

## FSC® Certification Report

### PUBLIC SUMMARY OF TREE PLANTATION OPERATIONS TOWARDS FOREST STEWARDSHIP COUNCIL CERTIFICATION Year 2018

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(SSB)**

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Chief Executive Officer**

## **INTRODUCTION**

**Sabah Softwoods Berhad (SSB)** also formerly known as **Sabah Softwoods Sdn. Bhd. (SSSB)** was incorporated in **1973** and is 70% owned by Innoprise Corporation Sdn.Bhd.

## **LOCATION AND AREA**

The company's land bank covers 60,600 ha and is located at **Brumas** Region (CL. 105467687) with a land area of **41,505 ha** and at Kalabakan Region (CL. 105472508) with a land area of **19,195 ha**. Brumas Region is located between Latitude 4°24'N and 4°44'N and Longitude 117°38'15"E and 117°50'E and Kalabakan Region is located between Latitude 4°23'45"N and 4°38'30"N and Longitude 117°23'45"E and 117°34'45"E.

SSB is situated at the north-west region of **Tawau District (Figure 1)**. The company is located about 1 hour's drive from Tawau along the Tawau – Kalabakan - Keningau trunk road.

## **CORE BUSINESS**

Our core business is in Trees and Oil Palm plantations along with woodchip mill and crude palm oil mill. Tree plantation cover an area 20,000 ha, whilst the Oil palm plantation cover 30,000 ha. The remaining land bank areas cover 7,000 ha of conservation and 3,000 ha for housing, amenities, and infrastructures.

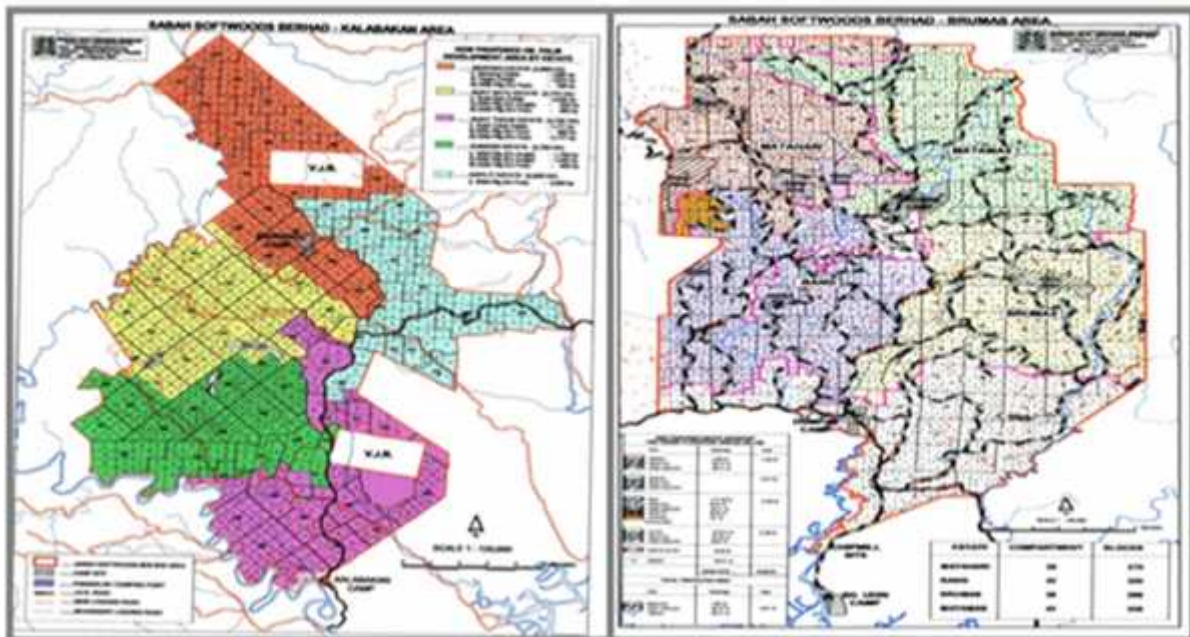
Our organization operates the business on the principles and philosophy of 3P's – people, Planet and Profit. We see sustainable development as a balance between making economic

## SSB LOCATION MAP



**Kalabakan region**

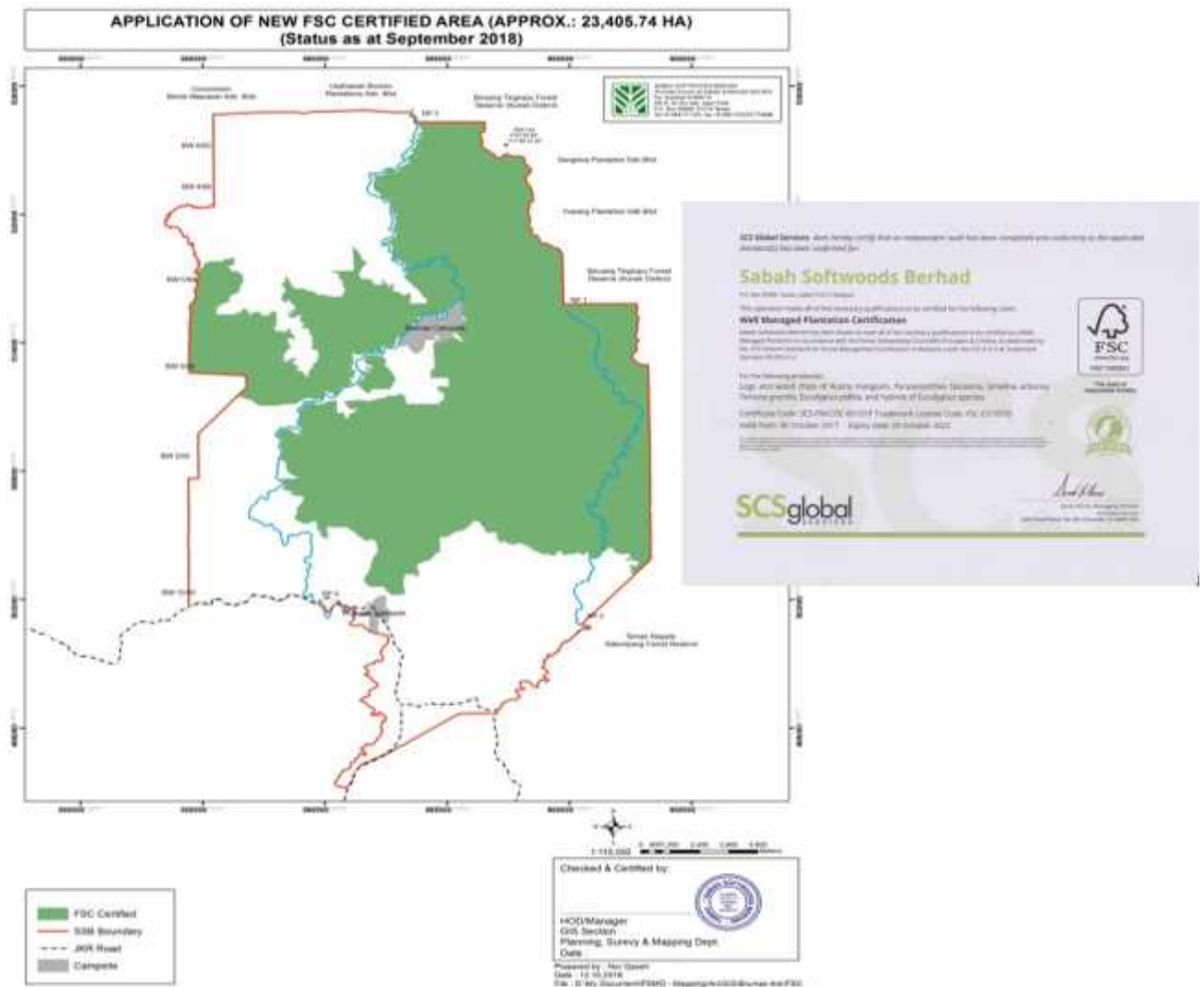
**Brumas region**



## CERTIFICATION

Sabah Softwoods Berhad (SSB) Tree Plantation area is Forest Stewardship Council (FSC) certified. Tree plantation area received its first Well Managed Plantation Certification on 2007 and was recertified on 2012 and 2017. The current certificate (SCS-FM/COC-00101P) is expiring on 29 October 2022. This year annual audit is scheduled from 12-15 November 2018. The FSC certified area is 23,405.74 ha. Tree plantation is committed to maintain the certificate.

