

The ANJ Group Recovery Site 3rd Progress Report

November 2022

PT Austindo Nusantara Jaya Tbk

Menara BTPN Level 40 Jalan Dr. Ide Anak Agung Gde Agung Kav 5.5 - 5.6 Kawasan Mega Kuningan Jakarta 12950

COVER PAGE

Date of this report: 21st November 2022

Task: Third Progress Report of the ANJ Group Recovery Site.

Referenced Document: ANJ Group HCS Area Loss Recovery Plan 2020.

Date of Reference Document: February 2020.

Outcome of Recovery Plan: Site-Specific Management Plan for the Recovery Site.

Recovery Project Location: Kabupaten Sorong Selatan, Provinsi Papua Barat, Indonesia.

Centroid of Recovery Site: Site A: Longitude 132.4940 E, Latitude 1.8644 S.

Site B: Longitude 132.4482 E, Latitude 1.8478 S.

Recovery Site Area: Site A: 3,003.95 ha

Site B: 514.43 ha

Total GIS Extent: 3,518.38 ha

Number of Pages: 185 pages of main report, including maps, figures, charts, tables, and pages of

appendices.

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List of Abbreviations

ANJ	Austindo Nusantara Jaya
ANJ-	ANJ - Peduli Keanekaragaman Hayati
PENDAKI	
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CR	Critically Endangered species
DD	Data Deficient
EN	Endangered species
GIS	Geographic Information System
GPS	Global Positioning System
ha	Hectares
HCS	High Carbon Stock
HCSA	High Carbon Stock Assessment
HCV	High Conservation Value
IUCN	International Union for Conservation of Nature
KLHK	Kementerian Lingkungan Hidup dan Kehutanan/ Ministry of Environmental and Forestry
LC	Least Concern species
MEC	Malaysian Environmental Consultants Sdn Bhd
NDPE	No Deforestation, No Peat, and No Exploitation
NT	Near Threatened species
PT. PMP	PT. Putera Manunggal Perkasa
PT WHJ	PT. Wira Hari Jaya
PT. WMS	PT. Wibawo Mulia Sejahtera
RSPO	Roundtable on Sustainable Palm Oil
SOP	Standard Operating Procedure
VU	Vulnerable species

1 Background

PT Austindo Nusantara Jaya Tbk (ANJ) is an oil palm grower and has been a member of the Roundtable on Sustainable Palm Oil (RSPO) since February 26th, 2007. ANJ recognizes No Deforestation, No Peat, and No Exploitation (NDPE) and the HCSA commitments of our buyers and we have embedded these elements into our Sustainability Policy, published on October 31st, 2019. With our commitment to this Sustainability Policy, ANJ has decided to identify potential High Carbon Stock (HCS) area loss within all ANJ's 8 oil palm concessions. This is a commitment to our purchasers, who also uphold the NDPE requirements. The HCS liability calculated has been compensated as stated in the ANJ published recovery plan. The Recovery Site identified by ANJ (as HCS offset) is adjacent to our West Papua concessions, PT. Putera Manunggal Perkasa (PT. PMP).

1.1 Objective of this document

ANJ published its first and second HCS Recovery Site Progress Reports in October 2020 and July 2021 respectively to summarise the efforts undertaken by the company to establish the Recovery Site as a HCS conservation area. This document is the 3rd HCS Progress Report, and it summarises the interim activities implemented by ANJ to date. This progress report is supported by two ancillary documents, the documents being:

- The spatial database and the map portfolio of the ANJ Recovery Site, and
- The consolidated biological assessment report of the ANJ Recovery Site.

The information provided in these ancillary documents are necessary for the formulation of the 5-year management plan for the Recovery Site.

2 A Brief View of the Recovery Plan

2.1 Third Progress Report

Table 2.1 below shows the summary of interim actions carried out to between the period of January to October 2022.

Table 2.1: Summary Interim Actions Implemented in 2022

	Table 2.1: Summary Interim Actions implemented in 2022			
No.	Interim Actions Carried Out	Description		
1.	HCS Recovery Site	ANJ received two letters from the local government showing support to		
	supporting	the PMP Recovery Plan:		
	document from local	Bupati Sorong Selatan on 21 st September 2021, and		
	government agency	Bupati Maybrat on 26 th September 2022.		
2.	Continuous	Internal Stakeholder Engagement: Socialisation with workers and		
	Communication and	staff regarding importance of Recovery Site.		
	Stakeholder	External Stakeholder Engagement:		
	Engagement	 Outreach with Village Representative in Benawa Village. 		
		 Socialisation with PT. Wibawo Mulia Sejahtera (PT. WMS) and 		
		PT. Wira Hari Jaya (PT WHJ) Contractors.		
		 Recovery Plan outreach with Dinas Pertanian dan 		
		Perkebunan Kabupaten Maybrat, Dinas Lingkungan Hidup		
		Kabupaten Maybrat and Dinas Kehutanan Provinsi Papua		
		Barat (Cabang Dinas Kehutanan Wilayah VIII Maybrat) as		
		well as customary landowner representatives from Awe'e		
		and Kaiso tribe on 21 st September 2022.		
3.	Organisation Chart	Updated ANJ Recovery Site Management Committee (Organisation		
		chart).		
4.	Boundary	A total of 159 boundary markers have been installed along the boundary		
	demarcation	of the Recovery Site.		
5.	Upgraded Land	Two levels of land cover - vegetation analysis was conducted. The first		
	Cover and Ecosystem	involved analysing high-resolution (50 cm) drone images of the Recovery		
	Analysis	Site. The second analysis correlates the vegetation plot data to the drone		
		land cover classification. A preliminary land cover-vegetation		
		classification of the Recovery Site was developed.		
6.	Independent	Flora and fauna species inventory was constructed from the 2020 and		
	Biological Survey	2021 field biological surveys within the Recovery Site.		
	Findings			
7.	Progress of Plant	The rehabilitation nursery has successfully produced a total of 1,815		
	Nursery.	tree seedlings this year.		
		First phase of rehabilitation exercise has been completed.		
_				

No.	Interim Actions Carried Out	Description		
8.	Rehabilitation	Cleared areas within Recovery Site have successfully rehabilitated		
	Progress for Cleared	from December 2020 to present.		
	Areas	The rehabilitation area is currently undergoing natural regeneration.		
9.	Monitoring of Site	The site was regularly monitored for intrusion, disturbance and		
	Integrity	unauthorized hunting or poaching. A report of the patrolling activities is		
		presented in this section.		

2.2 Supporting document from local government agency

The Bupatis of Sorong Selatan and Maybrat have issued formal statements acknowledging and supporting the establishment of the HCS Recovery Site in PT. PMP on the 21st and 26th of September 2021 respectively. Refer to Photo 2.1 and Photo 2.2. The letters also include recommendations from the local authority to demarcate and manage the HCS Recovery area in accordance with the local regulations. It also highlights the importance of local community outreach.



Photo 2.1: Recommendation letter from Bupati Sorong Selatan



BUPATI MAYBRAT

REKOMENDASI

Nomor: 525/ 205 /BUP-MBT/DC/2022

Yang bertanda tangan dibawah ini :

Nama : Dr. BERNHARD E. RONDONUWU, S.Sos. M.SI.

Jabatan : Pj. BUPATI MAYBRAT

Alamat : JLN. KUMURKEK - AYAWASI NO. 1

Dengan ini memberikan Rekomendasi kepada :

Name Badan Usaha : PT. PUTERA MANUNGGAL PERKASA.

Alamat : Monara BTPM Lantal 40, Jalan Dr. Ide Anak Agung Kawasan

Mega Kuningan Jakarta 12950.

Tlp./Fax : (+6221) 29651777/ (+6221) 29651788

Penanggung Jawab : MUHAMAD FITRIYASAH

Dengan ini memberikan rekomendasi kepada PT. Putera Manunggal Perkasa untuk memakai sebagian area usahanya sebagai Area Stok Karbon Tinggi (High Carbon Stock) seluas kurang lebih 141.47 hektar yang berada pada bagian area Hak Guna Usaha dan Izin Usaha Perkebunan PT. Putera Manunggal Perkasa yang terletak di Kabupaten Maybrat sebagaimana tercantum pada peta lokasi pada lampiran sunat rekomendasi ini.

Dengan diberikannya rekomendasi ini, maka PT. Putera Hanunggai Perkasa wajib melaksanakan hal-hal sebagai berikut :

 Mengelola dan memelihara area yang telah dibenkan rekomendasi ini sebagai area stok karbon tinggi secara bertanggung jawab sesuai ketentuan peraturan perundang-undangan dan kajian lihilah yang dapat dipertanggung jawabkan;

- Memberikan sosialisasi kepada masyarakat sekitar terkait atas pemberian rekomendasi penetapan area Stok Karbon Tinggi baik secara mandiri maupun melibatkan pemerintah Kabupaten Maybrat;
- Memasang petok batas pada area perbatasan yang diberikan rekomendasi untuk mendukung keglatan operasional perkebunan kelapa sawit dengan area. Stok Karbon Tinggi.
- 4. Memakai lahan tersebut selama 5 (lima) tahun sejak tanggal ditetapkan;
- 36. Jika terjadi permasalahan maka diupayakan perdamatan melalui pengadilan 3okarta.
 Pusat.

Demikian surat rekomendasi ini kami berikan agar dapat dipergunakan sebagai mana mestinya.

> Dibuat di : Kumurkek Pada Tanggal : 26 September 2022

Dr. BERNHARD E. RONDONUWU, S.Sos, M.Si.

PI. BUPATI MAYBRAT 4

4

Photo 2.2: Recommendation letter from Bupati Maybrat

2.3 Continuous Communication and Stakeholder Engagement

A continuous consultative approach is required to develop effective conservation management. ANJ has carried out a number of engagements with internal and external stakeholders between January to September 2022. All the recommendations and feedback from the stakeholders are recorded and taken into consideration for further improvement. A summary of the engagements undertaken throughout 2022 is presented in the following sub-sections.

2.3.1 <u>Internal Stakeholder Engagement</u>

PT. PMP has continued socialisation with a total of 416 staff and workers from Division A, B, C, D, E, F, G and mill (Table 2.2). A majority of these workers are from Sumano and Benawa villages. The attendance list of the socialisation session is presented in the Appendix B (Figure 6.1 to Figure 6.10). The objective of this socialisation is to ensure that the workers understand the management of the Recovery Site. The following is a summary of matters socialized to the workers:

- The role of workers in managing the Recovery Site.
- Explanation on the company's conservation, and protection of flora and fauna policies.
- Explanation on the meaning High Carbon Stock (HCS) area, how it is managed and its benefits.
- Explanation on the importance of conserving the biodiversity within the Recovery Site.
- Explanation on the ANJ-PENDAKI (ANJ Peduli Keanekaragaman Hayati) as a method to inventorise distribution of flora and fauna found within Recovery Site.

Date

Number of Participants

18 new workers

5th January 2022

66 workers from Divisions F and G

Table 2.2: List of internal socialization with workers and staff

Date	Number of	Photos	
	Participants	FIIOLOS	
12 th January 2022	60 workers		
	from Division		
	D	The same of the sa	
		CEPHANICAL TIPE OF MANAGEMENT AND ASSESSMENT	
		When I have a	
18 th January 2022	59 workers		
	from Division	THE REAL PROPERTY OF THE PARTY	
	В		
		and an all the state of the sta	
3 rd February 2022	68 workers		
	from Division	Marie and Marie and the	
	С	Service and the service of the servi	
		ALL AND STREET	
4 th Fabruary 2022	40 workers	Are it	
4 th February 2022	from Division		
	A		
		THE PARTY OF THE P	
29 th March 2022	46 workers		
	from Division		
	Е		
5 th June 2022	24 staff and	- 11	
	workers		
		Contract of the same of the sa	

Date	Number of Participants	Photos	
10 th June 2022	23 new workers		
30 th June 2022	13 new workers		
18 th July 2022	7 security personals		
23 rd July 2022	2 new workers		
13 th August 2022	17 new workers	Photos not availabale.	
16 th August 2022	2 new workers	Photos not availabale.	
23 rd August 2022	2 new workers	Photos not availabale.	
30 th August 2022	10 new workers	Photos not availabale.	
1 st September 2022	46 mill workers		

Date	Number of Participants	Photos
5 th September 2022	6 new workers	
18 th September 2022	10 new workers	
24 th September 2022	4 new workers	
27 th September 2022	14 new workers	Photos not availabale.
29 th September 2022	12 new workers	

2.3.2 External Stakeholder Engagement

a) Outreach with Village Representatives in Benawa Village

The head of the Benawa Village has signed a commitment with PT. PMP to cooperate and participate in the management and conservation of the PMP HCS Recovery Site on 19th March 2022 (see Photo 2.3). The Benawa community's participation would include the following:

- Protection of the Recovery Site from excessive timber harvesting, farming, and land clearing.
- Prohibition of land clearing using fire.
- Prohibition of hunting protected fauna and commercial collection of protected flora species.
- Prohibition of fishing using chemicals or electrofishing.
- Active participation in rehabilitation and reforestation activities within the PMP HCS Recovery Site.

The commitment document is presented in Figure 2.1.





Photo 2.3: Socialisation on the Recovery Site with locals from Benawa Village



Figure 2.1: Commitment Agreement with Benawa Village

b) Socialisation with PT. WHS and PT. WHJ Contractors

ANJ has also conducted a socialization session with their contractors, PT. WMS and PT WHJ, regarding the importance of the PMP HCS Recovery Site on 11th June 2022 (Photo 2.4). ANJ also explained the HCS Recovery Site requirements, onsite protection of flora and fauna, ANJ's PENDAKI Programme, and the ANJ Conservation Policy.

Additionally, PT. WMS has also signed a commitment with ANJ to jointly protect and conserve the Recovery Site (refer Figure 2.2). A few important points highlighted in the agreement are as follows:

- The integrity of the Recovery Site identified and demarcated by the company should be maintained.
- The prohibition of forest clearing, illegal hunting and trading of protected animals, illegal collection of protected plants, and fishing using poison and electrofishing methods.
- Maintain good cooperation with PT. PMP's management.
- The company has the authority to reprimand, seize, and apply sanctions in line with company policies if any action is discovered that is not in compliance with the aforementioned matters.

The attendance list of the socialization is included in Appendix B Figure 6.11.



