

INTRODUCTION

Logging activity is defined as the process of cutting and moving wood from the stump to somewhere outside the forest usually a lumber yard or sawmill. It involves cutting, skidding, on-site processing and loading of trees or logs onto trucks and transportation to the log yard. It also involves the logistics of moving timber from log yard to a saw mill. The logging activity is a process to provide adequate timber supply for Malaysian timber industries as well as to make way for new development activities.

EXECUTIVE SUMMARY

PROJECT PROPONENT
WANGSAMAKMUR CAPITAL (M) SDN BHD
 No. 9, Lorong 77, Taman Bukit Pelindung Aman, Off Jalan Tengku Muhammad, 25200 Kuantan, Pahang Darul Makmur.

ENVIRONMENTAL CONSULTANT
ECO SYNERGY SOLUTIONS SDN BHD
 2-22, Komplek Sentral Point, Jalan TKS 1, Taman Kajang Sentral, 43000 Kajang, Selangor Darul Ehsan.

PROJECT LOCATION

NEAREST TOWN
 Kemaman Town - 11.03 km & Balok Town - 24.04 km

ACCESS ROAD
 There are two ways of access road to reach the project for Block A and Block B.

The project site can be accessed by traversing from Balok town (Industrial area Park) by head north using Jalan Gebeng 2/5 for about 3.0 km. Then, turn left onto Jalan Kuantan-Kemaman AH18 to Kampung Cherating and continue straight for about 22.7km. Turn left into Jalan Kampung Bukit Palas and straight to the existing access road for about 12.14 km to reach the project site **Block B**.

To reach the project site for **Block A**, from the triple junction at Jalan Kuantan-Kemaman AH18, keep continue straight for 13.4 km entering Pahang-Terengganu state border. From the Mak Lagam traffic light intersection, turn left to the Jalan Mak Lagam. Continue straight for 11.1 km through Jalan Mak Lagam before entering the existing access road and straight to the 0.94 km to reach the project site **Block A**.

SENSITIVE RECEPTORS

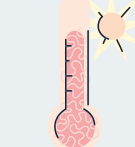
- Impact to Sharing Access Road
- Impact to Human Settlement
- Impact to Water Intake

EXISTING ENVIRONMENT (WITHIN 5 KM RADIUS)

- Land Use**
- Forest Reserve
 - Oil palm plantations
 - Forest Plantations, Logging activity and ECRL.

- Settlements that are in 5-km radius from the project site:
- * Kg Kedai Birjai = 4.64km
 - * Kg Gong Kapur = 4.84km
 - * Kg Padang Latang = 4.01km
 - * Kg Kubang Ikan = 4.69km
 - * Kg Lubuk Batu = 3.18km
 - * Kg Pasir Semut / Alam Perdana = 2.96km

Average Annual Rainfall:
 4134.00 mm highest
 1974.4 mm lowest

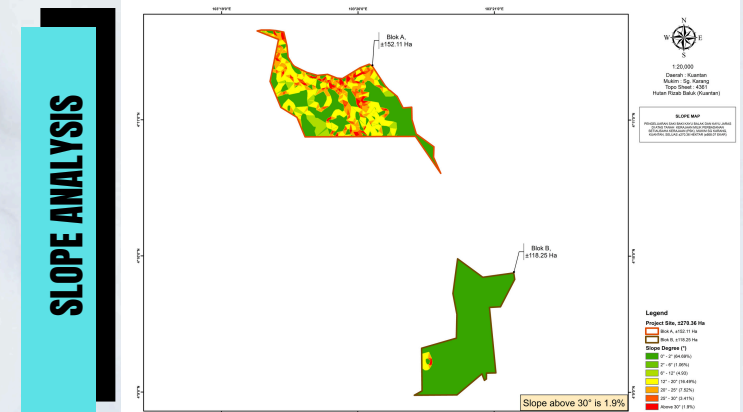
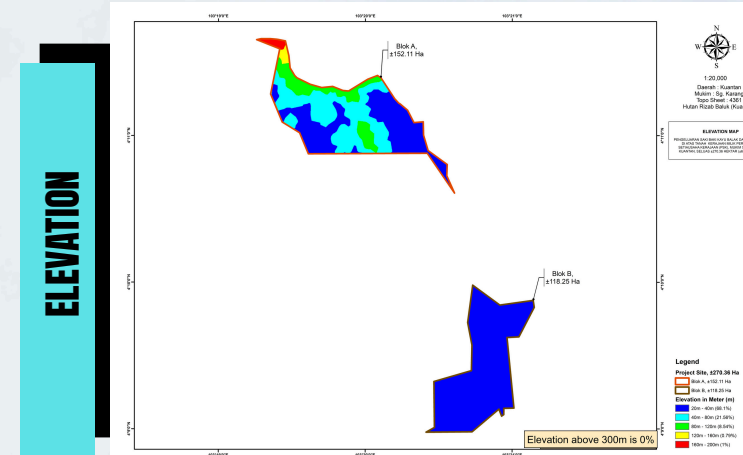


