



ANNUAL REPORT

2022

FOREST DEPARTMENT SARAWAK

AN AGENCY COMMITTED TOWARDS
SUSTAINABLE FORESTRY

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Our Vision

To Manage and Develop
Forest Resources for Socio
Economic & Environmental
Sustainability



Our Mission

To Be Globally Recognised
in Sustainable Forest
Management

Message from the Director of Forests



BISMILLAHIRAHMANNIRRAHIM

Building on the momentum of the Post Covid-19 Development Strategy 2030 introduced in 2021, the year 2022 presented both exciting opportunities and ongoing challenges. While the global landscape continued to evolve, we at Forest Department Sarawak remained resolute in our commitment to aligning with the strategy's aspirations. This annual report details our progress in fostering economic prosperity, promoting social inclusivity, and preserving a sustainable environment – all for the betterment of Sarawak's residents.

During this year of post-pandemic recovery, the Department achieved a total revenue collection of RM328,854,967, representing a robust 5% increase over 2021. This growth extends to our export sector, which saw a revenue increase of RM30 million compared to the previous year. These positive financial indicators demonstrate the resilience of both the local and global economies two years after the COVID-19 pandemic.

The Department has continued to focus on the governance, management, conservation, and research within the Permanent Forest Estates (PFEs) in Sarawak. In a significant development, 10 proposal papers for initial gazette involving a total area of 62,202.03 ha were submitted to the Ministry of Natural Resources and Urban Development while three other proposed PFEs, Mujong Pila PF, Bajah-Ujong Murud PF and Sujau FR with a total area of 82,798 ha, were published in newspapers in July this year as part of the process for final gazette.

The Forest Landscape Restoration (FLR) programme remains an important agenda of the Department with our commitment to plant 35 million trees by 2025 to contribute significantly to Malaysia's 100 Million Trees Planting Campaign. A total of 10.5 million trees were planted throughout Sarawak in this year with seedlings supplied by eight strategically located nurseries across various regions, ensuring a comprehensive approach to the state-wide tree planting campaign.

In recent years, the Department has been determined and focused on Forest Management Certification (FMC) as part of sustainable forest management in Sarawak. By the end of 2022, 16 Forest Management Units (FMUs) with a total area of 1,386,010 hectares were certified under the forest management certification of natural forest and 6 Forest Plantation Management Units (FMPU) with a total area of 94,966 hectares under forest plantation based on the Malaysian Timber Certification Scheme (MTCS).

Leading the Department through our 103rd year, particularly in these unprecedented times, has been a privilege. It is especially rewarding to see our unwavering commitment translate into meaningful contributions to Sarawak's growth and development, aligning perfectly with the goals of PCDS 2030.

However, none of this would be possible without the exceptional team behind us. My deepest gratitude goes to the dedicated staff of the Forest Department Sarawak. Their unwavering commitment and support are instrumental in fulfilling our responsibilities towards the sustainable management of our state's precious forest resources. Additionally, a heartfelt congratulations to those who have earned accolades this year, bringing well-deserved recognition to the Department's name.

With that, Wabillahi Taufik Walhidayah
Wasalamulaikum Waramatullahi Wabarakatuh.



Datu Hamden Bin Haji Mohammad
Director of Forests Sarawak

TOP MANAGEMENT



Datu Hamden bin Haji Mohammad
DIRECTOR OF FORESTS



Jack Liam
Deputy Director
(Forest Conservation & Development)



Abg Ahmad Abg Morni
Deputy Director
(Forest Management)



Runi Sylvester Punga
International Affairs



Hjh Mohizah binti Hj Mohamad
Research, Development & Innovation



Abdul Wahab Ahmad
Legal & Advisory Services



Oscar Johnin Ngayop
Licensing



Haji Happysupina Sait
Organization Development & Project Development



Rusmaliza Mat Darus
Administrative Officer
(Management Services)



Semilan Ripot
Revenue & Data Management



Ricky Jonathan Alex
Planning & Management



Haji Azahari Omar
Social Forestry



Suliman Jamahari
Preventive & Enforcement



Zarina Haji Shebli
Restoration & Industrial Forest



Madeline George Pau
Conservation & Constitution



Dr. Affendi Bin Suhaili
Forest Technology & Geospatial



Hajah Latifah Teh
Regional Forest Office
Kuching



Roslan bin Othman
Regional Forest Office
Office Sri Aman



Zaidi bin Mawek
Regional Forest Office
Office Kapit



Rufus Jonathan Alex
Regional Forest Office
Office Sarikei



Arifin Awang Zulkifli
Regional Forest Office
Sibu



Michael Ngelai
Regional Forest Office
Office Bintulu



Asan Odau
Regional Forest Office
Office Miri



Kos Anak Amud
Regional Forest Office
Office Limbang

Constitution and Conservation

1.1 WORKSHOP ON CONSTITUTION AND BOUNDARY MANAGEMENT OF PERMANENT FOREST ESTATES (PFE)

A workshop on Constitution and Boundary Management of Permanent Forest Estate (PFE) took place on 19th and 20th July 2022 at the Waterfront Hotel in Kuching. The workshop brought together a total of 41 participants from Forest Department Sarawak headquarters and its Regional Forest offices. The objectives of the workshop were threefold:

- Develop a constitution kit;
- Identify challenges in constitution development; and
- Prepare for boundary demarcation outsourcing.



Group discussion during the workshop



Participants of the workshop

1.2 BRIEFING AND DIALOGUE SESSION FOR THE GAZETTEMENT OF PROPOSED MUJONG PILA PROTECTED FOREST

The briefing and dialogue session on the proposed establishment of Mujong Pila PF took place on 12th October 2022 at Kompleks Kerajaan Negeri, Kapit. The purpose of the session was to provide information and engage in discussions regarding the proposed protected forest, as well as to ensure transparency, gather feedback, and address any concerns or questions related to the proposed Mujong Pila PF.



Opening remarks by District Officer of Kapit



Representatives from government agencies, community leaders (Temenggong, Pemanca, Penghulu and Tuai-tuai Rumah) and representatives from State Assemblyman office

1.3 LIST OF PROPOSED PERMANENT FOREST ESTATES (PFE) FOR FINAL GAZETTEMET AND INITIAL GAZETTEMET 2022

Initial Gazette

10 proposal papers for initial gazette were submitted to the Ministry of Natural Resources and Urban Development in 2022:

- (i) Bah-Merit Forest Reserve (10,968ha)
- (ii) Baram-Tinjar Forest Reserve (8,300ha)
- (iii) Lundu Protected Forest (4,275ha)
- (iv) Oya Forest Reserve (21.03ha)
- (v) Taman Tanjung Pedada Amenity Forest (4ha)
- (vi) Sungai Selai Inah Protected Forest (845 ha)
- (vii) Gaat Forest Reserve (16,915ha)
- (viii) Tasong Forest Reserve (2,153ha)
- (ix) Sungai Patah Forest Reserve (9,769ha)
- (x) Dulit Sekiwa Protected Forest (8,952ha)

Total area = 62,202.03ha
(Target = 60,000ha)

Final Gazette

Initial gazette of 3 proposed PFEs were published in newspapers on 14th July 2022:

- i. Mujong Pila PF, Kapit (48,612ha)
- ii. Bajah-Ujong Murud PF, Miri (16,186ha)
- iii. Sujan FR, Bintulu (18,000ha)

Two (2) dialogues were conducted with communities adjacent to or within the proposed PFE areas:

- i. Sujan FR at District Office, Sebauh (23rd August 2022)
- ii. Mujong Pila PF at Resident Office, Kapit (12th October 2022)

Proposal for final gazette of Bakam FR (907ha) and Murum PF (7,439.84ha) were submitted to the Ministry on 23rd & 29th September 2022 respectively

1.4 BOUNDARY DEMARCATION WORKS 2022

8 PFEs were demarcated.

- Datu PF (April 2022)
- Siniawan CF (July 2022)
- Kampong Kepayang CF (September & October 2022)
- Sungai Ipoh CF (January 2022 & March 2022)
- Setajam CF (April 2022)
- Labang FR (October 2022)
- Telang Usan PF (October 2022)
- Simunjan FR (November 2022)

Boundary Cleaning



Sarawak Mangrove FR (March 2022)

1.5 SIGNBOARD INSTALLATION

Area	Installation Date
i. Kayangeran FR	June 2022
ii. Bahau PF (1st Ext.) iii. Baledh PF iv. Mujong-Merirai PF	August 2022
v. Sutong CF	October 2022

2.1 JEMORENG SCIENTIFIC EXPEDITION 2022

Officiated and flagged off by Yang Berhormat Dato’ Murshid Diraja Dr. Juanda Jaya, Deputy Minister in the Premier’s Department, the Jemoreng Scientific Expedition 2022 took place from 16th to 29th July 2022. The findings from the expedition will contribute to:

- Gathering information for the Proposed Sungai Selai Inah Protected Forest;
- Showcasing Jemoreng Forest through a coffee table book and a seminar; and
- Collaborating with locals to conserve the Nyatoh (Sekiew) tree species.



Opening ceremony by Yang Berhormat Datuk Dr. Juanda Jaya (N.44 Jemoreng) and Director of Forests Datu Hamden bin Haji Mohammad



Field study during the Jemoreng Scientific Expedition 2022

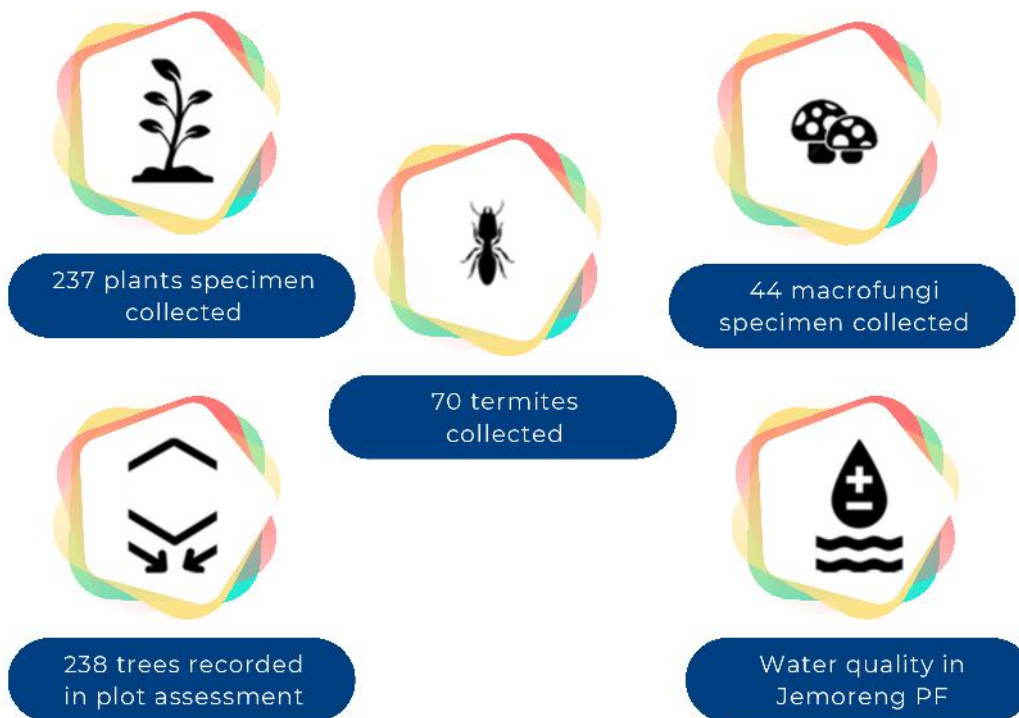


Opening ceremony attended by residents of Matu, Jemoreng



Some of the plant specimens collected during the expedition

PRELIMINARY FINDINGS FROM JEMORENG SCIENTIFIC EXPEDITION



2.2 WILDLIFE ASSESSMENT AT GERENAI FOREST MANAGEMENT UNIT (FMU), MIRI AND GAAT-MENGIONG FOREST MANAGEMENT UNIT (FMU), KAPIT

In 2022, camera trap assessments were conducted in Gerenai FMU and Gaat-Mengiong FMU to monitor and document wildlife populations. This data will contribute to understanding of biodiversity and inform conservation efforts.



Camera trap installation at Gerenai FMU

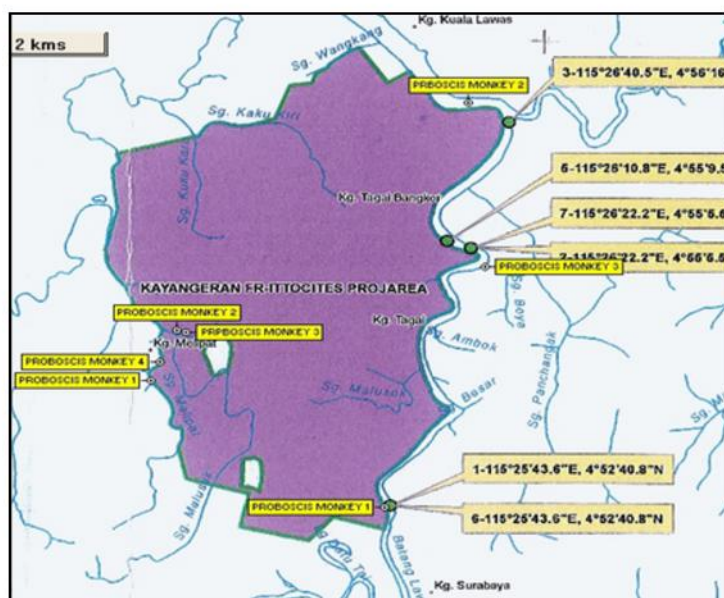


Camera trap installation at Gaat-Mengiong FMU

2.3 CONSERVATION OF PROBOSCIS MONKEY, *NASALIS LARVATUS* IN PERMANENT FOREST ESTATES (PFE) IN SARAWAK

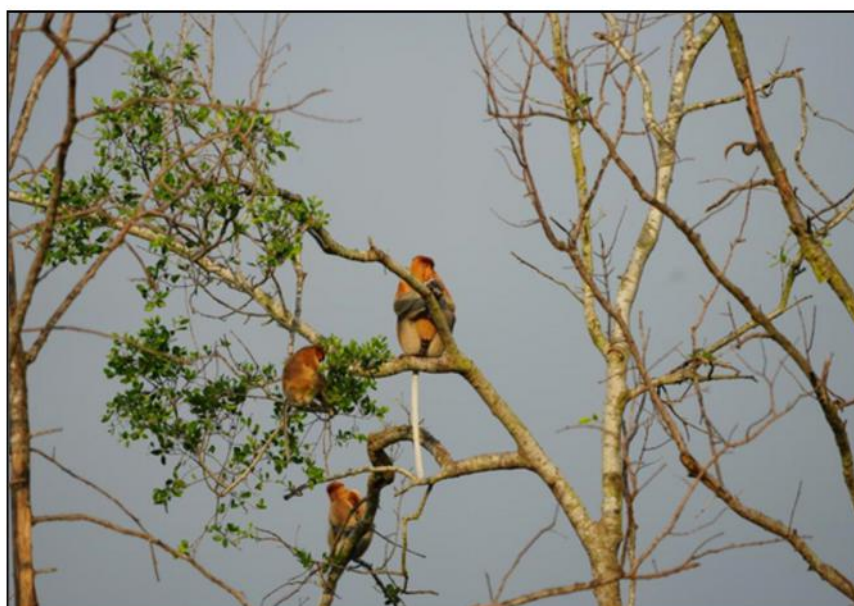
Proboscis monkeys (*Nasalis larvatus*), a large primate found only in Borneo, live mainly in coastal forests but can be found further inland along rivers. A population survey by boat spanning over a two-year period across 20 Sarawak Protected Forest Estates (PFEs) found roughly 200 monkeys, mostly in Kuching and Lawas mangroves.

Actual population estimate within the surveyed PFE would be calculated accordingly once the remaining sizes of the PFE areas are determined. By working together, researchers, government, and local communities can use ongoing monitoring and conservation efforts to track monkey populations and ensure their survival for the future.



Distribution of P. monkey along Sg. Lawas, Sg. Melipat & Sg. Melusuk, and its respective tributaries in Kayangeran FR

A group of 15-20 individuals of P. monkey are using patches of *Sonneratia* forest, lining up a sector of Sg. Lawas riverbank on the eastern boundary of Kayangeran FR.



2.4 GUNONG PUEH FOREST RESERVE ENGAGEMENT PROGRAM WITH LOCAL COMMUNITY

The department organised a community outreach program on 17th March 2022, at Sematan Palm Beach Resort, for the Gunong Pueh Forest Reserve community. The event aimed to enhance ecotourism entrepreneurship and foster environmental conservation awareness.



Souvenir to YB En. Azizul Annuar bin Pehin Sri Haji Adenan (ADUN N.3 Tanjong Datu), who officiated the program



Program participants

2.5 AWARENESS PROGRAMME AND SHARING SESSION ON CONSERVATION 2022

On 27th October 2022, Forest Department Sarawak held a program on Wildlife Conservation Awareness Program in the Permanent Forest Reserve (PFE) and a Knowledge Sharing Session for 2022 (Series 2.0). Fifty-two officers from across the state gathered for presentations by experts and discussions on research findings related to PFE management. This interdepartmental gathering served as a valuable platform for staff to enhance their understanding of PFE conservation and foster collaboration.



Opening remarks by the Assistant Director of the Constitution & Conservation Division



Participants of the event

SARAWAK DELTA GEOPARK

3.1 THE 5TH REGIONAL COURSE ON UNESCO GLOBAL GEOPARK

The Langkawi UNESCO Global Geopark convened the 5th Regional Course on 21st to 23rd October 2022, at the Bayview Hotel Langkawi. This gathering brought together geopark administrators and managers from across the region.

The Sarawak Delta Geopark (SDGp) was a prominent participant, sending a 21-member delegation representing diverse agencies and ministries within its governance structure. Led by Datu Hj Zaidi bin Mahdi, Permanent Secretary of the Ministry of Natural Resources and Urban Development (MUDeNR), the SDGp delegation actively engaged in the course.



Launching ceremony of the 5th Regional Course on UNESCO Global Geopark



Sharing session by Dr. Guy Martini, Chairman of the UNESCO Global Geopark Council

Forest Planning and Management

Forest Carbon Rules

Forest Department Sarawak has been at the forefront of implementing forest carbon initiatives to lessen the effects of climate change and promote sustainable forest management practices. Through various meetings, workshops, and discussions among various divisions in the department, Sarawak State Attorney-General's Chambers and the Ministry of Natural Resources and Urban Development (MUDeNR), as well as external experts, the amendment to the existing Forests Ordinance 2015, was passed unanimously on 19th May 2022.

