

**SUMMARY OF HIGH CONSERVATION VALUES AREAS MONITORING ACTIVITIES 2021**

**1. Natural forest of Wasoi (including plantation gaps):**

(i) Wildlife population monitoring via camera trapping.



CT18 20/04/2021 09:34:49 PIRT 09 27C 80F 5  
**Pig-tailed Macaque (EN)**



CT16 08/08/2021 11:34:42 PIRT 01 29C 84F 5  
**Long-tailed Macaque (VU)**



CT18 08/03/2021 14:20:00 PIRT 25 25C 77F 5  
**Crested Fireback (NT)**



CT15 27/04/2021 23:01:25 PIRT 16 23C 73F 4  
**Sunda Pangolin (CR)**



CT16 22/07/2021 07:31:53 PIRT 13 21C 69F 6  
**Mousedeer (DD)**



CT17 11/03/2021 18:00:54 PIRT 28 24C 75F 6  
**Bearded pig (VU)**



COVERT CT16 27/10/2021 19:54:00 PIRT 22 24C 75F 4  
**Sunda stink badger (Teledu) (LC)**



COVERT CT15 27/10/2021 12:31:31 PIRT 22 27C 80F 6  
**Tabon Scrubfowl (Tambun) (LC)**



2021-07-02 5:41:59 PM M 2/3 27.9C  
 FC800 PROFESSIONAL  
**Sun Bear (VU)**



COVERT CT16 06/03/2021 08:45:11 PIR  
**Bornean banded pitta (LC)**



COVERT 0113 28/08/2021 01:19:06 PIRT 26C 78F  
**Malay civet (LC)**



COVERT CT16 11/09/2021 08:26:48 PIRT 205 24C 75F 5  
**Chestnut-necklaced hill partridge (VU)**



IUCN status: *CR* – Critically Endangered; *EN* – Endangered; *NT* – Near Threatened; *VU* – Vulnerable; *LC* – Least Concern; and *DD* – Data Deficiency.

*Table 1: List of species detected in camera trap activity. A total of at least 38 species (or genus) detected as per December 2021.*

No.	Common name	Scientific name	IUCN
<b>Mammal</b>			
1	Pig-tailed macaque	<i>Macaca nemestrina</i>	EN
2	Mousedeer	<i>Trangulus spp.</i>	LC
3	Long-tailed macaque	<i>Macaca fascicularis</i>	VU
4	Sunda stink badger	<i>Mydaus javanensis</i>	LC
5	Sun bear	<i>Helarctos malayanus</i>	VU
6	Malay civet	<i>Viverra zangalunga</i>	LC
7	Sambar deer	<i>Rusa unicolor</i>	VU
8	Barking deer	<i>Muntiacus muntjak</i>	LC
9	Bearded pig	<i>Sus barbatus</i>	VU
10	Common palm civet	<i>Paradoxurus hermaphroditus</i>	LC
11	Masked palm civet	<i>Paguma larvata</i>	
12	Leopard cat	<i>Prionailurus bengalensis</i>	LC
13	Yellow-throated marten	<i>Martes flavigula</i>	LC
14	Smooth-coated otter	<i>Lutrogale perspicillata</i>	VU
15	Domestic dog	-	-
16	Sunda pangolin	<i>Manis javanica</i>	CR
17	Small-toothed palm civet	<i>Arctogalidia trivirgata</i>	LC
18	Treeshrew/Squirrel	-	LC
19	Rodent spp.	-	
<b>Bird</b>			
20	Emerald dove	<i>Chalcophaps indica</i>	LC
21	Philippine megapode/Tabon Scrubfowl	<i>Megapodius cumingii</i>	LC

(Continue)