## FSC CERTIFIED AREA



**FSC CERTIFIED AREA STATEMENT AS AT SEPTEMBER, 2018**

| No           | Description                         | FSC Certified area<br>(Survey Ha.) | (%)        |
|--------------|-------------------------------------|------------------------------------|------------|
| 1            | Fast growing species – planted Area | 18,008.81                          | 77         |
| 2            | Steep area                          | 1,595.37                           | 7          |
| 3            | Water catchment area                | 1,261.96                           | 5          |
| 4            | Establishment Wildlife Corridor     | 1,058.58                           | 5          |
| 5            | Existing Wildlife Corridor          | 10.47                              | 0          |
| 6            | Riparian Reserve                    | 416.10                             | 2          |
| 7            | Campsite                            | 215.00                             | 1          |
| 8            | Others                              | 815.43                             | 3          |
| <b>Total</b> |                                     | <b>23,405.74</b>                   | <b>100</b> |

Chip mill operation obtained its first certification on 2011 (Certification SGS-COC-008500 and SGS-CW-008500). COC certification has been re-certified for the second time on 2<sup>nd</sup> March, 2016, (revise for FSC-COC V3 on 11<sup>st</sup> October 2017) and is valid until 1<sup>st</sup> March 2021.



## **COMMITMENT**

SSB has firmly committed to continual improvement in managing the fast growing Trees Plantation in sustainable and well manner which is environmentally sound, socially acceptable and economically viable through the following principles and practices:

- Undertaking the Trees Plantation activities within the parameters of the titled land in conformity with the conditions in the land titles issued by the Land and Survey Department of the State of Sabah.
- Comply fully with all legislations namely Sabah Forest Enactment 1968, Environmental Protection Enactment 2002, the Wildlife Ordinance and Wildlife Conservation Enactment 1997, the Sabah Labour Ordinance, the Employment Act, and all relevant Health and Safety Regulations.
- To ensure that the objectives of the Trees Plantation are continued on a long term basis, the Management of Sabah Softwoods Berhad is committed to maintain 18,057.38 hectares of the total plantation area under Trees plantation.
- The management is committed and will continuously strive to maintain the standards set in all the 10 FSC principles.
- Undertake systematic and regular reviews of performance through management of corrective actions and Internal Audit.
- Clearly define and communicate environmental/sustainable forest management responsibilities to our employees and to support them with training and appropriate resources to ensure those responsibilities are fulfilled.
- Provide job opportunities for surrounding local communities.

## DEMARCATION BOUNDARY

| DESCRIPTION  | BELIAN POSTS (COLOR)  |
|--|---|
| <b>A. AREA BOUNDARIES</b><br>1. Block Boundaries<br>2. Block Boundaries Demarcation (After Harvesting)                 |     |
| <b>B. CONSERVATION AREAS</b><br>1. Riparian<br>2. Water Catchment Area<br>3. Steep Areas<br>4. Wildlife Corridor Paths |     |
| <b>C. TRIAL PLOTS</b>  |     |
| <b>D. Title Boundary</b><br>SSB Land Title Boundary  |    |

## TREE PLANTATION

The operations is guided by the 10 Year Tree plantation Management Plan (2016-2025). The overall goal of the tree plantation is to replant fast growing tree species on a shorter rotation period in a homogenous manner which will enhance the yield per ha with higher operating efficiencies at optimum cost. The fast growing species includes the *Albizia falcataria*, *Acacia mangium*, *Eucalyptus pellita*, and *Eucalyptus hybrid*. As of 30 September 2018, the planted area by species is as follows:

|                            | Age (Year) | A. Falcataria (Sur.Ha) | E. Pellita (Sur.Ha) | E. Hybrid (Sur.Ha) | Mix/Others (Sur.Ha) | Classification             | Age (Year) | A. Mangium (Sur.Ha) | Work In Progress | TOTAL (Sur.Ha)   |
|----------------------------|------------|------------------------|---------------------|--------------------|---------------------|----------------------------|------------|---------------------|------------------|------------------|
| Mature Trees (2008)        | 10         | 110.43                 | 5.04                | 11.48              | 161.94              | Mature Trees (2010)        | 7          | 93.42               | -                | 382.31           |
| Immature Trees (2009-2016) | 9-2        | 4,357.64               | 8,610.53            | 782.38             | 221.01              | Immature Trees (2011-2015) | 6-2        | -                   | -                | 13,971.56        |
| Immature Trees (2017)      | 1          | 431.59                 | 1,332.12            | 50.09              | 11.63               | Immature Trees (2016)      | 1          | -                   | -                | 1,825.43         |
| New Development (2018)     | 0          | 202.23                 | 1,092.18            | 13.27              | -                   | New Development (2017)     | 0          | -                   | -                | 1,307.68         |
| <b>Total</b>               |            | <b>5,101.89</b>        | <b>11,039.87</b>    | <b>857.22</b>      | <b>394.58</b>       | <b>Total</b>               |            | <b>93.42</b>        | <b>521.83</b>    | <b>17,486.98</b> |

## **CLASSIFICATION OF TREE PLANTATION AREA ACCORDING TO ALTITUDE**

| Category                | Altitude Class (ft) | Area (Ha)        | %              | A.falcataria    | E.pellita        | E.hybrid      | A.mangium    | Mix/Others    | Work In Progress | Total Area       |
|-------------------------|---------------------|------------------|----------------|-----------------|------------------|---------------|--------------|---------------|------------------|------------------|
| Planted as at July 2017 | < 600               | 17,486.98        | 97.10%         | 879.20          | 768.32           | 65.54         | -            | 44.83         |                  | 1,757.89         |
|                         | 600-1000            |                  |                | 3,454.53        | 6,750.37         | 430.16        | 7.87         | 233.41        |                  | 10,876.34        |
|                         | >1000               |                  |                | 768.16          | 3,521.18         | 361.52        | 85.55        | 116.34        |                  | 4,852.75         |
| Work In Progress        | < 600               | 521.83           | 2.90%          |                 |                  |               |              |               | 7.64             | 7.64             |
|                         | 600-1000            |                  |                |                 |                  |               |              |               | 476.35           | 476.35           |
|                         | >1000               |                  |                |                 |                  |               |              |               | 37.84            | 37.84            |
| <b>Total</b>            |                     | <b>18,008.81</b> | <b>100.00%</b> | <b>5,101.89</b> | <b>11,039.87</b> | <b>857.22</b> | <b>93.42</b> | <b>394.58</b> | <b>521.83</b>    | <b>18,008.81</b> |

The Altitude class distribution is categorized into three categories as shown above. The plantable area is about 18,008.81ha. About 99 % (10,876.34 ha) of the area is categorized within the range 600-1000 ft and is for *Albizia falcataria* (Af), *Acacia mangium* (Am), *Eucalyptus pellita* (Ep), *E. hybrid* (Eh) and Others. Approximately 1.30 % (1,757.89 ha) of the area has less than 600 ft mean above sea level which is reserved for same planting

## **LEGAL FRAMEWORK**

All implementation activities stated in the Tree Plantation Management Plan (TPMP) are primarily governed and regulated in accordance with acts, enactments and regulations.

## **PLANTATION ESTABLISHMENT AND MANAGEMENT**

The activities include pre-replanting preparation (survey), land preparation for planting, field planting, planting materials, nursery, and upkeep & maintenance. These activities are stated in the TPMP. Chemicals are used to eradicate noxious weeds during land preparation and upkeep & maintenance upto 18 months. The selection of weedicide chemicals is based on the weeds spectrum.



| Type                    | Chemical            | Dosage/Ha                      | Total (lit) | Ha.     | Lit/Ha | Weeds spectrum                      | Sprayer nozzle       |
|-------------------------|---------------------|--------------------------------|-------------|---------|--------|-------------------------------------|----------------------|
| Blanket spraying        | Round up & Touch up | 6-7 Litre (200 ml/pump)        | 12,373      | 2,096.2 | 5.9    | Grasses, Sedges, & Broadleaves      | LSA 4                |
|                         | Metron              | 90 gm (3-5 gm/pump)            | 298         | 1,179   | 63.20  | Ferns & ipil-ipil                   |                      |
| After Planting Spraying | Round up & Touch up | 160ml/pump (4.5 to 3.0 lit/ha) | 70,613      | 15,313  | 4.6    | Depend on round and weeds condition | LSA 4/1 Green nozzle |

## UPKEEP & MAINTENANCE

Upkeep and maintenance activities are carried out according Standard Operating Procedure (SOP). After Planting Spraying (APS) is carried out upto 18 months of planted trees. Selective creepers cutting are carry out from 2 years after planting upto maturity.