Photo 2.4: Socialisation on the Recovery Site with the contractors

KOMITMEN PENGUATAN FUNGSI KONSERVASI (HCV & HCS) DI AREAL PT PUTERA MANUNGGAL PERKASA & PT PERMATA PUTERA MANDIRI

Komitmen Tentang Penguatan Fungsi Konservasi Keanekaragaman Hayati Pada Areal Kerja PT Putera Manunggal Perkasa dan PT Permata Putera Mandiri Provinsi Papua dibuat pada hari ini [Sabtu], tanggal [11] bulan [Juni], tahun Dua Ribu Dua Puluh Dua, oleh kami yang bertanda tangan di bawah ini:

Nama : MOH) 1001/V
Nama Perusahaan : PT : WIMS
Jabatan : SITE MANAGER

Dalam hal ini bertindak dalam jabatannya tersebut di atas untuk dan atas nama PT Wibowo Mulia Sejahtera

Berkomitmen untuk menaati dan mengimplementasikan nilai-nilai Konservasi sebagai berikut:

- 1. Bersama-sama menjaga keutuhan areal HCV & HCS dengan tidak melakukan aktivitas perusakan di dalamnya.
- 2. Tidak melakukan aktivitas penebangan, memiliki, mengambil, merusak, memusnahkan, memelihara, mengangkut/membawa keluar HGU, memperjual belikan tumbuh-tumbuhan yang dilindungi atau bagian-bagiannya dalam keadaan hidup atau mati.
- 3. Tidak melakukan aktivitas manangkap, melukai, membunuh, menyimpan, memiliki, memelihara, mengangkut/membawa keluar HGU perusahaan dan memperjual belikan hewan-hewan yang dilindungi atau bagian-bagiannya dalam keadaan hidup atau mati.
- Bekerjasama dengan baik dengan pihak perusahaan/Departemen Konservasi.
- 5. Jika ditemukan adanya kegiatan yang tidak sesuai dengan perihal di atas pihak perusahaan berhak untuk menegur, menyita dan memberikan sanksi sesuai dengan aturan perusahaan

Demikian pernyataan komitmen ini dibuat dengan sebenar-benarnya tanpa adanya paksaan dari pihak manapun.

Hexagon PT PMP, 11 Juni 2022

Manager Site PT Wibowo Mulia Sejahtera

Figure 2.2: Commitment agreement with PT. WMS

c) <u>Outreach Session with local government agencies and customary landowners from Awe'e and</u> Kaiso tribes

The outreach session was conducted on 21st September 2022 with *Dinas Pertanian dan Perkebunan Kabupaten Maybrat, Dinas Lingkungan Hidup Kabupaten Maybrat* and *Dinas Kehutanan Provinsi Papua Barat (Cabang Dinas Kehutanan Wilayah VIII Maybrat)* as well as customary landowner representatives from the Awe'e and Kaiso tribes (Photo 2.5). The attendance list is included in Appendix B, Figure 6.12. The key points discussed during the session are summarised below:

- Overview and background of the Recovery Site,
- Activities carried out in the Recovery Site such as,
 - Installation of information signboards and boundary markers along the Recovery Site boundaries,
 - Display of posters on protected species,
 - o Flora and fauna species inventory and regular monitoring,
 - Instilling awareness among all the workers and contractors regarding the conservation and rehabilitation of the Recovery Site,
- Initiatives undertaken through ANJ's PENDAKI Programme, and
- Explanation of the ANJ Conservation Policy.





Photo 2.5: Socialisation with local government agencies and customary landowners

2.4 A restructuring of the Recovery Plan management committee

ANJ has restructured its HCS Recovery Site management committee. The updated organization chart is presented in Chart 2.1 below.

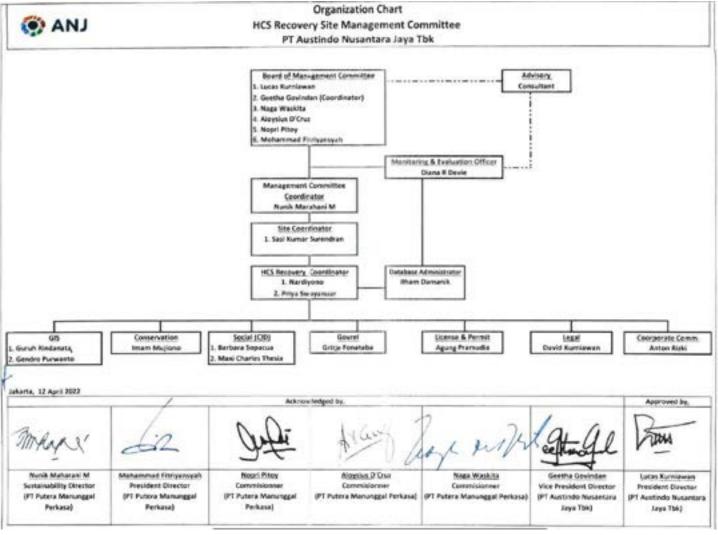


Chart 2.1: Updated ANJ HCS Recovery Site Management Committee

2.5 Boundary Demarcation

A total of 159 boundary markers have been installed along the northern boundary of the Recovery Site (see Photo 2.6). The remaining 128 boundary markers are yet to be installed due to inaccessibility via the road network. Additional informative signboards have not been installed in 2022 because there is a shortage of signboard materials in West Papua.







Photo 2.6: Boundary markers are placed in the northern boundary of the Recovery Site

Table 2.3 shows the list of GPS coordinates where the boundary markers have been installed, and Map 2.1 shows the location of the boundary markers that have been placed.

Table 2.3: Recovery Site Boundary Demarcation Coordinates

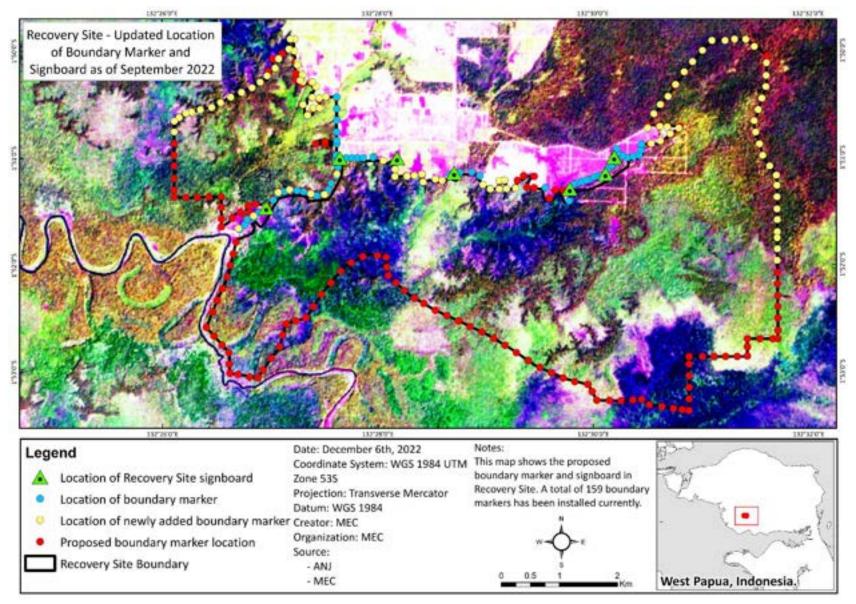
No	GPS Coord	Newly Added	
No	Х	Υ	Boundary Markers
1.	132° 26' 43.500" E	1° 51' 39.900" S	
2.	132° 26' 46.400" E	1° 51' 37.300" S	
3.	132° 26' 47.700" E	1° 51' 34.300" S	
4.	132° 26' 51.500" E	1° 51' 33.200" S	
5.	132° 26' 54.200" E	1° 51' 30.600" S	
6.	132° 26' 58.300" E	1° 51' 27.800" S	
7.	132° 27' 2.200" E	1° 51' 23.500" S	
8.	132° 27' 4.600" E	1° 51' 20.000" S	
9.	132° 27' 8.500" E	1° 51' 18.800" S	
10.	132° 27' 39.300" E	1° 51' 0.000" S	
11.	132° 27' 42.800" E	1° 50' 59.900" S	
12.	132° 27' 46.100" E	1° 50' 59.900" S	
13.	132° 27' 49.200" E	1° 51' 0.000" S	
14.	132° 27' 52.400" E	1° 51' 0.000" S	
15.	132° 27' 57.800" E	1° 50' 59.600" S	
16.	132° 27' 38.500" E	1° 51' 3.000" S	
17.	132° 27' 38.300" E	1° 51' 5.100" S	
18.	132° 27' 37.300" E	1° 51' 10.200" S	
19.	132° 27' 34.500" E	1° 51' 14.100" S	
20.	132° 27' 32.900" E	1° 51' 17.700" S	
21.	132° 27' 30.200" E	1° 51' 20.500" S	

	GPS Coord	Newly Added	
No	X	Υ	Boundary Markers
22.	132° 27' 26.400" E	1° 51' 21.100" S	
23.	132° 27' 22.500" E	1° 51' 19.700" S	
24.	132° 27' 19.000" E	1° 51' 18.800" S	
25.	132° 27' 15.500" E	1° 51' 18.200" S	
26.	132° 27' 11.900" E	1° 51' 17.600" S	
27.	132° 28' 40.800" E	1° 51' 9.400" S	
28.	132° 28' 43.000" E	1° 51' 8.300" S	
29.	132° 28' 46.100" E	1° 51' 8.100" S	
30.	132° 28' 52.800" E	1° 51' 8.000" S	
31.	132° 28' 57.300" E	1° 51' 10.000" S	
32.	132° 29' 33.800" E	1° 51' 16.800" S	
33.	132° 29' 47.000" E	1° 51' 24.200" S	
34.	132° 29' 47.400" E	1° 51' 17.400" S	
35.	132° 29' 51.900" E	1° 51' 14.100" S	
36.	132° 29' 54.400" E	1° 51' 13.400" S	
37.	132° 29' 58.300" E	1° 51' 12.200" S	
38.	132° 30' 1.200" E	1° 51' 10.700" S	
39.	132° 30' 3.600" E	1° 51' 10.200" S	
40.	132° 30' 5.400" E	1° 51' 9.800" S	
41.	132° 30' 7.300" E	1° 51' 9.100" S	
42.	132° 30' 8.300" E	1° 51' 6.500" S	
43.	132° 30' 10.900" E	1° 51' 4.400" S	
44.	132° 30' 13.700" E	1° 51' 2.600" S	
45.	132° 30' 12.200" E	1° 50' 59.700" S	
46.	132° 30' 19.500" E	1° 51' 0.000" S	
47.	132° 30' 23.000" E	1° 50' 59.400" S	
48.	132° 30' 26.100" E	1° 50' 58.700" S	
49.	132° 30' 26.900" E	1° 50' 55.700" S	
50.	132° 30' 27.400" E	1° 50' 52.400" S	
51.	132° 30' 16.800" E	1° 50' 59.000" S	
52.	132° 30' 14.000" E	1° 50' 57.300" S	
53.	132° 30' 13.400" E	1° 50' 55.000" S	
54.	132° 29' 49.500" E	1° 51' 14.900" S	
55.	132° 29' 56.700" E	1° 51' 12.700" S	
56.	132° 27' 37.582" E	1° 50' 51.862" S	
57.	132° 27' 37.584" E	1° 50' 50.250" S	
58.	132° 27' 37.591" E	1° 50' 45.354" S	
59.	132° 27' 37.600" E	1° 50' 38.847" S	
60.	132° 27' 37.610" E	1° 50' 32.339" S	
61.	132° 27' 37.619" E	1° 50' 25.832" S	
62.	132° 27' 36.952" E	1° 51' 2.215" S	

	GPS Coordinates		Newly Added
No	Х	Υ	Boundary Markers
63.	132° 27' 37.287" E	1° 50' 58.369" S	
64.	132° 27' 26.122" E	1° 50' 19.957" S	Newly Added
65.	132° 27' 23.972" E	1° 50' 25.994" S	Newly Added
66.	132° 27' 18.788" E	1° 50' 29.987" S	Newly Added
67.	132° 27' 21.359" E	1° 50' 35.992" S	Newly Added
68.	132° 27' 24.667" E	1° 50' 31.952" S	Newly Added
69.	132° 27' 28.033" E	1° 50' 31.902" S	Newly Added
70.	132° 27' 27.914" E	1° 50' 26.498" S	Newly Added
71.	132° 27' 31.630" E	1° 50' 25.645" S	Newly Added
72.	132° 27' 24.026" E	1° 50' 17.426" S	Newly Added
73.	132° 27' 18.796" E	1° 50' 17.232" S	Newly Added
74.	132° 27' 18.544" E	1° 50' 13.297" S	Newly Added
75.	132° 27' 15.959" E	1° 50' 6.338" S	Newly Added
76.	132° 27' 13.993" E	1° 49' 59.916" S	Newly Added
77.	132° 27' 14.218" E	1° 49' 53.260" S	Newly Added
78.	132° 27' 11.796" E	1° 49' 53.257" S	Newly Added
79.	132° 27' 11.013" E	1° 49' 58.875" S	Newly Added
80.	132° 27' 5.313" E	1° 50' 4.321" S	Newly Added
81.	132° 27' 3.335" E	1° 50' 9.514" S	Newly Added
82.	132° 26' 58.832" E	1° 50' 13.831" S	Newly Added
83.	132° 26' 54.969" E	1° 50' 17.379" S	Newly Added
84.	132° 26' 50.507" E	1° 50' 20.494" S	Newly Added
85.	132° 26' 44.576" E	1° 50' 23.100" S	Newly Added
86.	132° 26' 38.552" E	1° 50' 25.747" S	Newly Added
87.	132° 26' 32.941" E	1° 50' 28.851" S	Newly Added
88.	132° 26' 27.989" E	1° 50' 31.583" S	Newly Added
89.	132° 26' 21.689" E	1° 50' 32.792" S	Newly Added
90.	132° 26' 16.766" E	1° 50' 34.034" S	Newly Added
91.	132° 26' 42.835" E	1° 51' 39.369" S	Newly Added
92.	132° 26' 51.187" E	1° 51' 32.408" S	Newly Added
93.	132° 26' 57.932" E	1° 51' 27.296" S	Newly Added
94.	132° 27' 5.024" E	1° 51' 19.192" S	Newly Added
95.	132° 27' 11.208" E	1° 51' 17.695" S	Newly Added
96.	132° 27' 23.127" E	1° 51' 19.993" S	Newly Added
97.	132° 27' 30.761" E	1° 51' 20.459" S	Newly Added
98.	132° 27' 37.657" E	1° 51' 8.933" S	Newly Added
99.	132° 27' 15.782" E	1° 50' 7.842" S	Newly Added
100.	132° 27' 17.288" E	1° 50' 16.453" S	Newly Added
101.	132° 26' 13.6" E	1° 50' 34.8" S	Newly Added
102.	132° 26' 09.9" E	1° 50' 37.2" S	Newly Added
103.	132° 26' 07.1" E	1° 50' 39.2" S	Newly Added