Average Annual Temperature
 Highest: 27.6°C
 Lowest: 27.0°C

METEOLOGY (RAINFALL, TEMPERATURE, RELATIVE HUMIDITY, AND WIND - Kuantan Station) 2015-2024

Wind Rose
 Percentage of Calm: 12.6%
 Highest wind blow: 24.4% (north)
 Lowest wind blow: 5.0% (west)

Average Annual Relative Humidity
 Maximum: 87.5%
 Minimum: 75.5%



PENGELUARAN SAKI BAKI KAYU BALAK DAN KAYU JARAS DI ATAS TANAH KERAJAAN MILIK PERBADANAN SETIAUSAHA KERAJAAN (PSK), MUKIM SG KARANG, DAERAH KUANTAN, PAHANG DARUL MAKMUR SELUAS 270.36 HEKTAR (688.07 EKAR)

National Timber Industry Policy (NATIP 2009-2020)

LEGAL REQUIREMENTS

Subject to Section 34A(1) of the Environmental Quality Act 1974 [127] and Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, the Project site fall under First Schedule:

Activity 5 (C) Forestry

Logging or cutting or taking of timber from forest at less than 300 meters above mean sea level covering an area of 100 hectares or more, outside permanent reserved forest

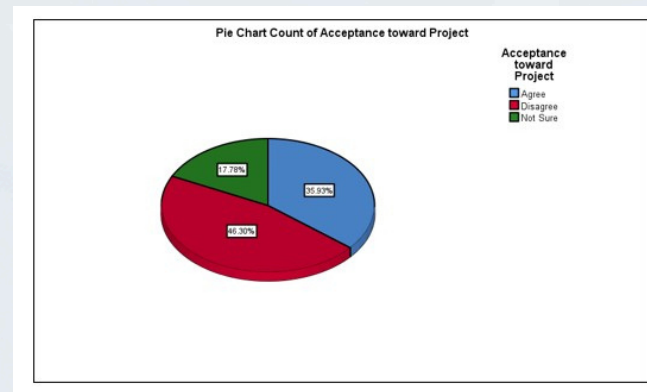
PROJECT ACTIVITIES

PRE-ACTIVITY (Preliminary Investigation)	LOGGING ACTIVITY	POST-LOGGING ACTIVITY
<ul style="list-style-type: none"> Site Survey Determine Access Road Boundary and Buffer Zone Marking Environmental Study Flora and Fauna Survey Socio Economy Survey Water Quality Project Planning / Management 	<ul style="list-style-type: none"> Upgrading and Maintenance of Access Road Construction of Main Road, Feeder Road and Skid Road Construction of Drainage System Installation of LD-P2M2 tools Water Intake Base Camp Establishment Log Yard (Malau) Skidding Loading Waste Disposal Documentation / Log of Works Transportation 	<ul style="list-style-type: none"> Demolition of Base Camp and Log Yard Removal of All Machinery, Vehicles, Waste from Concessions Rehabilitation of Log Yard, Skid Trail and Access Road Cover Crop Post-Closure Environmental Monitoring and Audit

FLORA STUDY



SOCIO ECONOMY STUDY



Source: Social Survey, 28 - 30 April 2023 / IBM SPSS Statistics Ver 26.

WATER QUALITY AND WATER INTAKE

There are 15 water quality stations.