## REPLANTING PROGRAMME

| Species      | 2016         | 2017         | 2018         | 2019         | 2020         | 2021         | 2022         | 2023         | 2024         | 2025         |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|              | Ha           | Ha           | Ha           | Ha           | Ha           | Ha           | Ha           | Ha           | Ha           | Ha           |
| EP           | 1,500        | 1,500        | 1,396        | 1,200        | 1,500        | 1,500        | 1,500        | 1,500        | 1,500        | 1,500        |
| AF           | 1,000        | 800          | 670          | 800          | 800          | 800          | 800          | 800          | 800          | 800          |
| <b>Total</b> | <b>2,500</b> | <b>2,300</b> | <b>2,066</b> | <b>2,000</b> | <b>2,300</b> | <b>2,300</b> | <b>2,300</b> | <b>2,300</b> | <b>2,300</b> | <b>2,300</b> |

*E.pellita* is being planted in a large scale as it has a greater tolerance to *Ganoderma* relative to *A.mangium*. Low productive areas will be given top priority for harvesting and replanting program.

## HARVESTING PRODUCTION PROGRAMME

| SUMMARY OF THE PROPOSED 2018 HARVESTING & REPLANTING PROGRAM - 2nd Draft |                       |                        |                                   |               |                             | BUDGET 2018 - Revised 29.09.2017 |                             |            |
|--|-----------------------|------------------------|-----------------------------------|---------------|-----------------------------|----------------------------------|-----------------------------|------------|
| YEAR OF PLANTING   | TOTAL AREA (Sur. ha.) | TOTAL AREA (Pltd. ha.) | TOTAL PROD. VOL (m <sup>3</sup> ) | A.FALCATARIA  |                             | E.PELLITA                        |                             | BACKLOGGED |
|  |                       |                        |                                   | AREA (ha.)    | PROD. VOL (m <sup>3</sup> ) | AREA (ha.)                       | PROD. VOL (m <sup>3</sup> ) | AREA (ha.) |
| 2006   | 102.22                | 98.11                  | 8,158                             | 98.11         | 8,158                       | -                                | -                           | -          |
| 2007   | 67.85                 | 66.18                  | 8,901                             | 64.71         | 8,686                       | 1.47                             | 215                         | -          |
| 2008   | 165.23                | 159.69                 | 22,737                            | 156.48        | 22,246                      | 3.21                             | 491                         | -          |
| 2009   | 333.58                | 311.05                 | 42,222                            | 311.05        | 42,222                      | -                                | -                           | -          |
| 2010   | 134.77                | 121.29                 | 14,560                            | 87.27         | 9,242                       | 34.02                            | 5,318                       | -          |
| 2012   | 802.78                | 719.64                 | 87,268                            | -             | -                           | 719.64                           | 87,268                      | -          |
| 2013   | 651.46                | 588.95                 | 52,408                            | -             | -                           | 588.95                           | 52,408                      | -          |
| <b>GRAND TOTAL</b>   | <b>2,257.89</b>       | <b>2,064.91</b>        | <b>236,254</b>                    | <b>717.62</b> | <b>90,554</b>               | <b>1,347.29</b>                  | <b>145,700</b>              | <b>-</b>   |

**\*Note:-** Volume estimation based on SSB Growth Model ver. 1.0

For year 2018, a total of 236,254 m<sup>3</sup> will be produced. Harvesting is done with cable yarding system. This minimizes the soil compaction and helps to improve the growth of the tree in its earlier cycle. This system forms one of the key elements which allow the tree growing operations to fulfill their potential by delivering prime sites unaffected soil compaction. Currently, 24 yarders are in operations and able to produce up to 20,150 m<sup>3</sup>/month.



Cable Yarder System



The branches are trimmed in the field before yarding to the landing area.



In the landing area, the full length is cut into 4 meter length.



Pulplogs and sawlog are trucked separately.



Warning signboards are posted within the harvesting operations are for public awareness.

## **10 YEARS ANNUAL PRODUCTION**

10 years (2017-2026) Annual production has been formulated, with annual harvesting area of 2,182 ha per annum. The average estimated yield 135 m<sup>3</sup>/ha for all species. (Refer figure below).

| No. | Year of Harvesting | Harvesting Area (Ha) | Est. Yield (m <sup>3</sup> /ha) | Estimated Production Target (m <sup>3</sup> ) |                    |                   | Remarks |
|-----|--------------------|----------------------|---------------------------------|---|--------------------|-------------------|---------|
|     |                    |                      |                                 | Total Volume                                  | Sawlog/ Peeler Log | Pulplog/ B. board |         |
| 1   | 2017               | 2,171                | 70                              | 152,526                                       | 45,758             | 106,768           |         |
| 2   | 2018               | 2,352                | 101                             | 238,492                                       | 71,548             | 166,944           |         |
| 3   | 2019               | 2,377                | 115                             | 274,049                                       | 82,215             | 191,834           |         |
| 4   | 2020               | 1,784                | 121                             | 215,832                                       | 64,750             | 151,082           |         |
| 5   | 2021               | 2,002                | 132                             | 264,894                                       | 79,468             | 185,426           |         |
| 6   | 2022               | 1,934                | 135                             | 262,037                                       | 78,611             | 183,426           |         |
| 7   | 2023               | 2,300                | 157                             | 361,200                                       | 108,360            | 75,852            |         |
| 8   | 2024               | 2,300                | 157                             | 361,200                                       | 108,360            | 75,852            |         |
| 9   | 2025               | 2,300                | 180                             | 413,700                                       | 124,110            | 289,590           |         |
| 10  | 2026               | 2,300                | 180                             | 413,700                                       | 124,110            | 289,590           |         |

## **PLANTATION INVENTORY**

The objective of the plantation inventory is to provide information on the current growing stock and growth data in term of Mean Annual Increment (MAI) for the yield prediction by log category (sawlogs or peeler logs and pulplogs or blockboard) according to the marketing specification.

Three levels of inventory being monitored in the plantation are as follows:

- a. Stocking Survey Inventory-to provide information on the stocking rate and growth (height development) at the initial planting stage which is at age 3 months after planting.
- b. Mid-Rotation Inventory-to provides information on the growth performance at mid-rotation age i.e.: *E. pellita* at age 3 years and *A. falcataria* at age 5 years.
- c. Pre-Harvest Inventory-to provides information on the likely product volume yield shortly before harvesting age. i.e.: *E. pellita* at age 5-7 years and *A. falcataria* at age 10 years

The parameters assessed are usually confined to numbers of stems per hectare (SPH) or % of survival rate, basal area per hectare, Mean Top Height, Quadratic