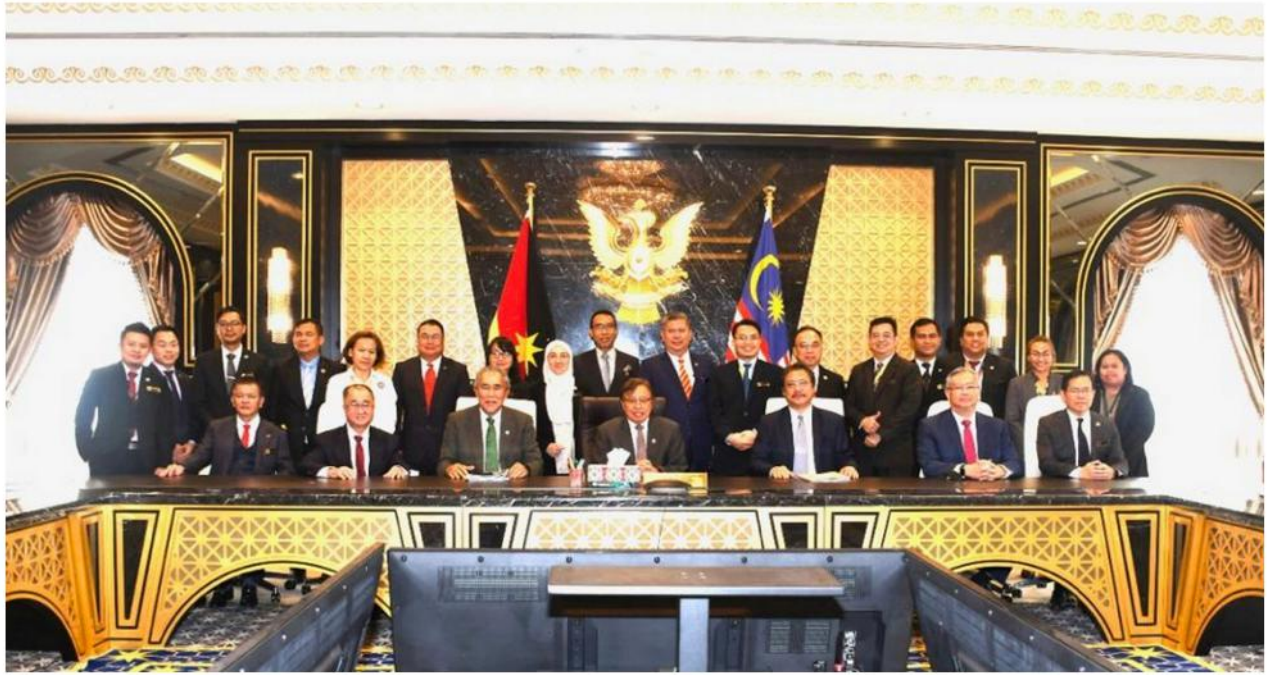


Workshop on Forest Carbon Rules



Engagement with Clifford Chance LLP, London
on 28th June 2022

The special provisions added relating to carbon stocks is in Section 70. The amendment is a significant milestone in the development of forest carbon initiatives in Sarawak, as it allows for the implementation of forest carbon activity program that is in line with international standards. The Forests (Forest Carbon Activity) Rules 2022 were also prepared and came into force on 1st January 2023.



Briefing to the Right Honourable Premier of Sarawak on Forest Carbon Activity

Through carbon trading, Sarawak's forest carbon efforts are anticipated to provide the state with a new source of revenue. Carbon trading provides an opportunity for Sarawak to monetize its forest resources and promote sustainable forest management practices. It is hoped that the revenue generated from carbon trading will contribute to the development of local communities and the conservation of the state's natural resources



**FOREST CARBON
WORKSHOP MEMBERS**

Issuance of DF Circular

DF Circular No. 5/2022 – Directive on Forest Plantation Management Certification (FPMC)

Circular issued to all Licence for Planted Forests (LPF) in Sarawak for the required implementation of Forest Plantation Management Certification (FPMC), specifically over areas that have been cleared or planted before year 2010.

Forest Management Certification

a. Forest Management Units and Forest Plantation Management Units

By the end of year 2022, 16 Forest Management Units (FMU) in Sarawak were certified under the forest management certification of natural forest and 6 Forest Plantation Management Units (FMPU) under the Malaysian Timber Certification Scheme (MTCS). The certified FMUs and FMPUs are listed in the following tables:

NO	FMU	LICENCE NO.	REGION	DIVISION	FMU AREA (HA)
1	Anap Muput FMU	T/4317	Bintulu	Tatau	83,535
2	Ravenscourt FMU	T/0294	Miri	Lawas	117,941
3	Kapit FMU	T/3491	Sibu	Kapit	149,756
4	Linau FMU	T/3228	Bintulu	Tubau	72,685
5	Ulu Trusan FMU	T/0280 & T/9115	Miri	Lawas	92,751
6	Raplex FMU	T/0560	Sibu	Kapit	63,993
7	Melatai-Para FMU	T/3343	Sibu	Kapit	49,524
8	Gerenaï FMU	T/0413	Miri	Baram	148,305
9	Pasin FMU	T/3135	Sibu	Song	132,151
10	Gaat-Mengiong FMU	T/3400	Sibu	Kapit	66,190
11	Entulu-Melatai FMU	T/3476	Sibu	Kapit	55,112
12	Mujong Melinau FMU	T/3361	Sibu	Kapit	41,696
13	Danum FMU	T/3342	Bintulu	Tubau	200,383
14	Segaham FMU	T/3291	Bintulu	Tubau	38,984
15	Taman FMU	T/3290	Bintulu	Tubau	34,317
16	Patah Tutoh FMU	T/0341	Miri	Baram	38,687
TOTAL					1,386,010

Table: List of Certified FPMUs as of year 2022

NO	FPMU	LICENCE NO.	REGION	DIVISION	FPMU AREA (HA)
1	Lana FPMU	LPF/0006	Bintulu	Tatau	9,393
2	Kejin Long LAMA FPMU	LPF/0017	Miri	Long Lama	28,093
3	Penyuan FPMU	LPF/0018	Bintulu	Tubau	15,261
4	Segan FPMU	LPF/0014	Bintulu	Bintulu	10,332
5	Marudi FPMU	LPF/0008	Miri	Marudi	19,941
6	Masama FPMU	LPF/0019	Bintulu	Tatau	11,946
TOTAL					94,966

b. Approval of Forest Management Plan (FMP)

Meetings	FMP
FMCTC 1/2022	Bah Sama FMP (T/3670)
	Layun FMP (T/0405)
	Akah Patah FMP (T/9089)

A Forest Management Plan (FMP) is a prerequisite for the implementation of Forest Management Certification. In the year 2022, three forest management plans were approved during the Forest Management Certification Technical Committee Meetings (FMCTC), as listed in this table:

c. Forest Management Certification Liaison Committee (FMCLC) meeting

FMCLC is a liaison committee that involves relevant government agencies such as Forest Department Sarawak, Land and Survey Department, Resident and District Offices, local community representatives called the Community Representative Committee (CRC), FMU representatives committee (FMURC), and relevant non-governmental organisations (NGOs). This committee discusses and deliberates on issues or updates relevant to the FMU's harvesting operations. FPMD is the secretariat for this committee and meeting.

In the year 2022, ten FMCLC meetings were conducted by FPMD together with the relevant Regional Forests Offices (RFO) as shown in the following table:

No.	FMU	Date	No.	FMU	Date
1.	Taman FMU	08 February 2022	6.	Oya Balingian FMU	23 March 2022
2.	Segaham FMU	08 February 2022	7.	Mengiong Gaat FMU	27 April 2022
3.	Ravenscourt FMU	25 February 2022	8.	Baleh Balui FMU	12 May 2022
4.	Ulu Trusan FMU	25 February 2022	9.	Penuan Lebuwai FMU	12 May 2022
5.	Pasin FMU	24 March 2022	10.	Patah FMU	18 July 2022

d. Sustainable Forest Management and Forest Management Certification Awareness Programmes

A few awareness programmes with regards to SFM and FMC were conducted in year 2022, which aims to raise understanding and cooperation from various stakeholders on the concept of SFM and the implementation of FMC. These programmes include dialogue sessions with the local communities and political representatives. The awareness briefing and dialogues were conducted for stakeholders listed below:

- i. Workers and local communities in Mengiong Gaat FMU (11th - 16th March 2022)
- ii. Pa' Adang Local Communities in Ravenscourt FMU (26th February 2022)
- iii. Local communities in Patah FMU (14th - 17th July 2022)
- iv. Local communities in Pila Mujong FMU (17th August 2022)
- v. Government agencies and political representatives in Kapit Region (18th October 2022)



Awareness briefing in Rh. Sebuang, Baleh, Kapit

Awareness briefing in Rh. Nyamok, Nanga Serau, Sg. Gaat, Kapit



Forest Operation

Table: Area size approved for harvesting in year 2022

Quarter	PFE area (ha)	LPF area (ha)
1	11,803	4,300
2	14,238	4,737
3	8,800	7,744
4	9,902	5,051
Total	44,823	21,832

a. Issuance of Permit to Enter Coupe

The total acreage that has been approved for harvesting activities in licensed natural forests and forest plantations for Operation 5 is shown in this table:

b. Review and endorsement of 'Standard Operating Procedure (SOP) on Forest Harvesting Process'

Various workshops were conducted in the reviews and finalising of the SOP on Forest Harvesting Process from year 2021 to 2022. The final SOP were endorsed and conveyed to all RFOs thereafter for immediate implementation on 6th October 2022.

The SOP on Forest Harvesting Process consists of:

- i. Processing, Endorsing and Issuing of Permit to Enter Coupe (PEC) for FTLs (F30, F3, OT, LA and PF Licence) and LPFs for Hill and Swamp Forests;
- ii. Pre-Felling Inspection; and
- iii. Logging Inspection (LI), Post Logging Block Inspection (PLBI), Preparation of Liquidated Damages Bill and Issuance of Block Clearance Certificate (BCC)/Coupe Clearance Certificate (CCC).



Workshop on SOP on Forest Harvesting Process in Sibul

Forest Compliance (Internal Audit)

In the year 2022, three internal audits were conducted by PMD together with the relevant Regional Forests Offices (RFO) to ensure the readiness of FMUs for Forest Management Certification. The internal audits were conducted as follows:

No.	Location	Date
1	Melatai Para FMU located in Baleh Protected Forest under (FTL) No. T/3343, Solid Hartabina Sdn. Bhd	24 - 29 April 2022
2	Bah Sama FMU located within the Bah Sama Protected Forest under (FTL) No. T/3670, Suasana Pertiwi Sdn. Bhd.	3 - 7 August 2022
3	Ravenscourt FMU located in Limbang Protected Forest under (FTL) No. T/0294, Ravenscourt Sdn. Bhd.	15 - 17 August 2022

i. Internal Audit at Melatai Para FMU (T/3343)



ii. Internal Audit at Bah Sama FMU (T/3670)



iii. Internal Audit at Ravenscourt FMU (T/0294)



Forest Resource Assessment

Forest inventory field activities in the year 2022 was conducted under the *Projek Inventori Sumber Hutan (ISH) Sarawak – Fasa III Heart of Borneo (HoB) (HoB Extension)*. The activities are as follows:

No.	Activity	Date
1	FRA and field assessment in Marudi Government Reserve (GR)	20 March – 02 April 2022
2	FRA and field assessment in Kayangeran Forest Reserve (FR)	22 June – 06 July 2022
3	FRA and field assessment in Limbang Protected Forest (PF)	13 – 31 August 2022
4	FRA and field assessment in Telang Usan Protected Forest (PF)	10 – 28 September 2022
5	FRA and field assessment in Sungai Ipoh Communal Forest (CF), Sungai Tulai CF and Loba Pulau Protected Forest (PF)	12 – 25 September 2022
6	FRA and field assessment in Sungai Katibas CF	11 – 15 October 2022
7	FRA and field assessment in Sabal Forest Reserve (FR)	11 – 14 October 2022



Field inventory activities

Licensing

Timber Licences 166

Number of valid timber
licences as of 31st
December 2022

Note: This figure may change from time to time depending on the number of Forest Timber Licence approved to be issued/renewed in that year

SUMMARY OF VALID LICENCE AS OF 31st DECEMBER 2022					
TYPE/ REGION	F30	OT	BT	PF/P	LA
Kuching	0	3	0	8	2
Sibu	9	16	2	2	5
Bintulu	15	30	3	0	2
Miri	17	2	2	1	0
Sarikei	3	3	0	1	0
Kapit	20	1	2	0	2
Sri Aman	3	3	0	0	1
Limbang	6	1	1	0	0
GRAND TOTAL = 166					

Registration

Summary of new / renewal of certificate of registration

NO	TYPE OF APPLICATION	TOTAL
1	Holder of Timber Licence (HOTL)	117
2	Holder of Timber Licence & Log Contractor	34
3	Holder of Timber Licence (HOTL) - New Registration	5
4	Holder of Timber Licence & Logging Contractor - New Registration	6
5	Holder of Timber License (HOTL) – Replacement card	NIL
6	Holder of Power of Attorney (HOPA)	11
7	Holder of Power of Attorney & Logging Contractor	17
8	Holder of Power of Attorney & Logging Contractor - New Registration	NIL
9	Logging Contractor	96
10	Logging Contractor - New Registration	16
11	Logging Sub Contractor - Renewal	20
12	Substituted Power of Attorney & Logging Sub Contractor	NIL
13	Plantation Contractor - Renewal	NIL

RESTORATION AND INDUSTRIAL FOREST DIVISION

Forest Landscape Restoration (FLR)

Total number of trees planted as of December 2022 was **10,536,297 trees**. The progress and activities of Forest Landscape Restoration (FLR) for year 2022 are summarised below.

Total Trees Planted	Total Nursery	Nursery Total Seedlings Stocks		Seed Production Area (SPA)	
				SPA Established	Mother Trees
10,536,297	8	Sabal Agroforestry Centre, Simunjan	478,033	Sempadi FR	106 (mixed high value indigenous species)
		Sarawak Tree Improvement Centre, Sibuloh			
		Niah Forest Research Centre, Miri		Penyibong Water Catchment	224 (peat swamp high value indigenous species)
		Bintawa Nursery			
		Lundu Nursery		Jemoreng PF	186 (peat swamp high value indigenous species)
		IFRC Semenggoh			
		Kayangeran Nursery, Lawas			
		Sungai Nyelong, Sarikei			

Nursery Activities



Awareness and Tree Planting Programme (CEPA)

49 CEPA programmes were conducted in 2022 with the involvement of 4,787 participants, where 24,985 trees were planted. The programmes were done with participation from public and private agencies such as the Ministry of Welfare, Women and Family Development, Sarawak Integrity and Ombudsman Unit, MAKSAK, Rotary Club, UMW Group, Sarawak Energy, Japan-Malaysia Association (JMA), OCBC Bank, education institutions and many more.



MoU with other Agencies on Restoration Activities



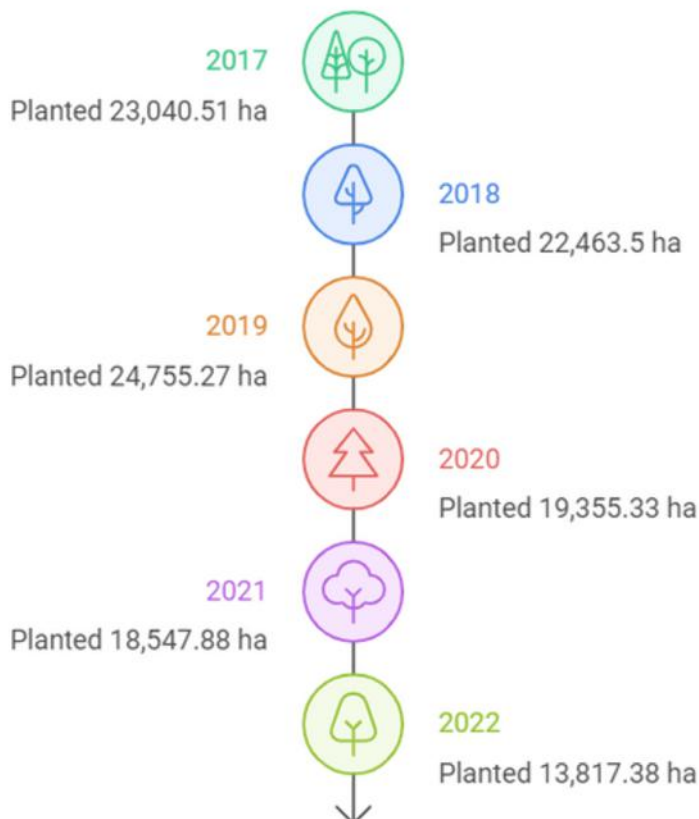
Japan-Malaysia Association



World Wide Fund for Nature Malaysia (WWF-Malaysia)

Plantation Development Progress in Sarawak

Progress of Planting for the Past 6 Years (Hectares)



Total plantable area as of 2022 is approximately 1,154,691 hectares. A total of **2,242,924** ha in Licence for Planted Forest (LPF) were planted as of December 2022, where 13,817.38 ha were planted in 2022.

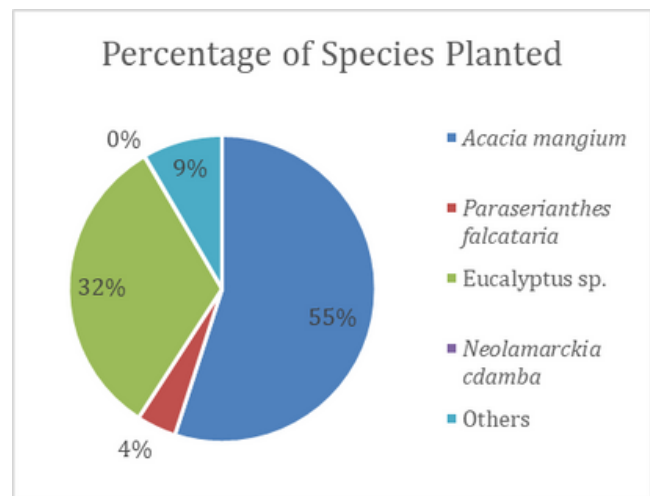
Summary of Planted Forest in Sarawak

Total Active Licence of Planted Forest	Gross Area (ha)	Plantable Area (ha)		Cumulative Total Area Planted (ha)	
		Industrial Tree Plantation (ITP)	Oil Palm (1 cycle only) (OP)	ITP	OP
50	2,242,924	1,142,706	183,715	566,620.00	173,011.61

Species planted were mainly fast-growing exotic species e.g *Acacia mangium*, *Paraserianthes falcataria*/*Albizia falcataria* (Batai), *Eucalyptus* species and indigenous tree species such as *Neolamarckia cadamba* (kelampayan), Dipterocarps and Rubber trees.

