



Monitoring of  
**HIGH  
CONSERVATION  
VALUE**

for  
**Penuan-Lebuwai Forest Management Unit  
FTL. No. T/3370**

**(Public Summary)**

**December 2023**

**Certification Department, Forest Operations  
of Jaya Tiasa Holdings Bhd.**

*has undertaken an HCV monitoring in September until November 2023 covering all the HCV attributes within Penuan-Lebuwai FMU (T/3370). This is continual follow-up assessment on HCV after baseline study which first assessment was carried on July 2018 by High Conservation Value Forest Resource Network, Sarawak (HCVRNS). This HCV summary is indicated as a main reference to the framework for management and monitoring of HCV in the FMU.*

## FINDINGS

The identification of HCV in the FMU was identified based on the 'Malaysian National Interpretation for the Identification of High Conservation Values (HCV Malaysia Toolkit Steering Committee, 2018)'.

The following table is the summary of HCV findings identified in the FMU

HCV ATTRIBUTES	KEY TERMS AND INDICATORS	FINDINGS
<b>HCV 1</b> Species Diversity	Concentrations of biological diversity	Not Present
	Protected Areas: a proxy for concentration of biodiversity <ul style="list-style-type: none"> <li>• Hose Mountain National Park and Baleh National Park</li> </ul>	<b>Present</b>
	Rare, Threatened and Endangered (RTE) species	<b>Present</b>
	Rare Species	Not Present
	Endemic species <ul style="list-style-type: none"> <li>• Borneo</li> </ul>	<b>Present</b>
	Spatial and temporal concentration of species	<b>Present</b>
<b>HCV 2</b> Landscape-level ecosystems and mosaics	Large, landscape level ecosystems and mosaics <ul style="list-style-type: none"> <li>• Adjacent to Heart of Borneo (HoB)</li> </ul>	<b>Present</b>
	Viable population of the great majority of the species	Not Present
	Natural patterns of distribution and abundance	Not Present
<b>HCV 3</b> Ecosystem and Habitats	Rare, threatened, or endangered ecosystems, habitats or refugia.	Not Present
<b>HCV 4</b> Ecosystem Services	Basic ecosystem services <ul style="list-style-type: none"> <li>• Kapit Water Catchment Area</li> </ul>	<b>Present</b>
	Critical situations	<b>Present</b>
	Protection of Water Catchments and control of erosion of vulnerable soils and slopes	<b>Present</b>
	Pollination <ul style="list-style-type: none"> <li>• Tapang Tree (<i>Koompassia excelsa</i>)</li> </ul>	<b>Present</b>
<b>HCV 5</b> Community Needs	Fundamental for satisfying basic necessities	Not Present
	Identified through engagement with local or indigenous peoples	<b>Present</b>
<b>HCV 6</b> Cultural Values	Values of global and national... significance	Not Present
	Critical importance for the traditional cultures of local communities or indigenous peoples.	Not Present

### HCV 1: SPECIES DIVERSITY

**Management Objective:**

- Maintain the population of existing RTE / Endemic of flora and fauna in the FMU
- Maintain the population of RTE species, such as Hose Langur (*Presbytis hosei*) at Apan Burung (HCV no. SL0001/01) Apan Bangat (SL0002/01) and Apan Sado (HCV no. SL0003/01).

Control Measure	Action Taken
<ul style="list-style-type: none"> <li>• Implementation of 'No Hunting' Policy and 'Prohibition of felling trees inside protected area' in the FMU.</li> </ul>	<ul style="list-style-type: none"> <li>• This information have been disseminate to FMU worker and the communities especially during SFM briefing.</li> </ul>
<ul style="list-style-type: none"> <li>• Install signage at edge of FMU boundary about prohibited activities (e.g. hunting/fishing of protected species, lighting of fires)</li> </ul>	<ul style="list-style-type: none"> <li>• The signage of prohibition has been displayed at every corner of main road throughout the FMU, especially at the fringe of FMU boundary and the entrance of identified HCVAs.</li> </ul>
<ul style="list-style-type: none"> <li>• Conduct remote surveillance if any onto any route to the salt-lick and nesting tree to monitor sign of poaching.</li> </ul>	<ul style="list-style-type: none"> <li>• Patrolling team has been established. Any detected sign of poaching into HCVA area will be recorded.</li> </ul>
<ul style="list-style-type: none"> <li>• Establish buffer zone to protect established HCVA from disturbance (E.g. logging operation and local farming).</li> </ul>	<ul style="list-style-type: none"> <li>• Standard size of buffer zone is min.100m buffer around the parameter. (source The Green Book, FDS, 2019)</li> <li>• The sign of prohibition 'No Entry' at the entrance discourage hunting activity.</li> </ul>

## Monitoring Results

### A. Observed changes of Forest Fauna (Mammals)

Our wildlife survey on November 2023 has identified a total of 18 of mammal species in Coupe 01A (post-harvesting) detected via camera trapping method (see **Figure 10.5** for the location of camera trap). Seventeen (17) or 94.4% species fall under RTE species; WLPO, IUCN and CITES. Calculation of the indices between present with the past survey yielded different result as summarized in the table below;-