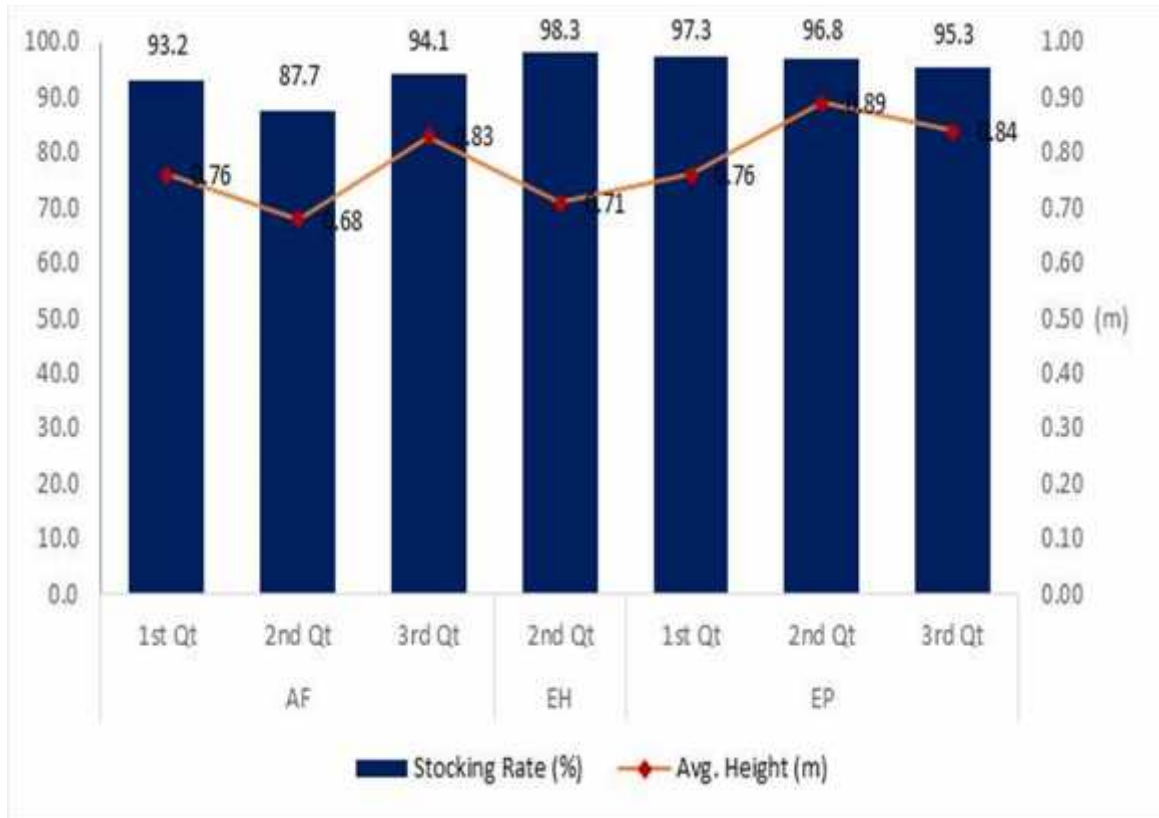
mean-DBH (cm) and possibly some indication of block conditions or if there is any P&D symptoms. The sampling method is based on standard inventory procedures. Every plot should be located at a sampling intensity of 1 plot per hectare, meaning plots should be located on a 100 meter by 100 meter grid escapement. Each plot is **0.04 ha**, making a **4% sample**.

The data will be analyze and recorded to monitor the tree growth performance. It also will be updated into the Plantation Master Record for future references and as an input for growth model.

**a. Stocking Survey Inventory as of September, 2018**

| Stocking Survey Block Summary by Species by Quarter |         |                 |                 |             |                |                   |                 |
|---|---------|-----------------|-----------------|-------------|----------------|-------------------|-----------------|
| Quarter   | Species | Survey Ha       | Planted Ha      | Age (month) | Live Trees SPH | Stocking Rate (%) | Avg. Height (m) |
| 1 <sup>st</sup> Quarter                             | AF      | 177.15          | 141.09          | 3           | 1059           | 93.2              | 0.76            |
|   | EP      | 282.66          | 230.59          | 3           | 1083           | 97.3              | 0.76            |
| <b>Total:</b>                                       |         | <b>459.81</b>   | <b>371.68</b>   |             |                |                   |                 |
| <b>Average:</b>                                     |         |                 |                 | <b>3</b>    | <b>1074</b>    | <b>95.7</b>       | <b>0.76</b>     |
| 2 <sup>nd</sup> Quarter                             | AF      | 94.24           | 82.19           | 3           | 954            | 87.7              | 0.68            |
|   | EH      | 13.27           | 12.53           | 3           | 1130           | 98.3              | 0.71            |
|   | EP      | 384.26          | 321.08          | 3           | 1124           | 96.8              | 0.89            |
| <b>Total:</b>                                       |         | <b>491.77</b>   | <b>415.80</b>   |             |                |                   |                 |
| <b>Average:</b>                                     |         |                 |                 | <b>3</b>    | <b>1091</b>    | <b>95.1</b>       | <b>0.84</b>     |
| 3 <sup>rd</sup> Quarter                             | AF      | 96.81           | 65.41           | 3           | 1053           | 94.1              | 0.83            |
|   | EP      | 310.38          | 251.95          | 3           | 1052           | 95.3              | 0.84            |
| <b>Total:</b>                                       |         | <b>407.19</b>   | <b>317.36</b>   |             |                |                   |                 |
| <b>Average:</b>                                     |         |                 |                 | <b>3</b>    | <b>1052</b>    | <b>95.0</b>       | <b>0.84</b>     |
| <b>Grand Total:</b>                                 |         | <b>1,358.77</b> | <b>1,104.84</b> |             |                |                   |                 |
| <b>Average:</b>                                     |         |                 |                 | <b>3</b>    | <b>1074</b>    | <b>95.3</b>       | <b>0.81</b>     |

**Distribution of Stocking Survey (%) and Avg. Height (m) by Species by Quarter**  
**As at September 2018**



**RESEARCH & DEVELOPMENT**

Research Department plays a vital role in assuring our company remains competitive in the industry by meeting the corporate objective in the business plan. Research disciplines in forest plantation are recognized to be key elements to the economic viability of the business process. The Research Department is focusing on Tree improvement, Silviculture, Forest health and Mensuration programme with the increased prevalence of pest & disease making significant impacts on planted *Acacia mangium* stands in south-east Asia approximately 4 years ago, many plantation growers are including eucalypts (namely *E. pellita*) as a key plantation species.



This year as of September 2018, Borneo Forestry Cooperative BFC Technical Meeting was held at Brumas camp on 12<sup>nd</sup> July. This visit had focused to participate in most of the research programs, to share data and result from trials established under the BFC and to develop knowledge and experience of BFC member's research teams in order to support the plantation management decisions. The program included a field and nursery visit to address and diagnose nutrient disorder symptom while put emphasis on diagnostic procedure. A brief on theories of the plan nutrition and the role of nutrient on the tree growth and the relevance of nutrient disorders to tree yield and from, and complicating factors associated with nutrient treatments.

### **INTERGRATED PEST MANAGEMENT (IPM)**



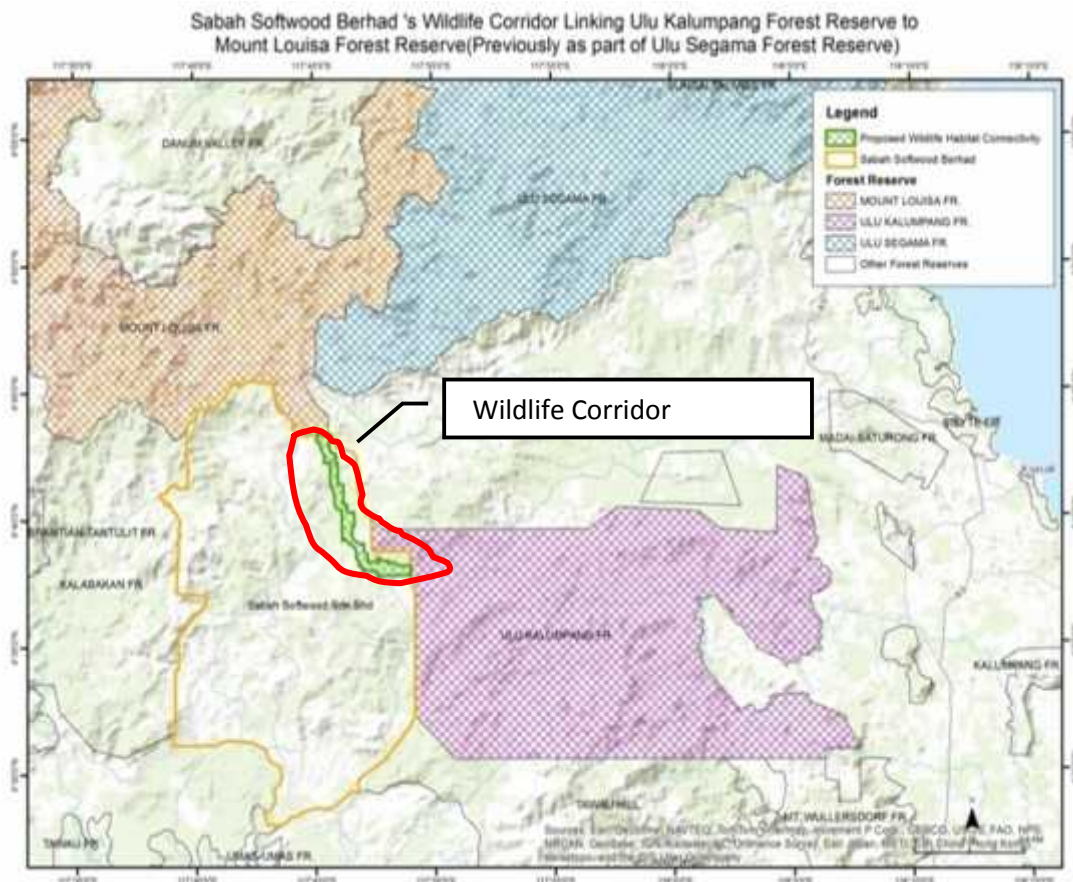
IPM system consist of a combination of decision making and pest management tools directed against a pest or pest complex and are in various stages of development. The objective is developing a decision-based process involving coordinated use of multiple tactics for optimizing the control of all classes of pest in an ecologically sound manner. Currently, concept of IPM has been introduced to minimize *Euremablenda* (Yellow butterfly) bagworm attack on *Albiziafalcataria* (Af) block. Monitoring and assessment is on going