Summary of Planted Species

Species	Area (ha)
<i>Acacia mangium</i>	7,595.90
<i>Paraserianthes falcataria</i>	577.10
<i>Eucalyptus</i> sp.	4,477.72
<i>Neolamarckia cadamba</i>	5.00
Others	1,611.66
Total	14,267.38



Harvesting of Planted Forests

The total of harvested volume collected for the year of 2022 as follows:

Region	LPF No.	Acacia sp.	Albizia sp.	Neolamarckia sp.	Eucalyptus sp.	Other sp.	G/TOTAL (All species) m ³
Bintulu	LPF0002	191,008.56	0.00	0.00	0.00	0.00	191,008.56
	LPF0003	375,808.48	0.00	0.00	0.00	0.00	375,808.48
	LPF0006	138,356.50	0.00	0.00	51,572.21	0.00	189,928.71
	LPF0012	254,511.38	0.00	0.00	172.03	0.00	254,511.38
	LPF0013	16,341.27	0	0	0	0.00	16,341.27
	LPF0014	398,379.83	7,084.20	0.00	26,420.18	345.02	432,299.24
	LPF0018	1,023.03	248,866.29	566.98	0.00	0.00	250,456.30
	LPF0019	3,124.62	91,950.67	0.00	0.00	0.00	95,075.29
	LPF0043	9,554,093.96	341.74	45.37	2,663.73	638.54	9,557,783.34
Sibu	LPF0010	138,850.87	0.00	0.00	0.00	0.00	138,850.87
	LPF0044	0.00	0.00	0.00	0.00	0.00	0.00
	LPF0026	21,083.16	0.00	0.00	0.00	0.00	21,083.16
Miri	LPF0004	49,853.89	0.00	0.00	0.00	0.00	49,853.89
	LPF0017	27,332.35	94,260.21	0.00	0.00	0.00	121,592.56
	LPF0008	0.00	0.00	0.00	24,741.28	0.00	24,741.28
	LPF0021	1,926.24	0.00	2,077.23	33,173.03	0.00	37,176.50
Total harvested planted timbers by species (m ³)		11,171,694.14	442,503.11	2,689.58	138,570.44	983.56	11,756,440.83



INDUSTRIAL FOREST RESEARCH CENTRE (IFRC)

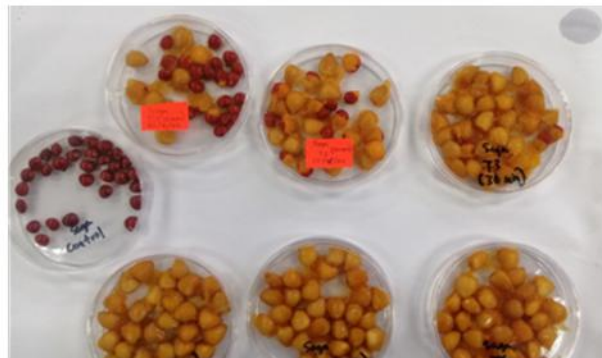
Genetic Management and Forest Breeding Research Section

- **Tree Improvement Project**

DNA Extraction on Geronggang and *Shorea parvifolia* in January and Geronggang, Kapur Bukit, Nyatoh Ketiau & Belian in March.

- **Seed Dormancy**

To break the dormancy and enhance seed germination speed.



Forest Plantation Research and Management Section

- Industrial Forest Health Surveillance and Monitoring (Pests & Diseases)
- Control and Mitigation of at least one (1) Disease (Exotic Forest Plantation Species)
- Management of pests and diseases for indigenous species: Leaf spots disease of Nyatoh Ketiau at IFRC Nursery
- Management of pests for exotic forest plantation species: Trapping and sampling of Ambrosia beetles in forest plantation as well as insect pests in IFRC nursery



Silviculture and Nursery Research and Management Section

- Wilding and seed collection in Kuching, Bau, Sematan, Serian and Sabal to meet demand for indigenous species for planting purposes and to increase planting stock for nursery and research use.
- Site Selection Visit for PSP Establishment in LPF 0042, Sampadi



Seed and Seed Production Area Research and Management Section

- Establishment of Seed Production Areas (SPA) and Phenology Monitoring
- Species Info and Seed Handling Guidelines (Indigenous Species: *Cratoxylum arborescens* (Geronggang) and *Duabanga moluccana* (Sawih); Exotic Species: *Acacia mangium* and *Acacia crassicarpa*)
- Establishment of Indigenous Species Trial Plots
- Seed Research
- Seed Testing on Freshly Collected & Stored Seeds
- Seed Collection



Measuring of mother tree dbh (1), painting of mother tree numbers (2), aluminium plate to substitute mother tree numbering (3)



Germination test conducted on different seed species

PREVENTIVE AND ENFORCEMENT

ENFORCEMENT OPERATIONS

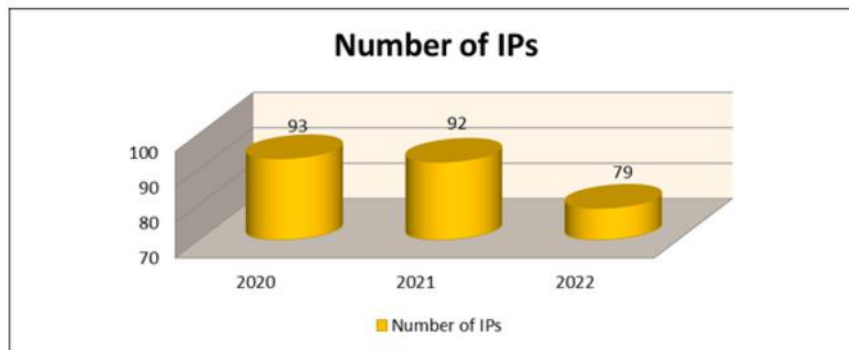
In 2022, forest enforcement operations were enhanced through the use of operation and daily situation reports (SITREPs). A total of 1,836 operations and 2,698 daily SITREPs were conducted by all Regional Forest Offices, in collaboration with other enforcement agencies, to safeguard forests and promote sustainable forest management.



Number of enforcement operations and SITREPs from 2020 to 2022



CASES OF OFFENCES AGAINST FORESTS ORDINANCE, 2015



In 2022, a total of 79 Investigation Papers (IP) were opened, which is lower than the number recorded in the previous year, with majority of the offences happening in the Sibul and Kapit Regions.

Number of Investigation Papers (IP) from 2020 – 2022

NATURE OF OFFENCES

The table below shows the nature of offences in year 2022, where the majority involved illegal felling in the land development area, followed by smuggling through wood rafts, smuggling through conveyance, illegal felling in licence area and other offences.

Regional	Illegal Felling		Smuggling		Other Offences	Total
	Licence Area	Land Development	Wood Raft	Conveyance		
Kuching	0	1	0	2	1	4
Sri Aman	1	1	0	0	0	2
Sibu	4	9	17	3	2	35
Sarikei	0	3	0	3	0	6
Kapit	1	9	3	0	1	13
Bintulu	0	6	0	1	1	8
Miri	2	0	0	0	2	4
Limbang	2	1	0	3	0	6
Total	10	30	20	12	7	79

Table: Total number of investigation papers based on nature of offences committed

TOTAL COMPOUND ISSUED

The number of compounds issued for forest offences in 2022 increased from the previous year, totaling RM792,606.



Total Compounds Collected from 2020 to 2022

NUMBER OF CASES PROSECUTED

Two (2) cases were registered with the Court, of which one (1) case was concluded and the other was still under trial. The table below shows the number of prosecuted cases in 2022.

Ordinance	Concluded	Win	Accused	Ongoing	Accused
Forests Ordinance & Forest Rules	1	1	1	1	1
Total	1	1	1	1	1

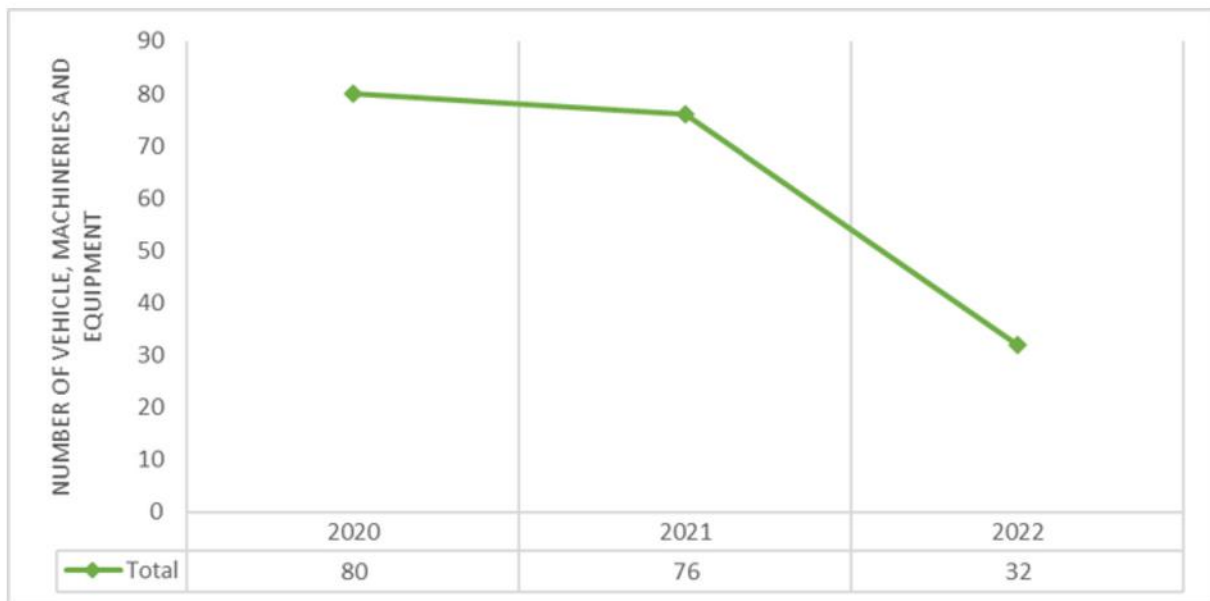
PP VS SIA TING HOON

The accused was charged in court for the offence of unlawful possession of forest produce, an offence under Section 96(1) of the Forests Ordinance, 2015 (Chapter 71) and punishable under Section 96(1) together with Section 96(3). The accused is sentenced to a fine of RM25,000 in default thereof twelve (12) months imprisonment term. The court ordered that, the amount of RM15,060.20 to be paid to the Government of Sarawak pursuant to Section 96(3) of the Forests Ordinance.



MANAGEMENT OF SEIZED VEHICLES, MACHINERIES AND EQUIPMENT

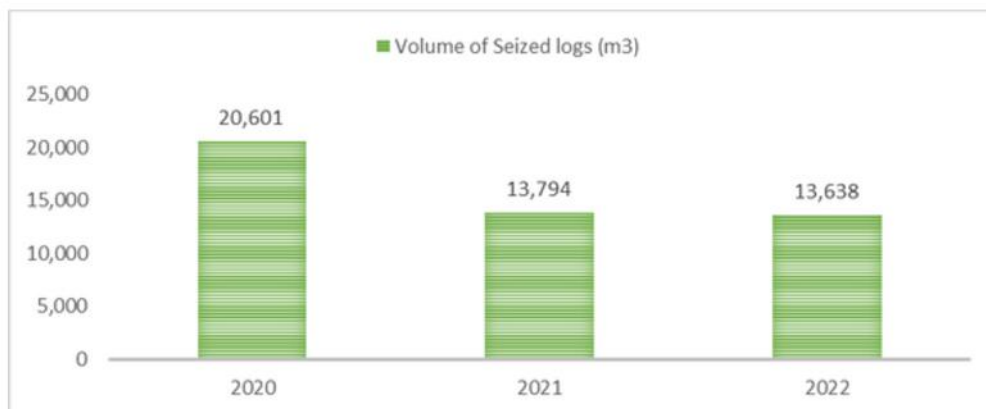
In 2022, the number of vehicles, machineries, and equipment seized for involvement in forest offences decreased from the previous year to 32 units. Two units of machineries were forfeited to the Sarawak Government and will be disposed of through burning by the end of the year.



Total of Vehicle, Machineries and Equipment Seized from 2020 – 2022

SEIZED LOGS

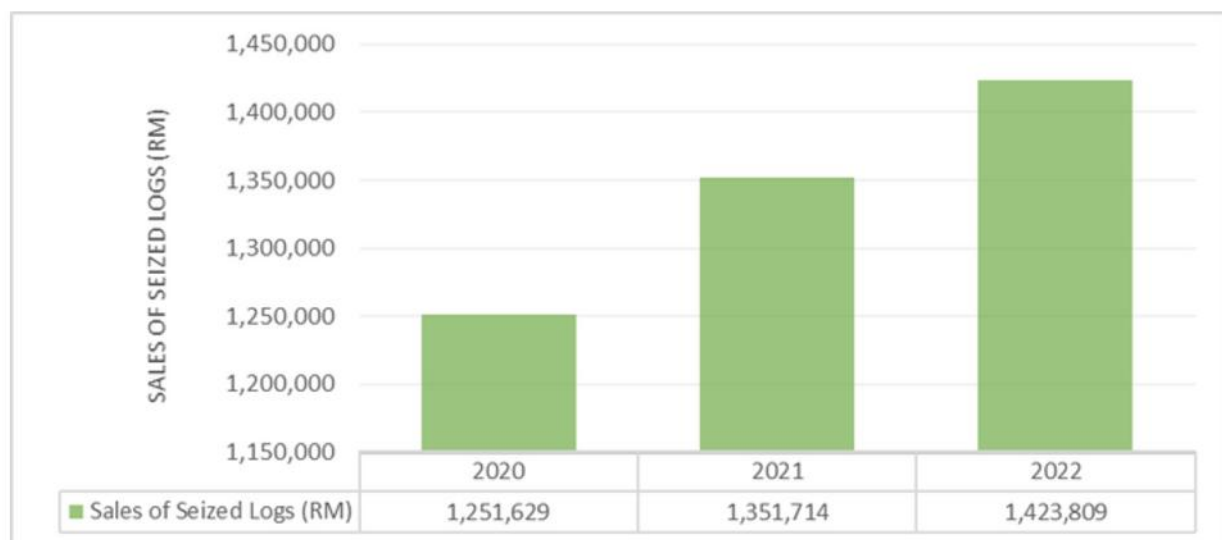
Through various operations conducted in year 2022, a total of 13,638 m³ logs of various sizes and species were seized. The volume of seized logs in year 2022 has slightly decreased from the previous year.



Volume of Seized Logs (m³) from 2020 – 2022

DISPOSAL OF SEIZED LOGS TO HARWOOD TIMBER SDN. BHD. (HTSB)

In term of disposal of seized logs, Forest Department Sarawak is working closely with Harwood Timber Sdn. Bhd. (HTSB) to ensure that the disposal process is executed smoothly. As a result, in 2022, the sale of seized logs to HTSB amounts to RM1.42 million. Despite this, some seized logs could not be sold due to poor quality of logs or high cost to retrieve the seized logs from the location of seizure. These logs were then disposed by means of destruction by the Department. The graph below shows the sales of seized logs to HTSB from 2020 to 2022, where 2022 recorded the highest number of sales of seized logs.



Sales of Seized Logs to HTSB from 2020 - 2022

RESEARCH, DEVELOPMENT AND INNOVATION

This report highlights the research activities undertaken by the Research, Development and Innovation Division (RDID) throughout the year, demonstrating the division's commitment to furthering research and knowledge as well as developing innovative solutions. The following section will detail the key projects and ongoing initiatives in 2022.

RDID RESEARCH ACTIVITIES

BIODIVERSITY SECTION

A. Botany

Research and Conservation of Selected Plants in Permanent Forest Estates (PFEs) in Sarawak

- 262 specimens collected for SAR
- New record for distribution of *Rafflesia* sp.
- New locality record for *Begonia* (rare species)
- 16 mycoheterotrophic species recorded

SATREPS-PUBS PROJECT: Project on Development of Management Systems for Multiple Utilization of Biodiversity in Tropical Rainforests at Protected Areas in Sarawak

- 326 specimens collected at Santubong NP, Lambir Hills NP, Kubah NP
- Systematic Study of Rubiaceae
- Publication of journal for species in Sarawak

Pandanaceae of Sarawak: Archiving its Botanical Profile for Conservation and Sustainable Utilization

- 27 specimens collected in HoB areas
- Sabal PF, Pueh FR, Bako CF and Gerenai FMU
- Taxonomy of Pandanaceae
- Documentation of ethnobotanical uses among indigenous people in HoB areas
- Research collaboration between FDS and UNIMAS

Wildlife Monitoring and Rescue (WiMOR) Plan for Baleh HEP

- A total of 40 plant samples were collected as of November 2022
- Plant assessment, rescue and replanting
- Research collaboration between FDS and SEB (Sarawak Energy Berhad)

Permanent Sample Plot Project:
i. Assessment of Non Trees under PSP Project
ii. Study on threatened trees within and adjacent to PSP

- i. A total of 349 samples were collected
- ii. Voucher specimen and 157 DNA samples were collected for all individuals. Collaboration with NIES

B. Ecology

Establishment of Permanent Sample Plot (PSP) Network in Sarawak

- 5 plots reassessed and 3 new plots established
- Impact of logging on forest structure on forest structured, forest growth, volume, species composition analysed and published

Ecological Assessment on Selected PFE

- Baseline data on Lubok Ria CF peat swamp forest
- Established 2 plots and 660 tree data recorded
- Documentation of endemic swamp species e.g., *Gonystylus bancanus*

Verification and Assessment of Research Plot (RP) and Yield Plot (YP)

- Dialogue session with BLD and Tradewind Plantation managers
- Preparing and submission of proposal on potential research works to plantation operator

C. Entomology

SATREPS-PUBS PROJECT: Termite Survey

- A total of 1,540 vials of termites sampled

Effect of Logging on Termite Population in Various Forest Management Units in Sarawak

- A total of 1,665 vials of termites collected

Digitalization of Specimen in Sarawak Insectorium

- A total of 22,000 specimens were selected for data conversion process mainly from MS Excel.

D. Mycology

TEAMS PROJECT: System Development and Application System and Data Conversion

- Digitization of fungarium specimen
- Forest Research Information System of Sarawak (FORISS)

Macrofungi Diversity in Maludam Peninsula Peatland Landscape

- Sub-activity for GEF-IFAD Project
- To document the diversity of microfungi in three different land uses in Maludam (TPA, Secondary forest and oil palm plantation area)
- Reports on fungi diversity

SATREPS-PUBS PROJECT: Phyllosphere microfungi community

- Diversity on phyllosphere microfungi in natural forest

E. Wood Science

Artificial Intelligence (AI) and Forensic Timber Identification for Forest Protection and Revenue Generation

- Two training sessions: Training and Tools Familiarization for data and image acquiring i.e. "Xylorix Model Building System Training" as preparation for building AI System

Bolted Timber Connection Database of Sarawak Hardwood Timber Species

- Research collaboration with UNIMAS
- 3 species of timber were used, Selangan Batu, Alan and Keruing
- 174 wood samples underwent verification and processing. Out of those, 54 were Keruing, 52 Selangan and 58 Alan were verified and processed.
- One joint-published journal paper were produced

Evaluation of Mechanical Properties of Bamboo and Planted Timber Species

- Research collaboration with STIDC
- Mechanical strength properties of 3 bamboos species were tested: (*Bambusa vulgaris* var. *striata* (Buluh Minyak Kuning), *Dendrocalamus asper* (Buluh Betong) and *Gigantochloa levis* (Buluh Beting).
- Mechanical strength testing on 1,378 specimens of air-dried bamboo specimens are still on-going.