No.	Common name	Scientific name	IUCN
22	White-crowned shama	<i>Copsychus stricklandii</i>	LC
22	White-crowned shama	<i>Copsychus stricklandii</i>	LC
23	Grey-chested jungle flycatcher	<i>Cyornis umbratilis</i>	NT
24	Crested Fireback	<i>Lophura ignita</i>	NT
25	Hooded Pitta	<i>Pitta sordida</i>	LC
26	Blue flycatcher	<i>Cyornis turcosus</i>	LC
27	Bornean banded pitta	<i>Pitta schwaneri</i>	LC
28	White-breasted waterhen	<i>Amaurornis phoenicurus</i>	LC
29	Chestnut-necklaced hill partridge	<i>Arborophila charltonii</i>	VU
30	Malaysian night heron	<i>Gorsachius melanolophus</i>	LC
31	Oriental magpie robin	<i>Copsychus saularis adamsi</i>	LC
32	Pied fantail	<i>Rhipidura javanica</i>	LC
33	Black-capped babbler	<i>Pellorneum nigrocapitatum</i>	LC
34	White-throated fantail	<i>Rhipidura albicollis</i>	LC
35	Coucal spp.	-	-
36	Other bird	-	-
Reptile			
37	Asian water monitor	<i>Varanus salvator</i>	LC
38	Skink spp.	-	-

Table 2: Species identified but not captured by camera trap.

No.	Common name	Scientific name	IUCN
Mammal			
1	Proboscis monkey (S)	<i>Nasalis larvatus</i>	EN
2	Silvered langur (S)	<i>Presbytis cristata</i>	VU
Bird			
3	Oriental pied hornbill (S)	<i>Anthracoceros albirostris</i>	LC
4	Brahminy kite (S)	<i>Haliastur indus</i>	LC
5	Pacific swallow (S)	<i>Hirundo tahitica</i>	LC

S – sighting.

(ii) Relative Abundance Index (RAI) for mammals in AFI

RAI is an index of abundance based on the average photo-trapping rates [number of detections / sampling effort x 100] across all camera-trap locations, along with the associated standard errors (SE). RAIs are assumed to be linearly correlated to overall abundance and can be calibrated against independent counts to provide correlation coefficients between the index and population size. Table 2 shows the RAI for mammals detected in AFI for 2021.

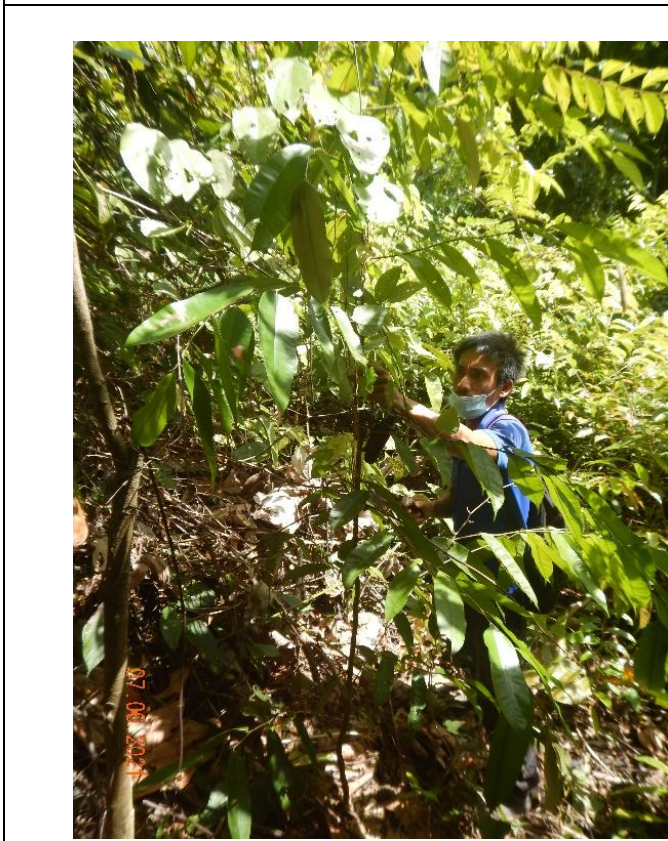
Table 3: RAI and camera trap detections for mammals in AFI for 2021.

Species	RAI	Detection
Mousedeer	6.12	135
Pig-tailed macaque	5.76	106
Long-tailed macaque	2.29	48
Sunda stink badger	2.09	47
Sun bear	2.20	42
Malay civet	1.64	35
Sambar deer	2.52	33
Barking deer	1.11	26
Bearded pig	0.58	10
Common palm civet	0.33	8
Masked palm civet	0.29	6
Yellow-throated marten	0.14	3
Leopard cat	0.14	3
Smooth-coated otter	0.10	2
Small-toothed palm civet	0.04	1
Sunda pangolin	0.05	1
Domestic dog	0.05	1

(iii) Monitoring and maintenance of Wasoi natural forest.