## **ENVIRONMENT & CONSERVATION**

The HCVPs represent about 18% of the FSC certified (23,405.74 Ha) in Tree plantation area. The HCVPs areas comprises protected steep areas, water catchment areas, riparian reserves and wildlife corridors which links some of the protected and reserved areas to assure free movement of the wildlife and rich in biodiversity.

### **ESTABLISHMENT OF WILDLIFE CORRIDOR**

The green corridor is located in the North Eastern part of Brumas region, as shown in the map below. The length of the corridor is 13.89 km covering 1,067 hectares with width ranges from 400m-800m. The establishment of this green corridor is to allow the movement of wildlife species between the Ulu Segama FR (242,884 ha) and Ulu Kalumpang FR (51,118 ha). Further, this will reduce human-wildlife conflict especially elephants to keep away from the plantation.





As of September 2018, a total of 57,300 mixed indigenous dipterocarps, pioneers and wild fruit seedlings have been planted for wildlife habitat. The planted seedlings include Dipterocarp species *Dryobalanops lanceolata* (Kapur paji), *Shorea leprosula* (Seraya tembaga), *Shorea johorensis* (Seraya majau), Non- Dipterocarp *Azadirachta excels* (Sentang), *Pterospermum sp* (Bayor), *Octomeles sumatrana* (Binuang), and fruit trees *Mangifera indica* (Mangga), (*Baccaureamotleyana* (Rambai), *Lansiumdomesticum* (Langsat), *Mangifera sp* (Bambangan), *Neoheliumlappaceum* (Rambutan) and etc...



Compassman



Circle weeding



Est. Gridline



Est. Planting lines

The realistic ecological indicators for the wildlife corridor are: tree canopy cover, presence of wildlife (elephants, orang utan, clouded leopard and etc...), number of naturally regenerating native tree species and number of planted trees surviving to three years. Measuring tools to monitor wildlife are direct sighting (direct sight the elephant, transect walking) and indirect sighting (camera traps, satellite collar).

## RESTORATION FOREST



*Eusideroxylon zwageri*  
(Belian Tree)



Restoration forest function is to restore the area with commercial timber species for economic and biodiversity values. The areas cover 1,027 ha. Restoration planting with indigenous dipterocarps species commenced in 2015. As of September 2018, a total of 44,600 commercial timber species has been planted for economic value and biodiversity. The planted indigenous seedlings consist of nine (9) Dipterocarp species (*Slow growing species for high-quality production*) which includes *Shorea leprosula* (Seraya tembaga), *Shorea parvifolia* (Seraya punai), *Shorea johorensis* (Seraya majau), *Dryobalanops lanceolata* (kapur paji), *Hopea sangal* (Gagil), *Intsia palembanica* (Merbau), *Neolamackia cadamba* (Laran), *Hopea nervosa* (Selangan jangkang) and *Hopea sp* (Selangan batu).

## RIPARIAN RESERVE MANAGEMENT



Riparian planting commenced in 2014 along the riparian reserves of Sg. Umas-umas (44.40 km), Sg. Merotai (25.15 km) and Sg. Indit(15.20 km) which flows through the Brumas region. The planted seedlings were mainly *Octomeles sumatrana* (Binuang), *Dryobalanops lanceolata* (Kapur paji), *Shorea mecistopteryx* (Kawang burung), *Pterospermum sp* (Bayor), *Laurace family* (Medang), and *Neolamarckiacca damba* (Laran). Wild bananas in selected areas were also planted as food crops for wildlife.

The function of the riparian reserve is can protect and maintaining the water quality, hydrology and reducing the erosion from happen. Besides that, the riparian reserves can maintain the habitats for the freshwater biodiversity and provides a corridor for animals to move between adjacent forest areas. Tree that been planted at the riparian reserve also can as the shading for the animals, as the habitat and food for the wildlife.

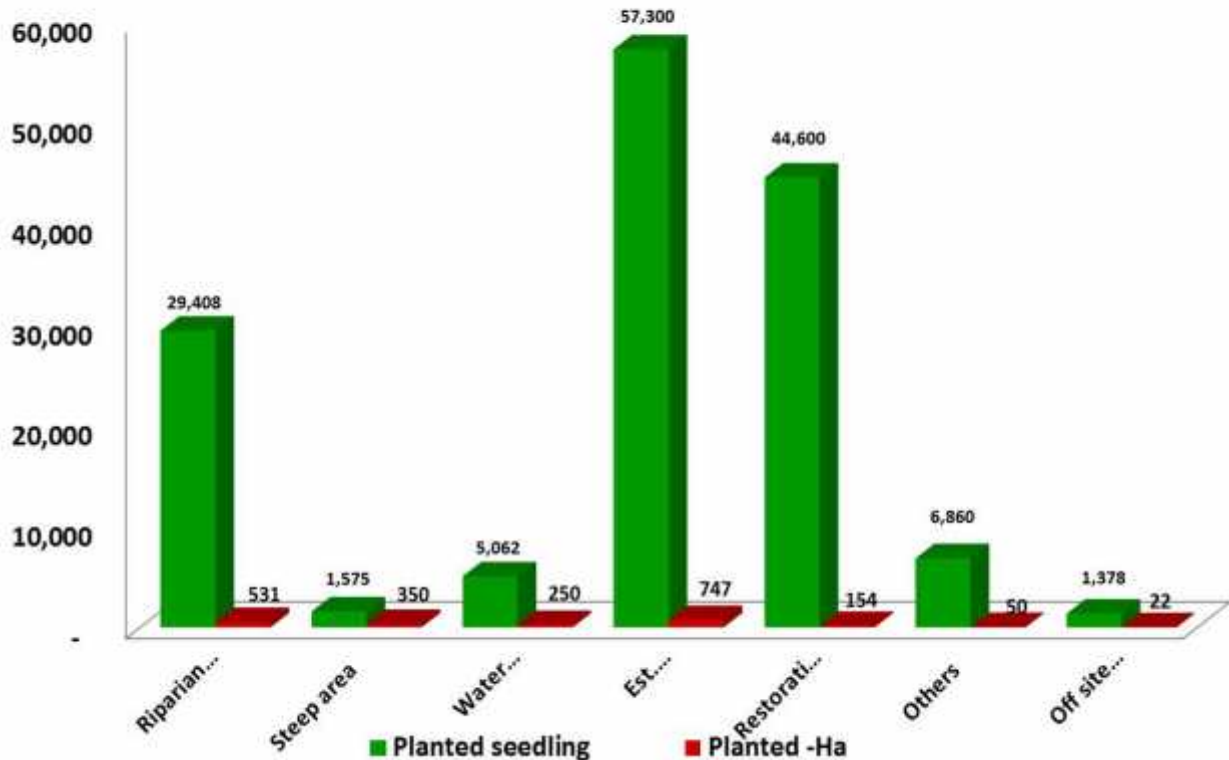
Protected steep areas and water catchment areas have a natural environment and richest with food crops for wildlife. Exposed areas and old trail paths and establishment of wildlife corridors were being planted with indigenous species such as *Shore aparscifolia* (seraya punai), *Parashorea spp* (Urat mata), *Shorea section of shorea* (Selangan batu, *Dipterocarp kerri* (Keruing gondola), *Pterspermum spp* (Bayor), *Lauraceae family* (Medang), *Dryobalanops lanceolata* (Kapur paji), and fruit trees namely, *Nephelium spp* (Rambutan) and *Durio spp* (Durian) for richer biodiversity.