RDID RESEARCH ACTIVITIES

DEVELOPMENT & INNOVATION SECTION

A. Biotechnology

Tissue Culture Project : Bamboo Hedge Garden & Planting Trial

- Tissue culture-derived bamboo plantlets: *Dendrocalamus asper*, *Dendrocalamus giganteus* and *Gigantochalao atter* with their respective average height of 4.02m, 3.17m and 4.08m
- Hedge Garden - 775 plants
- Planting Trials - 872 plants
- Nursery - 110 plants

Eucalyptus Clones – Tree Improvement Programme & Hedge Garden Establishment - IFRC

- China Eucalyptus Research Centre (CERC) supplied planting materials, including seeds and tissue culture plantlets, for three major plots in south, center and north of Sarawak

Seed Germination of *Acacia crassicarpa* for Tree Breeding Programme & Hedge Plant Establishment - IFRC

- Seedlings derived – planting out in field/repotting to large poly bags in December 2023

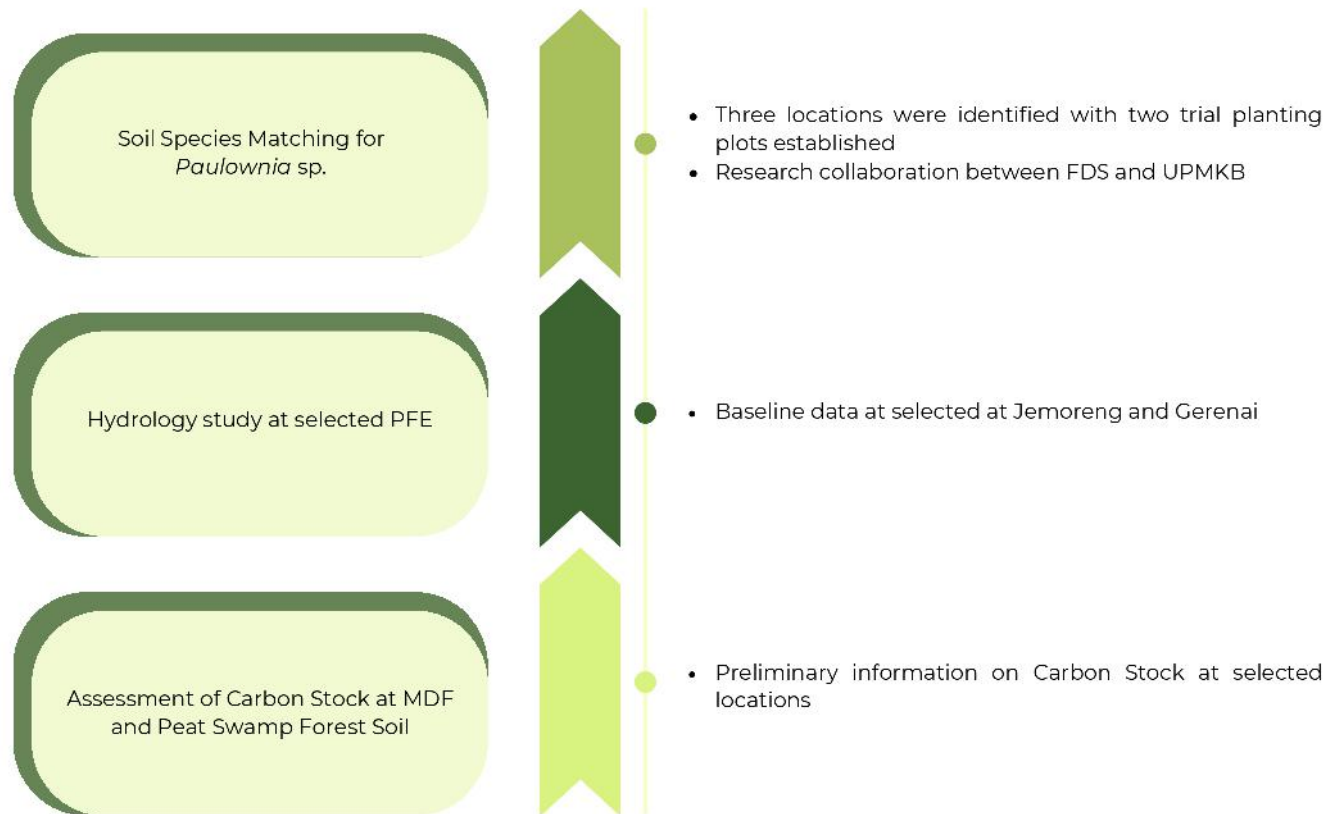
B. Soil Science and Chemical Environment

Soil Investigation

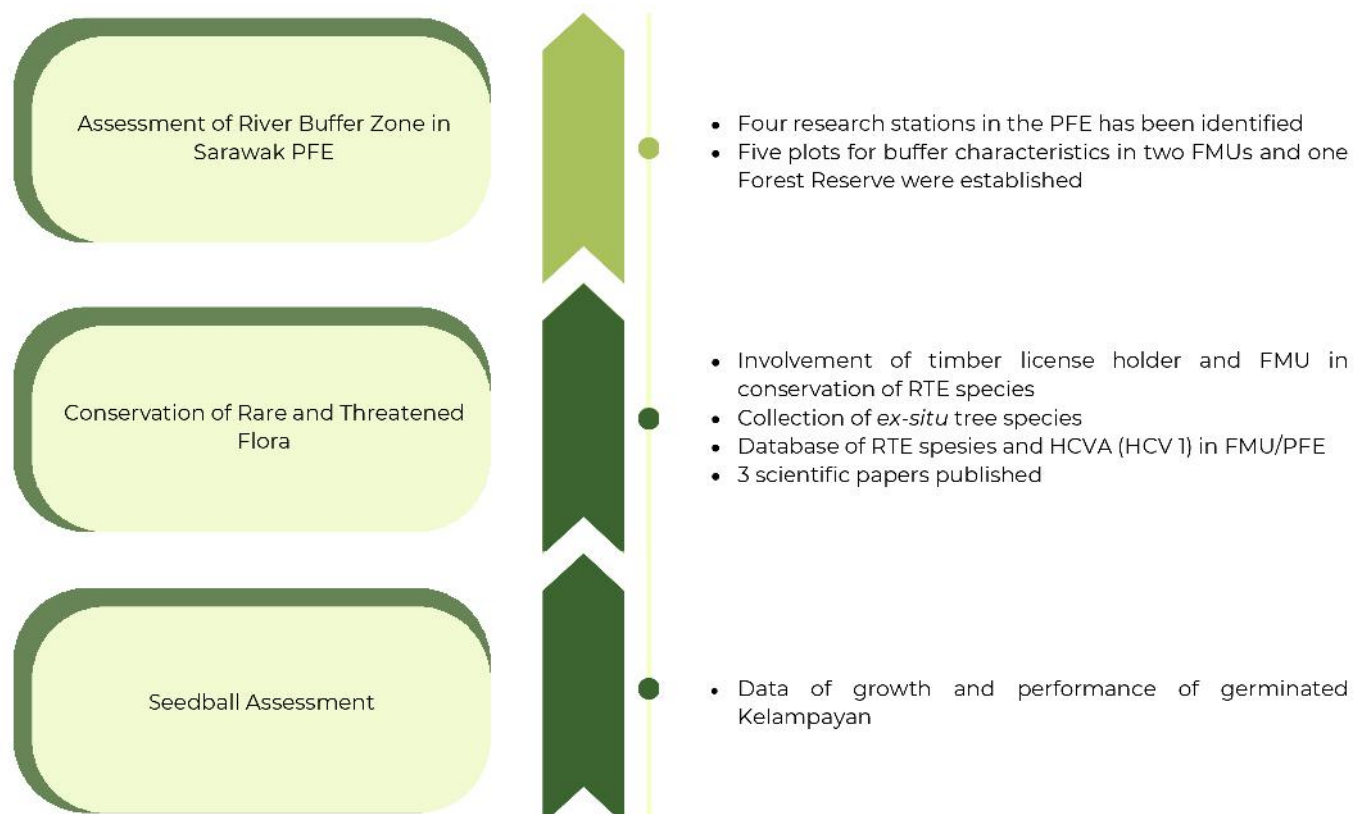
- Information on soil classification at Jemoreng and Gerenai

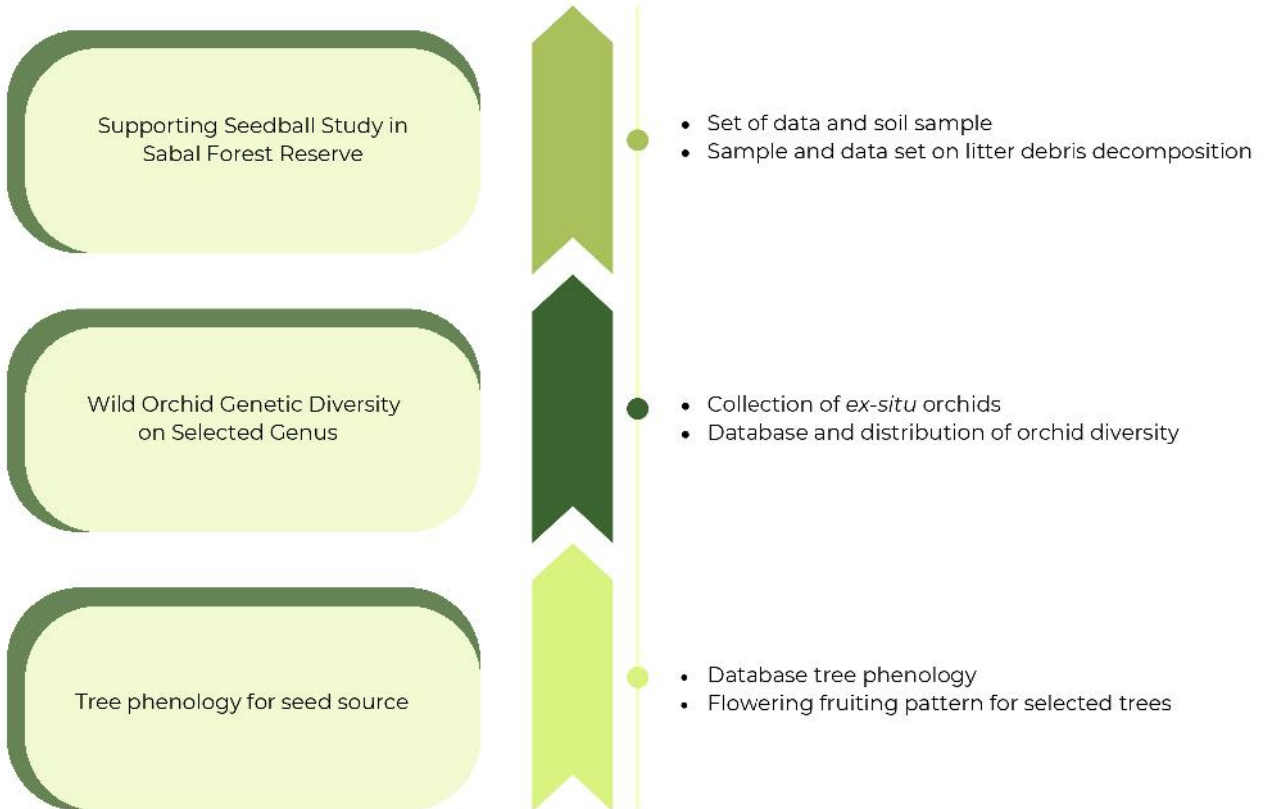
Supporting Seedball Study in Sabal Forest Reserve

- Set of data and soil sample
- Sample and data set on litter debris decomposition



C. Conservation



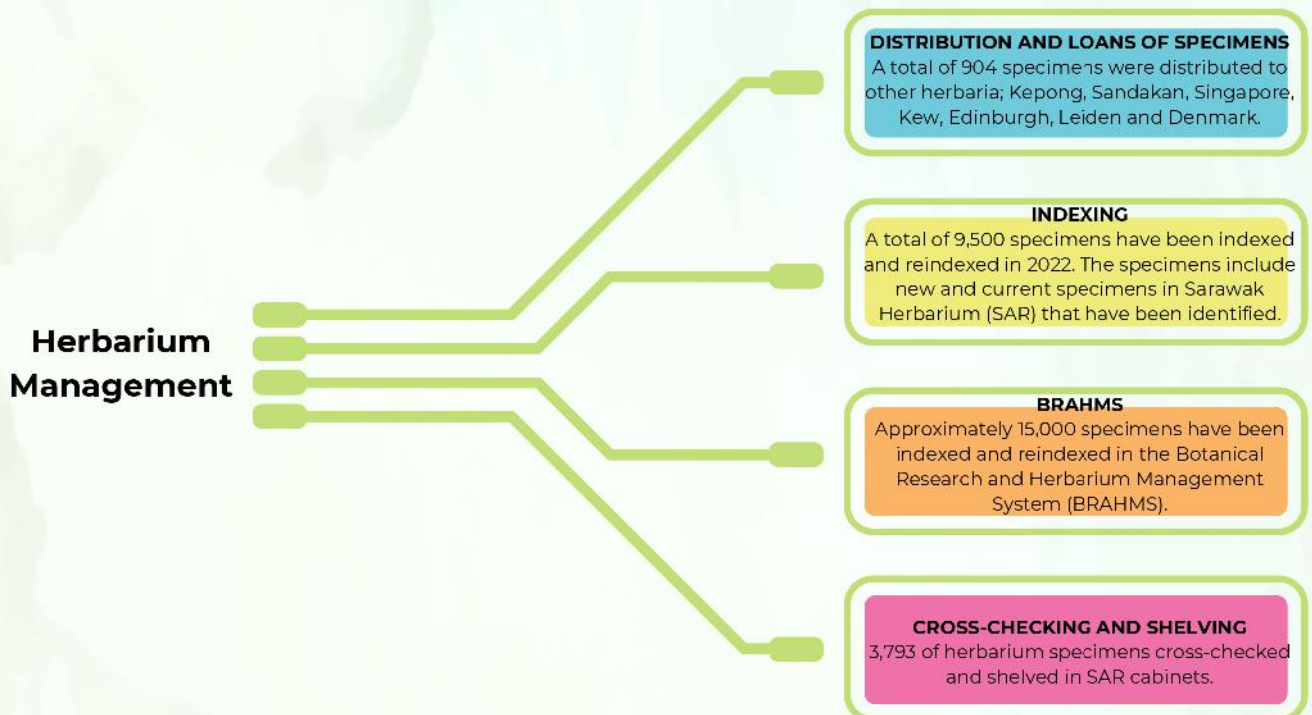


RDID BIODIVERSITY REFERENCE COLLECTIONS

The biodiversity collections at RDID reflect the richness of Sarawak’s biodiversity. These reference collections play a crucial role in uncovering new flora and fauna species, as well as identifying endangered, rare and threatened (ERT) species, and uses of timber for plantation. The Herbarium, Fungarium, and Xylarium are pivotal resources for botanical research, while the Insectorium facilitates research on invertebrates, covering areas such as systematic classification, taxonomy, biodiversity, ecology, and education. These collections continue to expand thanks to the ongoing research efforts of dedicated researchers.

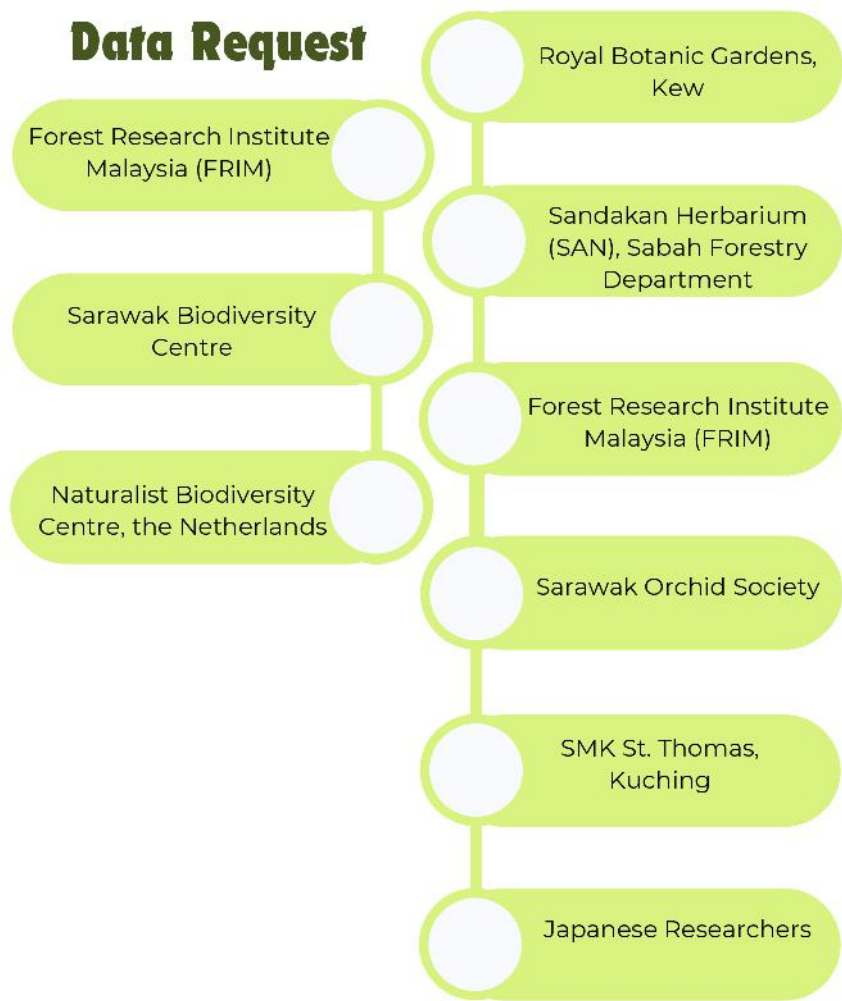
A. Herbarium

The Sarawak Herbarium, a cornerstone of Forest Department Sarawak’s botanical research, plays a vital role in preserving plant biodiversity through its vast collection and meticulous management. The following infographic showcases the herbarium’s activities in 2022, including specimen management, data requests fulfilled, and visitor statistics.



Visitors

Data Request



B. Insectorium

Three new species of beetles were recorded and published from Sarawak for the year 2022. Types specimens were deposited at the Forest Department Sarawak Insectorium.



Two new species of the Genus *Lycidioides* (Coleoptera, Tenebrionidae, Stenochiine) from Sarawak, Borneo. *Lycidioides* spp., habitus. — (left) *L. notatipennis* sp. nov. and (right) *L. osawai* sp. nov.



A new species of the Genus *Sakaiomenimus* (Coleoptera, Tenebrionidae, Gnathidiini) from Sarawak. *Sakaiomenimus croceus* sp. nov. Coleoptera, Tenebrionidae, Gnathidiini



Sampling of termites in Anap-Muput FMU (left) and Santubong National Park (center). Vials of termites collection (right).

C. Fungarium

The Fungarium contains reference collections of fungi, encompassing approximately 8,000 dried and wet specimens from 52 different families. General collection of fungi are done throughout the year.



Panus sp.
(Polyporaceae)



Coriolus sp.
(Polyporaceae)



Mycena sp.
(Mycenaceae)

D. Xylarium

Complementing the work of the Department, the Xylarium serves as a valuable archive for wood specimens. This dedicated collection provides researchers with a vital resource for studying the unique properties and characteristics of Sarawak's diverse tree species.



Processing and sorting of wood specimens in Xylarium



Conducting wood survey and sampling collection in the field

RESEARCH HIGHLIGHT



Collecting and documenting ethnobotanical uses of Pandanaceae in HoB areas in Sarawak



Artificial Intelligence (AI) and Forensic Timber Identification for Forest Protection and Revenue Generation Project: Training on tools familiarization, timber model building data collection process and video conferencing



Seed Germination of *Acacia crassicarpa* for Tree Breeding Programme & Hedge Plant Establishment



Soil species matching for Paulownia sp. Project: Assessment of the suitability of RevoTropix (RT) Paulownia as one of the potential fast-growing species planted on different soil conditions in the PFEs area of Sarawak.



Measurement of carbon stock in the Bako Communal Forest. This work involves measuring the diameter of the trees as well as collecting soil and leaves.



Assessment of appropriate river buffer zone size for conservation and to mitigate logging impact at Sarawak PFEs.