Table 6.3.19: Water Quality Index

Station	WQI	Class	Status
WQ1	92.77	I	Clean
WQ2	91.52	I	Clean
WQ3	91.39	II	Clean
WQ4	91.66	II	Clean
WQ5	90.87	II	Clean
WQ6	87.29	II	Clean
WQ7	94.90	I	Clean
WQ8	90.37	II	Clean
WQ9	91.90	II	Clean
WQ10	89.82	II	Clean
WQ11	90.23	II	Clean
WQ12	91.16	II	Clean
WQ13	91.01	II	Clean
WQ14	91.01	II	Clean
WQ15 LT	90.97	II	Clean
WQ15 HT	90.93	II	Clean
Average	90.87	II	Clean

Source: Consultant's Calculation

AIR AND NOISE

There are Four (4) air and noise sampling stations.

Air: The results of the analysis show baseline values for Particulate Matter (PM10) - 34.0.0 µg/m³ to 47.0 µg/m³ while PM2.5 - 12.0 µg/m³ to 22.0 µg/m³

Noise: LAeq
 day time 49.3 dBA to 54.5 dBA
 night time, the LAeq are 39.1 dBA to 43.0 dBA



GEOLOGY, MINERAL AND SOIL

Geology: Carboniferous and Quaternary
 Mineral: Kaolin, KA (Non-Metallic) and Iron, Fe (metallic mineral)
 Soil Series: Kuala Berang - Kedah - Serdang & Tanah Gambut (Peat),

FAUNA STUDY: CAMERA TRAP



Mammals: 6 species



Herpetofauna: 0 species



Avian: 2 species

STATEMENT OF NEED

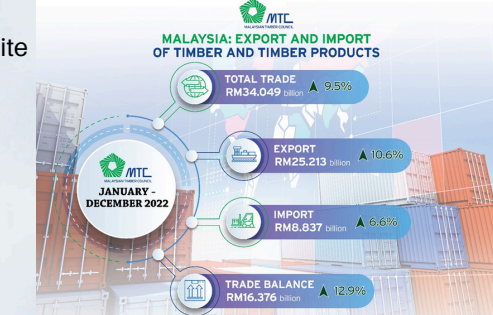


Figure 1: Export of Timber Product in Malaysia

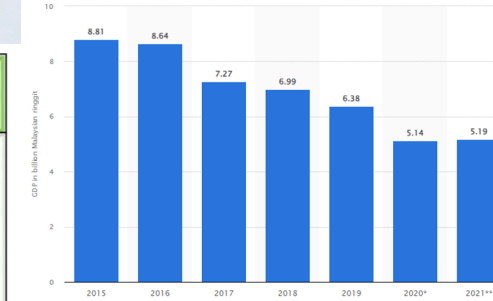


Figure 2: GDP Contribution from Forestry and Logging activity



PERFORMANCE MONITORING (PM)

LD-P2M2 Tools	Performance Monitoring (PM) Parameters	Recommended Limits	Monitoring Locations	Frequencies
Sediment Trap	Silt Marker	2/3 depth from sediment trap	Refer LD-P2M2 Conceptual Plan (Attachment 1)	Weekly or after rain event (insitu)
Perimeter Drain	Performance			Subjected to the Condition of Approval (COA)
River Buffer				
Cover Crop				
Earth Drain with Check Dam	Sediment Level			
Temporary or permanent watervay crossing (culvert/bridge)	Structure and Performance			

COMPLIANCE MONITORING (CM)

Component	Regulated Parameters	Applicable Standards	Monitoring Locations	Frequencies
*Air Quality	PM ₁₀ PM _{2.5}	100 µg/m ³ 35 µg/m ³	Refer Figure 6.3.17 in Chapter 6	Subjected to the Condition of Approval (COA)
**Noise	L _{max}	Day: 55 dBA Night: 50 dBA	Refer Figure 6.3.17 in Chapter 6	Subjected to the COA
***Water Quality (Discharged from Sediment Trap)	Total Suspended Solids (TSS) Turbidity	50 mg/L 250 NTU	Refer Figure 6.3.17 in Chapter 6 and LD-P2M2 Conceptual Plan (Attachment 1)	After 12.5 mm rainfall (using rain gauge)

Note:
 * New Malaysia Ambient Air Quality Standard, Department of Environment Malaysia (DOE)
 ** Annex A, Schedule 1, The Guidelines for Environmental Noise Limits and Control, 3rd Edition 2019.
 *** Refer to EIA approval condition

IMPACT MONITORING (IM)