From 2013 to as of June, 2017, a total of 104,472 native seedlings were planted mainly on the Steep Area, Water Catchment, and Riparian reserves, Wildlife Corridor a in the Restoration area. The planting materials of seeds and wildings are collected from our protected steep and water catchment areas. Fully matured seeds are collected immediately to avoid predation by pest, especially insects and wild boars. Seed collection activities are routinely planned to exploit mass dipterocarp fruiting events in Sabah. Dipterocarps produce seeds in large quantities at least once every

three years. To date, estimated 5,800 of seeds and 55,000 wildings were collected and nurtured in our HCVPs nursery. Wildings appear to perform on a par with seedlings at both the nursery and field stages.



**(2014 to as of September 2018) Planted Seedlings: 146,183**



Upkeep and maintenance activities are the major activities after planting. It is regularly scheduled and be carried out within the period of three years beyond which nature takes its course. Maintenance activities, i.e. ranging from round 4 for year 1 and 2 to round 2 for year 3 on circle weeding, row slashing, cutting creepers and unwanted climbers are conducted for planted seedlings and natural regenerating seedlings. Census is one of the components in the enrichment planting. It plays an important role in determining the survival rate of the planted seedlings as well as to those tended seedlings.

## **TREE PLANTING PROGRAM**

Yearly awareness educational program is organized by the Environment and Conservation Dept. This awareness program is participated by internal and external stakeholders. Since year 2012 upto September 2018, a total of 9 Tree planting day awareness program was held.



| <b>No.</b> | <b>Date</b> | <b>No. of seedling planted</b> | <b>Location of planting</b> | <b>Internal stakeholders</b>      | <b>External stakeholders</b>                |
|------------|-------------|--------------------------------|-----------------------------|-----------------------------------|---|
| <b>1</b>   | 12.04.2012  | 800                            | Mini stadium (Brumas)       | Clerk & Students Brumas           |   |
| <b>2</b>   | 03.12.2016  | 300                            | Block 136 C                 |                                   | Rotary Club                                 |
| <b>3</b>   | 20.07.2016  | 300                            | Block 136 E                 | SSB OSS staff                     |   |
| <b>4</b>   | 27.09.2017  | 300                            | Block 145 D                 | SSB Tawau Office staff            |   |
| <b>5</b>   | 23.11.2017  | 300                            | Block 136 D                 | SSB Oil palm staff                |   |
| <b>6</b>   | 02.08.2018  | 300                            | Block 126 I                 | SSB OSS and tree plantation staff |   |
| <b>7</b>   | 25.07.2018  | 300                            | Block 127A                  |                                   | WWF-Malaysia, SFD and Delegation Kalimantan |
| <b>8</b>   | 31.07.2018  | 5                              | Block 127 A                 |                                   | WWF-Malaysia & China                        |
| <b>9</b>   | 25.10.2018  | 10                             | Block 126 D                 | AEC Members of SSB                |   |

Since 2014 until October 2018, Environment and conservation department already conduct nine (9) program of tree planting and became the annual program. These programs giving education awareness towards public about the important of conserve the environment and protect the endangered wildlife. Tree planting

program that been conducted include the internal and external stakeholders of Sabah Softwoods Berhad. There have several of type of tree species that been planted which is dipterocarp, non-dipterocarp and fruit tree species.

Students and visitor are invited to take part in an activity which aims to raise awareness of the need to protect trees and the health benefits of planting. Top management took part in the programme to create awareness to the employees. Planting forest trees besides enhance biodiversity helps in carbon sequestration. What we do in SSB may not have a great impact as a whole but we believe changes come one step at a time. Like in the words of wisdom of a famous person “You must be the change you wish to see in the world”.



## **WILDLIFE MANAGEMENT**

Wildlife, including all the birds, represent a form of biodiversity that readily appreciated by the public, particularly large mammals like the elephant, orang utan, red leaf monkey, sun bear and deer. The Forestry Department views its role in wildlife management as an important role in wildlife management as an important aspect of forest conservation, as well as its public image. Therefore, the systematic management of wildlife is the key component of the management of restoration and wildlife corridor in Sabah Softwoods Berhad area.

The goals of wildlife management are to maintain and enhance populations of wildlife in restoration and wildlife corridor area. This is may be done by maintaining and enhancing specific habitats, controlling the poaching and illegal trapping of

wildlife. The maintenance of habitat for threatened and endangered species is given special emphasis.

### Wildlife monitoring



The Sabah Softwoods Berhad's area is a lowland area (Lowland mixed Dipterocarp forest) that has been the home of elephants since before it converted to plantation in 1970s. The wildlife monitoring was established to determine the long-term population trends and distributional changes, particularly in the restoration and

wildlife corridor area. Several of method been used to detect the population and trend including direct and indirect sightings, satellite-collar, camera trapping, night patrolling and fauna inventory.

| No. | Method            | Target species |
|-----|-------------------|----------------|
| 1.  | Direct sighting   | All wildlife   |
| 2.  | Indirect sighting | All wildlife   |
| 3.  | Satellite-collar  | Elephant       |
| 4.  | Camera trapping   | All wildlife   |
| 5.  | Night patrolling  | Elephant       |
| 6.  | Fauna inventory   | All wildlife   |

Since April 2014, WWF-Malaysia with the assistance from the Wildlife Rescue Unit have successfully managed to set 5 satellite-collar to 5 group elephants to study their movements in Sabah Softwoods and across the Kalabakan area. The presence of elephants group which are suitable for collaring is confirmed through close engagement with Mr Ram Nathan, Senior Manager of Environment and Conservation Department of Sabah Softwoods Berhad. The data that was obtained from the result of collared elephants is used by WWF-Malaysia to guide and recommend about the mitigation of Human-elephant conflict that already happen

since 2014. There were 2 categories of mitigation which is short-term mitigation and long-term mitigation.

The mitigation of short-term is translocation of elephant, construction of trenches and night patrolling. The translocation of elephant is an approach that aims to reduce the damage that occurs by the wild elephant. The translocation is carried out if there are aggressive elephants that cannot be controlled by honourable warden of wildlife (WKHL).

The other of short term mitigation is the construction of trenches. The construction of trenches is next to the electric fence. This method is intended to prevent the entry of wild elephants in plantation areas and community area. This is because; it can reduce the damage that will be done by wild elephant but have some disadvantages where need the high cost. Next, night patrolling can be classified as the short and long term also. This is because, this mitigation can knowing the activities of elephants during night. The aim of this patrolling activity is to identifying and viewing wildlife activities at night and to control the movement of wild animals. The night patrolling using equipment such as elephant cannon, tires and carry lamps that have function to repel the wild elephant in the patrol area and prevent the occurrence of crop damage and property caused by elephants.

Whereas, for the long term mitigation, there is several mitigation which is the establishment of wildlife corridor for the wildlife, night patrolling, installing the electric fence, monitoring of wildlife movements via satellite-collar and camera trapping. The aim of establishment is to conserve wildlife and as a source of food for wildlife. The planting of fruit trees in the wildlife corridor can reduce the quantity of wild animals such as elephant going to plantation and housing area.

The method of installing electric fence is mitigation that intended to prevent the entry of wild elephants into community areas and to prevent the occurrence of crop damage and property caused by elephants. Almost the entire area of housing and oil palm plantation has been installed electric fences which need higher cost. In addition, electrical fence maintenance activities were also will be carried out due to the fallen tree affected by the installed electric fence.



## Electric fence d wildlife corridor



Besides that, monitoring of wildlife movements also is one of the long term mitigation. Monitoring is doing by using camera trap and satellite collar. This is serving to record the movement and the population of wildlife animals. The result from the camera trap and satellite collar will be used as the reference of company management to determine the level of wildlife populations.

