Website: www.shinyang.com.my Document Date: Update as at Name Of FMU: Person In Charge: 19/04/2025 Danum FMU T-3342 Mr Andy Wong Ko Hock, ED & Forest Manager Lot 515, Jln. Datuk Edward Jeli, Piasau Industrial Estate, P.O.Box 1599, 98008 Miri, Sarawak, Address: 98008 Miri, Sarawak, Malaysia **Policy** | 07865-17 |
| 07865-77 |
| Address: Ltd 156, Jalan Doba: Ecnard Jel Pitesai Infusional Estate P. O. Box 1599, 96008 Mir Tel: 905-05009 (Mar Line) | Fax: (105-65029), 965-65199 |
| Public Website: https://www.shinysrg.com.mg/ SHIN YANG SDN BHD Forestry Policy Statement Occupational Safety and Health Policy Date of Origin Policy: 1st August 2020 For this purpose, Shin Yang Sdn. Bhd. will ensure the following is achieved as far as practicable Comply with Occupational Safety and Health Act 1994 (Act 514) and all relevant Provide safe systems of work and safe working environment Ensure continuous improvement in safety and health standards.

Report, investigate and record any workplace accident, dangerous occurrence, occupational poisoning and occupational disease. Maintain and enhance the attributes of High Conservation Value (HCV) within our FMUs forest to protect life and company's property by complying with the following: Practice safe working methods and obey safety and health rules and instruction rescuee sate working methods and obey sarety and health rules and instruction.
 Ensure active participation in safety and health programs.
 Cooperate with employer or others to fulfill duties under the Act or regulation. Wear appropriate personal protective equipment at all times during at place of work.
Report any workplace incident, unsafe act and unsafe condition.
Ensure that no action will cause harm to himself or to any other person. · Prohibition the use of drugs or intake of alcohol beverages within the workplace nbark on a journey to certify our forest management units to meet internationally recognized s part of our commitment to be in line with Sarawak Forest Policy 2019. "Step by Step to Excellence" andy Wong Ko Hock NDY WONG KO HOCK We Commit to Sustainable Forest Management Practic Map of Locality: 114°40'0"E 115°0'0"E 114°20'0"E 1:500,000 114°20'0"E 114°40'0"E **Background** Danum FMU T3342 is located at upper Sg. Murum area in Kapit Division, the License (FTL) No. T/3342 was issued to Shin Yang Industries (Bintulu) Sdn Bhd for a period of 25 years (17/6/1997 to

16/6/2022) and the forest management is undertaken by Shin Yang Sdn. Bhd sustainable forest management (SFM) committee. It was previously being logged one cycle of harvesting. However,

| | | Dallulli FO | Public Summary | 042) | | | | | | | | | |
|-------|----------------------|---|--|--------------------------|----------------------|-------------|--|--|--|--|--|--|--|
| | | Webs | site: www.shinyang.com.my | | | | | | | | | | |
| Doc | cument Date: Up | | Name Of FMU: | | Person In Charg | je: | | | | | | | |
| | 04/2025 | | Danum FMU T-3342 | | Mr Andy Wong K | | | | | | | | |
| | | | | | ED & Forest Mai | | | | | | | | |
| | | with the recent approved | ved FMP, the operable area is divided into 30 coupes lately, occupies | | | | | | | | | | |
| | | | area of 200, 383 ha(s) of for | | • | • | | | | | | | |
| | | | s been inundated due to the | • | | • | | | | | | | |
| | | | certified under FMC-NF-0012 | | • | | | | | | | | |
| /II\ | Dhysical | | cense which the FTL will expired by 31 September 2053 under TSDL/T-3342/TL 2201 he altitudes of Danum FMU range from 380m (at low hill areas) to 2,000m (highest spot at the | | | | | | | | | | |
| (II) | Physical Features | | level. Danum FMU is mainly | , | | • | | | | | | | |
| | i catures | | ses II and III) only few areas | • | | | | | | | | | |
| | | , | ass IV) which is considered | • | | • | | | | | | | |
| | | , | ropical type of climate affecte | • | | | | | | | | | |
| | | generally hot, wet and hum | id throughout the year. Base | d on the rainfa | Il stations at Long | Lidam and | | | | | | | |
| | | | al rainfall around the Danum | | • | 714mm. | | | | | | | |
| (III) | Boundaries | | rea with total perimeter boun | | , , | | | | | | | | |
| | | , | es and tributaries of Sg. Dan | • | eran to the north; | | | | | | | | |
| | | , | nesia International Boundary | | | | | | | | | | |
| | | c. Sg. Bungau, Sg. Ka d. Cut-lines on the we | ajang and cut-lines to the So | ulli , allu | | | | | | | | | |
| a) | Related to | 1 | rtially located within the regio | n of which is | one of the portion a | area of the | | | | | | | |
| | HoBs | | art of Danum Protected Fores | | | | | | | | | | |
| | | 1 | he coverage area by respec | • | | | | | | | | | |
| | | below, | | | | | | | | | | | |
| | | Protected Forest (PF) | Total of Area (ha) in | | ige within HoB , | | | | | | | | |
| | | | Danum FMU | ha(s | s) & (%) | | | | | | | | |
| | | Balui PF | 28,441 | | - (Nil) | | | | | | | | |
| | | Linau PF | 117,547 | 72,23 | 8.4 (61%) | | | | | | | | |
| | | Danum PF | 54,395 | 54,394 | 4.3 (100%) | | | | | | | | |
| | | Total Area | 200,383 | 126,63 | 32.7 (63%) | | | | | | | | |
| | | - | of the total area of Danum Fl | | | | | | | | | | |
| | | , , , | lixed- Dipterocarp Forest. He | • | • | | | | | | | | |
| | | | IP to ensure the integrity of the | ne forest value | s within the Protec | ted Forest | | | | | | | |
| | | are being maintained. | | | | | | | | | | | |
| b) | Administratio | Shin Vang Sdn Rhd, the ma | ain contractor of FTL T-3342 | oversees the | Danum Forest Ma | nagement | | | | | | | |
| D) | n | | commitment to sustainability. | | | • | | | | | | | |
| | | | | | | | | | | | | | |
| | | operations. | People, and Profit , the company integrates environmental, social, and economic priorities into its operations. | | | | | | | | | | |
| | | Governance Structure: | | | | | | | | | | | |
| | | _ | hip : Sustainability decisions | • | , | • | | | | | | | |
| | | | ctors, ensuring alignment wit | _ | | | | | | | | | |
| | | | est Management Commit | , , | | | | | | | | | |
| | | • | as Forest Licensing (Mapping | | • | · · | | | | | | | |
| | | | nservation, and Operations, addresses sustainability and | | • | , monitors | | | | | | | |
| | | perioriliance, and a | auuresses sustamability and | - IIVII OI II II EI ILAI | เองนธง. | | | | | | | | |

| | | Shin Yang Industries (Btu) Sdn Bn num Forest Management Unit (T-3 | |
|--|--|---|--|
| | | Public Summary Website: www.shinyang.com.my | |
| Document Date: U 19/04/2025 | pdate as at | Name Of FMU: Danum FMU T-3342 | Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager |
| c) Forest Condition Function Zoning | Foremen, E managemer procedures Collaborative A top-down framew stakeholders are en Shin Yang's dedicate being, and long-term Shin Yang Sdn Bhd by global standards Public Summary: F To ensure sustainal Zoning. This system and community use. 1. Protected Zones These areas are conservation. They in High Conse Areas with some Wildlife hab Cultural site International Total area production Zone This is the main Total area for production Zone This is the main Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site International Total area for production Zone This is the Mildlife hab Cultural site Int | Environmentalists), on-ground teams int practices. Frontline workers at (e.g., MC&I SFM Indicator 7.3.1). Fork ensures accountability across a gaged through structured feedback tion to sustainable forestry, balancing economic viability. Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest into different zone. Here's how the land is zoned: Forest Zoning in Danum FMU ble and responsible forest use, Dan divides the forest use, Dan | Forest Manager, and supporting roles (e.g., is implement policies, legal guidelines, and adhere strictly to standardized operating Approach: Approach: All levels of the organization, while external mechanisms. This holistic model reinforces and ecological preservation, community well-manage forest resources responsibly, guided and sees based on their purpose, protection needs, important for environmental and cultural purces and Terrain IV areas arvesting through sustainable methods. |