Component	Regulated Parameters	Monitoring Locations	Frequencies
*Air Quality	PM ₁₀ PM _{2.5}	Refer Figure 6.3.17 in Chapter 6	Subjected to the COA
**Noise	L _{max} L _{min} L _{eq}	Refer Figure 6.3.17 in Chapter 6	Subjected to the COA
***Water Quality	Total Suspended Solids (TSS) Biochemical Oxygen Demand (BOD) pH Turbidity Ammoniacal Nitrogen (NH ₃ -N) Dissolved Oxygen (DO) Chemical Oxygen Demand (COD)	Refer Figure 6.3.17 in Chapter 6	Subjected to the COA

Note:
 * New Malaysia Ambient Air Quality Standard, Department of Environment Malaysia (DOE)
 ** Annex A, Schedule 1, The Guidelines for Environmental Noise Limits and Control, 3rd Edition 2019.
 *** National Water Quality Standard for Malaysia (NWQS), Department of Environment, Malaysia (DOE).

PENGENALAN

Aktiviti pembalakan ditakrifkan sebagai proses pemotongan dan pemindahan kayu ke matau dan kilang pemprosesan kayu. Aktiviti pembalakan merupakan satu proses untuk menyediakan bekalan kayu balak yang mencukupi untuk industri perindustrian Malaysia serta memberi laluan kepada aktiviti pembangunan baru.

LOKASI PROJEK

BANDAR TERDEKAT

Pekan Kemaman -11.03 km & Pekan Balok -24.04 km

JALAN MASUK

Terdapat dua jalan masuk untuk sampai ke projek untuk Blok A dan Blok B.

Tapak projek boleh diakses dengan melalui pekan Balok (Taman Kawasan Industri) dengan menuju ke utara menggunakan Jalan Gebeng 2/5 sejauh kira-kira 3.0 km. Kemudian, belok kiri ke Jalan Kuantan-Kemaman AH18 ke Kampung Chering dan jalan terus sejauh kira-kira 22.7km. Belok kiri ke Jalan Kampung Bukit Palas dan terus ke jalan masuk sedia ada sejauh kira-kira 12.14 km untuk sampai ke tapak projek Blok B.

Untuk sampai ke tapak projek Blok A, dari simpang tiga di Jalan Kuantan-Kemaman AH18 (simpang Kg Bukit Palas), jalan terus sejauh 13.4 km memasuki sempadan negeri Pahang-Terengganu. Dari persimpangan lampu isyarat Mak Lagam, belok kiri ke Jalan Mak Lagam. Jalan terus sejauh 11.1 km melalui Jalan Mak Lagam sebelum memasuki jalan masuk sedia ada dan terus ke 0.94 km untuk sampai ke tapak projek Blok A.

RESEPTOR SENSITIF

- Kesan kepada Jalan Guna Sama
- Kesan kepada Penempatan
- Kesan kepada Muka Sauk



PERSEKITARAN SEDIA ADA (DALAM LINGKUNGAN 5 KM RADIUS)

- Guna Tanah**
- Hutan Simpan
 - Ladang kelapa sawit
 - Ladang Hutan dan aktiviti pembalakan
 - ECRL

- Kawasan Penempatan :**
- * Kg Kedai Binjal = 4.64km
 - * Kg Gong Kapur = 4.84km
 - * Kg Padang Lalang = 4.01km
 - * Kg Kubang Ikan = 4.69km
 - * Kg Lubuk Batu = 3.18km
 - * Kg Pasir Semut / Alam Perdana = 2.96km

Purata Hujan Tahunan : 4134.00 mm tertinggi 1974.4 mm terendah

Purata Suhu Tahunan : Paling Tinggi: 27.6 °C Paling Rendah: 27.0°C

METEOROLOGI (HUJAN, SUHU, KELEMBAPAN RELATIF DAN ANGIN - STESAN KUANTAN) 2015-2024

Purata Kelembapan Relatif Tahunan : Maksimum: 87.5% Minimum: 75.5%

Angin Peratus Tenang: 12.6% Tiupan angin paling tinggi: 24.4% (utara) Tiupan angin paling rendah: 5.0% (Barat)

PENGELUARAN SAKI BAKI KAYU BALAK DAN KAYU JARAS DI ATAS TANAH KERAJAAN MILIK PERBADANAN SETIAUSAHA KERAJAAN (PSK), MUKIM SG KARANG, DAERAH KUANTAN, PAHANG DARUL MAKMUR SELUAS 270.36 HEKTAR (688.07 EKAR)