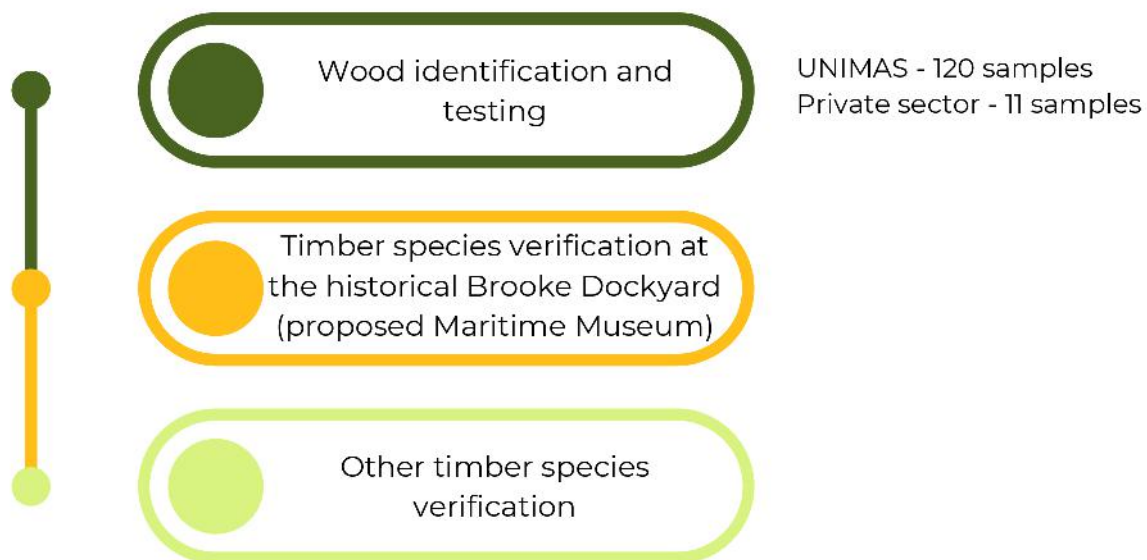
Conservation of Rare and Threatened Trees: Mother tree of *Shorea rotundifolia* and its wildings nurtured in the nursery of AMFMU by the FMU workers. The species is endemic to Sarawak and listed as Critically Endangered in the IUCN Red List of Threatened Species.

TECHNICAL SERVICES

The Sarawak Tropical Peat Research Institute (TROPI) made a technical service request for tree identification in Maludam National Park from 21st to 30th November 2022.



The department also received requests for wood sample identification, testing and verification services from both government and private sector.



RESEARCH PUBLICATIONS

Forest Department Sarawak published a total of **47** research publications in journals, books and proceedings, including oral papers and poster presentations in 2022.

NO	RESEARCH PUBLICATIONS
1	Nur Bazilah Ismail and Geoffery James Gerusu. 2022. Selected Physico-chemical Quality of Perennial Upstream within Totally Protected Tropical Forested Catchments in Sarawak. <i>The Malaysian Forester</i> 2022, 85(1): 33-47.
2	Olivia, C., Vilma, B., Roslina, R., Van Deelen, T. R. & McShea, W. J. (2022). Fruit tree phenology in traditionally managed versus protected forests in Malaysian Borneo. <i>Biotropica</i> . 2022;00:1–17
3	Xavier Langit Ujan, Abdul Razak Abdul Karim, Norazzlina M.Sa'don, Teng Xin Yao, Pierre Quenneville & Nur Liza Rahim. Effectiveness Validation on Existing Design Equations for the Sustainable Design of Masonry Building Retrofits. <i>Journal of Sustainability Science and Management</i> Volume 17 Number 6, June 2022: 79-91
4	Khairunnisa O., Stafannie Nilla M.R., Mohamad Zainuddin, M. K., Mohamad Zamri B., Ahmad Faiz Z., Jerry Nunong E. FERNS AND FERN-ALLIES OF GUNUNG PUEH FOREST RESERVE, LUNDU SARAWAK. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunong Pueh. 2nd August 2022
5	Bibian Diway. Forest structure of regenerating logged over forest in Sarawak, Malaysia. The 32nd Annual Meeting of the Japan Society of Tropical Ecology (JASTE32). 18 June 2022.
6	Bibian Diway, Yasuo Yasui, Hideki Innan, Yayoi Takeuchi. New locality and bud growth of the world biggest flower, <i>Rafflesia tuan-mudae</i> , in Naha Jaley, Sarawak, Malaysia. <i>Tropics</i> Vol. 30(4).
7	Nur Safinas, J., Yazid, K, Yahud, W., Runi, S.P., Mohizah, M., Noorhana, M.S. Wan Omarshah, W.P., Dami, J. & Nakagawa, M. Rafflesiaceae in Southwestern part of Sarawak: effects of climatic condition on the reproduction. The 69th Annual Meeting of the Ecological Society of Japan. 14th - 19th March 2022.
8	Noorhana, M.S. Tree Composition in Proposed Arboretum Site at Gunung Pueh Forest Reserve. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunong Pueh. 2nd August 2022
9	Dr. Ahmad Ampeng. Socio-ecological factors shape the distribution of a cultural keystone species in Malaysian Borneo. <i>npj Biodiversity journal</i> . September 2022 (pre-print), February 2023.

NO RESEARCH PUBLICATIONS

- 10 Aurelia Dulce Chung. Stand Characteristics of Gunung Pueh Forest Reserve. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunong Pueh. 2nd August 2022
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- 11 Nur Bazilah, I., Geoffery J. G., Mohd Zalek, S., Robin, S., Mohizah, M. 2022. Water Quality Status of Selected Undisturbed Headwaters in Sarawak. 19th Malaysian Forestry Conference, 12 - 15 June 2022, Kuantan Pahang.
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- 12 Vilma, B. Mohd. Firdaus, B. & Haniza, R. 2022. Action for Conservation of Sarawak Rare, Threatened and Endangered Tree Species. 19th Malaysian Forestry Conference. Pahang, Malaysia.
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- 13 Madeline G.P. & Dyg Nuriza. 2022. Integrating Conservation and Sustainable Forest Management. 19th Malaysian Forestry Conference. Pahang, Malaysia.
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- 14 Abg Nuradzizi & Madeline G.P. Unlocking the Ecotourism Potential of Gunong Pueh Forest Reserve. 19th Malaysian Forestry Conference. Pahang, Malaysia.
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- 15 Vilma, B., Army, K., Relin, J., Abdul Rani, B. & Albert, F.D. 2022. Gunong Pueh Forest Reserve, The Sanctuary of Endemic and Threatened Tree Species. Seminar Heart of Borneo Sarawak - Ekspedisi Saintifik Gunung Pueh Jabatan Hutan 2022. Sarawak, Malaysia.
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- 16 Haniza, R., Karin, K., Sufian, A., Bilhan, D., Abdul Rani, B., Albert Danny, F.D., Lawrence, E., Runi, S.P. The Occurrence of Wild Orchid in Pueh Forest Reserve. Seminar Heart of Borneo (HoB) Sarawak. Gunong Pueh Scientific Expedition. 2nd August 2022
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- 17 Halipah, B. Soils for Mixed Dipterocarp Forest in Sarawak. 19th Malaysian Forestry Conference, 12 - 15 June 2022, Kuantan Pahang.
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- 18 Halipah, B., Mohd. Yusuf Abd. Rahman, Ahmad Zaidi Keria, Umar Abang. Common Soils at Gunung Pueh, Sarawak. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunong Pueh. 2nd August 2022
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- 19 Julia, S. & Ling, C.Y. 2022. Begonia (Begoniaceae) of Gunung Pueh. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunong Pueh, UCSI Kuching, 2nd August 2022
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- 20 Julia, S., Kiew, R. & Ling, C.Y. 2022. *Hexatheca longipedunculata* (Gesneriaceae), a new species from Sarawak, Borneo. Gardens' Bulletin Singapore 74(1): 91-100.
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- 21 *Begonia* Phylogeny Group. 2022. Resolving phylogenetic and taxonomic conflict in *Begonia*. EDINBURGH JOURNAL OF BOTANY 79, Begonia special issue, Article 1928: 1-28. <https://doi.org/10.24823/EJB.2022.1928>
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NO RESEARCH PUBLICATIONS

- 22 Julia, S., Kiew, R. & Ling, C.Y. 2022. Additions to the *Begonia* Flora of Sarawak, Borneo, I: Thirteen new species of *Begonia* (Begoniaceae). *Edinburgh Journal of Botany* 79, *Begonia* special issue, Article 410: 1–46. <https://doi.org/10.24823/EJB.2022.410>
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- 23 Julia, S. 2022. Diversity and distribution of *Begonia* L. (Begoniaceae) species in Sarawak, Borneo. 14th APBON Webinar 22 Nov 2022.
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- 24 Chua, L.S., S. Julia, Pereira, J.T., Khoo, E., Maycock, C.R. 2022. Current state of knowledge on the extinction risk of Malaysian tree species: proximate needs to mitigate loss. *Plants People Planet*, 1-13. <https://doi.org/10.1002/ppp3.10320>
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- 25 Mohamad Yazid Hossman. Reports on Herpetofaunal Inventory of Pueh Forest Reserve. Seminar Heart of Borneo (HoB) Sarawak-Ekspedisi Saintifik Hutan Simpan Gunung Pueh. 2nd August 2022
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- 26 Kimura, K., Shimada, T., Hossman, M. Y., & Nishikawa, K. (2022). Diet composition of a burrow-utilizing frog, *Limnonectes cinalubang* Matsui et al., 2014, (Anura: Dicroglossidae), in Sarawak, Malaysia. *Herpetology Notes*, 15, 499-505.
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- 27 Fukuyama, I., Hossman, M. Y., & Nishikawa, K. (2022). Rediscovery of *Luperosaurus sorok* Das, Lakim, and Kandaung, 2008 (Squamata, Gekkonidae) With Notes on Its Taxonomy and Natural History. *Journal of Herpetology*, 56(2), 241-248.
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- 28 Shirley, C., Abdul Ghani, Y., Abu Serah, A., Junes, B., Mustapa, M., Fatin Nasrin, B.S. & Sharifah Rohaidah, W.A. Macrofungi Diversity of Gunung Pueh F.R. Seminar Heart of Borneo (HoB) Sarawak - Ekspedisi Saintifik Hutan Simpan Gunung Pueh. 2nd August 2022.
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- 29 Natsuki Komada, Shuichiro Tagane, Takao Itioka, Usun Shimizu-Kaya, Paulus Meleng, Akira Nakanishi, Runi Sylvester Pungga, Mamoru Kanzaki. Characteristics of vascular epiphyte flora in a Bornean lowland tropical forest: Comparison of species diversity among 11 sites over three biogeographic regions. *Selbyana* 33(5): 63–71. 2022.
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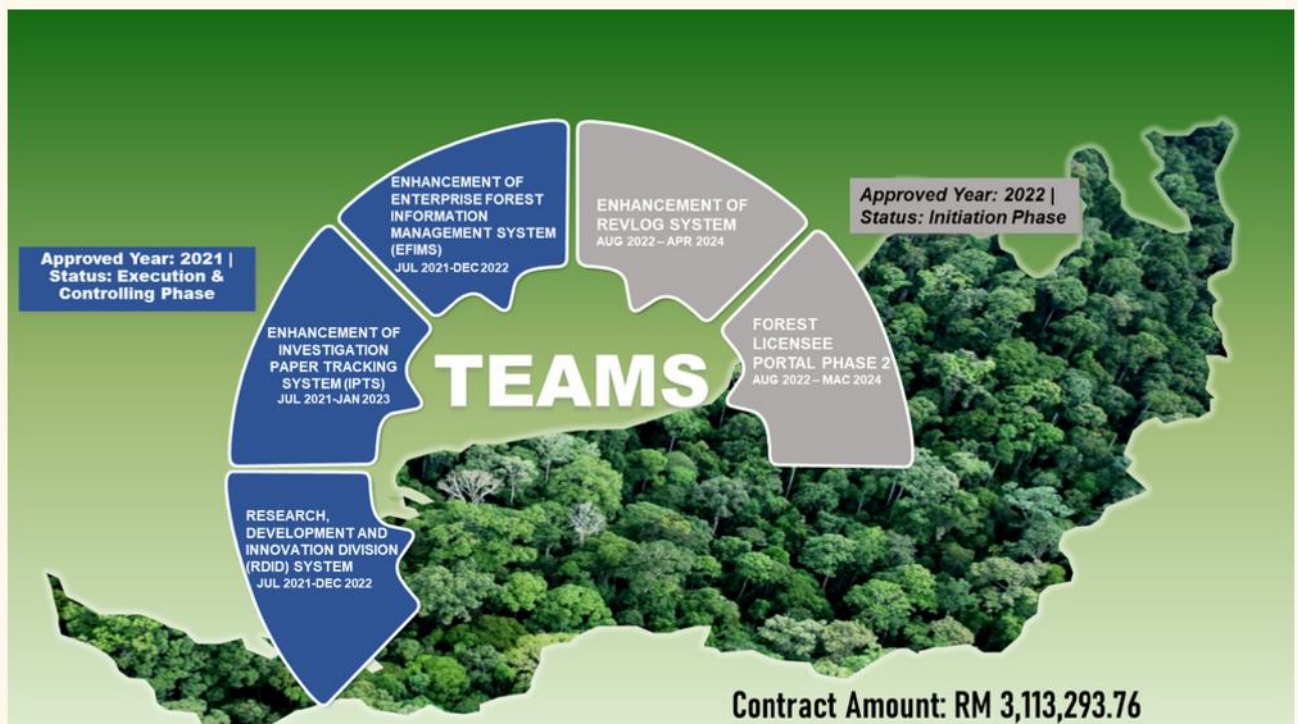
Forest Technology and Geospatial

The following are the activities that have been implemented based on the annual operation plan for 2022.

A) INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT)

i. A state development project (P17) - The Artificial Intelligent (AI) System Development, was presented at the Digital Government Committee (DGC) level of the Sarawak Premier Office in November 2022 and was approved by the committee.

ii. The figure below shows the list of Forest Department Sarawak projects approved for the Timber Enforcement Administration and Management Systems (TEAMS) in year 2022 under the 12th Malaysia Plan for System Development & Enhancement through SAINS. The total contract amount was RM3,113,293.76.



B) DRONE APPLICATION

i. Operations and Permit Applications

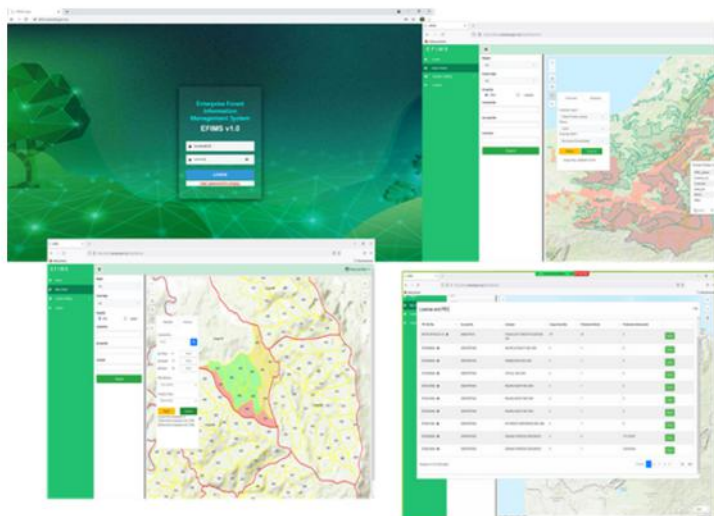
Eight (8) NOTAMN and Authorisation to Fly (ATF) permits were approved by the Civil Aviation Authority of Malaysia (CAAM), while a bulk photography and mapping permit were obtained from the Department of Survey and Mapping Malaysia (JUPEM) in year 2022.

ii. Drone Training and Collaborations

Various competency course and trainings were conducted on drone laws, safety, and operational methods specified by the Civil Aviation Authority of Malaysia. Objectives include providing knowledge on drone laws and safety, as well as equipping participants with digital skills for flight planning and drone asset management.

FOREST GEOMATICS ACTIVITIES

Enterprise Forest Information & Management System (EFIMS) Application and Database Management



The first part of EFIMS Enhancement, developed in the 12th Malaysia Plan project, has successfully completed User Acceptance Testing (UAT) and has gone live in 2022. Administrative layers such as State boundaries, Rivers & Streams, Topography, Settlements, and Road access are stored off-premise at the State Data Centre. FDS administrative layers are currently on-premise at the Forest Technology & Geospatial Division's internal server. Detailed forest operations layers for licenses and permits are being populated by regional office GIS operators.

Overview of Web Enterprise GIS (EFIMS) showing the current layers and attributes that are available in its database



Provision of Geospatial Training

GIS operators received formal training at each regional office for essential GIS drafting and mapping applications to aid EFIMS implementation. Subsequent hands-on training, led by GIS officers, focused on PEC digitalisation, including layers and attributes. Introductory briefing on EFIMS were also conducted to the management level of FDS to enhance implementation of the system.

TRAINING	DATE	VENUE
Briefing and hands-on training session on Imagery Archiving, Map Layer Publishing & EFIMS Desktop Extension	10 January 2022	GIS, Level 12, Bangunan Baitul Makmur II
Introductory Briefing on the Enterprise Forest Management Information System (EFIMS) to Heads of Divisions and Regional Forest Officers	18 March 2022	Seminar Room, Level M, Bangunan Baitul Makmur II
EFIMS GIS Data Digitising Training	31 March 2022 – 01 April 2022	SAINS – PPKS Training Centre Pusat Pembangunan Kemahiran Sarawak (PPKS)
ArcGIS Pro 3D Analyst Training	07 – 08 July 2022	SAINS – PPKS Training Centre Pusat Pembangunan Kemahiran Sarawak (PPKS)
ERDAS Imagine Fundamental Training	27 – 29 June 2022	SAINS – PPKS Training Centre Pusat Pembangunan Kemahiran Sarawak (PPKS)

EFIMS Training



Introductory Briefing on the Enterprise Forest Management Information System (EFIMS) to Heads of Divisions and Regional Forest Officers on 18th March 2022



SARAWAK AERIAL DATA UNIT (SADU) ACTIVITIES

a) Operationalization of the DA42-MPP Aerial Sensing System

After the DA42-MPP aircraft and its sensing systems completed the commissioning process with the Civil Aviation Authority and became fully operational last year, the final payment of the aircraft procurement (Fourth Interim) for aircraft spare parts and warranty amounting to RM 3,296,204.91 was successfully completed in December 2022.



The Pahang Forestry Department made a working visit to the Diamond DA42-MPP operation base in Kuching on 21st October 2022.



The Sabah Forestry Department also had a working visit to Diamond DA42-MPP operation base in Miri on 19th May 2022.



b) COMOS – Intelligence Gathering and Dissemination of Tactical Information

COMOS information that has been acted upon:

- 228 information/public complaints were verified during aerial surveillance and ground operations.
- 26 submissions of temporary detention cases to the Regional Forestry Offices (RFO)/Preventive and Enforcement Division (PED) for further action and investigation.
- 15 investigation papers were opened by FDS investigating officers for further investigation.
- 2 cases of loss of goods in case of temporary delivery of machinery/machinery and logs are still under investigation by the FDS integrity unit.