FMU

Total area: 15,766 hectares

obtains

the

required

equipment

and

approvals.

| Document Date: Upd 19/04/2025 | ate as at Name Of FMU: Danum FMU T-3342 | | Mr Andy | In Charge: / Wong Ko Hock, orest Manager |
|----------------------------------|--|-----------|-----------------|--|
| | 5. Other Non-Production Zones A small portion of the land is used for: FMU operations Base camps and wood processing facilities Total area: 605 hectares | 5 | | |
| | Summary Table of Land Use Zone | Size (ha) | % of Total Area | |
| | Production Zone | 152,335.2 | | |
| | Protection Zone (incl. Terrain IV, HCV, Buffers) | 30,681.5 | 15.58% | |
| | Community Use (Water, Farming, Burial Grounds) | 995 | 0.50% | |
| | Heli-Block (Non-operational) | 15,766 | 7.87% | |
| | Operations & Base Camp | 605 | 0.30% | |
| | Total FMU Area | 200,383 | 100% | |

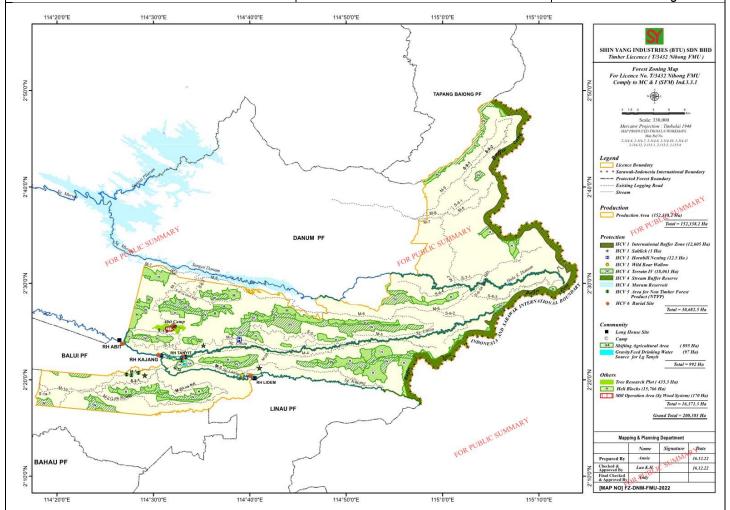
and community welfare in Danum FMU.

Website: www.shinyang.com.my

Document Date: Update as at

19/04/2025

Name Of FMU: Danum FMU T-3342 Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager



d) Management Objectives

- a. Danum FMU T-3342 is to have a multiple-use forest for economic, social and environmental purposes, while ensuring that the productive capacity of the forests for both goods and services is maintained and/or enhanced;
- b. To sustain production and revenue of high value timber based on an annual allowable cut;
- c. To monitor the growth through Continuous Forest Inventory (CFI) and ensure rate of harvest shall not greater than estimated regrowth of the residual stand;
- d. To ensure the actual harvesting area is not more then the Annual Harvesting Coupe or Annual Cutting Area (ACA) as calculated based on Net Harvestable Production Area divided by Cutting Cycle (ha/ yr.) = 5,078 ha;
- e. To carry out appropriate treatment during the plan period, in areas where potential commercial species are present for the purpose of regeneration and enhancement of their growth performance to ensure sustainability in future cycle;
- f. To ensure available of DF circular 6/99 and should be strictly complied;
- g. To adhere strictly to Reduce Impact Logging during harvesting;
- h. To protect areas of scenic, historic, geological or ecological significance through the establishment of HCVF demarcation at the FMU that will be remained undisturbed/ buffered;

| | | | Shin Yang Industries (Btu) Sdn Bnd | |
|----------|-----------------|------|---|--------------------------------------|
| | | | Danum Forest Management Unit (T-3342) | |
| | | | Public Summary (| |
| | | | Website: www.shinyang.com.my | |
| Doc | cument Date: Up | date | , | Person In Charge: |
| | 04/2025 | | Danum FMU T-3342 | Mr Andy Wong Ko Hock, |
| | | | | ED & Forest Manager |
| | | i. | Evaluation to the impacts of harvesting activities to the stakehol | ders e.g. workers and local |
| | | | community within the FMU area through comprehensive SIA; | - |
| | | j. | To provide a safety environment to the staffs as well as their family | ; & |
| | | k. | To respect the right of the local community and workers. | |
| e) | Forest | a. | FMU is hill mixed-Dipterocarp forest (MDF), it consists trees of t | he family Dipterocarpaceae, |
| | Resources & | | an important source of timber e.g. Meranti (Shorea spp.), Selangan | Batu (Shorea spp.), Keruing |
| | Forest | | (Dipterocarpus spp.), Kapur (Dryobalanops spp.) and Mersawa | (Anisoptera spp.) in sparse |
| | Research | | clusters, dominate at the upper storey of the forest. Meanwhile, mi | d-storey dominated by small |
| | | | species such as Asam (Magifera spp.), Bintangor Putih (Calo | phyllum spp.), Geronggang |
| | | | (Cratoxylum spp.), Nyatoh (Ganual & Isonandra spp.) and Ubah (E | • • • • |
| | | | of small trees and regeneration or larger species thickly dominate t | • • |
| | | b. | Timber stock as recorded from the forest research (30cm dbh and a | above) is averaged at 108.95 |
| | | | m³/ha. According to classification od DBH, | |
| | | | Ass PSP Measure 30-40 40-60 60-80 80-120 | >120 Total |
| | | | Year 2020 Total PSP Average 43 32.37 46 45.90 5 17.45 1 7.1 24 Percentage 56.30% 35.60% 6.20% 1.50% | 1 0.25 2.64 76 105.47 |
| | | | Year 2021 Total PSP Average 42 32.45 27 46.99 5 19.69 1 7.7 32 Percentage 55.07% 36.25% 6.87% 1.52% | 78 0.22 2.05 76 108.95 0.29% 100% |
| | | | [MC&I 8.2a] | , |
| | | c. | Non-timber product such as rattan, bamboo, palm and wild vegetable | le and fruits are still available |
| | | | at the FMU and | |
| | | d. | FMU has the Total of ERT species of fauna with 114 species of fau | una consist of 19 |
| | | | mammals, 90 aves, four (4) reptiles and one (1) insect [MC&I 8.2b] | o] |
| f) | Yield | a. | The diameter-limit cutting are ≥ 50 cm dbh and above for Diptero | |
| | Regulation | | for non-Dipterocarp species and to ensure that all species listed | d as Totally Protected under |
| | | | the Wild Life Protection Ordinance 1998 would not be felled; | |
| | | b. | The Danum FMU involves the selective, re-entry timber harvesting of | of all hill forest in accordance |
| | | | with the term and conditions of the FTL No. T-3342 issued by FDS; | |
| | | C. | The area will be worked over a period of 30 years in one cutting cy | · · |
| | | d. | Coupe Sequences justification of forest research , forest manager | |
| | | | part of the Danum FMU to be the initial coupe of this cutting cycle a | • . |
| | | | gradually move to the middle part of the FMU and lastly to the east | ern part. |
| g) | Rate of | a. | Annual Allowable Cut (AAC) & Economic Viability | |
| | Annual | | Danum FMU's Annual Allowable Cut (AAC) has been revised using | |
| | Harvest | | to ensure ecological and economic sustainability. Initially set at 98, | , |
| | | | the AAC was recalculated to 140,755 m³ (27.72 m³/ha) after 5 year | , • |
| | | | Plot (PSP) research revealed a higher Mean Annual Increment (MA | , |
| | | | ≥45 cm DBH. This adjustment aligns with the MC&I SFM Indicator | |
| | | | the "economical cut" (20 m³/ha) exceeds the breakeven volume (| (27,006 m²) required for |
| | | | operational viability | |
| | | b. | Production for Year 2024 = 25,509 m ³ | |
| | | | Verification of Sustained Yield | |
| | | U. | | |
| | | | Yield sustainability is validated through continuous monitoring of: | |
| <u> </u> | | 1 | I. Harvesting mortality, | |