	GPS Coordinates		Newly Added	
No	X	Υ	Boundary Markers	
104.	132° 26' 07.1" E	1° 50' 45.2" S	Newly Added	
105.	132° 28' 03.5" E	1° 51' 01.5" S	Newly Added	
106.	132° 28' 10.0" E	1° 51' 01.4" S	Newly Added	
107.	132° 28' 10.0" E	1° 51' 06.3" S	Newly Added	
108.	132° 28' 10.0" E	1° 51' 10.4" S	Newly Added	
109.	132° 28' 16.7" E	1° 51' 10.2" S	Newly Added	
110.	132° 28' 20.8" E	1° 51' 09.8" S	Newly Added	
111.	132° 28' 24.9" E	1° 51' 09.1" S	Newly Added	
112.	132° 28' 25.7" E	1° 51' 13.5" S	Newly Added	
113.	132° 28' 32.5" E	1° 51' 11.9" S	Newly Added	
114.	132° 28' 36.3" E	1° 51' 12.6" S	Newly Added	
115.	132° 28' 59.0" E	1° 51' 15.0" S	Newly Added	
116.	132° 29' 03.1" E	1° 51' 17.5" S	Newly Added	
117.	132° 29' 08.1" E	1° 51' 17.5" S	Newly Added	
118.	132° 29' 08.2" E	1° 51' 12.8" S	Newly Added	
119.	132° 29' 11.0" E	1° 51' 12.6" S	Newly Added	
120.	132° 29' 12.2" E	1° 51' 17.3" S	Newly Added	
121.	132° 29' 17.2" E	1° 51' 17.0" S	Newly Added	
122.	132° 30' 32.8" E	1° 50' 52.0" S	Newly Added	
123.	132° 30' 37.9" E	1° 50' 50.7" S	Newly Added	
124.	132° 30' 43.4" E	1° 50' 46.6" S	Newly Added	
125.	132° 30' 48.1" E	1° 50' 43.4" S	Newly Added	
126.	132° 30' 41.7" E	1° 50' 42.7" S	Newly Added	
127.	132° 30' 37.6" E	1° 50' 42.4" S	Newly Added	
128.	132° 30' 30.9" E	1° 50' 43.3" S	Newly Added	
129.	132° 30' 34.3" E	1° 50' 35.4" S	Newly Added	
130.	132° 30' 37.9" E	1° 50' 30.2" S	Newly Added	
131.	132° 30' 42.2" E	1° 50' 25.7" S	Newly Added	
132.	132° 30' 46.4" E	1° 50' 19.0" S	Newly Added	
133.	132° 30' 51.2" E	1° 50' 11.9" S	Newly Added	
134.	132° 30' 55.9" E	1° 50' 06.2" S	Newly Added	
135.	132° 31' 01.4" E	1° 49' 59.9" S	Newly Added	
136.	132° 31' 06.7" E	1° 49' 54.3" S	Newly Added	
137.	132° 31' 14.0" E	1° 49' 54.4" S	Newly Added	
138.	132° 31' 19.3" E	1° 49' 53.6" S	Newly Added	
139.	132° 31' 25.5" E	1° 49' 53.7" S	Newly Added	
140.	132° 31' 30.3" E	1° 49' 57.7" S	Newly Added	
141.	132° 31' 37.1" E	1° 50' 06.9" S	Newly Added	
142.	132° 31' 36.9" E	1° 50' 14.0" S	Newly Added	
143.	132° 31' 36.7" E	1° 50' 20.2" S	Newly Added	
144.	132° 31' 34.5" E	1° 50' 26.7" S	Newly Added	

No	GPS Coordinates		Newly Added
	Х	Υ	Boundary Markers
145.	132° 31' 32.4" E	1° 50' 33.1" S	Newly Added
146.	132° 31' 30.2" E	1° 50' 39.3" S	Newly Added
147.	132° 31' 31.0" E	1° 50' 45.7" S	Newly Added
148.	132° 31' 33.1" E	1° 50' 52.3" S	Newly Added
149.	132° 31' 34.9" E	1° 50' 58.8" S	Newly Added
150.	132° 31' 38.8" E	1° 51' 04.7" S	Newly Added
151.	132° 31' 42.5" E	1° 51' 09.9" S	Newly Added
152.	132° 31' 42.8" E	1° 51' 15.6" S	Newly Added
153.	132° 31' 42.8" E	1° 51' 22.0" S	Newly Added
154.	132° 31' 42.8" E	1° 51' 28.8" S	Newly Added
155.	132° 31' 43.0" E	1° 51' 34.8" S	Newly Added
156.	132° 31' 43.0" E	1° 51' 41.6" S	Newly Added
157.	132° 31' 42.9" E	1° 51' 45.0" S	Newly Added
158.	132° 31' 43.0" E	1° 51' 51.2" S	Newly Added
159.	132° 31' 42.8" E	1° 51' 57.6" S	Newly Added



Map 2.1: Location of proposed and installed boundary markers (patok) and signboards in the Recovery Site (1st, 2nd and 3rd Progress)

2.6 Updated Land Cover Analysis

To determine the landcover and identify the different habitats in the Recovery Site, 2 forms of analyses were employed. The first involved the use of drone images with a resolution of 50 cm, taken of the Recovery Site in October 2021. From this analysis, 13 different landcover classes were used to describe the various areas observed in the Recovery Site (see Table 2.4).

Table 2.4: Landcover classes of the Recovery Site

No.	Landcover Classes (1st analysis)	Area (ha)
1.	Lowland Dry Forests interspersed with Swamps	1,453.05
2.	Oil Palms Planted by the Company	1.70
3.	Drains with Overgrown Shrubs	1.40
4.	Roads Overgrown with Shrubs	14.60
5.	Settlements	0.08
6.	Swamp Forest Variant 1 - Small Canopy	184.56
7.	Swamp Forest Variant 2 - Tree Clusters	442.69
8.	Swamp Forest Variant 3 - Monospecific Pioneer	21.64
9.	Swamp Forest Variant 4 - Dominated by Sago	613.38
10.	Swamp Forest Variant 5 - Sago Dispersed with	287.00
	Low-stature vegetation	
11.	Swamp Forest Variant 6 - Inundated with	153.20
	Vegetation Clusters	
12.	Swamp Area - Low Stature Vegetation	9.69
13.	Transition Forest – Swamp to dryland forest	372.67
	3,518.38	

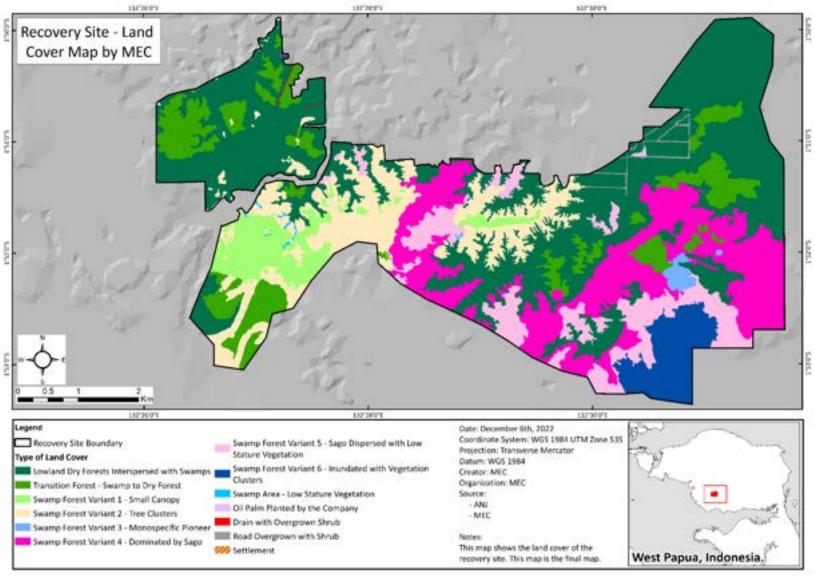
The second analysis was conducted during the 2 biological assessments, in 2020 and 2021, resulting in 5 different types of habitat classification based on species occurrence and the vegetation profile. These were made based on field observations (see Table 2.5).

Table 2.5: Habitat classification of the Recovery Site based on species occurrence and the vegetation profile

No.	Habitats (2nd analysis)
1	Lowland Dry Forests interspersed with Swamps
2	Freshwater Swamp with Small-Crowned Secondary Vegetation
3	Hanguana Swamp with secondary vegetation
4	Freshwater Sago Swamp Mixed with Secondary Vegetation
5	Transition Forest: Lowland Dry Forest mixed with Freshwater Swamp

2.7 Land Cover Classes (Drone Image Analysis)

For this method of analysis, the 50cm resolution drone images that were taken during October 2021 were provided by ANJ. 13 different landcovers were identified from the drone images, but only 9 of these areas have been given descriptions (refer Map 2.2). Roads, settlements, drains and oil palm areas were excluded from these descriptions. Instead, the forested areas and swamps found within the Recovery Site have been given a preliminary description based on the crown covers and the general conditions of these areas. Even from the 9 forest and swamp classes, only 5 of these have been surveyed during the biological assessments. The other 4 classes have been given a general description based on what these areas are theorized to be like. These descriptions are as presented in the following section.



Map 2.2: Landcover classification of the Recovery Site

a) Lowland Dry Forests interspersed with Swamps (Field-visited)

Making up a major part of the Recovery Site, these forests display a higher floral diversity in comparison with the much wetter and waterlogged areas presented below. Field data shows that a greater part of the forest is dominated by trees within the family, Dipterocarpaceae. Within the family, the common species found throughout the plots were Vatica rassak, Hopea papuana, Hopea similis and Hopea inexpectata. Other relatively dominant families, such as Anacardiaceae, Elaeocarpaceae, Calophyllaceae, Apocynaceae, Fagaceae, Melastomataceae and Arecaceae are very much prevalent throughout most of these forested areas. There are occurrences of scattered patches of vegetation throughout the forest being dominated by the species of one of these families rather than a member of Dipterocarpaceae. A few examples of species that could possibly dominate the area are Pternandra (Melastomataceae), Alstonia spatulata (Apocynaceae) and Calophyllum robustum (Calophyllaceae). Another aspect of these areas is that there are multiple patches of members of the palm family (Arecaceae) of which the species Metroxylon sagu is the most dominant but, there have also been recordings of other members of the family, belonging to the genera Caryota, Livistona, Pinanga and Calamus. Aside from the larger and higher stature vegetation, the forest floor contains species belonging to a large number of families such as Pandanaceae, Araceae, Orchidaceae, Rubiaceae, Aspleniaceae and Zingiberaceae. By analyzing drone images, the sizes of the vegetation crown covers can be used to determine the vegetative dominance of an area. Larger crowns may represent species from the families Dipterocarpaceae, Anacardiaceae, Fagaceae and Lauraceae while the smaller crowns, usually interspersed between the larger crowns, possibly represent species from the families Myristicaceae, Calophyllaceae, Myrtaceae and Apocynaceae. Asterisk-shaped crowns would most definitely represent members of the family Arecaceae. Soil texture analysis shows that the drier areas of the forest display much sandier soil in comparison with the clay-like soil found throughout the wetter areas.

From field observations, these forests have the occasional swamp pockets interspersed throughout the entirety of the landscape. These areas are inhabited by similar species seen in the drier patches of the forest. One notable feature of these areas that clearly separates them from the drier patches, would be that the forest floors of the swamp pockets are dominated by *Hanguana malayana* (Hanguanaceae) due to the higher levels of inundation. From the drone images, these areas are almost impossible to distinguish from the rest of the dry lowland forest (Photo 2.7).



Photo 2.7: Drone images of lowland dry forests interspersed with swamps

b) Swamp forest Variant 1 - Small Canopy (Field-visited)

In comparison with the more densely vegetated lowland dry forests, these areas are not dominated by the members of the Dipterocarpaceae family but, are instead shown to have much higher counts of the species Alstonia spatulata (Apocynaceae). Drone images confirm that these areas contain numerous clusters of trees displaying smaller crowns and are of shorter stature when compared to the much larger trees within the dry lowland forest interspersed with swamps (Photo 2.8). This does not necessarily mean that the usual species that dominate the drier forested areas are not present within this relatively wetter area. Species such as Campnosperma brevipetiolatum (Anacardiaceae), Vatica rassak (Dipterocarpaceae) and Quercus sp. (Fagaceae) have still been observed within the area judging by the field data but are not as numerous, as seen in the dry lowland forests, as well as being mostly poles that reside within the lower canopy area. The area also contains a higher density of open patches in which lower stature vegetation would be more prevalent, examples being herbs, shrubs, ferns as well as the seedlings of larger trees. In addition to Alstonia spatulata, trees from the families Anacardiaceae, Moraceae, Crypteroniaceae and Euphorbiaceae have also been listed down as being present within this area. An interesting note regarding two of the plots that were sampled was that patches of Dactylocladus stenostachys (Crypteroniaceae) as well as Macaranga similis (Euphorbiaceae) were observed to grow in separate clusters just a few hundred meters apart, with each species displaying dominance amongst the higher stature trees within their respected areas. For the lower stature plants, Hanguana malayana and Pandanus papuanum display dominance over the forest floor with occasional plants from the families Orchidaceae, Nephrolepidaceae, Polypodiaceae, Rubiaceae, Cyperaceae and Nepenthaceae present throughout. It is suspected that the difference in biodiversity as well as the quantities of species within the area could be attributed to the intensity, periods and frequency of flooding being much higher, longer, and more often compared to the dry lowland forests.



Photo 2.8: Drone images of swamp forest variant 1 - small canopy

c) Swamp Forest Variant 2 - Tree Clusters (Field-visited)

These areas are similar to the other wet areas within the Recovery Site which are dominated by ferns, shrubs, and grasses. Some examples of lower stature vegetation families observed throughout the area would be Hanguanaceae, Pandanaceae, Araliaceae, Blechnaceae, Nepenthaceae, Nephrolepidaceae, Rubiaceae and Orchidaceae. Drone images and field data suggest that the area contains species from the Arecaceae family, with *Metroxylon sagu* being the most prominent throughout the landscape (Photo 2.9). In addition to this, poles of trees from the families Dipterocarpaceae, Apocynaceae and Anacardiaceae are also present. Throughout this area, it has been noted that there are slightly denser patches of vegetation that complement the less densely packed areas that surround them, suggesting that different periods of flooding may have greatly affected the species composition. Circular patches seem to consist of smaller sized isolated trees with the understory being dominated by similar herbs and shrubs seen throughout the area.

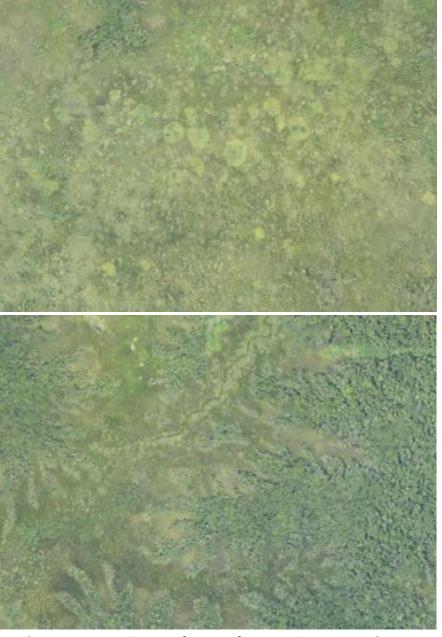


Photo 2.9: Drone images of swamp forest variant 2 - tree clusters

d) Swamp Forest Variant 3 - Monospecific Pioneer

These areas are dominated by what appears to be monospecific stands of a pioneer tree species interspersed with palms, possibly *Metroxylon sagu*, considering that the neighbouring areas are dominated by the species (Photo 2.10). An exact answer cannot be reached just by studying the drone images. A field visit would help to confirm the exact species within the area. Similar to the other areas with lower stature vegetation, it is plausible that the forest floor is dominated by a number of ferns, shrubs, and grasses, as well as *Hanguana malayana*.