ESTIMATION OF POPULATION DYNAMICS						
YEAR	JUL 2018	2019	2020	SEP 2021	SEP 2022	NOV 2023
INDEX	BASE	PRE-H	PRE-H	PRE-H	PRE-H	POST-H
H'	1.69	-	-	1.43	1.91	2.45
E <sub>H</sub>	0.26	-	-	0.40	0.48	0.45
D <sub>S</sub>	0.25	-	-	0.28	0.17	0.12
D <sub>M</sub>	1.99	-	-	1.69	2.50	3.15

In overall, statistical analysis for the population of mammals for the present survey in November 2023 has characterized high species diversity with high species richness and evenness detected if compared to previous and baseline data. Refer to **Section 10.1.3.2**, to

gauge better understanding on statistical analysis and the Estimation of Population Dynamics. Interestingly, the data was taken after logging in Coupe 01A. By referring to **Figure 10.6**, Pig-tailed Macaque has record the highest individual detected with 27.4% species composition, followed by Long-tailed Porcupine (10.0%) and Long-tailed Macaque (9.1%). There was a presence of RTE species, new record to the FMU; which is Marbled Cat (*Pardofelis marmorata*) with 0.5% species composition. Sign of recovery on the population of Bearded Pig also presence in the FMU, where the first sight was in Block 30, Coupe 01A. After a long decades of its presence since ASF breaking in the FMU, since July 2020. There also a good sign of recovery where the numerous of piglets following their mother crossing our camera trap in Block 29, Coupe 01A, dated 10 November 2023. Species composition for Bearded Pig is 4.1%.

**B. The Population of Hose’s Langur (*Presbytis hosei*) in Apan Burung (HCV no. SL0001/01) Apan Bangat (SL0002/01) and Apan Sado (HCV no. SL0003/01).**

Our wildlife survey via camera trapping on HCV area; Apan Burung, Apan Bangat and Apan Sado has identified a total of 9 species of mammal species inhabit the area. By referring to **Figure 10.7**, Hose’s Langur has recorded the highest species composition than others; 41.6% composition or 91 individual detected within a period of 2 months, followed by Sambar Deer and Malayan Porcupine. Other species such as Malayan Sunbear, Binturong and Banded Civet were observed crossing our camera trap without licking mineral on the salt-licks.

**Evaluation**

No major issues arise from logging operation on the population of mammals in Coupe 01A and the Salt-licks.

**HCV 2: LANDSCAPE-LEVEL ECOSYSTEMS AND MOSAICS**

**Management Objective:**

- Maintain the value of FMU area that provisioning critical forest complexe linkages for HOB initiatives by providing wildlife connectivity linking upper Btg. Balui and Btg. Baleh.

**Control Measure**

**Action Taken**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Buffer Zone of 1 KM width adjacent to National Park (The Green Book, FDS, 2019, pg. 210) i.e. Hose Mountain National Park.</li> </ul> | <ul style="list-style-type: none"> <li>• Ground demarcation of buffer zone for Hose Mountain National Park at Coupe 02A has been established.</li> </ul>    |
| <ul style="list-style-type: none"> <li>• Restoration of forest if any on bare area or open area with indigenous species.</li> </ul>  | <ul style="list-style-type: none"> <li>• A record of 'Progress of Enrichment Planting (Forest Landscape Restoration) by the staff from LPF/0023.</li> </ul> |

- Planting records up to November 2023, a total of 30, 915 seedlings of Kelempayan (native species) were planted throughout post-harvesting area in the FMU about 49.7 Ha.

#### HCV 4: ECOSYSTEM SERVICES

##### Management Objective:

- Maintain the value of Baleh and Balui Watershed (Including river and hills) as part of providing basic ecosystem services to the Kapit Water Catchment Area (e.g. Rural water supply and Baleh and Bakun Dam Project)
- Maintain the value of ecosystem services in the FMU area as providing pollinator services to the nearby local crops

##### Control Measure

- Ground demarcation on Water Catchment Area (WCA), Stream Buffer Reserved (SBR) and Terrain IV (TIV) by subsequence phase of harvesting in the FMU.

##### Action Taken

- Checking on Terrain Class IV, Stream Buffer Reserved (SBR) and/or any protection area prior to the submission of Detailed Harvesting Plan (DP) for Permit to Enter Coupe (PEC)
- Certificate of Water Analysis in Environmental Monitoring Report (EMR).

- Ground marking of Tapang Tree (*Koompassia excelsa*) as protected

- Pre-Harvesting (Tree tagging)

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tree by subsequence of forest  
harvesting.

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activity.

#### HCV 5: COMMUNITY NEEDS

**Management Objective:**

- Maintain the value of ecosystem services in the FMU that contribute to human wellbeing and livelihoods of adjacent communities such as Long Busang, Long Jawe and Sang Anau – Long Bulan.

**Control Measure**

**Action Taken**

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Ground demarcation of local water catchment area alongside with 'community land use' area by subsequence phase of harvesting in the FMU.</li></ul> | <ul style="list-style-type: none"><li>• Periodic assessment of Social Impact Assessment / Social Survey</li><li>• Checking on 'community land use' area prior to the submission of Detailed Harvesting Plan (DP) for Permit to Enter Coupe (PEC)</li></ul> |
| <ul style="list-style-type: none"><li>• Awareness briefing on sustainably management of forest resource for local community.</li></ul>   | <ul style="list-style-type: none"><li>• Records of patrolling</li><li>• In-out records at Post Security</li></ul>  |

**MAP OF HIGH CONSERVATION VALUE AREA**



Figure 10.3: Map of High Conservation Value (HCV) Area