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025

Name Of FMU:
Danum FMU T-3342

Mr Andy Wong Ko Hock,
ED & Forest Manager

- II. Recruitment/growth of residual stands, and
- III. Tree conditions pre-/post-logging (via PSPs established since 2017). A simulation model confirmed the revised AAC (~109,947 m³), ensuring alignment with ecological capacity and economic needs.

d. Key Risks & Mitigation Strategies

Variability in annual harvest volumes is expected due to:

- i. **Weather disruptions** (e.g., heavy rains),
- ii. Market fluctuations, and
- iii. **External shocks** (e.g., COVID-19 impacts). To safeguard yield control:
- iv. Annual harvesting area is capped at 5,078 ha,
- v. Production volumes must not exceed AAC,
- vi. Internal audits and management reviews enforce compliance.

e. Annual Coupe Planning

Harvesting follows a phased approach across Danum FMU:

- I. Initial coupes in the **Southwest**, progressing to central and eastern zones.
- II. Annual coupes are subdivided into **50–100 ha blocks** with pre-demarcated boundaries.
- III. Operable area is strictly limited to **5.078 ha/year** to prevent overharvesting.

f. Forest Management Plan (FMP) Revisions

The FMP is reviewed every **5 years** (valid for 10 years) and amended to incorporate:

- I. New data from operational monitoring or research,
- II. Policy shifts,
- III. Downstream requirements (e.g., market or regulatory changes),
- IV. Outcomes of High Conservation Value (HCV) assessments. Revisions ensure adaptive, science-based management aligned with global sustainability standards.

g. Commitment to Sustainability

Shin Yang Sdn Bhd and Danum FMU prioritize a **balance of ecological preservation**, **community well-being**, **and economic resilience**. Through rigorous data-driven planning, adaptive governance, and stakeholder engagement, the FMU upholds its mandate to manage forest resources responsibly for future generations.

h) Harvesting Technique

Danum FMU employs **Reduced Impact Logging (RIL)** techniques to balance operational efficiency with ecological preservation:

- Winching with Modified Excavators: Logs are gently extracted using excavators
 equipped with winch systems, minimizing soil disturbance and residual tree damage.
 Bulldozers are restricted to pre-mapped skid trails (aligned with natural contours) to protect
 sensitive areas.
- **Controlled Extraction**: Logs are transported via skid trails (max 1 km length) to landing sites (≤900 m² each), ensuring minimal environmental footprint.
- Key Equipment: Modified excavators, bulldozers, grapple log loaders, and timber trucks.

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025

Name Of FMU:
Danum FMU T-3342

Mr Andy Wong Ko Hock,
ED & Forest Manager

Training & Compliance

All forest workers undergo rigorous training (internal/external) aligned with *The Forests (Trained Workmen) Rules, 2015*, covering:

- RIL practices, directional felling, and environmental safeguards.
- Occupational safety, chainsaw operation, and compliance with harvesting SOPs.

Tree Felling Protocols

- Pre-Harvest Preparation: Trees ≥50 cm DBH (Dipterocarps) or ≥45 cm DBH (Non-Dipterocarps) are tagged; skid trails and landing sites are pre-established.
- **Directional Felling**: Prioritizes worker safety and residual stand protection. Trees are felled away from waterways and buffer zones.
- Post-Felling: Trimming, cross-cutting, and delimbing are conducted immediately using chainsaws.

•

Structured Harvesting System

- 1. **Pre-Harvest Inventory**: Conducted before operations begin.
- 2. **Skid Trail Design**: Max width = tractor blade; avoids steep slopes and conservation zones.
- 3. **Log Extraction**: Winched logs are transported via tractor to landings; rivers/trucks used for final transport.
- 4. **Prohibited Activities**: No harvesting in buffer zones or conservation areas.

Environmental & Economic Balance

- Soil & Water Protection: Techniques reduce erosion, compaction, and runoff.
- Residual Stand Preservation: Ensures sufficient crop trees for future cycles.
- Compliance: Aligns with MC&I SFM standards and Sarawak's RIL guidelines.

Commitment to Innovation

Danum FMU integrates cutting-edge technology (e.g., winch systems) with traditional expertise to advance sustainable forestry. By prioritizing training, monitoring, and adaptive practices, Shin Yang Sdn Bhd ensures forest resources are managed responsibly for generations to come. Sustainable logging isn't just a practice—it's a pledge to protect ecosystems while supporting livelihoods.

i) Forest Growth

- a. The FMU adopted into the monitoring forest growth on;
- b. Individual tree increment or growth in terms of volumes / basal (Is);
- c. Mortality (M), or the death of trees; a
- d. Ingrowth I, or the appearance of new trees in measurable size classes from regeneration; and
- e. Simulation module adopted by FMU is I = Is M + R.
- f. Average Basal Area for the 1st Assessment for 15 research plots is 12.897 m²ha⁻¹.

Monitor of forest growth rate update as at year 2024:

Forest Manager reported the total 10 continual forest inventory CFIs are being re-measured to check the growth rates and regeneration for the PSP potential yields with 30 cm and above. The Age of the CFI is about 1-5 years. The results of monitoring of growth and recruitment / mortality are as below:

Website: www.shinyang.com.my

Document Date: Update as at

19/04/2025

Name Of FMU: Danum FMU T-3342 Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager

1-2 years PSP growth

Summary Average

| D | Total PSP | Baseline (| Baseline (Sep 2017) | | Ass 2(Jan 2022) | | Mortality | | uitment | Intonial | |
|--------------------|-----------|------------|---------------------|-------|-----------------|------------------|----------------------|------|---------|-----------|--------|
| Description | | Vol 1 | Vol 1/ha | Vol 2 | vol2/ha | Vol _m | Vol _m /ha | Volr | Volr/ha | Interval | Growth |
| 30cm dbh and above | 5 | | 103.41 | | 107.67 | | 2.61 | | 3.17 | 1-2 years | 5.51 |
| 45cm dbh and above | 5 | | 62.28 | | 64.35 | | 1.10 | | - | 1-2 years | 1.51 |
| 50cm dbh and above | 5 | | 50.26 | | 51.76 | | 1.10 | | - | 1-2 years | 1.08 |

2-3 years PSP growth

Summary Average

| Danietia. | Total PSP | Baseline (Sep 2017) | | Ass 2(Jan 2022) | | Mortality | | Recruitment | | | C | |
|--------------------|-----------|---------------------|----------|-----------------|---------|------------------|----------------------|-------------|---------|-----------|--------|--|
| Description | | Vol 1 | Vol 1/ha | Vol 2 | vol2/ha | Vol _m | Vol _m /ha | Volr | Volr/ha | Interval | Growth | |
| 30cm dbh and above | 3 | | 113.58 | | 123.17 | | 6.99 | | 8.23 | 2-3 years | 7.72 | |
| 45cm dbh and above | 3 | | 67.03 | | 71.50 | | 4.30 | | - | 2-3 years | 1.93 | |
| 50cm dbh and above | 3 | | 54.93 | | 58.19 | | 3.75 | | - | 2-3 years | 1.41 | |