Photo 2.10: Drone images of swamp forest variant 3 - monospecific pioneer

e) Swamp Forest Variant 4 - Dominated by Sago (Field-visited)

A wet area dominated by sago palms, as seen from drone images (Photo 2.11). The floral diversity is very much like what can be observed within the dry lowland forests, but at a lower density. Throughout the palm dominated landscape, there are the occasional patches of higher stature vegetative species from the families Dipterocarpaceae, Anacardiacea, Fagaceae and Moraceae, though, field data indicates that the majority of these trees are still either saplings or poles. For the palms, *Metroxylon sagu* displays dominance but, other species of palms from the genera *Caryota*, *Livistona* and *Calamus* can also be found throughout the area. Similar to some of the other swamp forest variants, field analysis has shown that the forest floor consists of species from the families Araceae, Blechnaceae, Hanguanaceae Orchidaceae, Polypodiaceae and other species of lower stature vegetation. Soil analysis shows that the ground displays a more clay-like composition.



Photo 2.11: Drone images of swamp forest variant 4 - dominated by sago

f) Swamp Forest Variant 5 - Sago Dispersed with Low-stature vegetation (Field-visited)

In comparison with Swamp Forest Variant 4, this area displays slightly higher levels of inundation as well as a reduced amount of higher stature vegetation, as seen from drone images (Photo 2.12). The crowns of palms are still identifiable from the landscape and, judging from the field data, the majority of these palms are Metroxylon sagu, which are dispersed throughout the landscape amongst other forms of vegetation. These areas are also likely dominated by lower stature vegetation such as shrubs and ferns from the families Hanguanaceae Polygalaceae, Orchidaceae, Nepenthaceae, Melastomataceae, Blechnaceae and Araceae, just to name a few. Field data has also revealed that these areas consist of saplings and poles of higher stature vegetation from the families Apocynaceae, Rubiaceae, Anacardiaceae, Calophyllaceae, Dipterocarpaceae, Elaeocarpaceae, Fagaceae, Moraceae and Polygalaceae. Vatica rassak poles from the Dipterocarpaceae family were observed to be the most numerous throughout the area, excluding the presence of the palms. The soil from this area was shown to have a clay composition.



Photo 2.12: Drone images of swamp forest variant 5 - sago dispersed with low-stature vegetation

g) Swamp Forest Variant 6 - Inundated with Vegetation Clusters

Judging by aerial images, this is possibly the wettest and most waterlogged area throughout the Recovery Site (Photo 2.13). There is no data regarding the species composition of the area but, based on observations made within other areas in the Recovery Site with similar vegetation cover, it is possible that this area is dominated by *Hanguana malayana* as well as a multitude of lower stature vegetation species that are adapted to wet conditions. The drone image does reveal the presence of higher stature vegetation, but it may be limited to species within the Anacardiaceae, Rubiaceae, Apocynaceae, Dipterocarpaceae and Arecaceae families, with the majority of these trees most probably being younger and smaller trees in comparison with their relatives in the dry lowland forest. These higher stature plants form clustered patches amongst a landscape dominated by the lower stature plants. This could possibly be attributed to the intensity and periods of flooding within the area as seen from the wettest areas which are shown to be flooded in the drone image.

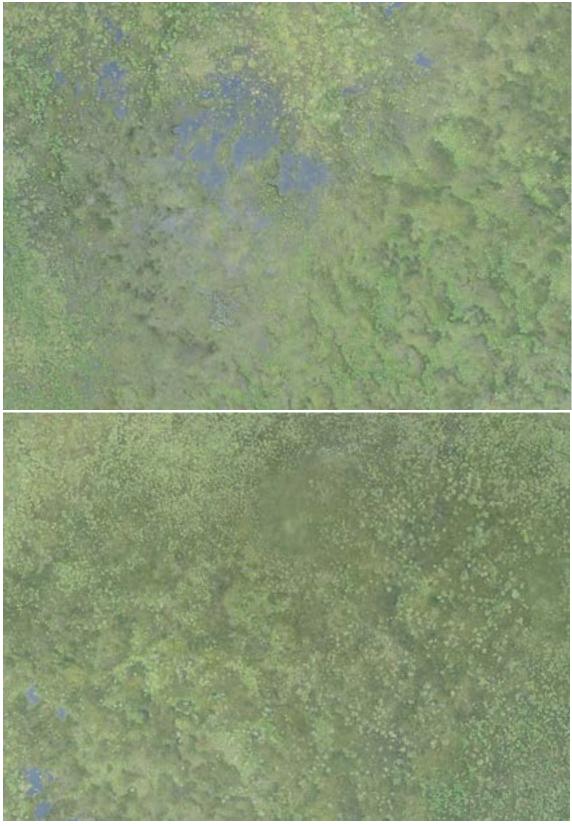


Photo 2.13: Drone images of swamp forest variant 6 - inundated with vegetation clusters

h) Swamp Area - Low Stature Vegetation

Through drone image analysis, these areas show little to no sign of high stature vegetation (Photo 2.14). Due to the lack of species data from this specific site, there is no exact answer to determine what species grow in the area but, judging by the data collected from the areas surrounding as well as areas that resemble this land cover, it is theorized that the area is very likely dominated by low stature vegetation such as herbs, grasses, and ferns. It is likely that the area contains a large concentration of *Hanguana malayana*, considering that these areas are suitable for their growth and development.



Photo 2.14: Drone images of swamp area - low stature vegetation

i) <u>Transition Forest</u>

Through drone image and field data analysis, these areas display the conditions of a swamp in the process of transitioning into a dry lowland forest (Photo 2.15). In comparison with the dry lowland forests, tree crown analysis of the transition forest displays much smaller crowns throughout the landscape. Initial observations may lead to the conclusion that this area could be placed within one of the other classifications but, the field data collected from the area suggests otherwise. Unlike some of the other classifications, excluding the dry lowland forest, this area displays a large number of flora family diversity. The area contains many species of which one would hope to find within the dry lowland forests of the Recovery Site, but at a slightly reduced density. In terms of higher stature vegetation, plants from the families Annonaceae, Moraceae, Apocynaceae, Dipterocarpaceae, Euphorbiaceae, Lamiaceae, Fagaceae, Meliaceae, Rutaceae, Myristicaceae and many others are present within the transition forest. Data analysis shows that the species Vatica rassak and Macaranga similis have displayed species dominance within their own individual patches throughout the area. Similar to some of the other classifications, this forest also contains a spread of palm trees from the genera Caryota, Korthalsia, Calamus, Licuala and Metroxylon. For lower stature vegetation, this area also displays a large variety of families such as Araceae, Hanguanaceae, Orchidaceae, Vitaceae, Blechnaceae, Polygalaceae, Zingiberaceae, Melastomataceae, Pandanaceae and many others. As the area is in the process of transitioning from a swamp to a drier state, the soil composition differs from area to area, with some places possessing sandier soils and other places containing clay-like soils.



Photo 2.15: Drone images of transition forest

It was observed that the 13 classes identified through vegetation cover analysis coupled with water inundation could not be specifically described through the analysis of plot data. What seemed to be dry lowland forest, had pockets of swamp interspersed when field inspection was undertaken. The vegetation descriptions were not restricted to just dry lowland forest vegetation, but species found within the swampy areas were also taken into consideration. The utilization of drone images to identify various ecosystems was successful at the macro scale, where it could differentiate between wet and dry forest. Saying this, in this site, areas that were classified as dry lowland forests also have a significant swamp presence, and this why we have classified these areas as lowland dry forests interspersed with swamps. This is the most significant forest type. We, for the lack of ground data, have used the crown cover to categorise 8 classes of swamp variants. These variants have yet to be ground-checked through the establishment of vegetation survey plots. This is the reason why it has been difficult to link the drone vegetation cover classes to the field sampling vegetation classes. Due to the lack of field data, a broad attempt has been made to link the various ecosystem types to the land cover types. As stated above, land cover type using the drone images, has identified 8 swamp variants, which cannot be accommodated by the field data descriptions. This being the case, Table 2.6 records a repetition of ecosystem types for the different swamp variants taken into consideration. The majority variants cannot be classified without further field survey and data analysis. It is recognised that further field investigation should be undertaken during the planned 5-year management period.

Table 2.6: Comparison of landcover type (drone image analysis) with habitat (field analysis)

Land Cover Classes (Drone Image Analysis)	Habitat (Field Analysis)
Lowland Dry Forests interspersed with Swamps	Lowland Dry Forests interspersed with Swamps
Swamp Forest Variant 2 - Tree Clusters	 Hanguana swamp with secondary vegetation Freshwater Sago Swamp Mixed with Secondary Vegetation Freshwater Swamp with Small-Crowned Secondary Vegetation
Transition Forest - Dry Forest to Swamp	 Transition Forest: Lowland Dry Forest mixed with Freshwater Swamp Freshwater Swamp with Small-Crowned Secondary Vegetation
Swamp Forest Variant 1 - Small Canopy	Freshwater Swamp with Small-Crowned Secondary Vegetation
Swamp Forest Variant 5 - Sago Dispersed with Low Stature Vegetation	 Freshwater Swamp with Small-Crowned Secondary Vegetation Freshwater Sago Swamp Mixed with Secondary Vegetation
Swamp Forest Variant 4 - Dominated by Sago	Freshwater Sago Swamp Mixed with Secondary Vegetation

2.8 Independent Biological Survey Findings

This progress report incorporates the results of the 2020 and 2021 biological field surveys undertaken in the HCS Recovery Site. The sampling plots in the Recovery Site during first and second filed survey is shown in Map 2.3. The primary objectives of these surveys were to assess the ecological conditions and to record the diversity of flora and fauna species in the Recovery Site. The count of different flora and fauna species identified gave us a first impression of the 'value' this Recovery Site may have for the conservation of biodiversity. The larger the number of species, the more valuable – biologically, it would appear to be. Based on this, the Recovery Site has significant conservation potential. Specific dates of these surveys are presented in Table 2.7.

Table 2.7: Independent field survey timeline

Date	Activity
8 th November - 2 nd December 2020	First field survey in Recovery Site by two
	teams.
27 th September - 17 th October 2021	Second survey in Recovery Site by two
	teams.

2.8.1 Species Composition in the Recovery Site

2.8.1.1 Faunal Composition of the Recovery Site

During the first biological assessment (2020), 124 wildlife species from 61 families were identified and recorded. For the second assessment (2021), 89 species from 38 families were recorded. From these 2 periods, a total of 161 species from 66 families were recorded in the Recovery Site. For the vertebrates, there were 85 species of birds, 13 species of mammals, 14 species of reptiles, 7 species of amphibians and 9 species of fish. For the invertebrates, only 16 species of butterflies and 17 species of dragonflies were identified. The total faunal species list is presented in Appendix A, Table 5.1.

The majority of the wildlife recorded throughout the Recovery Site were identified by sighting or by their calls, but 9 of these species were identified through the use of camera traps, these being 2 birds, 6 mammals and 1 reptile.

Understanding the importance of wildlife and the ecological niches which they fill in their respective habitats cannot be overstated. As a general description, the wildlife in the Recovery Site fits into a number of roles that essentially preserve certain ecological cycles, be it for the benefit of the various species or the entire area as a whole. A good example of the roles which wildlife plays in an ecosystem would be as pollinators and seed dispersers. These species that rely on the fruits and flowers of vegetation for sustenance, aid these plants by either spreading pollen or spreading seeds to other parts of their environment, ensuring the continual survival of the plant species. There are also the predators, which not only control the pest populations within an ecosystem but also prevent the overpopulation of species with high fecundity and high fertility rates, as habitats could quickly be decimated by the overabundance of plant consumers. One final example of an important role some species may play in a habitat would be as environmental indicators, in which the conditions of an area can be determined by the presence or behavior of these species.

During these assessments, a number of wildlife species identified were shown to have international and/or local protection statuses. As for these assessments, 4 types of levels of criteria were used to identify whether the species recorded in the Recovery Site would be given a "Rare, Threatened, Endangered (RTE) status.

The first of these criteria used was the IUCN red list, in which the species would either be given one of the following statuses, "Critically Endangered" (CR), "Endangered" (EN), "Vulnerable" (VU), "Near Threatened" (NT), "Least Concern" (LC) or "Data Deficient" (DD). From these statuses, only CR, EN and VU were used to classify the RTE species. For the IUCN criteria, only 3 of the species were able to be classified as RTE. There were no species which fell under the CR status but there was 1 species which has an EN status, this being the Kokoda Mogurnda, and there were 2 species that have the VU status, these being the Western Crowned Pigeon and the Javan Deer.

For the next criteria, the species were determined to have a RTE classification if they were given the "protected" in accordance with P.106/2018, an ordinance that protects certain species in Indonesia. Only 23 of the species were found to have the "protected" status, some examples being the Southern Cassowary, the Papuan Hornbill, and the Australian Ibis.

Following up to this, the CITES treaty was used to add more to the RTE species list. In the Recovery Site, species that fall under Appendix I and Appendix II were recorded. Appendix I refers to species that are threatened with extinction if their trade is not regulated while Appendix II is used for the species that are not necessarily threatened but may become extinct if continuous regulation of their trade is not practiced. For Appendix I, only 1 species from the assessments fell under this category, it being the Palm Cockatoo. For Appendix II, 16 species form the total list were recorded, some examples being the Glossy-mantled Manucode and the Sulphur-Crested Cockatoo.

The final criteria depend on the endemicity of the species, in this case to the island of Papua New Guinea. Based on the data, 59 out of the 161 (36.64%) species recorded are endemic to the island, proving the importance of the Recovery Site.

Rare, Threatened and Endangered (RTE) Fauna Species Portfolio

Of the 161 wildlife species identified in the Recovery Site, 77 species were given the RTE status. Species that have this conservation status either have an IUCN status (CR, EN, VU), a CITES Appendix (I, II, III) a protected status under P.106 /2018 or are endemic to the island of Papua New Guinea. The RTE species recorded in the Recovery Site are listed below (Table 2.8) including their respective statuses.