OPERATION

Total aerial/ground operations:

- Nine Series (72 days) of OPS Udara RENGAS-COMOS Bersepadu with the Ministry of Natural Resources & Urban Development (MUDeNR)
- Three aerial operations (26 days) – information received from COMOS & public complaints
- Two ground operations (17 days) - information received from COMOS

Total machinery and illegal logs temporarily detained for further investigations by the Regional Forest Offices (RFO)/Preventive and Enforcement Division (PED):

- an estimated 8,177 logs of various sizes and species and 46 illegal logs (kayu batak)
- 20 machineries were detained
- an estimated 279 logs of various sizes and species were destroyed

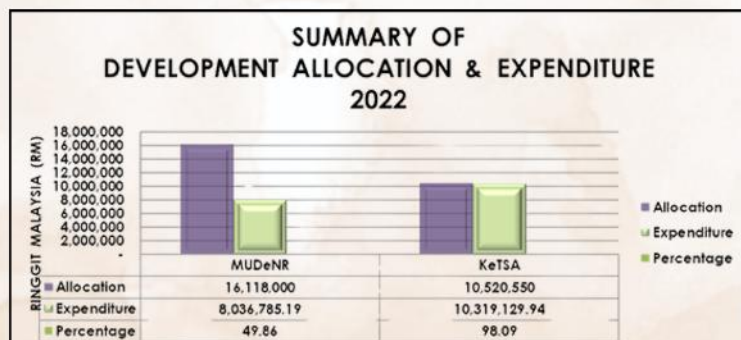
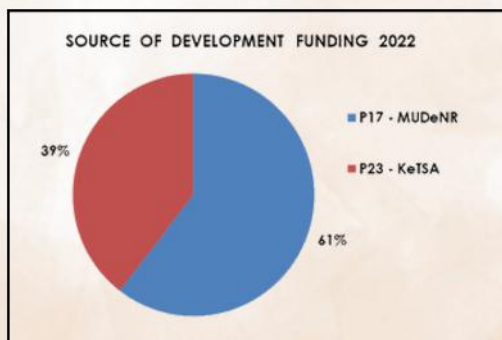
ORGANIZATIONAL DEVELOPMENT AND PROJECT DEVELOPMENT

FINANCIAL STATEMENT

The summary of financial performance for 2022 development allocation is shown in the table below. A total of RM 26,638,550.00 from both State and Federal Allocations under various ministries was allocated to the Department.

Table: Summary of Financial Performance for Development Allocation Year 2022.

No	Code	Source	Allocation	Expenditure	Performance (%)
			RM	RM	
1	P.17	State Allocation: Ministry of Urban Development and Natural Resource (MUDeNR) <i>Kementerian Sumber Asli dan Pembangunan Bandar</i>	16,118,000.00	8,036,785.19	49.86
2	P.23	Federal Allocation: Ministry of Energy and Natural Resources (KeTSA) <i>Kementerian Tenaga dan Sumber Asli</i>	10,520,550.00	10,319,129.94	98.09
TOTAL			26,638,550.00	18,355,915.13	68.91



Head/ Subhead	Project Title	Allocation (RM)	Expenditure	
			RM	%
P17	Ministry of Urban Development and Natural Resources (MUDeNR)			
	Kementerian Pembangunan Bandar dan Sumber Asli (State Allocation)			
53051200	Establishment of Permanent Sample Plot (PSP) Network in Sarawak	460,000.00	383,693.49	83.41
52140100	Establishment of Centre of Excellence for Planted Forest R&D (Previously known as High Quality Planting Materials for Forest Plantation in Sarawak)	1,500,000.00	431,476.47	28.77
52050202	Proposed Implementation of Forest Landscape Restoration Program Throughout Sarawak	5,000,000.00	3,538,131.19	70.76
52170102	Development of Sustainable Forest Management (SFM) Centre in Central Region, Sarawak	300,000.00	30.57	0.01
52170101	Establishment and Management of Forest One Stop Compliance Centre (FOSCC) and Permanent Forest Estate (PFE)	1,500,000.00	366,285.10	24.42
53060101	Artificial Intelligence (AI) and Forensic Timber Identification for Forest Protection and Revenue Generation	1,000,000.00	293,767.17	29.38
52040301	Strengthening Forest Enforcement Through Advancing the Technology and Equipments	2,000,000.00	1,525,957.02	76.30
52180101	Wetland and Watershed Conservation and Protection Within Heart of Borneo Sarawak (HoB)	450,000.00	242,679.99	53.93
54040101	Development of Urban Forest Park in Kayangeran Forest Reserve, Lawas	1,000,000.00	74,209.50	7.42
52040302	Establishment of Central Depot for Seized Items in Sarawak	800,000.00	29,792.00	3.72
52180102	Sarawak Delta Geopark	1,408,000.00	890,762.69	63.26
52170103	Projek Menangani Masalah Sisa Kayu Terapung (Floating Debris) di Batang Baleh	700,000.00	260,000.00	37.14
TOTAL		16,118,000.00	8,036,785.19	49.86

Head/ Subhead	Project Title	Allocation (RM)	Expenditure	
			RM	%
P23	Ministry of Energy and Natural Resources (KeTSA)			
	Kementerian Tenaga dan Sumber Asli (Federal Allocation)			
09900 009 0001	Heart of Borneo Negeri Sarawak Fasa II	85,000.00	67,889.93	79.87
09900 011 0001	Pembangunan Sistem Cerapan Hiperspektral Secara Turnkey Untuk Penguatkuasaan dan Pemantauan Sumber Asli Negara	3,320,993.00	3,314,032.29	99.79
09900 015 0001	Restorasi Sumber Hutan Melalui Perhutanan Sosial	1,351,900.00	1,299,743.44	96.14
09900 020 0001	Heart of Borneo Negeri Sarawak Fasa III	1,310,000.00	1,301,840.98	99.38
09900 021 0001	Pembangunan dan Pengurusan Restorasi Landskap Hutan (FLR) di Sarawak	1,245,000.00	1,235,689.42	99.25
09900 022 0001	Inventori Sumber Hutan (ISH) di Kawasan Hutan Simpan Kekal (HSK) Sarawak - Fasa III	1,566,650.00	1,527,405.06	97.49
09900 023 0001	Program Kesedaran Komuniti Mengenai Hasil Hutan Bukan Kayu	255,000.00	213,027.40	83.54
09900 025 0001	Pengembangan Aplikasi Hiperspektral Dalam Pemuliharaan Alam Sekitar dan Pengurusan Sumber Asli Negara	211,007.00	196,183.16	92.97
10100 023 0001	Penubuhan Tapak Biosphere Reserve UNESCO di Sarawak	179,000.00	177,879.95	99.37
10100 024 0001	Sumbangan Kerajaan GEF6 - Sustainable Management of Peatland Ecosystem in Malaysia (SMPEM) & Integrated Management Plan at Maludam Peninsula, Sarawak	210,000.00	199,443.20	94.97
10100 025 0001	Pengurusan Habitat Hidupan Liar Di Dalam Kawasan Hutan Simpan Kekal (Permanent Forests) di Sarawak	786,000.00	785,995.11	100.00
TOTAL		10,520,550.00	10,319,129.94	98.09
GRAND TOTAL		26,638,550.00	18,355,915.13	68.91

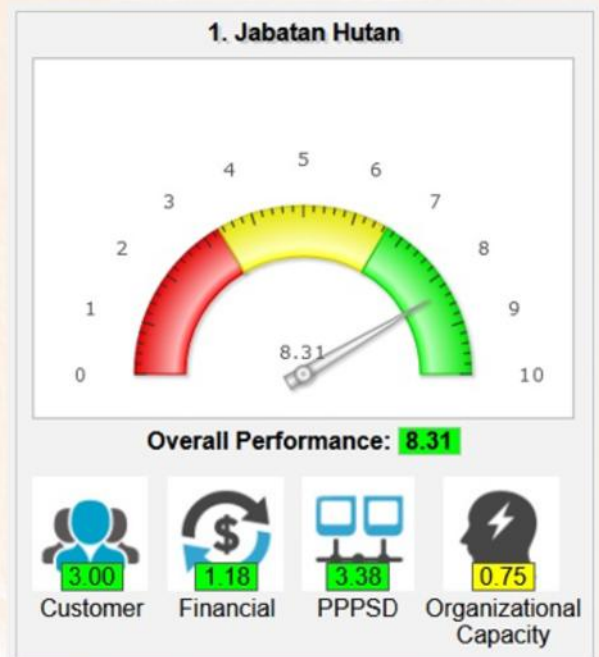
ORGANIZATION DEVELOPMENT

FDS STRATEGIC PLANNING 2022 PERFORMANCE

NO	THRUST	STRATEGIC OBJECTIVES	ACTIVITIES	OUTCOME			
				ACHIEVED	NOT ACHIEVED	NOT STARTED	PERFORMANCE (%)
1.	Sustaining Forest Resources	7	27	14	12	1	51.85%
2.	Forest Law Enforcement	2	7	6	1	0	85.71%
3.	Forest Revenue Management	2	4	4	0	0	100.00%
4.	Research, Development, Innovation and Commercialisation	3	22	10	6	6	45.45%
5.	Restoration and Industrial Forest	3	31	25	6	0	80.65%
6.	Social and Urban Forestry	2	9	3	2	4	33.33%
7.	Technology Application in Forestry	2	8	6	1	1	75.00%
8.	International Affairs	3	8	7	1	0	87.50%
9.	Financial and Human Resources	5	23	6	16	1	26.09%
10.	Communication, Education and Public Awareness	1	10	4	4	2	40.00%
TOTAL		30	149	85	49	15	57.05%

JAWATANKUASA PENGURUSAN OPERASI & PELAKSANAAN (JKPOP)

Jawatankuasa Pengurusan Operasi & Pelaksanaan (JKPOP) serves as the highest decision-making body within the Department, responsible for addressing any issues or proposals that arise. In the year 2022, JKPOP held five meetings, during which a total of 15 issues and/or proposals were presented and suitable actions were subsequently taken.

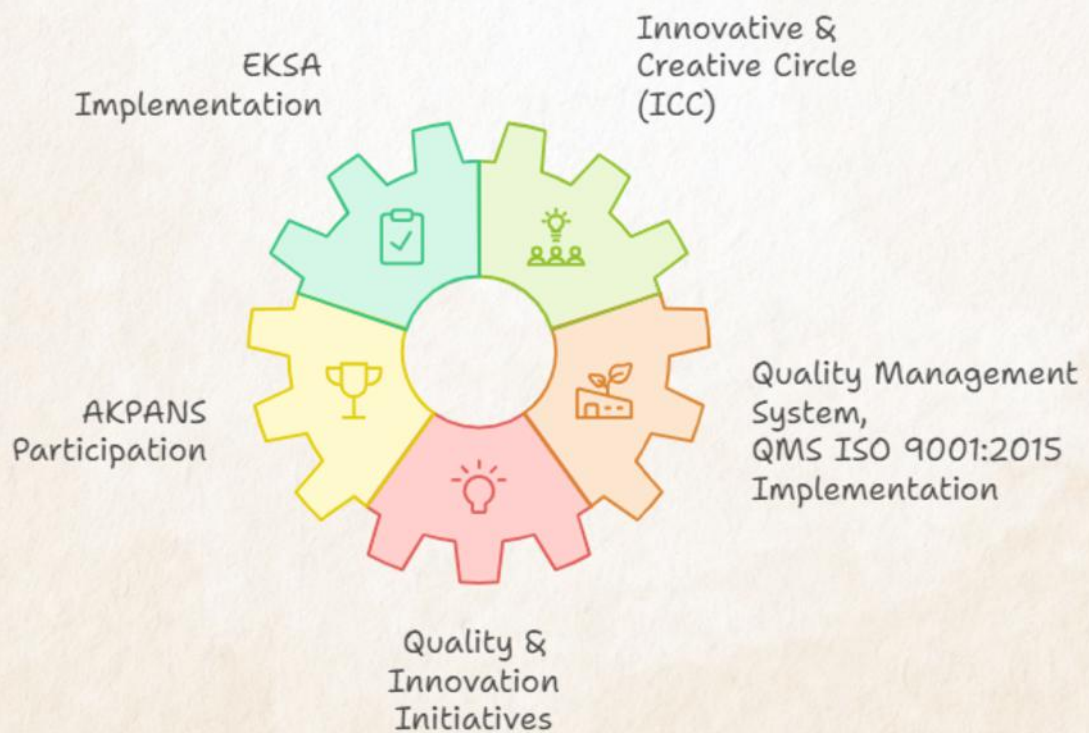


SARAWAK CIVIL SERVICE SCORECARD (SCSS)

A total of 8 Strategic Objectives (SO) were set for the year 2022 with 21 Key Performance Indicators (KPI). Overall performance is 8.31.



QUALITY & INNOVATION UNIT



a) Innovative & Creative Circle (ICC)

A total of eleven teams participated in the intradepartmental ICC Convention, held on 2nd August 2022 at Level M, Bangunan Baitul Makmur II. Subsequently, six teams advanced to the Ministry of Natural Resources & Urban Development’s (MUDeNR) ICC convention from 15th to 18th August 2022 at Imperial Hotel, Kuching. Out of these six groups, only the Borneensis II team made it to the Sarawak Civil Service Innovation Convention Awards (SCSICA).

A Journey of Innovation



Table: List of FDS Innovative & Creative Circle (ICC) Teams

NO	Group's Name	Division/Regional Forest Office	Qualification Stage	
			MUDeNR	SCSICA
1.	Borneensis II	RDID	✓	✓
2.	Silara	RFID	✓	
3.	Tajau	RFO Miri	✓	
4.	Great Minds 2.0	RDMD & RFO Bintulu	✓	
5.	Empurau Rajang II	RFO Kapit	✓	
6.	SCALE	SFD	✓	
7.	Spy Box	RFO Sarikei		
8.	De Marcation	CCD		
9.	Mambangan Asam Aur	RFO Limbang		
10.	For Tech	IAD		
11.	Bamboose	RFO Sri Aman		



The eleven FDS teams at the intradepartmental ICC Convention



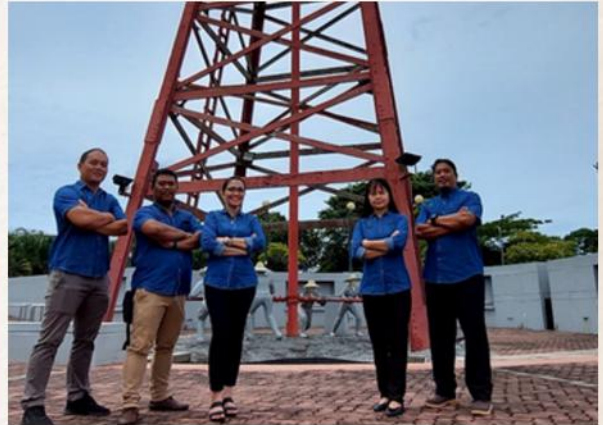
Borneensis II



Empurau Rajang II



SCALES



Tajau



Great Minds 2.0



Silara

The six FDS ICC teams that participated in MUDeNR ICC Convention

b) Digital Economy Award 2022 (DEA 2022)

Forest Department Sarawak was recognised at the Digital Economy Awards 2022 for its "Seed Bombing for Greening Sarawak Campaign" project, which won the Research & Development and Commercialization Award. Additionally, the FDS's "Timber Enforcement, Administration and Management System (TEAMS)" project was a finalist for the Digital Technology Transformation Award.



FDS emerged as the winner for the Research & Development and Commercialization Award.

c) Innovation Month Celebrations

Forest Department Sarawak held a tree planting program at Bakam Forest Reserve Miri to celebrate Innovation Month 2022. The program used a variety of innovative methods, including drone seeding, seedball blasting, and skyline seedling transportation, as well as traditional methods such as throw and grow. A total of 10,000 seedballs were sown and 300 seedlings were planted. The program was attended by the Director of Forests, YBhg. Datu Hamden bin Haji Mohammad, and the Director of the Sarawak Service Modernization Unit, Mr. Michael Ronnie Langgong, as well as several FDS senior officers.



Skyline Seedling Transporter (SST)



The throw and grow method



Seed Blaster

d) Sarawak State Public Service Quality Award (AKPANS)

Forest Department Sarawak is a finalist for the Sarawak State Public Service Quality Award (AKPANS), a prestigious award that recognizes government agencies or departments in Sarawak that achieve quality excellence in the effectiveness of governance, operations, and service delivery.

On 1st December 2022, a panel of five members led by Mr. Kasvenda bin Kassim, Regional Director of SIRIM Sarawak, conducted an evaluation visit to the FDS Airbase in Miri. During the visit, they reviewed and examined various documents related to the award. The FDS has conducted several activities and programs in preparation for the AKPANS award as detailed in the table below.

NO	Activity/Program	Date/Venue
1.	Sarawak Civil Service Day 2022	25th January 2022 Zoom Platform
2.	Majlis Penghargaan Kecemerlangan Jabatan Hutan Sarawak	3rd August 2022 Pullman Hotel Kuching
3.	Document preparation for Sarawak State Public Service Quality Award (AKPANS) Year 2022	20th September 2022 Belian Meeting Room, Level 15, Bangunan Baitul Makmur II
4.	<i>Sesi Pemurnian</i> Premier Sarawak Award (APS) Tahun 2022	11th November 2022 Belian Meeting Room, Level 15, Bangunan Baitul Makmur II
5.	Sarawak State Public Service Quality Award (AKPANS) - Presentation Session for Premier Sarawak Award 2022 (State Lead Agency Category)	17th November 2022 UPPS Meeting Room, Wisma Bapa Malaysia



Group photo during the site evaluation for AKPANS



The panel members were briefed by YBhg. Datu Hamden bin Haji Mohammad, Director of Forests, along with several Senior Officers.

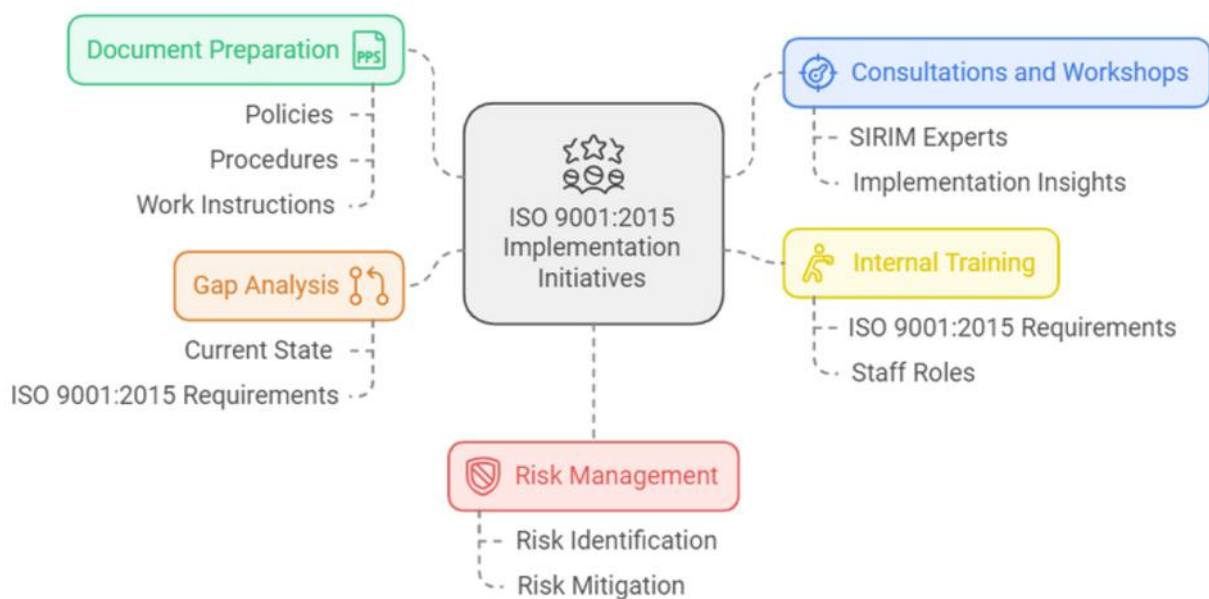


Briefing at Hornbill Hangar (FDS Airbase) Miri

e) MS ISO9001:2015 (Quality Management System) Certification

MS ISO 9001:2015 is a globally recognized quality management standard that empowers organizations of all sizes and sectors to enhance their performance, exceed customer expectations, and showcase their dedication to quality. Its comprehensive requirements outline the framework for establishing, implementing, maintaining, and continuously improving a robust Quality Management System (QMS).