4-5 years PSP growth

| 9. Growth for the yields at S | trip 18 | | | | | | | | | | |
|-------------------------------|-----------|------------|-----------|----------|---------|------------------|----------------------|-------|---------|----------|--------|
| | Plot Size | Baseline (| Sep 2017) | Ass 3(Ja | n 2022) | Mort | ality | Recru | itment | | |
| Description | ha(s) | Vol 1 | Vol 1/ha | Vol 2 | vol2/ha | Vol _m | Vol _m /ha | Volr | Volr/ha | Interval | Growth |
| 30cm dbh and above | 1 | 155.82 | 155.82 | 175.59 | 175.59 | 12.07 | 12.07 | 4.96 | 4.96 | 4.39 | 5.63 |
| 45cm dbh and above | 1 | 101.13 | 101.13 | 113.16 | 113.16 | 3.58 | 3.58 | | - | 4.39 | 2.74 |
| 50cm dbh and above | 1 | 64.82 | 64.82 | 70.11 | 70.11 | 2.56 | - | | - | 4.39 | 1.21 |

| 10. Growth for the yields at | Strip 1 | | | | | | | | | | |
|------------------------------|-----------|--------|----------|---------|---------|------------------|----------------------|-------|---------|----------|--------|
| | Plot Size | Ass 1(| Oct 16) | Ass 2(. | lan 22) | Mort | ality | Recru | itment | | |
| Description | ha(s) | Vol 1 | Vol 1/ha | Vol 2 | vol2/ha | Vol _m | Vol _m /ha | Volr | Volr/ha | Interval | Growth |
| 30cm dbh and above | 1 | 136.66 | 136.66 | 152.23 | 152.23 | 7.40 | 7.40 | 11.84 | 11.84 | 5.27 | 5.20 |
| 45cm dbh and above | 1 | 91.33 | 91.33 | 99.06 | 99.06 | 2.10 | 2.10 | 0 | - | 5.27 | 1.47 |
| 50cm dbh and above | 1 | 76.94 | 76.94 | 81.77 | 81.77 | 2.10 | 2.10 | 0 | - | 5.27 | 0.92 |

j) Environmental Assessment & Quality Monitoring

- a. The EIA of Danum FMU (T-3342) under terms and approval condition of approval in accordance with the provisions of Natural Resources and Environment Ordinance 1993(Cap.84- Laws of Sarawak) and Natural Resources & Environment (Prescribed Activities) Order, 1994, has been approved by the controller of Environment Quality Sarawak (EQS) on 3rd December, 2015;
- b. The FMU is conducting quarterly Environmental Monitoring Report (EMR) to monitor the status of General Terms & Conditions and mitigations as required in the approved EIA report; and EQM of Danum FMU is corporate into quarterly EMR;
 - 1. To establish environmental baseline and trend:
 - 2. To inform policy design and decision making and
 - 3. To ensure compliance with environmental regulation.
- c. The environmental baseline of water quality of Danum FMU is Compliance Limits are benchmarked at Class IIB of the National Water Quality Standards of Malaysia (NWQSM).

Environmental status as at 2024

Water Monitoring Record latest 4 Quarters of EMR, Year 2024

| Parameter | 3rd Quarter 2023 | 4th Quarter 2023 | 1st Quarter 2024 | 2nd Quarter 2024 | |
|-----------|------------------|------------------|------------------|------------------|--|
| | | | | | |

Website: www.shinyang.com.my

Document Date: Update as at

19/04/2025

Name Of FMU: Danum FMU T-3342 Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager

| | Compliance Limit * | DNM1 | DNM2 | DNM1 | DNM2 | DNM1 | DNM2 | DNM1 | DNM2 |
|--------------------|-----------------------|------|------|------|------|------|------|------|------|
| рН | 6.0 - 9.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 6.7 |
| DO (mg/l) | 5 -7 | 6.5 | 6.5 | 6.3 | 6.3 | 6.4 | 6.4 | 6.5 | 6.2 |
| BOD (mg/l) | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| COD (mg/l) | 25 | 12 | 10 | 11 | 10 | 11 | 10 | 12 | 23 |
| TSS (mg/l) | 50 | 18 | 5 | 4 | 2 | 2 | 2 | 3 | 25 |
| Amm. N (mg/l) | 0.3 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 |
| Phosphurus (mg/l) | 0.1 | 0.01 | - | 0.02 | - | 0.01 | - | 0.01 | - |
| TCC (MPN/100 ml) | 5,000 | 1600 | 1600 | 140 | 79 | 79 | 49 | 49 | 540 |
| TFC (MPN/100 ml) | 400 | 130 | 350 | 33 | 13 | 33 | 23 | 13 | 49 |
| Oil & Gease (mg/l) | 0.04; N | ND |

The monitor of Danum FMU to the compliance against EIA Terms and Condition

| | | | Compliar | ice Status | |
|----|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| | Issues | 3 rd Quarter 2023 | 4 th Quarter 2023 | 1 st Quarter 2024 | 2 nd Quarter 2024 |
| 1. | Biodiversity Conservation | Complied | Complied | Complied | Complied |
| 2. | Forest Harvesting Operation | Complied | Complied | Complied | Complied |
| 3. | Control of Soil Erosion and Sedimentation | Complied | Complied | Complied | Complied |
| 4. | Protection of Water Quality | Complied | Complied | Complied | Complied |
| 5. | Waste Disposal Management | Complied | Complied | Complied | Complied |
| 6. | Occupational Health and Safety | Complied | Complied | Complied | Complied |
| 7. | Road and River Traffic Safety | Complied | Complied | Complied | Complied |
| 8. | Socio-economic Consideration | Complied | Complied | Complied | Complied |
| | Score | 100 % | 100 % | 100 % | 100 % |

Schedule waste management status as at 2025: Record of SW305, SW 306, SW312 & SW 410 produced for year 2021- 2025 (as of 01 Apr 2025)

Apart from the river quality, the consultant also did perform monitor the compliance against EIA Terms and Condition, where the results shows that the Danum FMU is satisfactory compliant against the EIA Terms and Conditions.

| Type of | Annual Estimated | | Actual (Total o | drum(s) & Perd | centage) | |
|---------|---------------------|------|-----------------|----------------|-----------|------|
| SW | Quantity | 2021 | 2022 | 2023 | 2024 | 2025 |

Website: www.shinyang.com.my

| 19/04/2025 | e as at | | Name Of FMU Danum FMU T | | | Mr Andy Wong ED & Forest M | Ko Hock, |
|------------|---------|---------------------|----------------------------|----------|----------|----------------------------|----------|
| | | Generated (Drum) | | | | | |
| | SW 305 | 15 drums | 15 (100%) | 12 (80%) | 10 (66%) | 10 (66%) | 4(26%) |
| | SW 306 | 4 drums | 3(75%) | 2 (50%) | 3 (75%) | 2 (50%) | 1 (25%) |
| | SW 312 | 2 drums | 2(100%) | 2 (100%) | 2 (100%) | 2 (100%) | 1 (50%) |
| | SW 410 | 2 drums | 2(100%) | 2 (100%) | 2 (100%) | 2 (100%) | 1 (50%) |

[MC&I 8.2c]

k) High Conservation Value(s)