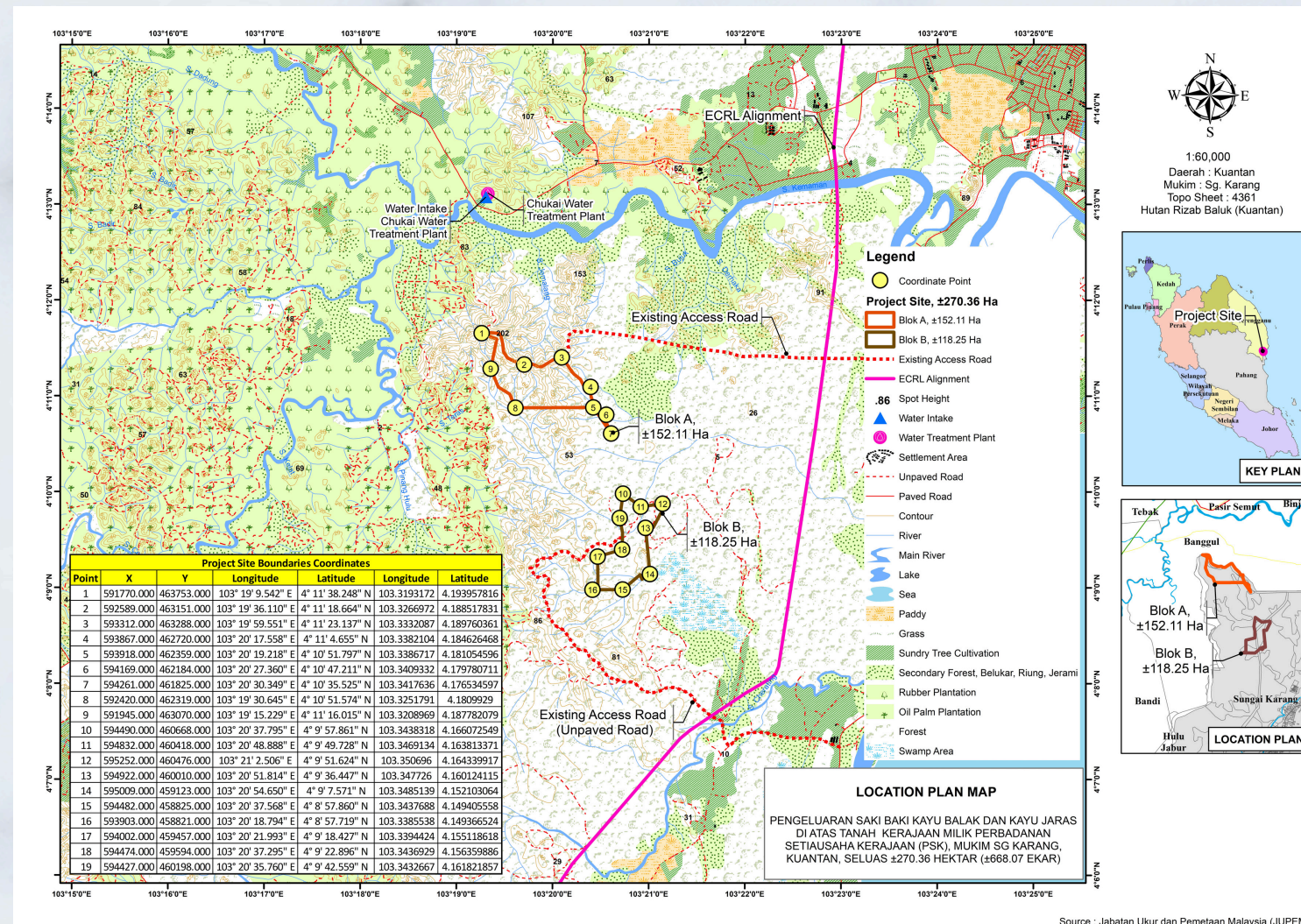
RINGKASAN EKSEKUTIF

PEMAJU PROJEK WANGSAMAKMUR CAPITAL (M) SDN BHD

No. 9, Lorong 77, Taman Bukit Pelindung Aman, Off Jalan Tengku Muhammad, 25200 Kuantan, Pahang Darul Makmur.