In alignment with its commitment to achieving MS ISO 9001:2015 accreditation, FDS has undertaken the initiatives below. By implementing these strategies, the FDS is actively working towards achieving MS ISO 9001:2015 certification, solidifying its reputation as a quality-driven organization and delivering exceptional services to its stakeholders.



f) Public Sector Conducive Ecosystem (EKSA)

The Public Sector Conducive Ecosystem (EKSA) initiative, a rebranding of the Public Sector 5S program, aims to emphasise the importance of a high-quality and conducive workplace in Malaysian public departments and agencies. This rebranding aligns with the evolving needs of organizations to enhance performance, competitiveness, and foster a culture of creativity and innovation.

FDS has actively implemented various programs to demonstrate its commitment to achieving EKSA certification from the Malaysian Administrative Modernization and Management Planning Unit (MAMPU). These efforts reflect the FDS's dedication to creating a more efficient, effective, and employee-friendly work environment.

FDS EKSA INITIATIVES

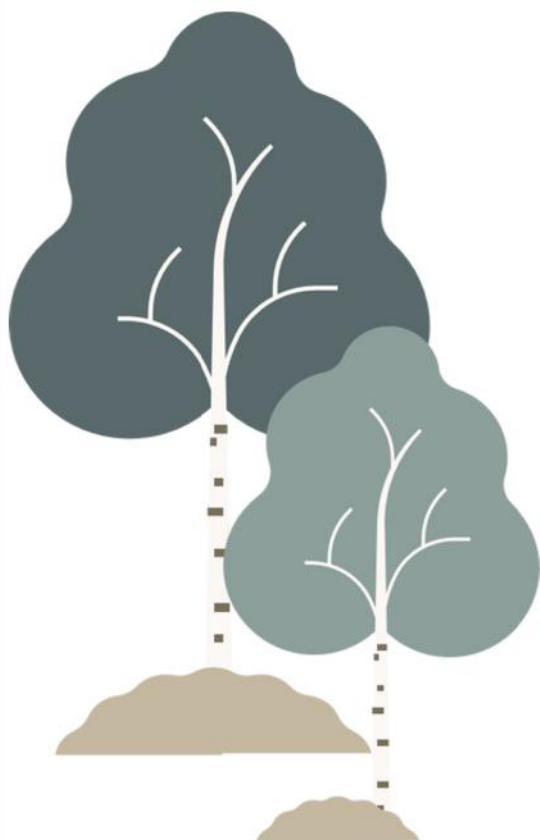


Launching Ceremony of *Gotong-Royong Perdana* EKSA Tahun 2022



Winner of Sparkling Washroom Contest

REVENUE AND DATA MANAGEMENT

**1**

Sustainment of Revenue Collection

Revenue collected in 2022 reached **RM328,854,967**, a 5% increase from 2021 and surpassing the annual target of RM310,970,310.

2

Revenue Collection From Export (Implementation of DF Circular 4/2021)

The revenue generated from exports increased by RM30 million from the previous year 2021.

3

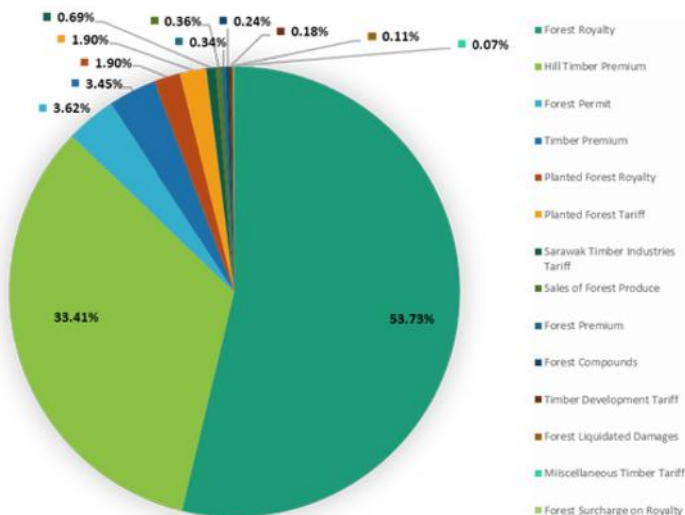
Management of Akaun Belum Terima (ABT)

Approval to Write off for 33 debtors amounting to RM1.3 million by Jawatankuasa Penilaian Hapus Kira.

Table: Total revenue collected for year 2022 and comparison against year 2021

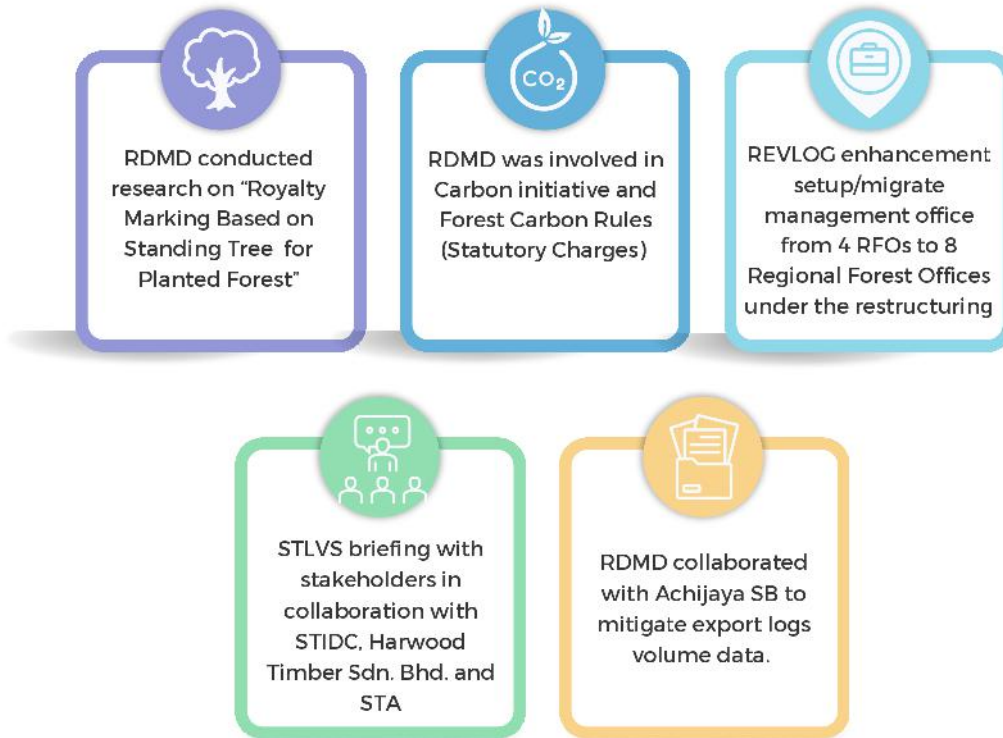
No	Revenue Code	Revenue Type	Revenue Collected (RM)		% Achievement compare to year 2021
			Year 2021	Year 2022	
1	H0162901	Forest Premium	1,333,867.80	1,117,382.35	-16%
2	H0162902	Hill Timber Premium	112,716,348.85	109,836,468.30	-3%
3	H0162903	Timber Premium	11,721,332.00	11,357,465.35	-3%
4	H0279101	Forest Royalty	153,159,138.80	176,655,118.80	15%
5	H0279104	Planted Forest Royalty	7,395,339.55	6,245,286.00	-16%
6	H0162913	Timber Development Tariff	691,286.20	590,905.50	-15%
7	H0162914	Sarawak Timber Industries Tariff	2,340,704.80	2,271,493.95	-3%
8	H0162915	Miscellaneous Timber Tariff	446,322.95	219,454.45	-51%
9	H0162916	Planted Forest Tariff	7,395,339.65	6,245,286.00	-16%
10	H0171419	Forest Permit	12,276,996.40	11,891,676.60	-3%
11	H0273909	Sales of Forest Produce	1,862,671.72	1,198,038.82	-36%
12	H0176107	Forest Liquidated Damages	659,507.75	366,612.96	-44%
13	H0176108	Forest Compounds	373,080.80	793,206.53	113%
14	H0176109	Forest Surcharge on Royalty Bills	40,621.35	64,549.65	59%
Total revenue collected			312,414,57.00	328,854,967.26	5%

Figure: Percentage (%) Distribution of Revenue Collected for Year 2022

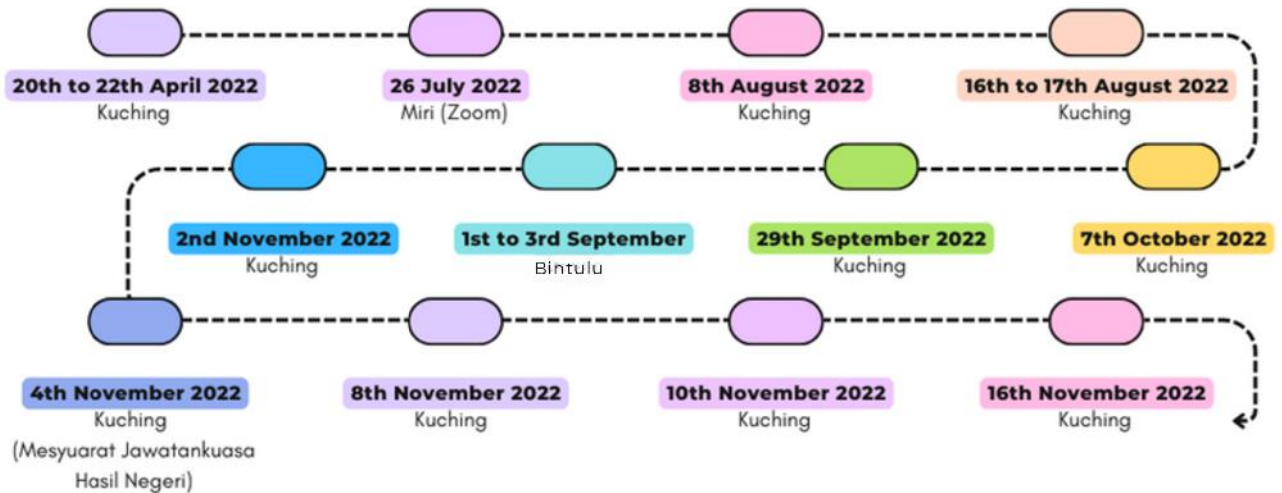


Revenue Type	Percentage (%) distribution of revenue collected for year 2022
Forest Royalty	53.72%
Hill Timber Premium	33.40%
Forest Permit	3.62%
Timber Premium	3.45%
Planted Forest Royalty	1.90%
Planted Forest Tariff	1.90%
Sarawak Timber Industries Tariff	0.69%
Sales of Forest Produce	0.36%
Forest Premium	0.34%
Forest Compounds	0.24%
Timber Development Tariff	0.18%
Forest Liquidated Damages	0.11%
Miscellaneous Timber Tariff	0.07%
Forest Surcharge on Royalty Bills	0.02%

RDMD INITIATIVES IN COLLABORATION WITH STAKEHOLDERS



WORKSHOPS, MEETINGS & DISCUSSIONS ON STATUTORY CHARGES

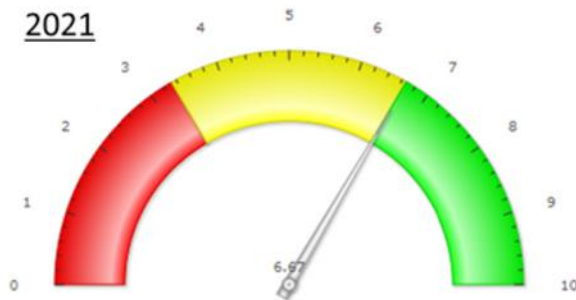
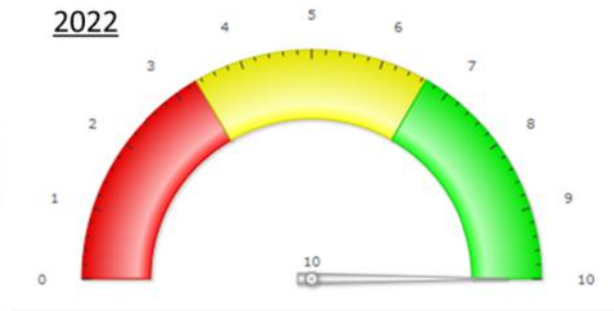


FOREST REVENUE COMPLIANCE RATING

Grand Total Score	<219	220-289	290-359	360-429	> 430
Performance Rating Level	1 ★	2 ★★	3 ★★★	4 ★★★★	5 ★★★★★
Performance Rating Descriptions	Far Below Expectation	Intervention Value (IV)	Target	Stretch Target (ST)	

Four regions achieved 5 Star namely, Sibul, Kapit, Bintulu, Limbang in year 2022.

ACHIEVEMENT IN 2022



IDECS 2022 & SCSICC 2022



IDECS 2022 Finalist

Project Title: Timber Enforcement, Administration and Management System (TEAMS): A Game Changer for Timber Industries



SCSICC 2022 (FDS & MUDeNR)

Project Title: Hydrostatic Table for Planted Timber



Malaysian Forestry Conference

Paper Title: An Outlook of Timber-based Industry and Forest Resource Management in Sarawak (in collaboration with STIDC)



AN OUTLOOK OF TIMBER-BASED INDUSTRY AND FOREST RESOURCE MANAGEMENT IN SARAWAK

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Abstract

The objective of this paper is to highlight the key initiatives planned and executed by both Forest Department Sarawak and Sarawak Timber Industry Development Corporation (STIDC) to further enhance the management of the forests and the development of the timber industry in Sarawak. The development of the timber industry in Sarawak has progressed over the years in tandem with the dynamic and structured forest management policies implemented by the State. The forest management policies will continue to be reviewed to ensure and enable it to meet all the core functions, including the continuous supply of wood to support the domestic downstream processing industry, which is the socio-economic function of our forests. The key strategic initiatives identified and implemented in forest management are to certify all management of productive permanent forest estates areas by the year 2022, restore degraded areas, improve the performance of forest plantation programmes and leverage research through collaboration with renowned researchers and universities. In addition, suitable digital technology is applied to collect data, monitor initiatives implemented, curb illegal activities as well as enhance delivery services to the industry to improve efficiency and transparency. The timber industry will be restructured to optimize the utilization of the anticipated increasing volume of logs harvested from the fast-maturing planted forests. This is to support the target to transform Sarawak into a major supplier of not only primary timber products but also high value-added timber products especially engineered wood and furniture. Ultimately, the refined forest management policies implemented will continue to sustain the timber industry as one of the major economic sectors in Sarawak.

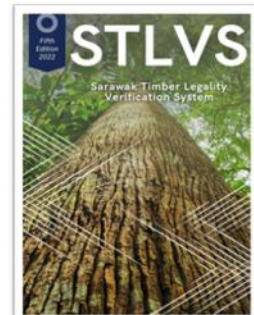
DF CIRCULARS

No.	DF Circular No.	Details	Date	Remark
1	DF Circular No.3/2022	Government Hammer mark for Export Logs (Natural Logs)	9 August 2022	To improve the royalty marking process of export logs for natural logs/plug revenue leakages.
2	DF Circular No.4/2022	Removal of Logs by Conveyances on River	29 July 2022	To improve the removal of logs process by conveyances on rivers (CoC)/plug revenue leakages.



PROCESS, PROCEDURE, GUIDELINES AND BOOKLET PUBLISHED

No.	Details
1	Royalty Assessment By Weight For Timber From Planted Forests
2	STLVS Standard for Verification of Forest Management, Mill Operations, Trade and Customs (Version 3)
3	STLVS Booklet Fifth Edition (April 2022)
4	Guideline for STLVS Audit (Version 1)



SOCIAL FORESTRY

Social forestry entails the engagement of local communities in the sustainable management of forest resources to fulfil socio-economic, cultural, and environmental needs through collaboration with various stakeholders. Forest Department Sarawak has been instrumental in organising programs and activities aligned with the following five pillars:



UPLIFTING INCOME & COMMUNITY LIVELIHOOD

Non-Timber Forest Product Expo 2022

Forest Department Sarawak successfully hosted the NTFP Expo at Plaza Merdeka in Kuching from 17th to 23rd October 2022. This event showcased the vibrant talents and products of local communities in the Southern Zone, including Serian, Sri Aman, Bau, and Lundu.

Under the theme "Empowering Non-Timber Forest Products, Strengthening Inclusive Economy," the expo aligned with Sustainable Development Goal 8. It aimed to boost local incomes and create business networks.

Visitors were treated to a diverse range of NTFP products, including handicrafts, honey, beads, and essential oils. The expo was a testament to the ingenuity and economic potential of Sarawak's communities.



SOCIAL WORK & COMMUNITY SERVICE

Supply and delivery HDPE fish cages and netting

The Heart of Borneo (HoB) development fund has provided a significant boost to the local community of Rumah Manggat in Batang Ai. Fifty HDPE fish cages were supplied to the village, enhancing their existing Tagang System at Menyang Taih.

To kickstart the project, 16,000 fish spawn were distributed, including popular species like silver catfish (patin), *Leptobarbus hoevenii* (jelawat), and *Clarias gariepinus* (keli). This initiative is expected to generate a monthly income of approximately RM8,000 for the community.



COMMUNICATION, EDUCATION & PUBLIC AWARENESS (CEPA)

The department has been actively involved in educating communities living near the Permanent Forest Estate (PFE) and those affected by development projects like hydroelectric dams. Through talks and workshops, they have shared valuable information on environmental conservation and sustainable practices.

As part of the Federal Development Project in 2022, a team of eight visited six longhouses in the Batang Ai area. They conducted awareness programs on non-timber forest products, emphasising their importance and potential benefits for local communities.