- a. Six major (6) values listed in the HCVF Malaysia Toolkit (2009) are present in FMU. A significant number of HCV biodiversity species are present in the study area and its surroundings.
- b. There were also signs of critically endangered (CR), endangered (EN), vulnerable (VU) and nearly threatened (NT) flora and fauna (HCV 1.2) observed during the assessment. A total of 114 fauna and 18 flora species were found to be an ERT species.
- c. There are 10 endemic fauna and 66 flora species found in the study sites (HCV 1.3).
- d. Areas for critical temporal use were also identified to be present (HCV 1.4).
- e. The area is an important linkage between other larger forest landscape complexes as it is surrounded by other logging concession, Totally Protected Areas and Forest Management Unit (HCV 2).
- f. Part of the FMU was inundated due to the impoundment of Murum dam, as a result the FMU become an important refuge which provide food source for wildlife in vicinity of the FMU(HCV 3).
- g. The landscape of Danum FMU consist of undulating and steep areas that classified as Terrain Class IV (HCV 4.1).
- h. River buffer prohibiting logging operations is required for service of nature (HCV 4.2), and the size of the buffer depends on the size of the river or stream, in order to control soil erosion.
- i. Furthermore, the entire FMU is within HoB initiatives site, which linking the TPA networks between Sarawak, Sabah and trans boundary networks in Brunei and Kalimantan (HCV 4.3).
- j. Result of the assessment for social and cultural values suggested HCV 5 is present as the communities within or adjacent to the FMU depend on hunting, fishing and collecting jungle produce.
- k. HCV 6 is present as three (3) burial grounds found within the Danum FMU.
- I. Patrolling and monitoring on the HCV will be conducted in the interval once a year by the monitoring crew through the designed internal audit to check the boundary & encroachment AND also the wildlife monitoring through Camera Trap and Transect trails monitoring.

m.

HCVF monitoring status as at year 2025:

a) **HCVA monitoring status**:

Website: www.shinyang.com.my

Document Date: Update as at

19/04/2025

Name Of FMU: Danum FMU T-3342 Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager

| No. | Monitored Area | Date of Monitoring | Status | Report Ref. No. |
|-----|---|-----------------------|--------------------------------|-----------------|
| 1. | HCV Sta. 01: Apan Putau in Coupe 30AR along Sungai Linau. | 20 Nov 2024 | Active and No encroachment | DAN/HCV/01/25A |
| 2. | HCV Sta. 02: Hornbill nest in Coupe 30AR. | 30 Nov 2024 | Active and No encroachment | DAN/HCV/02/25B |
| 3. | HCV Sta. 03: Apan Sg. Berapa in Coupe 01AR. | 12 Dec 2024 | Active and No encroachment | DAN/HCV/03/25C |
| 4. | HCV Sta. 04: Wild boar nest, Coupe 05AR | 16 Dec 2024 | Not Active and No encroachment | DAN/HCV/04/25D |
| 4. | Apan Sg. Torai in Coupe 05AR (SA Area) | 16 Dec 2024 | Active and No encroachment | DAN/HCV/04/25E |
| 5. | HCV Sta. 05: Apan Pelawai in Coupe 05AR. | 13 Jan 2025 | Active and No encroachment | DAN/HCV/05/25F |
| 6. | HCV Sta. 06: Consultation with Long Tanyit regarding with Long Tanyit Burial Ground | 15 Feb 2025 | Active and No encroachment | DAN/HCV/06/25G |
| | Long Tanyit Water catchment area. | 15 Feb 2025 | Active and No encroachment | DAN/WCLL/06/25H |
| 7. | HCV Sta. 07: Consultation with Long Kajang regarding with Long Kajang burial ground area. | 16 Feb 2025 | Active and No encroachment | DAN/HCV/07/25I |
| 8. | HCV Sta. 08: Consultation with Long Lidem regarding with Long Lidem burail ground area. | 18 Feb 2025 | Active and No encroachment | DAN/HCV/08/25J |

b) Monitoring for wildlife Fauna (update Monitoring 2025)

There are four (4) site has been monitored on this assessment using Four (4) Bushnell Trophy Cam camera trap. These **Four** sites are;

| Date of Monitorio | ng |
|---|-----------------------|
| Location | Date |
| Site 1 : Animal Trail (Coupe 25) | 16.02.2025-26.02.2025 |
| Site 2 : Animal Trail 1 (Coupe 2) - Active Harvesting | 16.02.2025-26.02.2025 |
| Site 3: Animal Trail 2 (Coupe 2) - Active Harvesting | 16.02.2025-26.02.2025 |
| Site 4: Apan Pelawai (Coupe 5) | 16.02.2025-26.02.2025 |

From our previous monitoring experience, some species are frequently visit the same site and only limited to certain species. Therefore, different site characteristic will give a different data. Overall SEVEN (7) images of different species are capture by camera trap on this monitoring. The summary of image captured by camera trap as below;

Website: www.shinyang.com.my

Document Date: Update as at

19/04/2025

Name Of FMU: Danum FMU T-3342 Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager

| Species | Local Name | Endemism | | servation St itoring Year | | Found in |
|-------------------------|-------------------------------|----------|--------------|------------------------------|------|----------------|
| opener. | | | WLPO 1998 | CITES | IUCN | year 2025 |
| Hylobates muelleri | Mueller's Bornean gibbon** | YES | TP | - | EN | Present |
| Macaca fascicularis | Long-tailed macaque | | Р | App. II | EN | Present |
| Macaca nemestrina | Pig tailed macaque | | Р | App. II | EN | Present |
| Hystrix brachyura | Malayan porcupine | | P | 1 | LC | Present |
| Rusa unicolor | Sambar deer | | | | VU | Present |
| Cervus unicolor | Barking deer | | 1 | - | VU | New Present |
| Lopbopborus ignita | Bornean crested fireback | | Р | - | VU | New Present |
| Chimerrogale phaeuro | ** Bornean water schrew | YES | 1 | - | - | New Present |
| Treron curvirostra | Thick billed green pigeon | | Р | - | LC | New Present |
| Treron olex | Little green pigeon | | Р | - | LC | New Present |
| Geopelia striata | Little zebra dove | | Р | - | LC | New Present |

A number of species based on conservation status are shown in the below table;

| Reference | Conservation Status | Total (HCV)2017 | Total (2023) |
|--------------------------------------|------------------------|--------------------|-----------------|
| Wild Life Protection Ordinance, 1998 | Totally Protected (TP) | 11 | 11 |
| | Protected (P) | 24 | 24 |
| | Not Protected (NP) | 3 | 3 |

Website: www.shinyang.com.my

| Document Date: Update as at | Name Of FMU: | Person In | Charge: |
|-----------------------------|--|-----------|--------------|
| 19/04/2025 | Danum FMU T-3342 | Mr Andy W | ong Ko Hock, |
| | | ED & Fore | est Manager |
| International Union | for Conservation of Least Concern (LC) | 20 | 20 |

| International Union for Conservation of Nature (IUCN) Red List | Least Concern (LC) | 20 | 20 |
|---|----------------------------|----|----|
| Nature (IOCN) Red List | Near Threatened (NT) | 5 | 3 |
| | Vulnerable (VU) | 8 | 10 |
| | Endangered (EN) | 2 | 3 |
| | Critically Endangered (CR) | 1 | 2 |
| | Not Listed (NL) | 2 | 0 |
| Convention on International Trade in Endangered Species of Wild Fauna | Appendix I | 3 | 3 |
| and Flora (CITES) | Appendix II | 3 | 17 |
| | Appendix III | 1 | 1 |
| | Not Listed (NL) | 31 | 17 |

c) Monitoring of changes Flora

As part of ongoing monitoring efforts at the Danum Forest Management Unit (FMU), it has been confirmed that endangered, rare, and threatened (ERT) species, as well as endemic flora, continue to thrive in the area. To protect these species, all protected flora, including fruit trees and mother trees, have been tagged with blue tags to distinguish them from harvestable trees. Key findings from the monitoring include:

- ERT Species Presence: A total of 18 ERT species were identified within Danum FMU. Of these, one species is classified as Totally Protected under the Wildlife and Protected Areas Ordinance (WLPO) of 1998. Additionally, six species are protected under the same ordinance, while five species are not protected.
- IUCN Red List Classification: Under th
- e International Union for Conservation of Nature (IUCN) Red List, four species are categorized as Vulnerable (VU), one species as Endangered, one species as Nearly Threatened, and four species as Least Concern (LC). Five species are not listed on the IUCN Red List.
- CITES Status: One species found at Danum FMU is listed under Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which regulates international trade to ensure it does not threaten species' survival. The remaining species are not listed under CITES.
- Endemic Flora: The Danum FMU (T/3342) is also home to sixty-six (66) endemic flora species, which are unique to the area. These species are managed with special consideration, particularly regarding sustainable harvesting practices to ensure their continued survival.