Table 2.8: Conservation status of fauna species found in the Recovery Site

No.	Common name	Scientific name	Class	IUCN	CITES	P.106	Endemicity
NO.	Common name	Scientific name	Class	Status	CITES	/2018	Lindelinicity
1	Kakada magurada	Magurada linaata	Fish	EN			Endemic
1. 2.	Kokoda mogurnda Western Crowned-	Mogurnda lineata		VU	-	- Dueste et e d	
2.	Pigeon	Goura cristata	Bird	VU	II	Protected	Endemic
3.	Javan Deer	Rusa timorensis	Mammal	VU	-	Protected	Not
							endemic
4.	Variable Goshawk	Accipiter hiogaster	Bird	LC	II	Protected	Not endemic
5.	White-bellied Sea-	Haliaeetus leucogaster	Bird	LC	II	Protected	Not
J.	Eagle	Tranaeetas leacogaster	Bird	LC	"	riotecteu	endemic
6.	Brahminy kite	Haliastur indus	Bird	LC	П	Protected	Not
							endemic
7.	Long-tailed Honey- buzzard	Henicopernis longicauda	Bird	LC	II	Protected	Endemic
8.	Rufous-bellied	Dacelo gaudichaud	Bird	LC	-	-	Endemic
	Kookaburra						
9.	Papuan Spinetail	Mearnsia novaeguineae	Bird	LC	-	-	Endemic
10.	Eastern Great Egret	Ardea alba modesta	Bird	LC	-	Protected	Not
							endemic
11.	Great-billed Heron	Ardea sumatrana	Bird	LC	_	Protected	Not
							endemic
12.	Black Bittern	Ixobrychus flavicollis	Bird	LC	-	Protected	Not
							endemic
13.	Hooded Butcherbird	Cracticus cassicus	Bird	LC	-	-	Endemic
14.	Lowland Peltops	Peltops blainvillii	Bird	LC	-	-	Endemic
15.	Papuan Hornbill	Rhyticeros plicatus	Bird	LC	П	Protected	Not
							endemic
16.	Sulphur-Crested	Cacatua galerita	Bird	LC	П	Protected	Not
	Cockatoo						endemic
17.	Palm Cockatoo	Probosciger aterrimus	Bird	LC	1	Protected	Not
							endemic
18.	Golden Cuckooshrike	Campochaera sloetii	Bird	LC	-	-	Endemic
19.	Boyer's Cuckooshrike	Coracina boyeri	Bird	LC	-	-	Endemic
20.	New Guinea	Edolisoma melas	Bird	LC	-	-	Endemic
	Cicadabird						
21.	Grey-headed	Edolisoma schisticeps	Bird	LC	-	-	Endemic
	Cicadabird						
22.	Southern Cassowary	Casuarius casuarius	Bird	LC	-	Protected	Not
							endemic
23.	Pinon's Imperial-	Ducula pinon	Bird	LC	-	-	Endemic
	pigeon						
24.	Zoe's Imperial-pigeon	Ducula zoeae	Bird	LC	-	-	Endemic

No.	Common name	Scientific name	Class	IUCN	CITES	P.106	Endemicity
				Status		/2018	
25.	Cinnamon Ground- dove	Gallicolumba rufigula	Bird	LC	-	-	Endemic
26.	Orange-fronted Fruit Dove	Ptilinopus aurantiifrons	Bird	LC	-	-	Endemic
27.	Coroneted Fruit-Dove	Ptilinopus coronulatus	Bird	LC	-	-	Endemic
28.	Orange-Bellied Fruit Dove	Ptilinopus iozonus	Bird	LC	-	-	Endemic
29.	Dwarf Fruit Dove	Ptilinopus nainus	Bird	LC	-	-	Endemic
30.	Ornate Fruit Dove	Ptilinopus ornatus	Bird	LC	-	-	Endemic
31.	Pink-spotted Fruit Dove	Ptilinopus perlatus	Bird	LC	-	-	Endemic
32.	Ivory-billed Coucal	Centropus menbeki	Bird	LC	-	-	Endemic
33.	Olive-crowned Flowerpecker	Dicaeum pectorale	Bird	LC	-	-	Endemic
34.	Streak Headed Manikin	Lonchura tristissima	Bird	LC	-	-	Endemic
35.	White-winged Tern	Chlidonias leucopterus	Bird	LC	-	Protected	Not endemic
36.	Orange-footed Scrubfowl	Megapodius reinwardt	Bird	LC	-	Protected	Not endemic
37.	Red-billed Brush- turkey	Talegalla cuvieri	Bird	LC	-	Protected	Endemic
38.	Puff-backed Honeyeater	Meliphaga aruensis	Bird	LC	-	-	Endemic
39.	Yellow-gaped Honeyeater	Microptilotis flavirictus	Bird	LC	-	-	Endemic
40.	Streak-Headed Honeyeater	Pycnopygius stictocephalus	Bird	LC	-	-	Endemic
41.	Frilled Monarch	Arses telescopthalmus	Bird	LC	-	-	Endemic
42.	Hooded Monarch	Symposiachrus manadensis	Bird	LC	-	-	Endemic
43.	Brown Oriole	Oriolus szalayi	Bird	LC	-	-	Endemic
44.	Glossy-mantled Manucode	Manucodia ater	Bird	LC	II	Protected	Endemic
45.	Black Lory	Chalcopsitta atra	Bird	LC	II	Protected	Endemic
46.	Papuan Eclectus	Eclectus polychloros	Bird	LC	IJ	Protected	-
47.	Red-cheeked Parrot	Geoffroyus geoffroyi	Bird	LC	П	Protected	-
48.	Black-capped Lory	Lorius lory	Bird	LC	II	Protected	Endemic
49.	Coconut Lorikeet	Trichoglossus haematodus	Bird	LC	II	Protected	-
50.	White-bellied Thicket- Fantail	Rhipidura leucothorax	Bird	LC	-	-	Endemic
51.	Black Thicket-fantail	Rhipidura maculipectus	Bird	LC	-	-	Endemic
52.	Golden Myna	Mino anais	Bird	LC	-	-	Endemic

No.	Common name	Scientific name	Class	IUCN	CITES	P.106	Endemicity
				Status		/2018	
53.	Yellow-faced Myna	Mino dumontii	Bird	LC	-	-	Endemic
54.	Australian Ibis	Threskiornis moluccus	Bird	LC	-	Protected	-
55.	Three Striped Dasyure	Myoictis melas	Mammal	LC	-	-	Endemic
56.	Brown Dorcopsis	Dorcopsis muelleri	Mammal	LC	-	-	Endemic
57.	Common Echymipera	Echymipera kalubu	Mammal	LC	-	-	Endemic
58.	Great Flying fox	Pteropus neohibernicus	Mammal	LC	П	-	Endemic
59.	New Guinea Snake- Lizard	Lialis jicari	Reptile	LC	-	-	Endemic
60.	Brown four-fingered skink	Carlia fusca	Reptile	LC	-	-	Endemic
61.	De Vis' Emo Skink	Emoia pallidiceps	Reptile	LC	-	-	Endemic
62.	Slender Skink	Emoia physicae	Reptile	LC	-	-	Endemic
63.	New Guinea Four- fingered Skink	Lygisaurus novaeguineae	Reptile	LC	-	-	Endemic
64.	Papuan Forest Skink	Sphenomorphus jobiensis	Reptile	LC	-	-	Endemic
65.	Common Forest Skink	Sphenomorphus simus	Reptile	LC	-	-	Endemic
66.	Blue-tailed Monitor	Varanus doreanus	Reptile	LC	II	-	-
67.	Peach-throated Monitor	Varanus jobiensis	Reptile	LC	II	-	Endemic
68.	Batanta wrinkled ground frog	Cornufer batantae	Amphibian	LC	-	-	Endemic
69.	Dotted wrinkled ground frog	Cornufer punctatus	Amphibian	LC	-	-	Endemic
70.	Dragonfly (no name)	Papuagrion occipitale	Insect	LC	-	-	Endemic
71.	Multi-coloured Treefrog	Litoria multicolor	Amphibian	DD	-	-	Endemic
72.	Black stripe	Papuagrion auriculatum	Insect	DD	-	-	Endemic
73.	Damselfly (no name)	Teinobasis luciae	Insect	DD	-	-	Endemic
74.	Butterfly (no name)	Arhopala adherbal	Insect	-	-	-	Endemic
75.	Butterfly (no name)	Arhopala thamyras	Insect	-	-	-	Endemic
76.	Amathusiid Butterfly	Taenaris catops	Insect	-	-	-	Endemic
77.	Butterfly (no name)	Praetaxila statira	Insect	-	-	-	Endemic

RTE Species Inventory

The species distribution, diet, habitat, migration patterns and threats of the RTE species have been listed below:



Source: MEC

Source: MEC			
Common name		Kokoda mogurnda	
Scientific name		Mogurnda lineata	
IUCN status		Endangered (EN) (B1ab(iii))	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Papua New Guinea [Found only in the Kali, Ejava and Oivi creeks in the foothills on the northeastern side of the Owen Stanley Range] (Extant, resident)	IUCN: https://www.iucnredlist.org/	
Diet		Benthic invertebrates, crustaceans, small fishes, and insects	
Habitat		Wetlands (inland), small and clear rainfores streams	
Migration Patterns		Non migratory	
Threats		 Declining water quality caused by oil palm plantations and alluvial gold mining sites. Clearing for subsistence farming and development. 	



Source: MEC

	Sourc	Je. IVIEC		
Common name		Western Crowned-Pigeon		
Scientific name		Goura cristata		
IUCN status		Vulnerable (VU) (A2cd+3cd+4cd)		
CITES		Appendix II		
P.106 /2018		Protected		
Endemicity		Endemic		
Distribution	Indonesia [Papua (Extant, resident)], [Maluku (Extant and introduced, resident)]	IUCN: https://www.iucnredlist.org/		
Diet		Fruits, seeds, and small invertebrates		
Habitat		Marshy and partly flooded forest, like alluvial		
		forests. Can also be found in hill forests, dens		
		secondary growth, and mangroves		
Migration Patte	rns	Non-migratory		
Threats		 Poaching Illegal wildlife trade. Loss of habitat from extensive logging, deforestation, mining, and urban development. 		

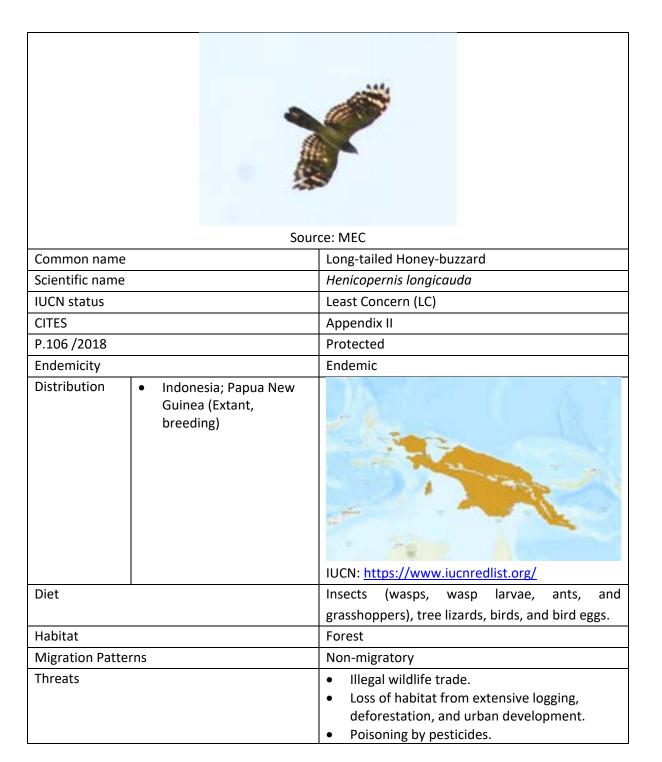




Source: MEC

	30d1	ce. IVILC
Common name	9	White-bellied Sea-Eagle
Scientific name		Haliaeetus leucogaster
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	 Australia; Bangladesh; Brunei Darussalam; Cambodia; China; Hong Kong; India (Andaman Is.); Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Papua New Guinea; Philippines; Singapore; Sri Lanka; Thailand; Timor- Leste; Viet Nam (Extant, resident) Taiwan, Province of China (Extant and vagrant, resident) 	IUCN: https://www.iucnredlist.org/
Diet		Fishes, reptiles, birds, mammals, and carrion.
Habitat		Wetlands (inland), Marine Neritic, Marine Intertidal, Marine Coastal/Supratidal
Migration Patt	erns	Non-migratory
Threats		 Illegal wildlife trade. Loss of habitat from extensive logging, deforestation, and urban development. Poisoning by pesticides.

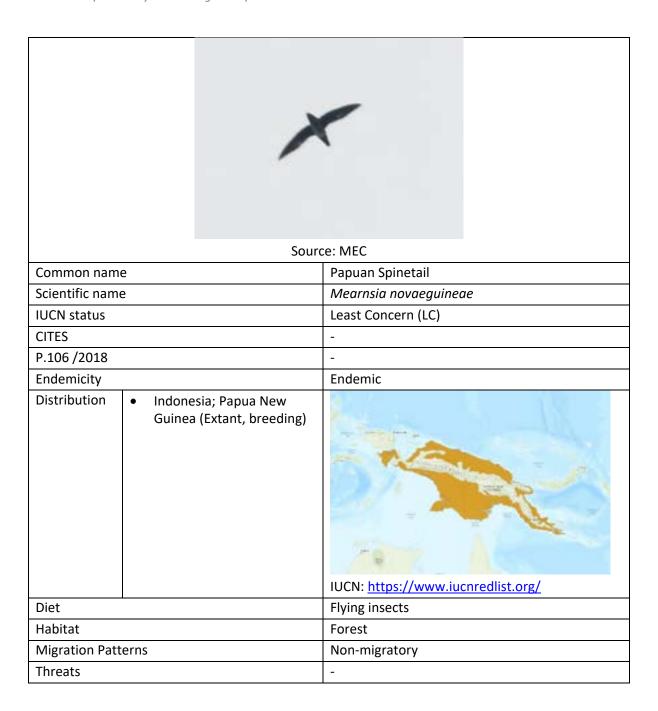






Source: MEC

Source: MLC		
Common name		Rufous-bellied Kookaburra
Scientific name		Dacelo gaudichaud
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	
Diet		IUCN: https://www.iucnredlist.org/
Diet		Insects, earthworms, large spiders, crabs, frogs,
		lizards, small birds and small mammals
Habitat		Forest, Shrubland, Artificial/Terrestrial
Migration Patte	rns	Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.





Source: MEC				
Common name	2	Eastern Great Egret		
Scientific name	2	Ardea alba modesta		
IUCN status		Least Concern (LC)		
CITES		-		
P.106 /2018		Protected		
Endemicity		Not endemic		
Distribution	 Australia, Bangladesh, China, Nepal, India, Indochina, Indonesia, Japan, Korea, Malaysia (Borneo), Myanmar, Pakistan, Papua New Guinea, (Zamboanga), Russia (north-eastern), Solomon Islands, Sri Lanka, Thailand, and Taiwan (Extant, breeding) New Zealand, Peninsular Malaysia, Philippines (Extant, non-breeding) 	Kushlan, J. A., &; Hancock, J. A. (2005). Herons. Oxford University Press.		
Diet		Fishes, amphibians, snakes, aquatic insects, crustaceans, terrestrial insects, lizards, small birds, and small mammals.		
Habitat		Grassland, Wetlands (inland), Marine Intertidal, Artificial/Aquatic & Marine		
Migration Patt	erns	Full migrant		
Threats		Wetland habitat degradation and loss.Poaching for subsistence.		