Signboard of Wasoi as a protected natural forest.



Monitoring and maintenance of enrichment planting.

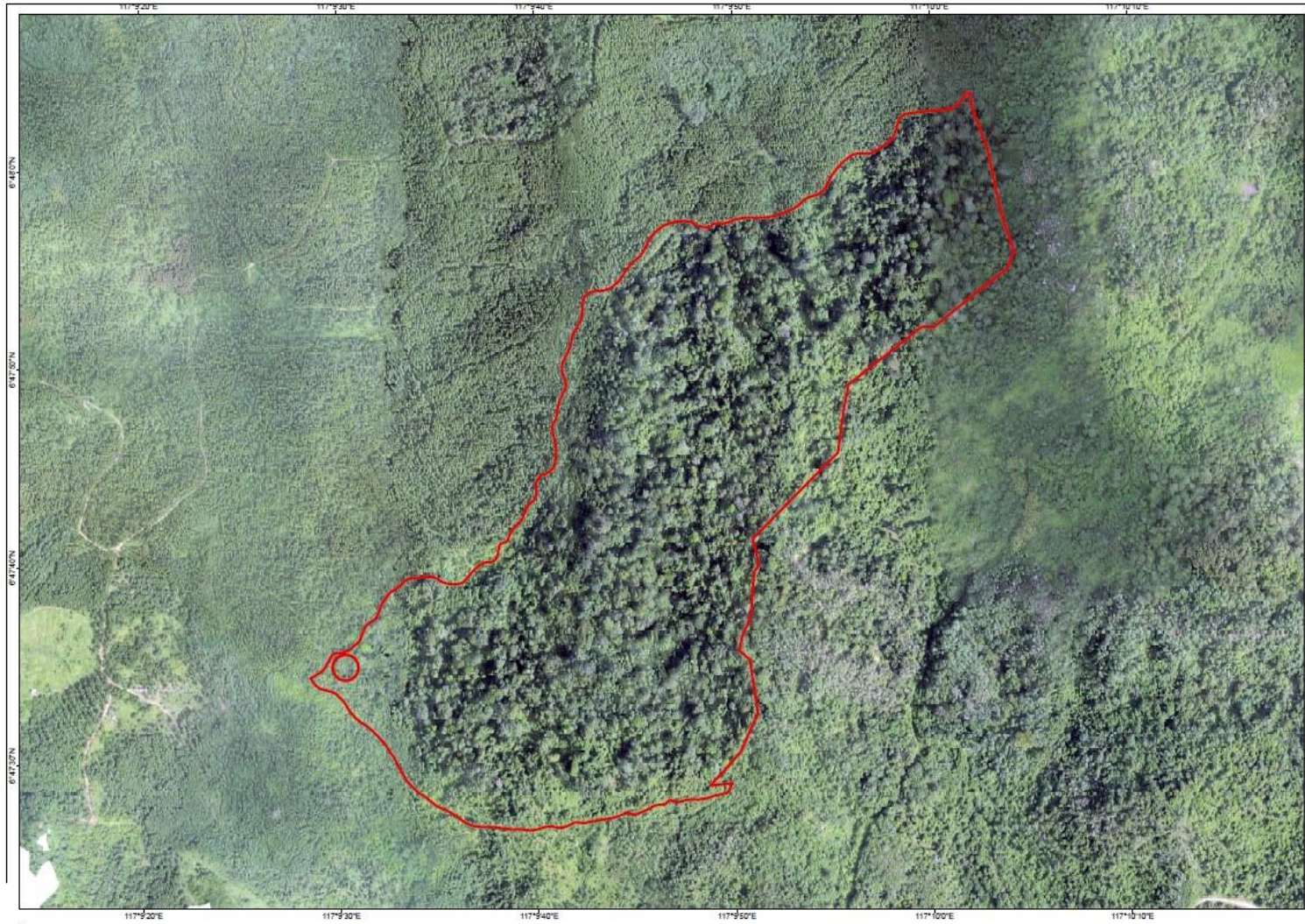




Table 4: Monitoring of enrichment planting survival in Wasoi 2021.