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025

Name Of FMU:
Danum FMU T-3342

Person In Charge:
Mr Andy Wong Ko Hock,
ED & Forest Manager

[MC&I 9.3.2]

d) Protection of Rare , Threatened and Endangered Species.

The Danum Forest Management Unit (FMU) is committed to the ongoing monitoring and conservation of flora and fauna, particularly Endangered, Rare, and Threatened (ERT) species. The following measures have been implemented to ensure the protection and preservation of these species:

- a. **Ranger Patrols:** Danum FMU has internally appointed rangers to conduct regular patrols throughout the FMU area. These patrols are aimed at monitoring changes in flora and fauna and ensuring compliance with conservation policies. The rangers are in the status of refresh training and reappointment. However, the daily patrolling is taking place within the FMU.
- b. **Compliance with DF Circular 6/99:** Strict adherence to the DF Circular 6/99 is enforced, particularly regarding hunting activities within the licensed area. Both workers and nearby communities are informed of the policy to prevent illegal hunting.
- c. **Awareness Materials:** New wildlife posters (colour copies) and written instructions from the Managing Director on the 'No Hunting' policy are prominently displayed on-site to raise awareness among workers and visitors.
- d. **Regular Patrols and Security Measures:** Regular patrols are conducted to deter and apprehend offenders. Additionally, signage and fencing are installed at strategic locations, especially at entry points, to control unauthorized and illegal entries into the FMU area.
- Road Safety Measures: To prevent road-kill incidents and reduce accidents on logging roads, speed limits are being enforced for logging trucks and company vehicles, particularly within the FMU's internal roads.
- f. Community Education, Participation, and Awareness (CEPA) Program: The FMU management highly recommends the implementation of CEPA programs. These programs engage relevant agencies and organizations to promote wildlife conservation awareness among local communities and workers.
- g. Appointment of Honorary Wildlife Rangers: Honorary Wildlife Rangers are appointed to monitor wildlife conservation efforts and ensure adherence to conservation practices within the FMU.

h. CEPA Program in Year 2024:

Danum FMU has conducted the Community Education, Participation, and Awareness (CEPA) program to raise awareness about wildlife conservation and responsible forest management. The program sessions were held at:

- i. Long Lidem 21 May 2024
- j. Long Tanyit 20 Aug, 2024
- k. Long Kajang 21 Aug, 2024
- I. Long Abit 22 Aug, 2024

Website: www.shinyang.com.my

| Document Date: Update as at | | Nar | Name Of FMU: | | | Perso | Person In Charge: | | |
|-----------------------------|-------|-----|------------------|-----|--|-----------------------|-------------------|---------|--|
| 19/04/2025 | | Dar | Danum FMU T-3342 | | | Mr Andy Wong Ko Hock, | | | |
| | | | | | | ED & | Forest I | Manager | |
| \ 0 : | 0 (1) | | 11 0 1110 | 6.0 | | | 14 1 | 1.1 | |

e) Socio Economic Conditions

- a. Settlements identified within and in the vicinity of the FMU are Long Tanyit, Long Lidem and Long Kajang was located inside the FMU, while the Long Abit is located outside the FMU area;
- b. The main communities living here are Penan and Punan encompass a total of 115 doors with a population of 587 people, averaging 5 persons per door;
- c. A "Sustainable Forest Management Liaison Committee" has been established with numbers consisting of FMU;
- d. Local community as a "Corporate Social Responsibility network" to resolve issues affecting individual longhouse and the regional landscape; and
- There is no legal case filed by any local community against FMU.

f) Safety & Health

- a. As forestry work even within a single FMU especially the physical features of mountain forest is widely scattered with frequent changing work sites. The FMU's supervision and control of forest workers at the FMU sites are highly enforced by FMU management team to ensure occupation safety demand great effort by all levels of management and self-reliance of the workers.
- b. The FMU has committed to ensure safety at working place through the safety policy written and signed by the General Manager on 14/03/2017. The FMU collaborates closely with SFC and Sarawak Timber Association (STA) in their design and implementation of training programs for job specific skills, health and safety and venue of vocational training in the field of forestry and forestry industry

g) Social Impact Assessment

The SIA has covered introduction of affected communities or organization mentioned further in introduction, the identification of social impacts of affected communities/organization, proposed mitigation and enhancement measures and monitoring process to ensure the FMU is earning benefits while having the continuous relationship with the communities within the FMP. Additionally, monitoring and enhancement measures will be done twice a year by collaboration of SYSB SIA practitioner monitoring members and SYSB surveyor team. As for the conclusion part of SIA, the overall satisfaction of the communities to the FMU is fair. However, the FMU has to continuous monitoring the satisfaction of the communities through the compliance monitoring and parameter monitoring [MC&I 8.2b].

Social Impact Monitoring Key Social in year 2025 are;

The monitoring compliance results will be presented as review input during the management review and the management of FMU will decide any potential correction based on the total score for each evaluation (A: Environmental; B: Socio -Economy & C: Socio-Cultural Life) . In connection to the scoring less than 20%, it is significant that remedial correction needs to be taken; as it shows the recent mitigation and enhancement & measures are not effective. Below are the chart of showing the percentages of Social Impact monitoring done once a year by SYSB SIA team from year 2019-2025. The monitoring methods are included meeting and consultation with local and also verification on the ground with local representative.

Table Comparison SIMR for year 2019-2025

| Year | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Average % | 100 | 100 | 100 | 100 | 100 | 100 |

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025Name Of FMU:
Danum FMU T-3342Person In Charge:
Mr Andy Wong Ko Hock,
ED & Forest Manager

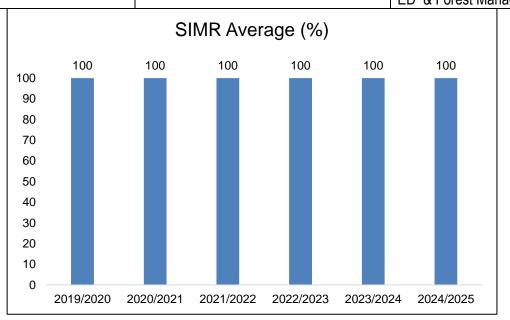
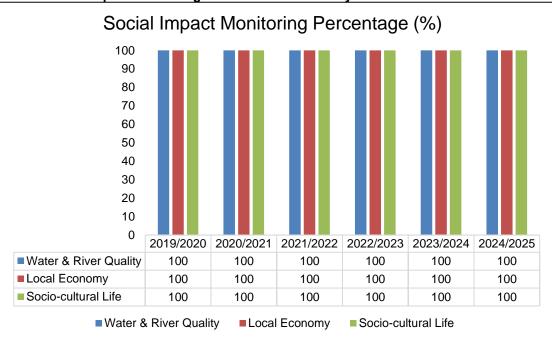