Source: MEC

Source: MEC		
Common name	Great-billed Heron	
Scientific name	Ardea sumatrana	
IUCN status	Least Concern (LC)	
CITES	-	
P.106 /2018	Protected	
Endemicity	Not endemic	
 Timor-Leste (Extant, resident) Australia; Brunei Darussalam; India; Indonesia; Malaysia; Myanmar; Papua New Guinea; Philippines; Singapore; Thailand; Viet Nam (Extant, breeding) Cambodia (Extant and origin uncertain, breeding) 	IUCN: https://www.iucnredlist.org/	
Diet	Fishes and crustaceans	
Habitat	Forest, Wetlands (inland), Marine Neritic, Marine	
	Intertidal, Marine Coastal/Supratidal	
Migration Patterns	Non-migratory	
Threats	Wetland habitat degradation and loss.	



Source: MEC

Source: MEC		
Common name	Black Bittern	
Scientific name	Ixobrychus flavicollis	
IUCN status	Least Concern (LC)	
CITES	-	
P.106 /2018	Protected	
Endemicity	Not endemic	
 Australia; Bangladesh; Brunei Darussalam; Cambodia; China; India; Indonesia; Japan; Lao People's Democratic Republic; Malaysia; Maldives; Myanmar; Nepal; Pakistan; Papua New Guinea; Philippines; Singapore; Solomon Islands; Sri Lanka; Taiwan, Province of China; Thailand; Timor-Leste; Vietonam (Extant, resident) Christmas Island; Guam; Korea, Republic of (Extant) and vagrant) 	IUCN: https://www.iucnredlist.org/	
Diet	Fishes, insects, and amphibians	
Habitat	Forest, Wetlands (inland), Marine Neritic, Marine Intertidal, Marine Coastal/Supratidal, Artificial/Aquatic & Marine	
Migration Patterns	Full migrant	
Threats	Wetland habitat degradation and loss.	



Source: MEC

Source: MEC		
Common name		Hooded Butcherbird
Scientific name		Cracticus cassicus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Large insects, larvae, spiders, fruits, small birds, and lizards
Habitat		Forest, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source		rce: MEC
Common nam	e	Lowland Peltops
Scientific nam	e	Peltops blainvillii
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Flying insects
Habitat		Forest, Wetlands (inland), Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development.



	Source: MEC		
Common name		Papuan Hornbill	
Scientific name		Rhyticeros plicatus	
IUCN status		Least Concern (LC)	
CITES		Appendix II	
P.106 /2018		Protected	
Endemicity		Not endemic	
Distribution	• Indonesia; Papua New Guinea; Solomon Islands (Extant, breeding)	IUCN: https://www.iucnredlist.org/	
Diet		Fruits, insects, and small vertebrates	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching for subsistence and trophies. 	

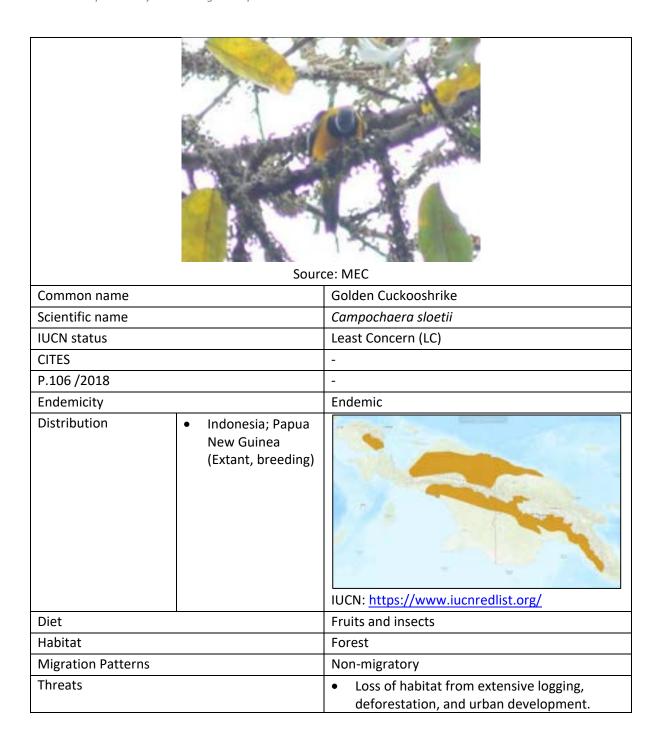


Source: MEC

	Source: MEC		
Common name		Sulphur-Crested Cockatoo	
Scientific nam	e	Cacatua galerita	
IUCN status		Least Concern (LC)	
CITES		Appendix II	
P.106 /2018		Protected	
Endemicity		Not endemic	
Distribution	 Australia; Indonesia; Papua New Guinea (Extant, breeding) Puerto Rico (Extant and introduced, resident) New Zealand, Palau (Extant and introduced, breeding) 	IUCN: https://www.iucnredlist.org/	
Diet		Berries, seeds, nuts, roots, and insects	
Habitat		Forest, Artificial/Terrestrial	
Migration Patterns		Non-migratory	
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Illegal wildlife trade. 	



Sourc		ce: eBird
Common name		Palm Cockatoo
Scientific name		Probosciger aterrimus
IUCN status		Least Concern (LC)
CITES		Appendix I
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	Australia; Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/
Diet		Berries, fruits, seeds, and nuts,
Habitat		Forest, Savanna
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Illegal wildlife trade.





Source: MEC

Source: MEC		
Common name		Boyer's Cuckooshrike
Scientific name		Coracina boyeri
IUCN status CITES P.106 /2018		Least Concern (LC)
		-
		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and insects
Habitat		Forest, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: eBird

	30010	e. edilu
Common name		New Guinea Cicadabird
Scientific name IUCN status CITES P.106 /2018		Edolisoma melas
		Least Concern (LC)
		-
		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits, insects, and insect larvae
Habitat		Forest, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Source. IVIEC		
Common name		Grey-headed Cicadabird
Scientific name		Edolisoma schisticeps
IUCN status CITES P.106 /2018		Least Concern (LC)
		-
		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and insects
Habitat		Forest
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.

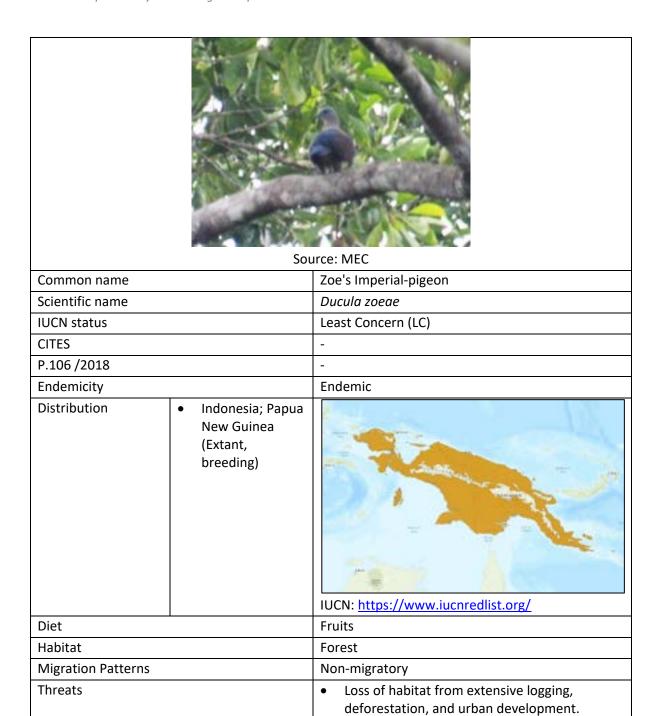


	A CONTRACTOR	
	Source: MEC	C (Camera Trap)
Common name		Southern Cassowary
Scientific name		Casuarius casuarius
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	Australia; Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fallen fruits, small vertebrates, small invertebrates, fungi, carrion, and plants
Habitat		Forest, Savanna
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.

Human intercations.



Sc		ource: MEC
Common name		Pinon's Imperial-pigeon
Scientific name		Ducula pinon
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits
Habitat		Forest
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.





Source: ebird

	Source: ebira		
Common name		Cinnamon Ground-dove	
Scientific name		Gallicolumba rufigula	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	 Indonesia; Papua New Guinea (Extant, breeding) 	IUCN: https://www.iucnredlist.org/	
Diet		Fruits, seeds, and insects	
Habitat		Forest	
Migration Patterns		Nomadic	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: eBird

Source. Editu		
Common name		Orange-fronted Fruit Dove
Scientific name		Ptilinopus aurantiifrons
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits, berries, and insects
Habitat		Forest, Savanna, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Source		CE: IVIEC
Common name		Coroneted Fruit-Dove
Scientific name		Ptilinopus coronulatus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits
Habitat		Forest
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Source: MEC		
Common name		Orange-Bellied Fruit Dove
Scientific name		Ptilinopus iozonus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	• Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits
Habitat		Forest, Savanna, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: eBird

Source. ebild		
Common name		Dwarf Fruit Dove
Scientific name		Ptilinopus nainus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and nectar
Habitat		Forest
Migration Patterns		Nomadic
Threats		 Loss of habitat from extensive logging, deforestation, and urban development.



Source: eBird

Source. Ebira		cc. cbird
Common name		Ornate Fruit Dove
Scientific name		Ptilinopus ornatus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia [West Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits
Habitat		Forest
Migration Patterns		Nomadic
Threats		 Loss of habitat from extensive logging, deforestation, and urban development.



Source		ce: MEC
Common name		Pink-spotted Fruit Dove
Scientific name		Ptilinopus perlatus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia [West Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits
Habitat		Forest
Migration Patterns		Nomadic
Threats		 Loss of habitat from extensive logging, deforestation, and urban development.



Source: BioLib

Source: BioLib		
Common name		Ivory-billed Coucal
Scientific name		Centropus menbeki
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Snakes, frogs, small birds, arthropods, and large
		insects.
Habitat		Forest, Shrubland
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: eBird

Source: Carro		
Common name		Olive-crowned Flowerpecker
Scientific name		Dicaeum pectorale
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and arthropods
Habitat		Forest
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: iNaturalist

Source. Inditionals		
Common name		Streak Headed Manikin
Scientific name		Lonchura tristissima
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/
Diet		Seeds, berries, and insects
Habitat		Forest, Shrubland, Grassland,
		Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Common name	White-winged Tern
Scientific name	Chlidonias leucopterus
IUCN status	Least Concern (LC)
CITES	-
P.106 /2018	Protected
Endemicity	Not endemic

Distribution

- Armenia; Belarus; Bulgaria; Estonia; France; Georgia; Hungary; Kazakhstan; Latvia; Lithuania; Mongolia; Netherlands; North Macedonia; Poland; Russian Federation (Eastern Asian Russia); Slovakia; Tajikistan; Turkmenistan (Extant, breeding)
- Guam; Malaysia; Micronesia, Federated States of; Northern Mariana Islands; Palau; Philippines; South Sudan (Extant, non-breeding)
- Austria; Bahrain; Cyprus;
 Denmark; Greece; Iran, Islamic
 Republic of; Israel; Jordan;
 Lebanon; Palestine, State of;
 Qatar; Slovenia; Syrian Arab
 Republic; United Arab Emirates
 (Extant, passage)
- Albania; Algeria; Angola;
 Australia; Azerbaijan;
 Bangladesh; Benin; Bosnia and
 Herzegovina; Botswana; Brunei
 Darussalam; Burkina Faso;
 Burundi; Cambodia; Cameroon;
 Central African Republic; Chad;
 China; Congo; Congo, The
 Democratic Republic of the;
 Croatia; Czechia; Côte d'Ivoire;



IUCN: https://www.iucnredlist.org/

Guinea; Eritrea; Eswatini; Ethiopia; Gabon; Gambia; Germany; Ghana; Guinea; Guinea-Bissau; Hong Kong; India; Indonesia; Iraq; Italy; Japan; Kenya; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Lao People's Democratic Republic; Liberia; Libya; Madagascar; Malawi; Maldives; Mali; Malta; Mauritania; Moldova; Montenegro; Morocco; Mozambique; Myanmar; Namibia; Nepal; New Zealand; Niger; Nigeria; Oman; Pakistan; Papua New Guinea; Romania; Russian Federation (Central Asian Russia, European Russia); Rwanda; Saudi Arabia; Senegal; Serbia; Seychelles; Sierra Leone; Singapore; Somalia; South Africa; Spain; Sri Lanka; Sudan; Switzerland; Taiwan, Province of China; Tanzania, United Republic of; Thailand; Timor-Leste; Togo; Tunisia; Turkey; Uganda; Ukraine; Uzbekistan; Viet Nam; Yemen; Zambia; Zimbabwe (Extant, resident) Afghanistan; Antigua and Barbuda; Bahamas; Barbados; Belgium; Canada; Cocos

Djibouti; Egypt; Equatorial

Afghanistan; Antigua and Barbuda; Bahamas; Barbados; Belgium; Canada; Cocos (Keeling) Islands; Dominica; Faroe Islands; Finland; Gibraltar; Guadeloupe; Iceland; Ireland; Lesotho; Luxembourg; Marshall Islands; Martinique; Montserrat; Nauru; Norway; Portugal; Puerto Rico; Réunion; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Sao Tome and Principe; Solomon Islands; Sweden; Turks and Caicos Islands; United Kingdom; United States; Virgin Islands, U.S. (Extant and Vagrant)

Diet	Aquatic insects, adult and larval terrestrial
	insects, small fishes, and tadpoles
Habitat	Grassland, Wetlands (inland), Marine Intertidal,
	Artificial/Terrestrial, Artificial/Aquatic & Marine
Migration Patterns	Full migrant
Threats	Loss of habitat and the lack of regulation of wetlands.
	Human recreational activities.



Source: MEC

Source: MEC			
Common name		Orange-footed Scrubfowl	
Scientific name		Megapodius reinwardt	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		Protected	
Endemicity		Not endemic	
Distribution	 Australia; Indonesia; Papua New Guinea (Extant, breeding) Timor-Leste (Extant, resident) 	IUCN: https://www.iucnredlist.org/	
Diet		Seeds, fallen fruits, berries, roots, shoots of flowers, snails, earthworms, insects, and their larvae	
Habitat		Forest, Shrubland, Artificial/Terrestrial	
Migration Patterns		Non-migratory	
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching. 	