The criteria that WWF-Malaysia had chosen when collaring elephants was tagging only adult female-led elephant group/herds mainly because (i) the adult females are the most sensitive cohort in population dynamics and therefore for conservation (ii) adult females travel in groups called herds and therefore if they raid crops it will cause more substantial damages compared to solitary male elephants (iii) the young females cannot bear the weight of a collar which weights around 15kg. The success of an elephants collaring operation depends very much on the vegetation and terrain of the area and can vary from 1 day up to 5-6 days. Adult female elephants with height of 7 feet and above are targeted for collaring.

### **Wildlife opportunistic sighting (Locally threatened)**

Wildlife sighting is categories by 2 categories which is direct and indirect sighting. The direct sighting means is the people directly sight the elephant while the indirect sighting is people didn't saw the elephant but only saw the foot print, droppings or the damages by the wildlife.



All estates have been given the wildlife sighting recording form to record all the wildlife sighted daily. Warning signboards are posted at strategic places for public aware about the wildlife. Besides that, the awareness programme was been carried out for the communities aware about the rare, threated, and endangered species of wildlife.

The wildlife monitoring is regularly conducted by our Honourable Warden of Wildlife (Field Supervisors and Conductors) at the plantation and conservation areas (steep areas, water catchment areas and riparian reserves). The night patrolling is mainly carried out by honourable warden of wildlife to ensure the areas are fully protected and safe from any type of illegal activities. To date, no illegal activities such as felling tree, encroachment forest fire and poaching were spotted.

### **Translocation of elephant**



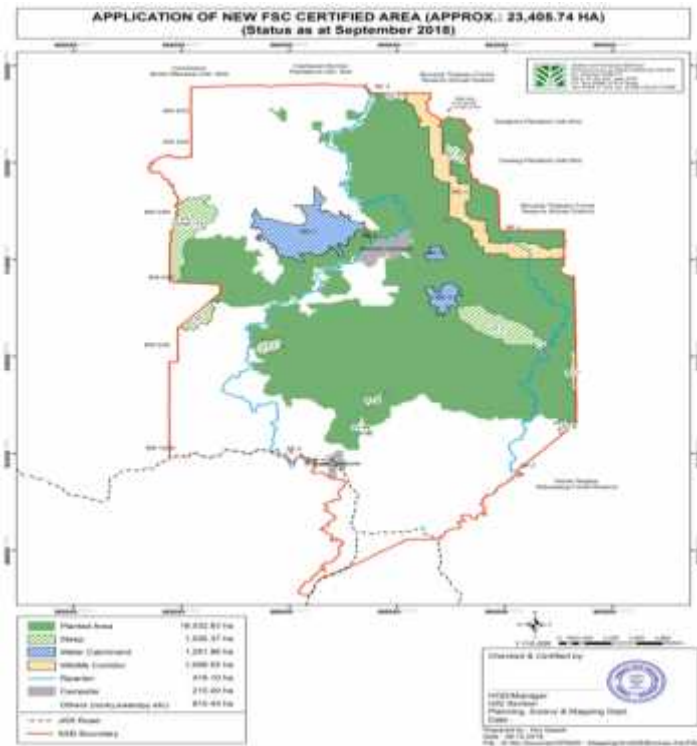
To-date, the total elephant that already translocate is seven (11) since 2005 until 2016. The elephant were translocation to Kuamut Forest, Zillion Fortune, and Sapulut FR area by the Wildlife Department.

| Item  | Year                              | Translocate from | Location                                    | No. Elephants Translocate |
|-------|-----------------------------------|------------------|---|---------------------------|
| 1     | 2005                              | Brumas Area      | GunungRara - Kuamut FR                      | 2                         |
| 2     | 2015<br>(20-31.08.2015)           | Dumpas Area      | GunungRara - Kuamut FR                      | 2                         |
| 3     | 2016<br>(23-30.06.2016)           | Dumpas Area      | GunungRara - Kuamut FR                      | 1                         |
| 4     | 2016<br>(5-10.08.2016)            | Dumpas Area      | GunungRara - Kuamut FR                      | 2                         |
| 5     | 2016<br>(24.11.2016 – 08.12.2016) | Dumpas Area      | Kawang FR / Silam Lembah Danum & Sapulut FR | 4                         |
| Total |                                   |                  |   | 11                        |



### **SUMMARY OF HCVF FINDINGS FOR SSB AREA**

HCVF assessments are part of a dynamic on-going process that provides a framework for managing and monitoring key biodiversity and social values. The Identified HCVs could change over time, either increasing or decreasing in importance, hence making monitoring of these biodiversity and social values crucial. A significant number of HCV biodiversity species was identified present in the study compartments and surrounding areas. Critically endangered (CR), endangered (E), Vulnerable (V) and nearly threatened (NT) flora and fauna (HCV 1.2 percent) were also sighted during the assessment.



| No           | Conservation area               | Sur. Ha         | %          | HCV Element |
|--------------|---------------------------------|-----------------|------------|-------------|
| 1            | Steep area                      | 1,595.37        | 39         | HCV 4       |
| 2            | Water catchment area            | 1,261.96        | 26         | HCV 4       |
| 3            | Establishment Wildlife Corridor | 1,067.00        | 25         | HCV 2       |
| 4            | Existing Wildlife Corridor      | 10.47           | 0.1        | HCV 2       |
| 5            | Riparian Reserve                | 416.10          | 9.9        | HCV 4       |
| <b>Total</b> |                                 | <b>4,350.90</b> | <b>100</b> |             |

## FLORA AND FAUNA INVENTORY

Flora and fauna inventory is carried out annually. The flora inventory was done on selective land at Steep Area No.58 (ST: 5) about 100.66 ha and was done in seven days. While, the fauna inventory will be done on December 2018.

The objective of flora and fauna inventory is to assess biodiversity of forest community. This is done by conducting annual monitoring through assessment to assess the effectiveness of the measure employed to maintain or enhance the applicable conservation attributes. There are several parameters for flora and fauna enumerations which is identifying the types and the quantity of commercial trees, non-commercial trees and fruit trees. Besides that, identification and implementation of silviculture treatment where can enhance the tree habitat. Then, identification the types and quantity of fauna (mammals, birds, amphibians and reptilian) and keep record of periodic inventory data for future research study.

## A. Flora

List of estimation trees that been identified in Steep Area 58 (ST: 5) as below;

| BLOCK                 | Inventoried Ha | Total volume (m <sup>3</sup> ) | Yield volume (m <sup>3</sup> /ha) | Species Group   | No. of trees by diameter class (cm) |       |       |       |       |       |          |         |         |         | No. of trees |         |          |
|-----------------------|----------------|--------------------------------|-----------------------------------|-----------------|-------------------------------------|-------|-------|-------|-------|-------|----------|---------|---------|---------|--------------|---------|----------|
|                       |                |                                |                                   |                 | 31-40                               | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91 - 100 | 101-110 | 111-120 | 121-130 |              | 131-140 | 171 -180 |
| Steep area 58 (ST: 5) | 32.70 ha       | 769.00 m <sup>3</sup>          | 23.51 m <sup>3</sup> /ha          | Dipterocarps    | 18                                  | 12    | 9     | 5     | 5     | 1     | 2        | 1       | 0       | 0       | 0            | 0       | 53       |
|                       |                |                                |                                   | Non-dipterocarp | 78                                  | 23    | 16    | 15    | 1     | 4     | 2        | 0       | 0       | 0       | 1            | 2       | 142      |
|                       |                |                                |                                   | Fruit trees     | 17                                  | 6     | 2     | 4     | 1     | 1     | 0        | 0       | 1       | 0       | 0            | 0       | 32       |
| Total                 |                |                                |                                   |                 | 113                                 | 41    | 27    | 24    | 7     | 6     | 4        | 1       | 1       | 0       | 1            | 2       | 227      |

## RECOMMENDATION

Sabah Softwoods Berhad's protected steep area no.58 (ST: 6) has a very high density of flora and fauna. All the wildlife for flora and fauna need the safety area as their habitat in forest to survive. So, it is important to protect the forest and the environment to ensure the biodiversity is safe. Besides that, protect the wildlife that listed as threatened species based on the RED LIST IUCN.