Chart of Social Impact Monitoring at Danum FMU T/3342 year 2025



Based on the result above, social impact monitoring percentages shows the total score of monitoring compliance is 100% which indicates that the Social Impact in terms of mitigation compliance of Danum FMU T-3342 is "Exceptional Compliance". According to Felixita, the key social impact has been monitored using a proposed mitigation and enhancements measures in SIA. The result of percentages of Social Impact Monitoring; Average percentage for social within Danum FMU T-3342 is 100%. The result of the monitoring compliance is exceptional compliance as SIA SYSB team has follow up any monitoring mitigation and enhancement measures that have been proposed in SIA

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025

Name Of FMU:
Danum FMU T-3342

Mr Andy Wong Ko Hock,
ED & Forest Manager

report. The team has done their best to ensure the local communities and workers are not being much affected by the forest operations management. Therefore, monitoring process is a priority in our management. With this, we can prevent, reduce and even detect any potentially direct or indirectly negative social impact that may affect local communities and workers within Danum FMU T-3342 in no time. According to Sarawak (Forest Dependent Community Index as at 2025),

| Region | Natural capital | Financial Capital | Physical Capital | Human Capital | Social Capital | Overall Capital |
|-----------|-----------------|----------------------|---------------------|------------------|-------------------|--------------------|
| Sarawak | 0.52 | 0.49 | 0,69 | 0.42 | 0.64 | 0.55 |
| LC T-3342 | 0.75 | 0.25 | 0.76 | 0.30 | 0.40 | 0.49 |

From our overall capital monitoring, we can see that the community's overall capital is 0.49, as Punan and Penan dependence of natural capital is high and financial capital is low. So dependence to forest capital is still very high.

The results of social impact monitoring at Danum FMU T-3342 show a total compliance score of 100%, indicating "Exceptional Compliance" in terms of mitigating social impacts. According to Felixita, the key social impacts have been closely monitored using the proposed mitigation and enhancement measures outlined in the Social Impact Assessment (SIA).

Key findings from the social impact monitoring include:

- **Exceptional Compliance:** The average percentage for social impact compliance within Danum FMU T-3342 is 100%. This exceptional result reflects the effectiveness of the SIA SYSB team in following up on all proposed mitigation and enhancement measures in the SIA report.
- **Proactive Management:** The SIA SYSB team has made significant efforts to ensure that local communities and workers are minimally affected by forest management operations. The team prioritizes the monitoring process to prevent, reduce, and detect any potential direct or indirect negative social impacts on local communities and workers in Danum FMU T-3342.
- Continuous Monitoring as a Priority: By maintaining a rigorous monitoring process, the
 management aims to quickly address any social impacts, thereby safeguarding the well-being of
 communities dependent on the forest.

According to the Sarawak Forest Dependent Community Index (as of 2023), the ongoing commitment to monitoring and compliance at Danum FMU reflects a high standard of social responsibility in forest management.

| Region | Natural | Financial | Physical | Human | Social | Overall Capital |
|-----------|---------|-----------|----------|---------|---------|-----------------|
| | capital | Capital | Capital | Capital | Capital | - |
| Sarawak | 0.52 | 0.49 | 0,69 | 0.42 | 0.64 | 0.55 |
| LC T-3342 | 0.75 | 0.25 | 0.76 | 0.30 | 0.40 | 0.49 |

From our overall capital monitoring, we can see that the communities overall capital is 0.49, as Punan and Penan dependence of natural capital is high and financial capital is low. So dependence to forest capital is still very high.

h) Forest Fire Management Plan

Sarawak

Sarawak, located on Borneo Island, is rich in forests, covering about 62% of its land. These forests include hill forests, peat swamps, mangroves, and more, with many areas protected or managed

Website: www.shinyang.com.my

Document Date: Update as at
19/04/2025

Name Of FMU:
Danum FMU T-3342

Mr Andy Wong Ko Hock,
ED & Forest Manager

sustainably. However, like many tropical regions, Sarawak is vulnerable to **forest fires**, especially during dry seasons or El Niño events. These fires can harm biodiversity, damage ecosystems, and impact local communities and industries.

In 2023, a fire near Lambir National Park destroyed 7.5 hectares, highlighting the need for **effective fire management**—even in wetter regions like the **Danum Forest Management Unit (FMU)**, which is located within the ecologically vital Heart of Borneo. While this area has high humidity and rainfall that reduces fire risk, dry spells still pose a threat.

6 Key Points:

- Main Causes of Fires: Human activities such as open burning, campfires, shifting agriculture, and natural factors like lightning.
- **Preventive Actions**: Firebreaks, monitoring weather patterns, and strict rules on open burning are essential.
- **Relevant Law**: Sarawak's Natural Resources and Environment Ordinance (1993) prohibits illegal burning and includes strong penalties (up to RM100,000 and 5 years in jail).
- Fire Danger Rating System (FDRS): This system monitors fire risk based on weather conditions (wind, temperature, rainfall, humidity) and helps guide decision-making.

Climate in Danum FMU:

- High annual rainfall (3,300 4,600 mm) and year-round humidity help lower fire risk.
- No natural forest fires have been recorded in Danum FMU so far.

© Objectives of the Fire Management Plan (FFMP):

- Reduce and prevent forest fires.
- Identify high-risk activities and implement preventive strategies.
- Provide clear emergency response plans to act quickly if a fire breaks out.

Ongoing Efforts:

- Regular risk assessments are conducted.
- Proactive measures like equipment readiness and staff training are in place.
- Shin Yang, the main contractor managing Danum FMU, is committed to protecting the forest and minimizing fire risks through a comprehensive Forest Fire Management Plan.

1. Establishment of Forest Fire Management Team

To ensure rapid and effective response to forest fire events, a specialized team must be formed with designated roles and responsibilities:

| No. | Role | Responsibilities |
|-----|-----------------------------|---|
| 1. | Fire Manager (Commander) | Quick reaction to fire Arrange logistics and deploy initial attack crew |
| 2. | Emergency Reporting Officer | Report and record fire incidents to Shin Yang HQ |
| 3. | Initial Attack Crew | First responders to forest fires Must be fit, GPS-proficient, topography-aware Report location and fire intensity |
| 4. | Fire Break Crew | Construct fire breaksOperate excavators and tractors |

| | | | Fublic 30 | • | | | |
|---|--|------------------------|----------------------|---|-----------------------|--|--|
| | | We | bsite: www.sl | ninyang.com.my | | | |
| Document Date: Update as at 19/04/2025 | | | Name Of FMU: | | Person In Charge: | | |
| | | | Danum FM | U T-3342 | Mr Andy Wong Ko Hock, | | |
| | 1 1 | | | | ED & Forest Manager | | |
| | 5. | Assistance Crew | | Backup support to initial responders | | | |
| | 6. Logistic Team | | | Transport team and water/fire equipment to site | | | |
| | 7. | 7. External Assistance | | Seek help from agencies (e.g., BOMBA) when fire is uncontrollable | | | |
| | 2. Fire Fighting Machinery & Equipment | | | | | | |
| | Equipment | | Quantity | Capability | | | |
| | Trac | tor | 8 | Fire break construction | | | |
| | Excavator | | 7 | Fire break construction | | | |
| | Shov | vel . | 3 | Fire break constru | ction | | |

Conditionally Prepared Firefighting Tools (Only when required):

2

- Hand Tools: Shovels, Hoes, Machetes, Fire extinguishers
- Water System: Water tanks, hoses
- Crew Safety: Helmets, goggles, boots, gloves, first aid kits
- Other: GPS units

Toyota Hilux / Land Cruiser 11

To be acquired if:

Dump Truck

- 1. More than 5 open burning cases in 12 months
- 2. A forest fire occurs within FMU
- 3. Recommended by authority