No.	Longhouse	Location
1	Rumah Manggat	Menyang Taih
2	Rumah Ribon	Menyang Sedi
3	Rumah George	Tapang Pungga
4	Rumah Nyindang	Nanga Delok
5	Rumah Ninting	Nanga Jambu
6	Rumah Andah	Nanga Sumpa



Rumah Ninting, Nanga Jambu



Rumah Nyindang, Nanga Delok



Rumah Andah, Nanga Sumpa



Rumah Ribon, Menyang Sedi



Rumah Manggat, Menyang Taih



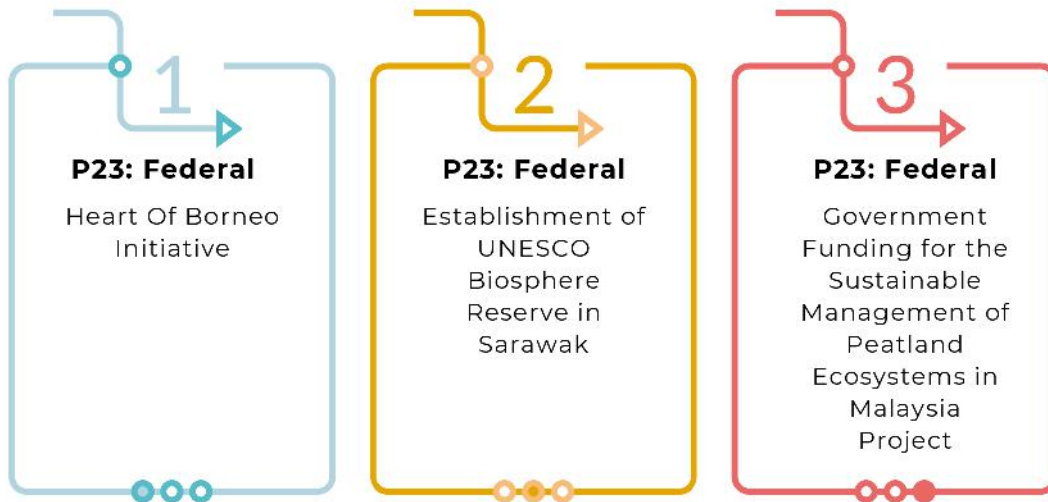
Rumah George, Tapang Pungga

FOREST RESOURCE RESTORATION THROUGH SOCIAL FORESTRY PROGRAMS

- Keytone species survey (floristic survey) in Bung Muan Serembu Eco Park and Bung Bratak Heritage Centre
- Bung Bratak Nursery Development



INTERNATIONAL AFFAIRS



HEART OF BORNEO INITIATIVE

The Heart of Borneo Initiative stands as a testament to the collaborative efforts of Malaysia, Indonesia, and Brunei in fostering voluntary transboundary international cooperation. Its primary objective is to facilitate conservation and environmental protection, concurrently fostering sustainable development to uplift the welfare of the local communities residing within the designated region. Since the signing of the Declaration in Bali on 12th February 2007, many activities and programmes have been conducted as part of the initiative. These are the activities and programs implemented in 2022.



NO	ACTIVITIES	DATE	VENUE
1	Heart of Borneo (HoB) Technical Working Group Meeting No. 1/2022	15th March 2022	Wisma Sumber Alam
2	Workshop on Enacting the Terms of Reference of the HoB TWG Working Group for Pillar SFM & Community based/ Poverty Eradication Program	18th May 2022	Waterfront Hotel, Kuching
3	Workshop on the Development of HoB Database System	23rd & 24th June 2022	Damai Beach Resort
4	Seminar Heart of Borneo (HoB) Sarawak Scientific Expedition Gunong Pueh	2nd & 3rd August 2022	USCI Hotel, Kuching
5	Data Extraction and Interpretation Training by UNIMAS under Development and Assessment of Sustainable Livelihood Index for Forest Dependent Community in Sarawak Project	8th August 2022	Level M, Bangunan Baitul Makmur II
6	5th Heart Of Borneo Technical Committee (HoBTC) Meeting on Joint Projects and Activities	11th August 2022	Hilton Hotel, Kota Kinabalu
7	First Focus Working Group Workshop under Development and Assessment of Sustainable Livelihood Index for Forest Dependent Community in Sarawak Project	26th August 2022	Forest Department Sarawak Headquarters
8	Second Workshop to Identify Gaps and Opportunities in the Implementation of Forest Management Certification in Sarawak	6th & 7th September 2022	Imperial Hotel, Kuching
9	9th HoB Scientific Expedition 2022 Gerenai-Long Mekaba	12th September 2022	Imperial Hotel, Miri
10	Second Focus Working Group Workshop under Development and Assessment of Sustainable Livelihood Index for Forest Dependent Community in Sarawak Project	5th October 2022	Forest Department Sarawak Headquarters
11	Comparative Study Training by UNIMAS under Development and Assessment of Sustainable Livelihood Index for Forest Dependent Community in Sarawak Project	6th October 2022	Level M, Bangunan Baitul Makmur II
12	Localized Community Host Course with SATT Collage	30th October - 4th November 2022	Seri Simanggang Hotel, Sri Aman
13	Localized Community Host Course with SATT Collage	6th - 11th November 2022	Union Yes Retreat & Training Centre, Lundu
14	Home Stay Operations Course with SATT College	21st - 25th November 2022	Sematan Palm Beach Resort

UNESCO BIOSPHERE RESERVE INITIATIVES IN SARAWAK

Following the successful UNESCO Biosphere Reserve workshop in 2021, Sarawak has been actively exploring potential sites for designation. In 2022, various activities were undertaken to identify and evaluate suitable locations.

NO	ACTIVITIES	DATE	VENUE
1	Basic Course on Operating Unmanned Airborne Vehicles (UAV) and Drones	21st & 22nd June 2022	Roxy Hotel, Sematan and Gunong Pueh FR
2	Basic Forest Assessment Course for UNESCO Biosphere Reserves Series I and II	25th - 27th July 2022 and 23rd - 26th August 2022	Bangunan Baitul Makmur II (theoretical course) & Gunung Pueh FR (practical)
3	Sarawak Biosphere Annual Workshop & Stakeholder Mapping	3rd & 4th October 2022	Imperial Hotel, Kuching



The UAV and drones operating course was conducted by the Forest Technology and Geospatial Division



The practical part of the Basic Forest Forest Assessment Course was conducted at Gunung Pueh FR



The participants of the Sarawak Biosphere Annual Workshop and Stakeholder Mapping

CONSERVATION AND PROTECTION OF WETLAND AND WATERSHED WITHIN HEART OF BORNEO (HOB)

Workshop of State Wetland Policy in Pullman Hotel, Miri

The draft of the Sarawak State Wetland Policy was the focus of a workshop officiated by Tuan Abg Ahmad bin Abg Morni, Deputy Director of Forest (Forest Conservation and Development). The event was attended by 30 officers from Forest Department Sarawak.



Participants of the workshop in Pullman Hotel, Miri

Coordination Meeting for Research, Conservation and Community Development in Wetland and Watershed Areas

A workshop was held on 29th and 30th June 2022, at RH Hotel, Sibul, to discuss wetland and watershed management in Sarawak. Over 100 participants, including FDS officers and stakeholders, attended the event.

The primary objective was to gather information on past, present, and future activities related to the Ulu Baleh watershed and Kuala Rajang wetland.



Participants from various agencies and stakeholders attended the coordination meeting to share their data and activities in study sites

Other activities:

NO	ACTIVITIES	DATE	VENUE
1	Randau with 9 Rumah Panjang of Baleh Komuniti (Watershed area)	18th to 19th August 2022	9 longhouses near the Baleh Hydroelectric Project (HEP)
2	Communication, Education and Public Awareness (CEPA) Program	13th October 2022	SMK Baleh, Kapit
3	Consultation workshop with Baleh Communities 2022	16th to 17th September 2022	Tanahmas Hotel, Sibü
4	Communication, Education and Public Awareness (CEPA) Program	15th to 16th November 2022	SK Jawa and SK Mandor Aris, Sarikei
5	Knowledge sharing session with communities in Wetland and Watershed area	28th November 2022	Imperial Hotel, Kuching



Randau at longhouses near the Baleh Hydroelectric Project to introduce the project to local communities



CEPA Program at SMK Baleh, Kapit, SK Jawa dan SK Mandor Aris, Sarikei



Consultation workshop with Baleh communities at Tanahmas Hotel, Sibü

SUSTAINABLE MANAGEMENT OF PEATLAND ECOSYSTEMS IN MALAYSIA (SMPEM)

Beladin Socioeconomic survey

On 12th to 13th April 2022, a socioeconomic survey was conducted in three villages in Beladin, namely Kampung Hulu Beladin, Kampung Tengah Beladin and Kampung Hilir Beladin to gain information and inputs on types of capacity building and community-based programs that are suitable for community needs. Collected data was analysed and used as guideline for planning future activities.



Community-based program (Agricultural Training and Awareness) in Beladin and Maludam

This collaborative program between Forest Department Sarawak and Department of Agriculture, Betong District was implemented based on high demand by the communities during the socioeconomic survey done in 2021 and 2022. The program was conducted in Dewan Masyarakat Kampung Beladin, Beladin on 6th September 2022 and Rumah Panjang Tanjung Baru, Maludam on 9th September 2022. Two main topics of the program were agriculture based on the fertigation system and oil palm plantation management.



The Agricultural Training and Awareness program was conducted in Beladin and Maludam

Benchmarking visit to project site in Raja Musa Forest Reserve, Selangor

A benchmarking visit was conducted to the Raja Musa Forest Reserve and Kuala Langat Forest Reserve, Selangor from 17th to 21st October 2022 to learn from the experience of the Forest Department of Peninsular Malaysia (Selangor) on management and conservation of peat swamp forest.



FDS officers and SMPPEM project officers went on a benchmarking visit to Raja Musa Forest Reserve and Kuala Langat Forest Reserve, Selangor

SUSTAINABLE USE OF PEATLAND AND HAZE MITIGATION IN ASEAN (SUPA)

Restoration and Enrichment (R&E) planting programme

SUPA's 'Biodiversity and Participatory Conservation of Peat Swamp Forest at Simunjan Forest Reserve, Sarawak' Project has implemented the Restoration and Enrichment (R&E) planting programme to restore peatland using indigenous peat swamp tree species and to engage the participation of the local communities.

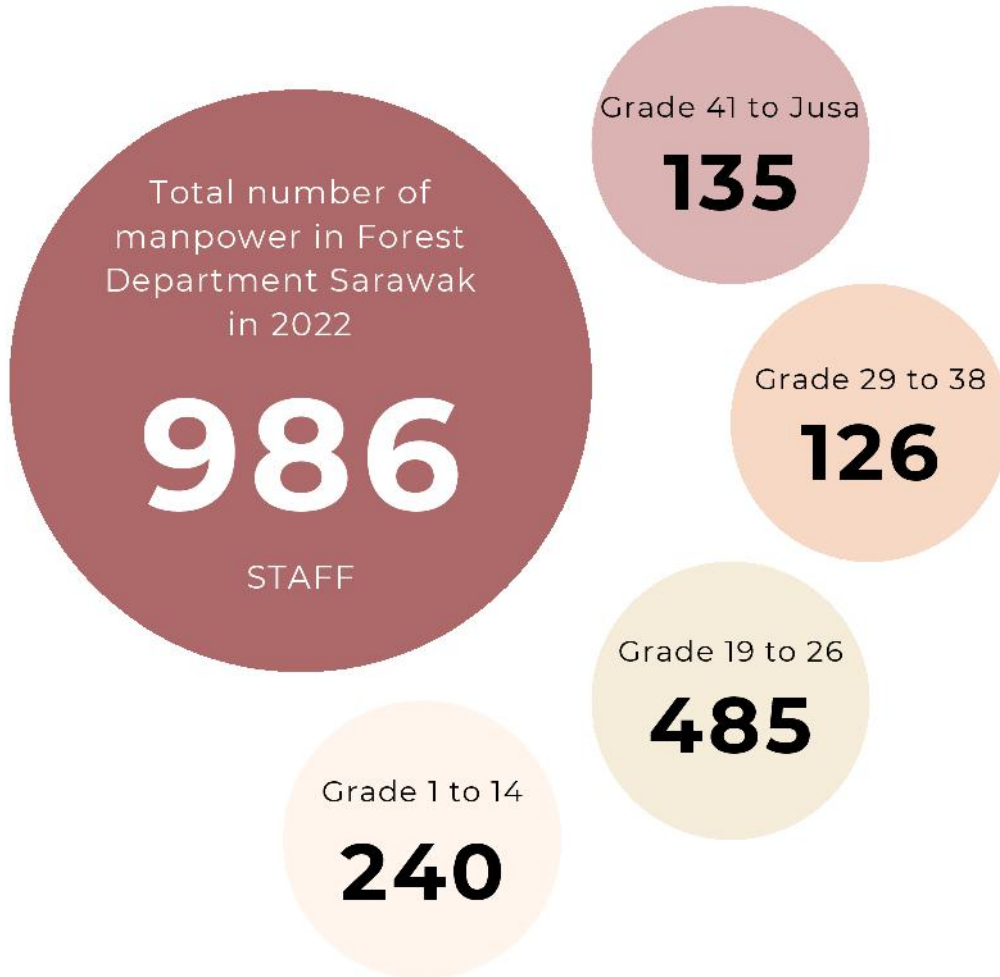
Hence, in November 2022, a temporary nursery with size of 10 meter square was established and 500 wildings of indigenous peat swamp tree species within the forest reserve were collected. The planting activities will take place in February 2023.



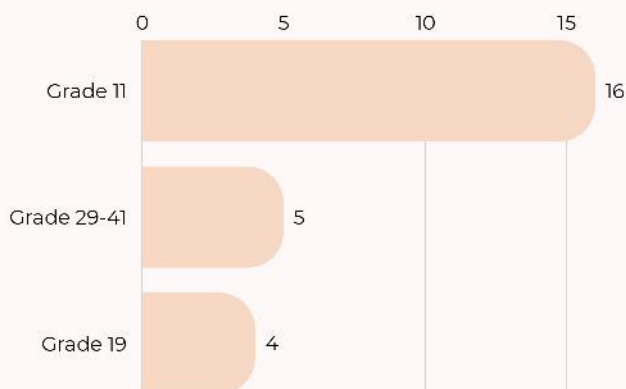
Wildings collected from Simunjan Forest Reserve (left) and Mr. Nyumbang, one of the local communities involved with the R&E programme (right)

MANAGEMENT SERVICES

The Management Services Division provides services such as human resource management, general and office administration, asset management as well as capacity building of the Department.

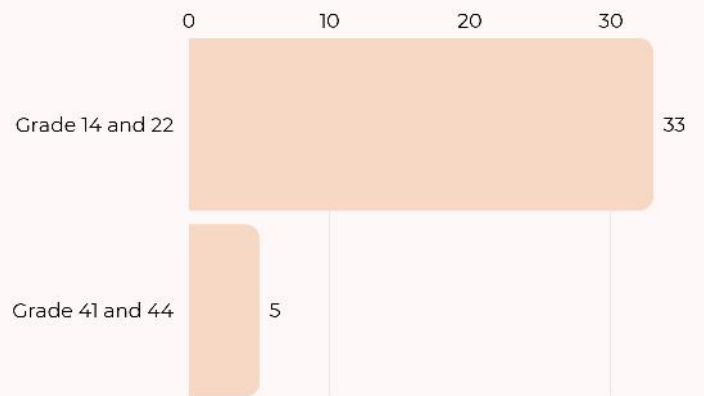


New Recruitment in 2022



Total: 25

Promotions to Higher Grade in 2022



Total: 38

Retirements in 2022

TOTAL RETIREMENTS	49
Mandatory retirements	27
Premature retirements	2
End of contracts	15
<i>*Bersara Pilihan</i>	4
Medical Board	1

Officer Awards

16	87
Number of Officers Receiving State Awards in Conjunction with Sarawak Governor's 85th Birthday	Number of Officers Receiving <i>Anugerah Perkhidmatan Cemerlang (APC)</i>

Capacity Building

555 Participants	916 Participants
16 Internal Technical Trainings	28 Internal Softskills Trainings

INTEGRITY AND INTERNAL AUDIT

-  ABMS Implementation and Refinement Workshop
-  CRM JHS 2019-2022 Renewal Workshop
-  Integrity Day 2022
-  Spot Check Programme at FOSCC in Miri and Bintulu
-  Integrity Roadshow Programme, Kapit
-  Anti-Bribery Management System (ABMS) Awareness Programme
-  Anti-Corruption Forum "Enforcement Empowerment"
-  Anugerah Integriti, Governans dan Antirasuah (AIGA)
-  OACP JHS 2021-2025 Review Workshop

INTEGRITY PROGRAM



ABMS Implementation and Refinement Workshop

Date: 14th to 18th March 2022
Place: Workshop Space, Level 13, Right Wing, Bangunan Baitul Makmur II



Integrity Roadshow Programme, Kapit

Date: 13th to 18th August 2022
Place: Regional Forest Office Kapit, FOSCC Mabong & FOSCC Melatai



Integrity Day 2022

Date: 23rd June 2023
Place: Dewan Suarah Kapit



Anti-Corruption Forum “Enforcement Empowerment”

Date: 29th September 2022
Place: Auditorium, Sarawak State Youth & Sports Complex



OACP JHS 2021-2025 Review Workshop

Date: 23rd to 24th November 2022
Place: Seminar Room, Level M, Bangunan Baitul Makmur II



CRM JHS 2019-2022 Renewal Workshop

Date: 21st to 22nd November 2022
Place: Seminar Room, Level M, Bangunan Baitul Makmur II



Spot Check Programme at FOSCC in Miri and Bintulu

Date: 29th November 2022 to 4th December 2022
Place: Wilayah Bintulu - FOSCC Tubau, FOSCC Aloj, FOSCC Sekawie, Wilayah Miri – FOSCC Layun, FOSCC Long Lama FOSCC Tuyut

ANTI-BRIBERY MANAGEMENT SYSTEM (ABMS) AWARENESS PROGRAMME



FDS started to embark on the journey towards the certification of MS ISO 37001:2016 Anti-Bribery Management System (ABMS) since early 2022 and various efforts have been carried out to create and inculcate integrity awareness among the department’s employees through different mediums such as FDS website, posters, fishtails, brochure and integrity awareness programs.

ANUGERAH INTEGRITI, GOVERNANS DAN ANTIRASUAH (AIGA)



FDS was recognised for its commitment to integrity and governance with a silver award at the 2022 Integrity, Governance, and Anti-Corruption Award (AIGA) ceremony organized by the Integrity Institute of Malaysia (IIM), which was participated by 115 public and private agencies across the country. The event was officiated by YAB Dato' Sri Haji Fadillah Yusof, Deputy Prime Minister of Malaysia.

INTERNAL AUDIT ACTIVITIES FOR THE YEAR 2022

- 

On 24th March 2022, IIA together with RDMD conducted internal audit on Forest One Stop Compliance Centre (FOSCC) at Kapit Division.
- 

From 28th to 30th March 2022, conducted internal audit on *Ekosistem Kondusif Sektor Awam (EKSA)* of Forest Department Sarawak.
- 

From 13th to 17th June 2022, IIA conducted an audit inspection on the safeguard place and FOSCC within the Sibu and Sarikei regions.
- 

From 25th to 28th July 2022, a mock ABMS Internal Audit was conducted at Kapit Division.
- 

From 8th to 19th August 2022, conducted Audit inspection of '*Operasi & Aktiviti Pematuhan Hutan*' & Royalty Assessment at FOSCC within Bintulu area.
- 

On 6th September 2022, IAU conducted FDS SCS Scorecard Internal Audit.
- 

From 7th to 9th September 2022, IIA developed a checklist for internal audit of Anti Bribery Management System MS ISO 37001:2016.



Internal Audit on FOSCC Mabong & FOSCC Melatai in Kapit Division from 13th to 14th April 2022



EKSA Internal Audit Bil.1/2022 conducted from 28th to 30th March 2022



Conducted inspection and audit on seized item storage facilities with Sibiu enforcement team and visiting FOSCC along the journey from 13th to 17th June 2022



12th to 18th July 2022 in Kapit, 25th to 28th July 2022 at headquarters & mock internal audit MS ISO 37006:2016 ABMS JHS at Kapit



Internal Audit on 'Operasi & Aktiviti Pematuhan Hutan & Royalty Assessment di FOSCC Wilayah Bintulu' from 8th to 19th August 2022



SCS Scorecard JHS Internal Audit on 6th September 2022



Internal Audit Checklist Development Workshop for MS ISO 37001:2016 ABMS from 7th to 9th September 2022



Jabatan Audit Negara (JAN) Sarawak carried out external audit on 'Pengurusan hutan dan impak kepada alam sekitar' at Kapit Division from 16th to 21st May 2022



External audit from JAN Sarawak visited Bintulu division from 17th to 20th May 2022



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