Date	Block	Plot ID	Tree age	Tree height (m)					Remarks
				Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	
8-Jun-21	B	Kelompok 1	18mth	0.85	0.97	0.91	0.99	1.07	All seedlings survived
8-Jun-21	B	Kelompok 2	18mth	0.87	0.99	0.87	0.98	0.98	All seedlings survived
8-Jun-21	B	Kelompok 3	18mth	0.85	0.75	0.98	0.75	0.97	All seedlings survived
8-Jun-21	B	Kelompok 4	18mth	1.01	0.97	0.98	1.01	0.99	All seedlings survived
8-Jun-21	B	Kelompok 5	18mth	0.97	1.35	0.95	1.21	0.98	All seedlings survived
8-Jun-21	B	Kelompok 6	18mth	0.97	0.99	1.21	1.35	0.97	All seedlings survived
9-Jun-21	A	Kelompok 1	18mth	0.60	0.70	0.80	0.75	0.78	All seedlings survived
9-Jun-21	A	Kelompok 2	18mth	X	0.75	0.70	0.80	0.50	
9-Jun-21	A	Kelompok 3	18mth	0.60	X	X	0.58	0.65	
9-Jun-21	A	Kelompok 4	18mth	X	0.68	0.76	0.70	0.85	





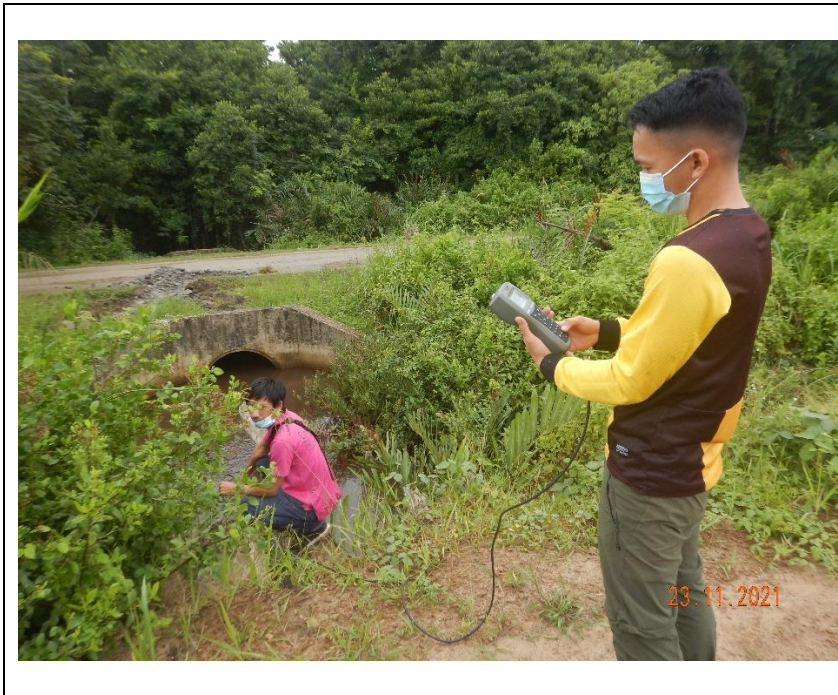
*Figure 1 - Aerial image – No sign of intrusion in the protected natural forest of Wasoi (Feb 2022).*

## 2. River/Stream

	<p>Intact river riparian</p>
 	<p>River riparian signboard</p>



Water sampling activities by consultant (Chemsain Konsultant)



*In-situ* water quality monitoring by AFI staff.

### 3. Steep Slope Areas (>25°)



Signboard of steep slope area



Demarcation of steep slope area

#### 4. Graveyards & Cultural values



Demarcation of protected graveyard area within the operation area.

## 5. Mangrove Forest



Preserved mangrove area within AFI



Preserved mangrove area within AFI.