3. Preparedness & Strategic Response

- Training & Familiarity: All crew must understand their duties and fire procedures
- Monitoring: Emphasis on training due to low risk and high rainfall
- Adaptive Strategy: Focus on human capacity building instead of costly infrastructure

Transport team & water

Transportation

Compliance: Adheres to national guidelines and is documented

4. Fire Awareness

- Causes: Human activities (illegal hunting, open burning)
- Awareness Campaigns: Posters, training, internal fire safety education
- Security: Patrolling & checkpoints to restrict unauthorized access

5. Forest Patrolling Team

- Duties: Regular patrols, early hazard detection, fire fuel monitoring
- High-Risk Alerts: Patrol PoRM when Fire Danger Rating System (FDRS) is red

6. Fast Attack Plan

- Initial Attack Crew: Minimum 4 physically fit personnel
- Rapid Response: Early detection = easier containment

Shin Yang Industries (Btu) Sdn Bnd **Danum Forest Management Unit (T-3342) Public Summary** Website: www.shinyang.com.my Document Date: Update as at Name Of FMU: **Person In Charge:** 19/04/2025 Danum FMU T-3342 Mr Andy Wong Ko Hock, ED & Forest Manager **Protocol:** On arrival, assess and report fire intensity to commander **Action:** Extinguish small fires immediately 7. Fire Suppression (Large Fires) If uncontrollable: Construct fire breaks If still spreading: Request help from BOMBA, Forest Dept., or other relevant agencies **Inaccessible areas:** Request aerial or expert support 8. Camping Fire Control **Proper Campfire Extinguishment Procedure:** 1. Spread embers 2. Douse with water 3. Stir and repeat 4. Ensure it's cold to touch Management Strategy: Educate all campers on correct campfire handling 9. Fire Detection Infrastructure (Optional) Fire Tower: Not feasible due to steep terrain Alternative: Use highest accessible point for monitoring **Strategy:** Identify and use viable elevated location for spotting FMURC has been setup since 2020 in Danum FMU as follow; Stakeholder Forest Manager Consultation FMU Manager Legal Framework SIA Practitioner Conservation Community Development Unit Environmentalist (ECA) Forest Management Plan Doc. Officer Legal Framework Officer HQ Chief Surveyor Site Liaison & Document | Assistant Community Project Officer Conservation Ranger Ass. Planning Officer HCVF Committee FMU certification Committee Liaison committee responsibility is to: a. Issues over tenure claims and use rights. m. Conflicts pertaining to the recognition of the legal and customary rights of the local communities. n. Measures threaten or diminish resources or tenure rights of the local communities. o. Protected the sites with special cultural, ecological, economic or religious significance to the local people. p. Long term social and economic well-being of forest workers and local communities. g. Grievances and provide fair compensation in case of loss or damage affecting the legal customary rights or livelihoods of local people.

r. The use of the forests' multiple products and services to ensure economic viability with the

environmental and social benefits.

Shin Yang Industries (Btu) Sdn Bnd **Danum Forest Management Unit (T-3342) Public Summary** Website: www.shinyang.com.my Name Of FMU: Document Date: Update as at **Person In Charge:** 19/04/2025 Danum FMU T-3342 Mr Andy Wong Ko Hock, ED & Forest Manager c. Monitoring of mitigation/ enhancement measures after conducting the social impact assessment. Basic Methodology for conflict resolution can be adopted by FMURC-CRC is: General Mechanism of Conflict Resolution **Conflict Arise** Understand the Conflict communicate with the complainer Choose the best solution brainstorm possible solution refer legal framework officer **Explore alternatives** FMU Certification Committee Forest Agency Representative Committee Relevant Law & Regulation FDS, STIDC & Belaga District Office **Best Solutions for both** Cope with stressful situations & pressure tactics Complain form can be obtained at Danum Office, Tel No: 084-449917 j) Silviculture Silviculture in Danum FMU is the science and practice of managing forest growth, composition, health, and quality to ensure sustainability and productivity. At Danum FMU, it plays a vital role in Management balancing ecological, economic, and social needs. Objectives of Silviculture Management The main goal is to improve and sustain the forest for long-term timber production and biodiversity. Forest managers consider: Desired future forest condition Economic timber species Tree growth performance Light conditions for seedling growth Wildlife conservation Sustainable harvesting opportunities Challenges from Past Logging Previous logging with heavy machinery caused: Soil erosion and compaction Loss of nutrients Damage to residual trees . This led to poor natural regeneration, requiring restoration. Post-Harvest Diagnostic Sampling After logging, trained crews evaluate forest conditions by: Assessing remaining valuable trees and regeneration potential

| Shin Yang Industries (Btu) Sdn Bnd Danum Forest Management Unit (T-3342) Public Summary Website: www.shinyang.com.my | | | | | | | |
|---|--|---|--|--|--|--|--|
| Document Date: Update as at 19/04/2025 | Name Of FMU: Danum FMU T-3342 | Person In Charge: Mr Andy Wong Ko Hock, ED & Forest Manager | | | | | |
| Using inventory d Restoration decisions d Very Good, Good | Checking damage and identifying areas needing treatment Using inventory data to guide decisions estoration decisions depend on forest health, scored as: Very Good, Good, Moderate, or Poor If areas are Poor or Very Poor, silviculture treatments like enrichment planting are | | | | | | |
| A system is used to: 1. Identify degraded 2. Choose appropria | Identify degraded blocks Choose appropriate treatments (planting, thinning, etc.) | | | | | | |
| Over a 10-year period, Da Restore 154 block Plant 120,000 see | Silviculture Activities & Operation Plan (2020–2029) Over a 10-year period, Danum FMU plans to: Restore 154 blocks Plant 120,000 seedlings Use local timber species with spacing of 3–6 meters | | | | | | |
| Climber cutting toLiberation thinning | ent Methods eting if enough trees remain to reduce competition ing to help valuable trees grow area is not ready for treatment | | | | | | |
| Supplements valuIncludes fruit trees | g on is poor, enrichment planting: uable tree species (e.g., meranti, ka s to support wildlife 3 years after logging | apur) | | | | | |
| Species Selection C Planted species are chose Fast growth High survival rate Timber and ecoloe Examples: Shored like durian and management | en for: s gical value a spp., Neolamarckia cadamba, Te | erminalia catappa, and local fruit trees | | | | | |
| Rursery & Seedling The Danum Nursery supp Controlled waterin Hardening before | blies seedlings and wildings, using ng and shading | : | | | | | |

| Shin Yang Industries (Btu) Sdn Bnd Danum Forest Management Unit (T-3342) Public Summary Website: www.shinyang.com.my | | | | | | | |
|--|--|-----------|--|--|--|--|--|
| | | | | | | | |
| | ✔ Conclusion Silviculture at Danum FMU ensures long-term forest health and productivity through careful planning, monitoring, and restoration. These efforts support both sustainable timber production and biodiversity conservation for future generations. In order to achieve the forest management certification, the management of Danum FMU has | | | | | | |
| k)Budget Allocation | planned and allocated total operations cost amounting RM 385,321,000 (estimation) for the Forest Management Certification for the period 2018 -2027 (10 years planning). [MC & I 8.2 d] Monitoring for costing of forest management for year 2024 Year End is; Management review is conducted 02/04/2025 year end reported total expenses for SFM certification cost is RM 13 Mils. | | | | | | |
| I) SFM Certification m) SFM Policy | Danum FMU has obtained STLVS legal verified and the status of legality is maintained. Danum FMU has obtained PEFC certified on 8 Aug 2020 , certificate no: FMC-NF-00129. Updated as at 21 February 2021 , remain no change. | | | | | | |
| n) Publish Website | http://www.shinyang.com. | <u>my</u> | | | | | |

END OF SUMMARY FOR DANUM FMU T-3342