PERUNDING ALAM SEKITAR ECO SYNERGY SOLUTIONS SDN BHD

2-22, Komplek Sentral Point, Jalan TKS 1, Taman Kajang Sentral, 43000 Kajang, Selangor Darul Ehsan.



KUALITI AIR DAN MUKA SAUK

Terdapat 15 stesen persampelan kualiti air.

Table 6.3.19: Indeks Kualiti Air

Stesen	WQI	Kelas	Status
WQ1	92.77	I	Bersih
WQ2	91.52	II	Bersih
WQ3	91.39	II	Bersih
WQ4	91.66	II	Bersih
WQ5	90.87	II	Bersih
WQ6	87.29	II	Bersih
WQ7	94.90	I	Bersih
WQ8	90.37	II	Bersih
WQ9	91.90	II	Bersih
WQ10	89.82	II	Bersih
WQ11	90.23	II	Bersih
WQ12	91.16	II	Bersih
WQ13	91.01	II	Bersih
WQ14	91.01	II	Bersih
WQ15 LT	90.97	II	Bersih
WQ15 HT	90.93	II	Bersih
Purata	90.87	II	Bersih

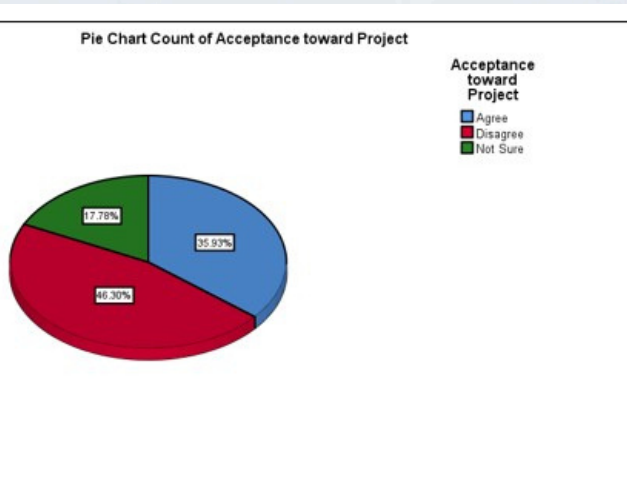
UDARA DAN BUNYI

Terdapat Empat (4) stesen persampelan kualiti air dan bunyi.

Udara: Hasil analisis menunjukkan nilai garis dasar untuk Zarah Terampai (PM10) - 34.0,0 µg/m3 to 47.0 µg/m3 PM2.5 - 12.0 µg/m3 to 22.0 µg/m3.

Bunyi Bising: Hasil analisis menunjukkan bahawa nilai garis dasar LAeq siang - 49.3 dBA kepada 54.5 dBA malam - 39.1 dBA kepada 43.0 dBA

KAJIAN SOSIO EKONOMI



Source: Social Survey, 28 - 30 April 2025 / IBM® SPSS Statistic Ver 26.

KEPERLUAN UNDANG-UNDANG

Tertakluk kepada Akta Kualiti Alam Sekeliling 1974 (Akta 127) dan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015, kawasan kajian projek tertakluk pada Jadual Pertama

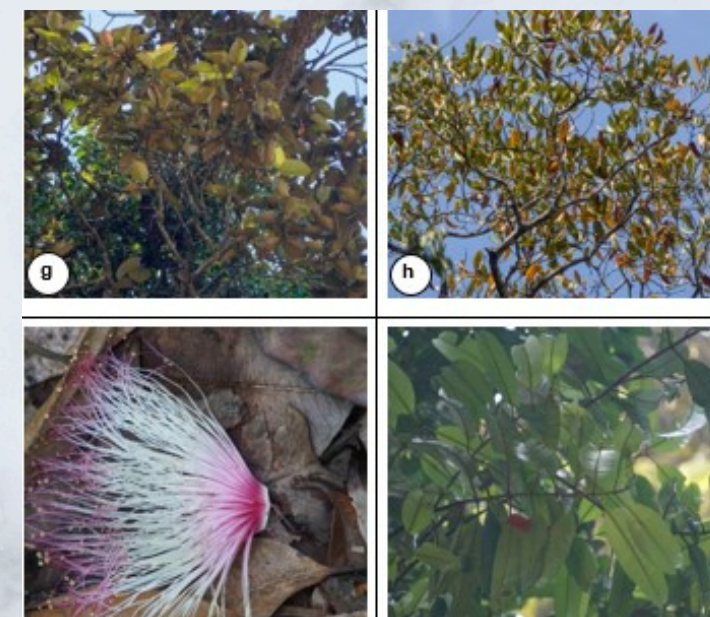
Aktiviti 5 (C) Perhutanan

Pembalakan, atau penebangan atau pengambilan kayu daripada hutan pada ketinggian kurang daripada 300 meter di atas purata aras laut yang meliputi kawasan seluas 100 hektar atau lebih, di luar hutan simpan kekal

