implemented to conserve and/or restore them**

Water monitoring as required by the government is carried out accordingly every 4 months, led by a third-party environmental consultant.

**40. FSC Criterion 6.8 Landscape values and the effectiveness of actions implemented to maintain and/ or restore them**

Landscape values including a provision for the linking to off-site conservation areas are included in the conservation 30-year rehabilitation plan.

**41. FSC Criterion 6.9: Conversion of natural forest to plantations or conversion to non-forest**

Not applicable.

**42. FSC Criterion 6.10: The status of plantations established after 1994**

There was no evidence of conversion found.

**43. HCV 1 to 4 identified in Criterion 9.1 and the effectiveness of actions implemented to maintain and/or enhance them**

HCV 1 and 4 are present in the project area which is the diversity of species and the ecosystem services. Monitoring activities are conducted annually for HCV 1 and at least three (3) times a year to monitor HCV 4 through an internal and external audit or monitoring. At the same time, the patrolling activity is also implemented on a monthly basis to monitor and reduce the identified threats.

**- END -**