Sabah Softwoods Berhad has initiative to protect the flora and fauna with;

1. Plant more fruit trees as the source of food for inhabitants in the area.
2. Erect signboard for public awareness about protected forest areas.
3. Do regular patrolling
4. Make cooperation with government or non-government agencies such as Wildlife Department, World Wide Fund and Universiti Malaysia Sabah to join inspection on the population to increase knowledge from the expert.

In October 2018, Flora inventory is doing at the Steep Area no.58 (ST: 5). during the inventory, eight (8) grid line that been set up and been done in seven (7) days inventory. 8 workers with field conductor – Gesi Ak Dagang was involved in the inventory works.

### **SOCIAL IMPACT ASSESSMENT**



Social Impact assessment was conducted with 15 internal and 35 external stakeholders' internal stakeholders include staff, and workers. External stakeholders include contractors, shop owners, Village Head, and neighboring plantations. No major issues were highlighted.

We have not identified any customary or indigenous rights that overlap with our plantation in Brumas region. All of our operations are fully owned by us and we had no claims to prior land use or tenure made by indigenous people.

Complaints and Grievances Procedure has been developed and the channel of communication was well explained to staffs, contractors and communities staying in the camp. The Form has been developed and all the complaints have been documented and action by the Head of Unit is taken accordingly. Records will be kept at least for 3 years.



The company has a mechanism to resolve land disputes, and cases of loss of legal and customary rights of legitimate persons or individuals eligible for compensation. All individuals that request for the compensation will be entertained. The company will undergo the procedure for the clarification and confirmation of the status of the claimant by the Ketua kampung and Land and Survey Department and Forestry Department.

To date there have been no cases of communities or individuals making claims to land within the Certified Tree plantation area belonging Sabah Softwoods Bhd. The Title boundary is well demarcated on the ground and re-brushing is twice a year. The neighboring community is well informed. The Northern, Western and Eastern side of our title land is mainly occupied by oil palm plantations. The Southern part is mainly villagers occupying Kg Jelutong and Kg Sg.Udin.



Our company has put top priority to build staff and workers quarters. Shops, Police station, Multi-Purpose Hall, Soccer field, Mosque, Church and Dispensary are also made available to provide a conducive environment for the staffs and communities. There are other facilities available like Tennis Court, Padang Golf and Badminton/ Takraw Court. SSB also provided place especially for visitor that come to see the plantation area in Brumas known as Rest House.

Brumas Dispensary (clinic) is a support service department mainly under Timber operation Division. For year 2018, several programmers have been outline as follows:



| PROGRAMME IN A YEAR FOR 2018 |   |            |            |            |            |            |            |            |     |     |     |     |     |                  |
|------------------------------|---|------------|------------|------------|------------|------------|------------|------------|-----|-----|-----|-----|-----|------------------|
| 2018                         |   | Jan        | Feb        | Mar        | Apr        | May        | June       | July       | Aug | Sep | Oct | Nov | Dec | Remarks          |
| 1                            | Active Case Detection ( Malaria )         | √          |            | √          |            | √          |            | √          |     | √   |     | √   |     | Every two months |
| 2                            | Blood Donation Program                    |            |            | √          |            |            |            |            |     |     |     | √   |     | Twice a year     |
| 3                            | Tooth Extraction (Dental)                 |            |            |            | √          |            |            |            |     |     |     | √   |     | Twice a year     |
| 4                            | Circumcision (Berkhatan)                  |            |            |            |            |            |            |            |     |     |     |     | √   | Once a year      |
| 5                            | Family Planning                           | √          |            | √          |            | √          |            | √          |     | √   |     | √   |     | Every two months |
| 6                            | Immunisation                              | √          |            | √          |            | √          |            | √          |     | √   |     | √   |     | Every two months |
| 7                            | Cholesterol Test                          | √          | √          | √          | √          | √          | √          | √          | √   | √   | √   | √   | √   | Once a month     |
| 8                            | Uric Acid Test                            | √          | √          | √          | √          | √          | √          | √          | √   | √   | √   | √   | √   | Once a month     |
| 9                            | Glucose Test                              | √          | √          | √          | √          | √          | √          | √          | √   | √   | √   | √   | √   | Once a month     |
| 10                           | Combur Test                               | √          | √          | √          | √          | √          | √          | √          | √   | √   | √   | √   | √   | Once a month     |
| 11                           | Visiting & Checking PAKK                  |            |            |            | √          | √          | √          | √          | √   |     | √   | √   | √   | Once a month     |
| 12                           | Visiting & Checking resident of employees |            |            |            | √          | √          | √          | √          | √   |     | √   | √   | √   | Once a month     |
| <b>Total Workers</b>         |   | <b>629</b> | <b>614</b> | <b>716</b> | <b>566</b> | <b>600</b> | <b>601</b> | <b>781</b> |     |     |     |     |     |                  |
|                              |   | √          |            |            |            |            |            |            |     |     |     |     |     | Done             |
|                              |   | √          |            |            |            |            |            |            |     |     |     |     |     | Program          |

The main activities of the unit are to provide services healthcare and medication to workers and dependants in Sabah Softwoods Bhd and also nearby plantations. The main function of this unit are to giving medication, healthcare and advices to workers and dependants, implement blood test such as Cholesterol, Uric Acid, HB% and malaria and also urine check-up for Methamphetamine, Albumin, Sugar and Pregnancy Test. It also attends emergency cases, antenatal checkup and delivery cases in order assisting the Health Dept. in Immunization, Malaria activity (spraying, MBS and MDD).

| Year | Total of Donor | total of pints (ML) |
|------|----------------|---------------------|
| 2012 | 53             | 22,450              |
| 2013 | 76             | 32,200              |
| 2014 | 194            | 87,300              |
| 2015 | 66             | 29,700              |
| 2016 | 55             | 13,750              |
| 2017 | 30             | 10,520              |
| 2018 | 65             | 28,450              |





## WASTE MANAGEMENT



Tree plantation has identified all wastes and sources of pollution in the Environmental Aspects and Impacts Register. Potential sources of waste management pollutions are the scheduled waste, Domestic waste and Clinical waste. Standard Operating Procedure (SOP) of waste management is made available for each operating Units. Scheduled waste store has been built in the Workshop area that meet regulatory requirements, such as security, spill containment, ventilation, safety signage, segregation of wastes by type and an up-to-date inventory. Scheduled wastes are disposed through a licensed contractor as required by the authority.

General wastes are collected from staffs, labour line and office premises and disposed by burying in the developed landfill which is away from watercourse within the plantation. Burning of domestic waste is strictly prohibited and signages are posted to create awareness to the workers.

Contractor Wawasan Oil Recycle Sdn Bhd, has been appointed since March 2017 to collect scheduled waste. As of September 2018, the contractor has collected the followings



| Date / Period of Waste Generation | Waste Category Code | Name of Waste                  | Quantity Generated (MT/Litres) | Waste Handling      |                      |                    | Balance as of Sept, 2018       |
|-----------------------------------|---------------------|--------------------------------|--------------------------------|---------------------|----------------------|--------------------|--------------------------------|
|                                   |                     |                                |                                | Method <sup>a</sup> | Quantity (MT/Litres) | Place <sup>b</sup> | Quantity Generated (MT/Litres) |
| As of Sept, 2018                  | SW 305              | Spent Lubricant Oil (used oil) | 0                              | Stor                | 0                    | Scheduled waste    | 0                              |
|                                   | SW 410              | Fuel Filter                    | 0                              | Stor                | 0.0060               | Scheduled waste    | 0.0060                         |
|                                   | SW 102              | Battery                        | 0                              | Stor                | 0.1650               | Scheduled waste    | 0.1650                         |

Clinical wastes are separated and recorded in the Brumas Dispensary and being disposed through the Tawau government Hospital. Licensed contractor Sedafiat Sdn Bhd has been appointed to collect the clinical waste. For year, as of September 2018, 12 kg Clinical Waste already disposed.

#### Clinical Waste



Rubbish bin with cover and signboards

Land which is conserved helps in carbon sequestration. What we do in SSB may not have a great impact as a whole but we believe changes comes one step at a time. Like in the words of wisdom of a famous person “you must be the change you wish to see in the world”.

In Sabah Softwoods Berhad, “we make the change and we give back to the People and Planet”

**For more information look us up at website: [www.softwoods.com.my](http://www.softwoods.com.my)**