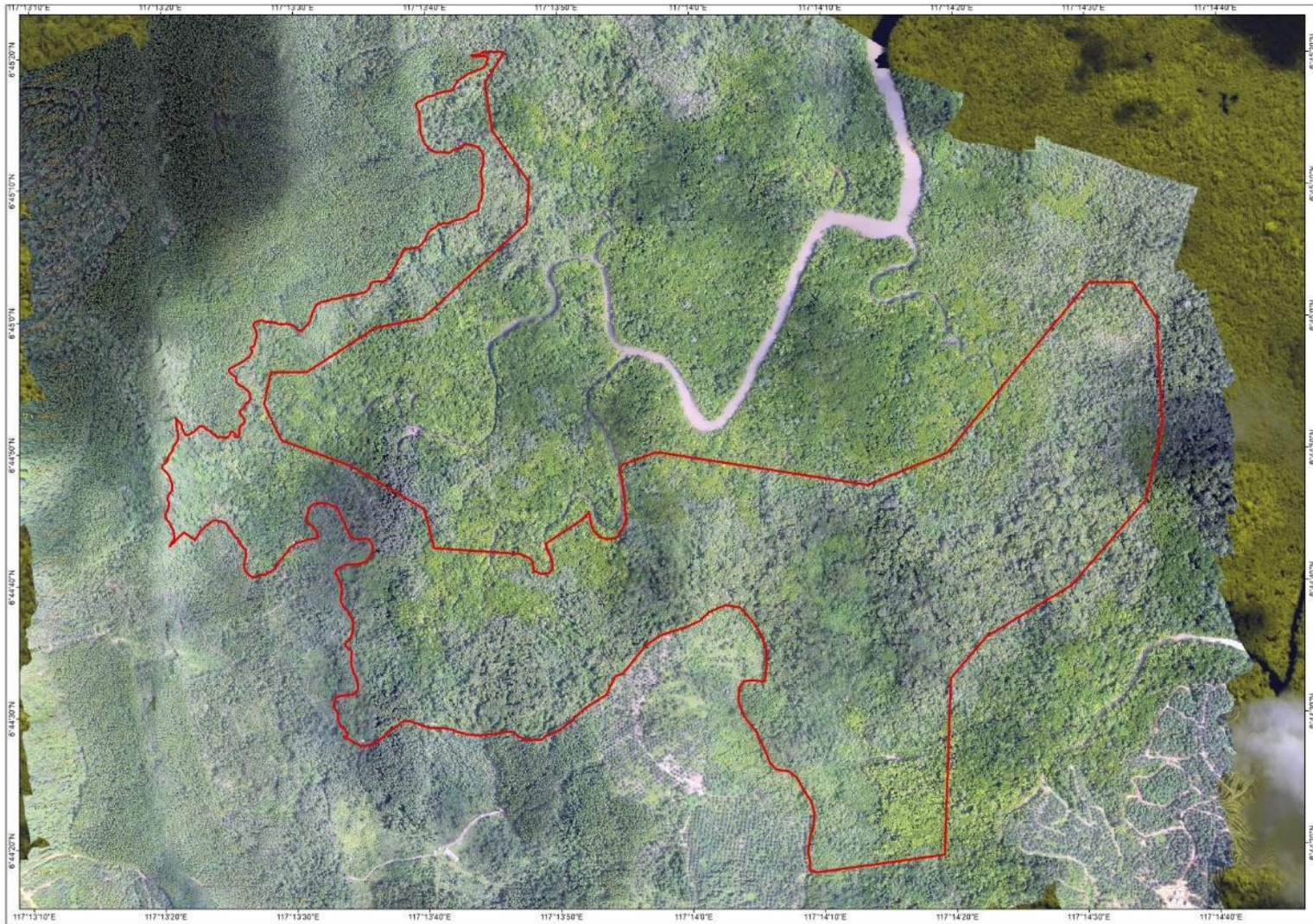


Figure 2 - Aerial image – No sign of intrusion in the mangrove area (Feb 2022).




## 6. Water Catchment



Demarcation of water catchment area

## 7. Wetland Areas

	<p>Signboard of wetland area in operation area.</p>
	<p>Naturally preserved of wetland area within AFI.</p>



Appendix 1: Summary of monthly monitoring activity in HCV areas for 2021.

HCV area	2021											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Natural forest of Wasoi		✓		✓		✓		✓		✓		✓
River/stream (and buffer)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Steep slopes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Graveyards & Cultural values	✓						✓					
Mangrove				✓	✓	✓			✓	✓	✓	
Water catchment	✓				✓					✓		
Wetland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	