Source: MEC

Source: MEC			
Common name		Red-billed Brush-turkey	
Scientific name		Talegalla cuvieri	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		Protected	
Endemicity		Endemic	
Distribution	Indonesia [Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/	
Diet		Small invertebrates, small vertebrates, seeds,	
		and fruits	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching and egg collecting. 	



Source: MEC

Source: MEC		
Common name		Puff-backed Honeyeater
Scientific name		Meliphaga aruensis
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution • Indonesia [Papua] (Extant, resident)		IUCN: https://www.iucnredlist.org/
Diet		Fruits, seeds, arthropods, and nectar
Habitat		Forest, Artificial/Terrestrial
Migration Patterns Non-mig		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: DiBird

Source. Dibilu			
Common name		Yellow-gaped Honeyeater	
Scientific name		Microptilotis flavirictus	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/	
Diet		Fruits, seeds, arthropods, and nectar	
Habitat		Forest, Savanna	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: eBird

Source. Conta			
Common name		Streak-Headed Honeyeater	
Scientific name		Pycnopygius stictocephalus	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/	
Diet		Fruits, seeds, arthropods, and nectar	
Habitat		Forest, Savanna, Shrubland, Artificial/Terrestrial	
Migration Patterns Non-migratory		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: MEC

Source. MEC		LE. IVIEC
Common name		Frilled Monarch
Scientific name		Arses telescopthalmus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution • Indonesia; Papua New Guinea (Extant, resident)		IUCN: https://www.iucnredlist.org/
Diet		Arthropods
Habitat		Forest, Artificial/Terrestrial
Migration Patterns	Migration Patterns Non-migratory	
Threats	hreats • Loss of habitat from extensive logg deforestation, and urban developm	



Source: MEC

Source. Wiec		
Common name		Hooded Monarch
Scientific name		Symposiachrus manadensis
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution • Indonesia; Papua New Guinea (Extant, breeding)		IUCN: https://www.iucnredlist.org/
Diet		Arthropods
Habitat		Forest
Migration Patterns Non-migratory		Non-migratory
		Loss of habitat from extensive logging, deforestation, and urban development.



Source: Wikipedia

Source: wikipedia		
Common name		Brown Oriole
Scientific name		Oriolus szalayi
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits, small invertebrates, nectar, and seeds
Habitat		Forest, Savanna, Shrubland, Artificial/Terrestrial
Migration Patterns Non-migratory		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



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Source. Con a		
Common name		Glossy-mantled Manucode
Scientific name		Manucodia ater
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/
Diet		
Habitat		
Migration Patterns Non-migratory		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



	Sour	ce: MEC
Common name		Black Lory
Scientific name		Chalcopsitta atra
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Endemic
Distribution	Indonesia (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Nectar, flowers, fruits, pollen, and seeds
Habitat		Forest, Savanna, Grassland, Wetlands (inland), Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



364.66.11126		
Common name		Papuan Eclectus
Scientific name		Eclectus polychloros
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	 Australia; Indonesia (Papua, Maluku); Papua New Guinea (Bismarck Archipelago); Solomon Islands (Extant, resident) 	IUCN: https://www.iucnredlist.org/
Diet		Fruits, nuts, flowers, leaf buds and seeds
Habitat		Forest, Savanna, Shrubland, Grassland, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



Source: MEC

	Sourc	ce: MEC
Common name		Red-cheeked Parrot
Scientific name		Geoffroyus geoffroyi
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	 Timor-Leste (Extant, resident) Australia; Indonesia; Papua New Guinea (Extant, breeding) 	IUCN: https://www.iucnredlist.org/
Diet		Seeds, fruits, blossoms, and nectar
Habitat		Forest, Shrubland, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



Soul		rce: MEC
Common name		Black-capped Lory
Scientific name		Lorius lory
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/
Diet		Pollen, nectar, flowers, fruits, and insects
Habitat		Forest, Wetlands (inland)
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



Source: MEC		
Common name		Coconut Lorikeet
Scientific name		Trichoglossus haematodus
IUCN status		Least Concern (LC)
CITES		Appendix II
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	 Indonesia; New Caledonia; Papua New Guinea; Solomon Islands; Vanuatu (Extant, resident) Hong Kong, Singapore (Extant and introduced, resident) 	IUCN: https://www.iucnredlist.org/
Diet		Nectar, pollen, flowers, seeds, fruits, berries, insects, and larvae
Habitat		Forest, Shrubland, Wetlands (inland), Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching Illegal wildlife trade



Source: eBird

Source		e: eBird
Common name		White-bellied Thicket-Fantail
Scientific name		Rhipidura leucothorax
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, breeding)	IUCN: https://www.iucnredlist.org/
Diet		Insects
Habitat		Forest, Savanna, Shrubland, Wetlands (inland), Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Source:		CE. IVIEC
Common name		Black Thicket-fantail
Scientific name		Rhipidura maculipectus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Insects
Habitat		Forest, Wetlands (inland), Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: Wikipedia

		•
Common name		Golden Myna
Scientific name		Mino anais
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and insects
Habitat		Forest
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: Wikipedia

Source. v		Wikipedia
Common name		Yellow-faced Myna
Scientific name		Mino dumontii
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Fruits and insects
Habitat		Forest, Savanna, Artificial/Terrestrial
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Common name		Australian Ibis
Scientific name		Threskiornis moluccus
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		Protected
Endemicity		Not endemic
Distribution	 Indonesia (Extant, resident) Australia; Papua New Guinea; Solomon Islands (Extant, breeding) New Zealand (Extant and vagrant) 	IUCN: https://www.iucnredlist.org/
Diet		Terrestrial and aquatic invertebrates, crayfish, mussels, and amphibians
Habitat		Forest, Grassland, Wetlands (inland), Marine Neritic, Marine Coastal/Supratidal, Artificial/Terrestrial, Artificial/Aquatic & Marine
Migration Patterns		Full migrant
Threats		 Loss of habitat and the lack of regulation of wetlands. Human recreational activities.



Source: Wikipedia

	Source: Wikipedia		
Common nam	e	Javan Deer	
Scientific name		Rusa timorensis	
IUCN status		Vulnerable (VU) (C1)	
CITES		-	
P.106 /2018		Protected	
Endemicity		Not endemic	
Distribution	 Indonesia [Bali and Jawa (Extant, resident)] Australia; Brazil; Indonesia [Papua, Kalimantan, Sulawesi, Lesser Sunda Is., Maluku]; Malaysia; Mauritius; New Caledonia; New Zealand; Papua New Guinea; Réunion; Thailand; Timor-Leste (Extant and introduced, resident) 	No distribution map available	
Diet		Grasses, leaves, barks and fallen fruits	
Habitat		Tropical and subtropical grassland, but also can	
		be found in forests, mountains, shrublands and	
		marshes.	
Migration Patterns		Non-migratory	
Threats		 Poaching Loss of habitat from extensive logging, deforestation, and urban development. Invasive species. 	



Source: Animal Database

Common name Three Striped Dasyure		Three Striped Dasyure	
Scientific name		Myoictis melas	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution Indonesia; Papua New Guinea (Extant, resident)		IUCN: https://www.iucnredlist.org/	
Diet	•	Lizards, insects, fruits, and flowers	
Habitat		Forest, Artificial/Terrestrial	
Migration Patterns		Non-migratory	
Threats		Preyed upon by dogs and cats.	



Source: BioLib

304.00. 510213			
Common name		Brown Dorcopsis	
Scientific name		Dorcopsis muelleri	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution • Indonesia (Extant, resident)		IUCN: https://www.iucnredlist.org/	
Diet		Leaves and fruits	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: iNaturalist

Source: Inaturalist			
Common name		Common Echymipera	
Scientific name		Echymipera kalubu	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution • Indonesia; Papua New Guinea (Extant, resident)		IUCN: https://www.iucnredlist.org/	
Diet		Fungi, fruits, insects, and plant material	
Habitat		Forest, Wetlands (inland), Artificial/Terrestrial	
Migration Patterns		Non-migratory	
		Preyed upon by dogs and cats.	



Source: MEC

Source: MEC				
Common name		Great Flying fox		
Scientific name		Pteropus neohibernicus		
IUCN status		Least Concern (LC)		
CITES		Appendix II		
P.106 /2018		-		
Endemicity		Endemic		
Distribution	Indonesia; Papua New Guinea (Extant, resident)	IUCN: https://www.iucnredlist.org/		
Diet		Fruits		
Habitat		Forest, Savanna, Artificial/Terrestrial		
Migration Patterns		Non-migratory		
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Poaching 		



Source: MEC

Source: MEC			
Common name		New Guinea Snake-Lizard	
Scientific name		Lialis jicari	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Indonesia [Papua]; Papua New Guinea [Bismarck Archipelago, Papua New Guinea [main island group]] (Extant, resident)		
Diet		IUCN: https://www.iucnredlist.org/ Lizards and small invertebrates	
Habitat		Forest, Savanna, Shrubland, Grassland, Wetlands (inland), Artificial/Terrestrial	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: MEC

Source. Wile				
Common name		Brown four-fingered skink		
Scientific name		Carlia fusca		
IUCN status		Least Concern (LC)		
CITES		-		
P.106 /2018		-		
Endemicity		Endemic		
Distribution	Indonesia [Papua]; (Extant, resident)	IUCN: https://www.iucnredlist.org/		
Diet		Insects		
Habitat		Forest		
Migration Patterns		Non-migratory		
Threats		Loss of habitat from extensive logging, deforestation, and urban development.		



Source: MFC

Source: MEC			
Common name	De Vis' Emo Skink		
Scientific name	Emoia pallidiceps		
IUCN status	Least Concern (LC)		
CITES	-		
P.106 /2018	-		
Endemicity	Endemic		
• Indonesia [Papua]; Papua New Guinea [Papua New Guinea [main island group]] (Extant, resident)	IUCN: https://www.iucnredlist.org/		
Diet	Insects		
Habitat	Forest, Shrubland, Grassland,		
	Artificial/Terrestrial		
Migration Patterns Non-migratory			
Threats	Loss of habitat from extensive logging, deforestation, and urban development.		



Source: MEC

304.661.11120				
Common name	ne Slender Skink			
Scientific name		Emoia physicae		
IUCN status		Least Concern (LC)		
CITES		-		
P.106 /2018		-		
Endemicity		Endemic		
Distribution	Indonesia [Papua]; Papua New Guinea [Papua New Guinea [main island group]] (Extant, resident)	IUCN: https://www.iucnredlist.org/		
Diet		Insects		
Habitat		Forest, Artificial/Terrestrial		
Migration Patterns		Non-migratory		
Threats		Loss of habitat from extensive logging, deforestation, and urban development.		



Source: MEC

Source: MEC			
Common name		New Guinea Four-fingered Skink	
Scientific name		Lygisaurus novaeguineae	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution • Indonesia [Papua] (Extant, resident)		IUCN: https://www.iucnredlist.org/	
Diet Ir		Insects	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: MEC

Common name		Papuan Forest Skink		
Scientific name		Sphenomorphus jobiensis		
IUCN status		Least Concern (LC)		
CITES		-		
P.106 /2018		-		
Endemicity		Endemic		
Distribution	• Indonesia [Papua]; Papua New Guinea [Papua New Guinea [main island group], Bismarck Archipelago] (Extant, resident)	IUCN: https://www.iucnredlist.org/		
Diet		Insects		
Habitat		Forest		
Migration Patterns Non-migratory		Non-migratory		
Threats		Loss of habitat from extensive logging, deforestation, and urban development.		



Source: MEC

	Sourc	ce: MEC	
Common name		Common Forest Skink	
Scientific name		Sphenomorphus simus	
IUCN status		Least Concern (LC)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	 Indonesia [Maluku, Papua]; Papua New Guinea [Bismarck Archipelago, Papua New Guinea [main island group]] (Extant, resident) 	IUCN: https://www.iucnredlist.org/	
Diet		Insects	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



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Source: MEC		
Common name	Blue-tailed Monitor	
Scientific name	Varanus doreanus	
IUCN status	Least Concern (LC)	
CITES	Appendix II	
P.106 /2018	-	
Endemicity	Not endemic	
[C In [F N [F G is (E	stralia ueensland]; lonesia pua]; Papua w Guinea pua New inea [main and group]] tant, resident) IUCN: https://www.iucnredlist.org/	
Diet	Small birds, small mammals, fishes, amphibians, and invertebrates	
Habitat	Forest	
Migration Patterns	Non-migratory	
Threats	 Loss of habitat from extensive logging, deforestation, and urban development. Illegal wildlife trade. 	



Source: MEC

Source. Wile			
Common name		Peach-throated Monitor	
Scientific name		Varanus jobiensis	
IUCN status		Least Concern (LC)	
CITES		Appendix II	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Indonesia [Papua]; Papua New Guinea; Papua New Guinea [Papua New Guinea [main island group]] (Extant, resident)	IUCN: https://www.iucnredlist.org/	
Diet		Small birds, small mammals, fishes, amphibians, and invertebrates	
Habitat		Forest	
Migration Patterns		Non-migratory	
Threats		 Loss of habitat from extensive logging, deforestation, and urban development. Illegal wildlife trade. 	



Source: MEC

	Sourc	ce: MEC
Common name		Batanta wrinkled ground frog
Scientific name		Cornufer batantae
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		
Endemicity		Endemic
Distribution	Indonesia [Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Insects
Habitat		Forest, Wetlands (inland)
Migration Patterns		Non-migratory
Threats		 Loss of habitat and the lack of regulation of wetlands.



	Sourc	ce: MEC	
Common name		Dotted wrinkled ground frog	
Scientific name		Cornufer punctatus	
IUCN status		Least Concern (LC) Endemic	
CITES			
P.106 /2018			
Endemicity			
Distribution • Indonesia [Papua] (Extant, resident)		IUCN: https://www.iucnredlist.org/	
Diet		Insects	
Habitat		Forest, Wetlands (inland)	
Migration Patterns		Non-migratory	
Threats		• Loss of habitat and the lack of regulation of wetlands.	



Source: MEC

5541561 W.Ze			
Common name		Multi-coloured Treefrog	
Scientific name		Litoria multicolor	
IUCN status		Data Deficient (DD)	
CITES		-	
P.106 /2018		-	
Endemicity		Endemic	
Distribution	Indonesia [Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/	
Diet		Insects	
Habitat		Forest, Wetlands (inland)	
Migration Patterns		Non-migratory	
Threats		Loss of habitat from extensive logging, deforestation, and urban development.	



Source: MEC

	30010	C. IVILC
Common name		Dragonfly (no name)
Scientific name		Papuagrion occipitale
IUCN status		Least Concern (LC)
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution	• Indonesia [Maluku, Papua]; Papua New Guinea [Papua New Guinea [main island group]] (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Minnows, tadpoles, and insects
Habitat		Forest
Migration Patterns		Non-migratory
Threats		



Source: MEC

Source: MEC		
Common name		Black stripe
Scientific name IUCN status CITES P.106 /2018		Papuagrion auriculatum
		Data Deficient (DD)
		-
		-
Endemicity		Endemic
Distribution	Indonesia [Papua]; Papua New Guinea [Papua New Guinea [main island group]] (Extant, resident)	IUCN: https://www.iucnredlist.org/
Diet		Minnows, tadpoles, and insects
Habitat		Forest
Migration Patterns		Non-migratory
Threats		Loss of habitat from extensive logging, deforestation, and urban development.