AKTIVITI PROJEK

PEA-AKTIVITI (Penyiataan Awal)	AKTIVITI PEMBALAKAN	SELEPAS AKTIVITI PEMBALAKAN
Penyiataan Tapak	Membbaiki Jalan Masok, Membina Jalan Dalam, Feeder Road, Jalan Penarik dan Sistem Saliran	Meroboh Kangsi dan Matau
Mengenalpasti Jenis Hutan	Pemasangan Alat Kawalan Hakisan dan Kelodakan	Membawa Keluar Semua Mesin, Kenderaan, Sisa dari Konsesi
Mengenalpasti Jalan Masok	Pembinaan Kangsi Sementara	Pemulihan Matau, Jalan Penarik dan Jalan Masok
Penyiataan Tanah	Matau	Tanaman Tutup Bumi
Kajian Udara, Bunyi dan Air	Pembalakan (Memotong, Menarik, Pemindahan Balak dan Pembangunan Sisa)	Pemantauan dan Audit Alam Sekitar
Kajian Flora dan Fauna	Dokumentasi / Log Kerja	
Kajian Sosio-Ekonomi	Pengangkutan	
Perancangan Projek/Pengurusan		

KAJIAN FLORA



KAJIAN FAUNA : PERANGKAP KAMERA

Mamalia : 6 spesies

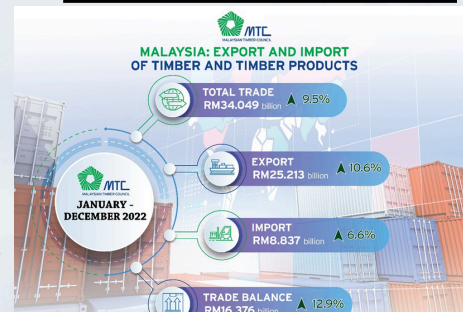
Herpetofauna : 0 spesies

Burung : 2 spesies

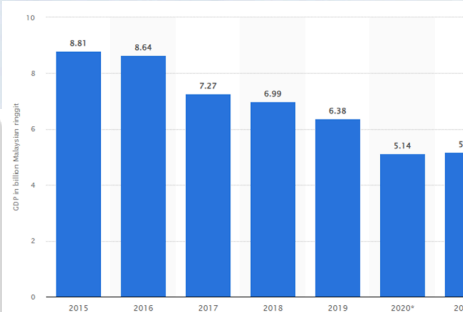
GEOLOGI, MINERAL DAN TANAH

Geologi: Carboniferous dan Quaternary Mineral: Kaolin, KA (Non-Metallic) dan Iron, Fe (metallic mineral) Siri Tanah: Kuala Berang - Kedah - Serdang & Tanah Gambut (Peat)

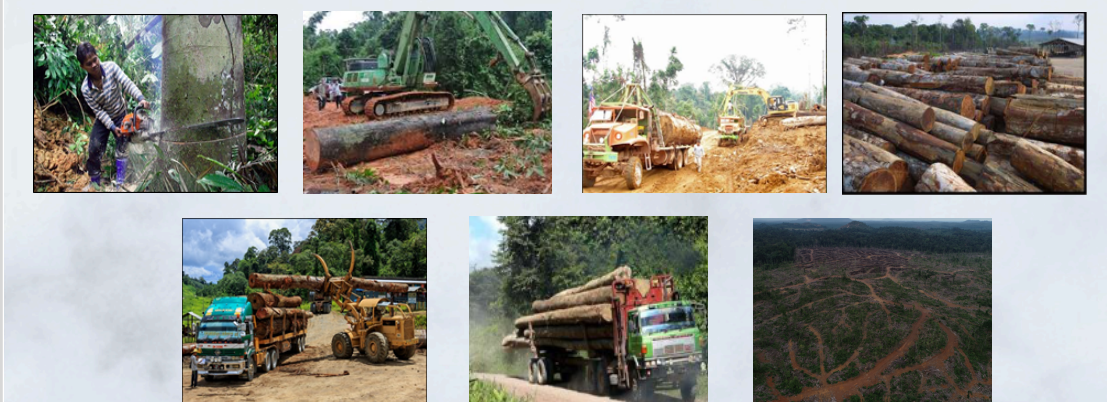
PERNYATAAN KEPERLUAN



Rajah 1: Eksport Produk Kayu di Malaysia



Rajah 2: Sumbangan GDP daripada aktiviti Perhutanan dan Pembalakan



PEMANTAUAN PRESTASI (PMD)

Alat P2M2	Parameter Pemantauan Prestasi (PM)	Had yang Dicaadangkan	Lokasi Pemantauan	Kekerapan
Kolam / perangkap mendapan	Penanda lumpur	2/3 kedalaman dari kolam mendapan	Lokasi boleh dirujuk kepada LD-P2M2 (Lampiran 1)	Mingguan atau selepas [in-situ]
Longkang permenter	Prestasi			Mengikuti surat kelulusan EIA
Zon penampungan sungai				
Tanaman tutup bumi	Faras mendapan			
Longkang tanah dengan empingan pemeriksaan				
Laluan air sementara atau kekal (pembelung / jambatan)	Struktur dan Prestasi			

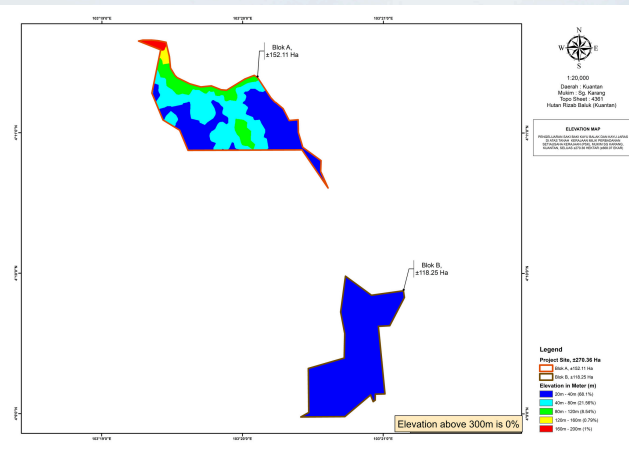
PEMANTAUAN PEMATIHAN (PMD)

Komponen	Parameter Kawalan	Piawai yang Diaplikasi	Lokasi Pemantauan	Kekerapan
Kualiti Udara	PM10 PM2.5	100 µg/m3 35 µg/m3	Rujuk Rajah 6.3.17 di Bab 6	Mengikuti surat kelulusan EIA (COA)
Bunyi Bising	LAeq	Siang: 55 dBA Malam: 50 dBA	Rujuk Rajah 6.3.17 di Bab 6	Mengikuti surat kelulusan EIA (COA)
Kualiti Air (Lepasan Perangkap Mendapan)	Jumlah Pepejal Terampai (TSS) Kekeruhan	50 mg/L 250 NTU	Rujuk Rajah 6.3.17 di Bab 6 dan Pelan Konseptual LD-P2M2 (Attachment 1)	Selepas 12.5 mm hujan (menggunakan alat pengukur hujan)

PEMANTAUAN KESAN (MKD)

Komponen	Parameter Kawalan	Lokasi Pemantauan	Kekerapan
Kualiti Udara	PM10 PM2.5	Rujuk Rajah 6.3.17 di dalam Bab 6	Mengikuti surat kelulusan EIA
Bunyi	LAeq	Rujuk Rajah 6.3.17 di dalam Bab 6	Mengikuti surat kelulusan EIA
Kualiti Air	Jumlah Pepejal Terampai (TSS) Keperluan Oksigen Biokimia (BOD) pH Kekeruhan Nitrogen Amonia (NH3-N) Oksigen Terlarut (DO) Keperluan Oksigen Kimia (COD)	Rujuk Rajah 6.3.17 di dalam Bab 6	Mengikuti surat kelulusan EIA

KETTINGGIAN



ANALISA KECERUNAN