Source: MEC

Common name		Damselfly (no name)			
Scientific name IUCN status CITES		Teinobasis luciae Data Deficient (DD) -			
			P.106 /2018		-
			Endemicity		Endemic
Distribution	Indonesia [Papua] (Extant, resident)	IUCN: https://www.iucnredlist.org/			
Diet		Minnows, tadpoles, and insects			
Habitat		Forest			
Migration Patterns		Non-migratory			
Threats		Loss of habitat from extensive logging, deforestation, and urban development.			



Source: MEC

		Source: MEC	
Common r	Common name Butterfly (no name)		
Scientific r	fic name Arhopala adherbal		
IUCN statu	JS	-	
CITES		-	
P.106 /201	18	-	
Endemicit	у	Endemic	
Distribu	Austral asia	https://www.papua- insects.nl/insect%20orders/Lepidoptera/Lycaenidae/Lycaeninae/Arhopala/ Arhopala%20adherbal.htm	
Diet		Nectar	
Habitat			
Migration Patterns Non-migratory			
Threats			



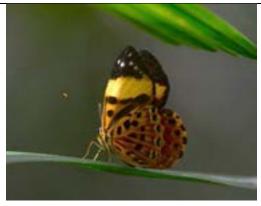
Source: MEC

Butterfly (no name)			
Arhopala thamyras			
-			
-			
-			
Endemic			
No distribution map available			
Nectar			
Forest			
Non-migratory			



Source: MEC

333.331.1123		
Common nam	e	Amathusiid Butterfly
Scientific name		Taenaris catops
IUCN status		-
CITES		-
P.106 /2018		-
Endemicity		Endemic
Distribution • New Guinea and surrounding islands		No distribution map available
Diet		Nectar
Habitat		Forest
Migration Patterns		Non-migratory
Threats		



Source: MEC

Butterfly (no name)
Praetaxila statira
-
-
-
Endemic
No distribution map available.
Nectar
Forest
Non-migratory

2.8.1.2 Floral Composition of the Recovery Site

Throughout both the biological assessments, as many as 325 plant species from 89 families were identified and recorded in the Recovery Site. The majority of the species found are either inhabitants of lowland dry forests or a lowland dry forest variant interspersed with swamp areas. The species composition of the various land covers in the Recovery Site depends on the condition of these areas and the stage of succession of which the areas were in. As a general description of the vegetation in these forested areas, most of the plots were covered with woody plants, in the forms of trees, palms and low-stature vegetation. Aside from this, the forest floors were dominated by shrubs, forest gingers, tubers, orchids, and climbers. The total floral species list is presented in Appendix A, Table 5.2.

After analysing the data collected from the plots, the majority of these areas are dominated by the family Dipterocarpaceae, making up about 20% of the total species recorded. Following up behind, Arecaceae and Calophyllaceae each made up about 6% of the species list. Apocynaceae made up 5% while Anacardiaceae and Myrtaceae each made up 4%. The families Rubiaceae, Pandanaceae, Myristicaceae and Orchidaceae each made up 3% of the total species identified. Judging by these values, the Recovery Site has a high diversity of vegetation species, but the number of families recorded is relatively low.

During the assessments, a number of plant species identified were shown to have international and/or local protection statuses. As for these assessments, 4 types of levels of criteria were used to identify whether the plant species recorded in the Recovery Site would be given a "Rare, Threatened, Endangered (RTE) status.

The first of these criteria used was the IUCN red list, of which as many as 102 species from 45 families given either one of the various statuses, "Critically Endangered" (CR), "Endangered" (EN), "Vulnerable" (VU), "Near Threatened" (NT), "Least Concern" (LC) or "Data Deficient" (DD). From these statuses, only CR, EN and VU were used to classify the RTE species. Only 13 species from 7 families were given the RTE classification based on using only these conservation statuses. There are only 2 species from the total species list that have a CR status, this being *Hopea inexpectata* (Dipterocarpaceae) and *Cinnamomum longipedicellatum* (Lauraceae). For the EN status, there is *Alstonia breviloba* (Apocynaceae), *Calophyllum robustum, Calophyllum waliense, Calophyllum persimile* (Calophyllaceae), *Macaranga lanceolata* and *Macaranga intotonsa* (Euphorbiaceae). Finally, for the VU status, there is *Calophyllum trachycaule* (Calophyllaceae), *Anisoptera thurifera* (Dipterocarpaceae), *Cryptocarya iridescens* (Lauraceae), *Xanthophyllum suberosum* (Polygalaceae) and *Madhuca orientalis* (Sapotaceae).

The next criteria in determining whether a species was given a RTE classification was based on the "protected" status given by the Indonesian Ministry of Environment and Forestry, this being P.106/MENLHK/SETJEN/KUM.1/12/2018. Throughout the total species list, only one species fell under this category, namely *Agathis labillardierei* (Araucariaceae).

The CITES treaty was the next criteria used, specifically Appendix II, which is given to species that are not necessarily threatened with extinction, but if the international and local trade of these species is not regulated, these species could eventually become extinct. In the Recovery Site, only 15 of the

species received this classification, 11 being from the Orchidaceae family, 2 from Nepenthaceae and 1 each from Thymeleceae and Cyatheaceae.

Finally, the last criteria used in determining whether a species received the RTE status, was if the species was endemic to the island of Papua New Guinea. From the recorded species in the Recovery Site, 55 species from 29 families were found to be endemic. This is no surprise as plant endemism in both Papua and New Guinea is relatively high, it being the only Malesian island group with more endemic species than non-endemic.

2.8.2 Carbon Assessment of the Recovery Site

For both the biological assessments of the Recovery Site, biomass and carbon stock values were calculated based on 3 different forest strata within the area namely, low-density forest, medium-density forest, and high-density forest.

Throughout the Recovery Site, only 2 sample plots were given the low-density forest stratum classification. For one to identify a low-density forest, the carbon stock values must fall between 75 tons/ha - 90 tons/ha (Table 2.9). Based on data analysis, these areas had carbon stock values ranging between 83.70 tons/ha – 85.38 tons/ha, averaging at 84.54 tons/ha. These values were derived from the biomass count ranging between 178.10 tons/ha - 181.65 tons/ha, averaging at 179.87 tons/ha. One must understand that the changes in biomass values will result in a direct change in the carbon stock values. These values calculated are in line with the conditions of these areas. As a general description, forests within the low-density stratum are usually areas that have been disturbed and are currently in one of the earlier successional stages, dominated mostly by poles and having an open canopy.

Table 2.9: Biomass and carbon stock values of the low-density forests in the Recovery Site

No	Plot	Density (stems/ha)			Basal Area (m²/ha)			Biomass (t/ha)			Carbon
		Dbh> 15 cm	Dbh 5 - 14.9	Total	Dbh> 15 cm	Dbh 5 - 14.9	Total	Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	(t/ha)
1	PR11	480	cm 600	1080	19.36	cm 3.63	22.99	157.06	21.03	178.10	83.70
2	PR3	280	1700	1980	16.79	5.50	22.29	153.66	28.00	181.65	85.38

Next, there were 5 sample plots out of the 28 that were placed in the medium-density forest stratum. For one to classify an area as a medium-density forest, the carbon stock values must range between 90 tons/ha - 150 tons/ha (Table 2.10). For these areas, the carbon stock values ranged between 103.08 tons/ha - 143.91 tons/ha, averaging at 130.58 tons/ha. In addition to this, the biomass values ranged between 219.32 tons/ha - 306.19 tons/ha, averaging at 277.83 tons/ha. For a general description of these areas, these forests are currently in either the middle or late successional stage, with trees that are yet to reach maturity. The climax species within these areas are still young and have not dominated the landscape yet.

Table 2.10: Biomass and carbon stock values of the medium-density forests in the Recovery Site

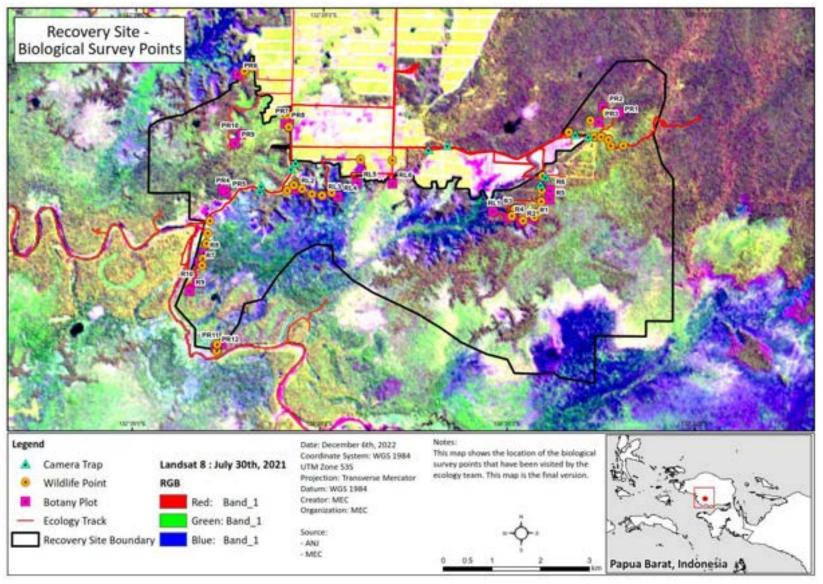
No	Plot	Density (stems/ha)			Basal Area (m²/ha)			Biomass (t/ha)			Carbon
		Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	(t/ha)
1	R1	260	1500	1760	18.73	6.95	25.68	180.54	38.78	219.32	103.08
2	PR5	400	300	700	29.72	0.80	30.52	275.64	3.92	279.56	131.39
3	R3	480	2000	2480	23.67	12.54	36.22	205.73	74.28	280.01	131.61
4	R10	320	2600	2920	24.24	12.04	36.28	237.21	66.86	304.07	142.91
5	PR9	460	700	1160	30.18	5.20	35.38	275.45	30.75	306.19	143.91

Finally, 14 of the 28 sample plots were high-density forest stratum classification (Table 2.11). These forests are classified by having carbon stock values that exceed 150 tons/ha. The sample plots displayed a carbon stock value range of 156.88 tons/ha – 250.68 tons/ha, averaging at 194.98 tons/ha.

Likewise, the biomass values ranged between 333.78 tons/ha - 533.36 tons/ha, averaging at 414.85 tons/ha. The majority of the Recovery Site is covered by forests with the high-density stratum. Generally, these forests are within the late successional stage and are dominated by climax species, well on their way to reaching maturity.

Table 2.11: Biomass and carbon stock values of the high-density forests in the Recovery Site

No	Plot	Density (stems/ha)			Basal Area (m²/ha)			Biomass (t/ha)			Carbon
		Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	Dbh> 15 cm	Dbh 5 - 14.9 cm	Total	(t/ha)
1	PR8	340	1700	2040	29.22	8.86	38.08	282.69	51.10	333.78	156.88
2	R2	560	1100	1660	32.81	7.20	40.00	299.66	42.55	342.21	160.84
3	R5	340	1000	1340	32.03	5.89	37.93	332.44	34.27	366.71	172.35
4	R6	540	900	1440	38.45	4.92	43.38	355.65	27.53	383.18	180.09
5	PR1	500	2000	2500	32.92	12.23	45.15	316.77	72.35	389.12	182.89
6	PR2	660	2300	2960	36.91	11.05	47.96	332.17	62.93	395.10	185.70
7	R7	180	100	280	34.54	0.57	35.11	395.39	3.20	398.58	187.33
8	R8	220	300	520	35.77	1.53	37.30	395.13	8.42	403.56	189.67
9	PR6	720	800	1520	40.59	7.82	48.41	359.82	48.99	408.81	192.14
10	PR10	480	1300	1780	39.01	7.86	46.87	401.15	46.35	447.49	210.32
11	R9	280	1700	1980	37.55	8.88	46.42	413.07	49.97	463.03	217.63
12	PR4	700	300	1000	49.69	1.75	51.44	457.99	10.06	468.06	219.99
13	R4	480	1000	1480	44.83	5.13	49.96	445.10	29.75	474.85	223.18
14	PR7	820	2500	3320	49.64	13.60	63.24	455.49	77.87	533.36	250.68



Map 2.3: Location of sampling sites for wildlife survey, botany plots and camera traps in the Recovery Site

2.9 Progress of Plant Nursery

The rehabilitation nursery is operational and has successfully produced a total of 1,815 tree seedlings this year (Photo 2.16). Dominant tree seedling species that have been grown in the nursery are *Nageia wallichiana*, *Baccaurea* sp., *Canarium* sp. and *Vatica rassak*. The first phase of rehabilitation exercise has been completed. The second phase is being planned and will be included in the 5-year management plan for the Recovery Site, which is currently being formulated. The GPS coordinate of the nursery is 1°50'00.1" S, 132°28'54.8" E and the *Dinas Kehutanan*, *Lingkungan Hidup dan Pertanian* has visited the tree seedling in the nursery (Photo 2.17).





Photo 2.16: Progress of plant nursery



Photo 2.17: Inspection conducted at the nursery by *Dinas Kehutanan, Lingkungan Hidup dan*Pertanian

2.10 Targeted Site Rehabilitation

The ANJ's on-site team has successfully rehabilitated the cleared areas within Recovery Site from December 2020 to present. Approximately 1.7 ha within the Recovery Site have been planted with a total of 230 trees of *Syzygium* sp. (54 seedlings), *Baccaurea nesophila* (52 seedlings), *Cryptocarya* sp. (23 seedlings), *Croton* sp. (11 seedlings), *Intsia bijuga* (19 seedlings), *Nageia wallichiana* (51 seedlings), *Cleistanthus* sp. (18 seedlings), and *Maccaranga* sp. (2 seedlings), refer to Photo 2.18.

Regular monitoring is being carried out at the rehabilitated areas to observe the survival and growth of the planted seedings. An addition of 4.3 ha within the Recovery Site that consist of abandoned oil palm are also being rehabilitated. Seedling species such as *Durio zibethinus, Artocarpus integer, Nageia wallichiana, Arthocarpus sp., and Alstonia sp.,* have been planted in the area.

The rehabilitation area is currently undergoing natural regeneration and the palms have been abandoned (Photo 2.19). Continuous monitoring will be carried out in the rehabilitated area by the site team.



Photo 2.18: Rehabilitation progress in the Recovery Site



Photo 2.19: Rehabilitated area in Recovery Site

2.11 Monitoring of Site Integrity

ANJ's on-site team regularly monitors the Recovery Site (Figure 2.3). They monitor the progress of the rehabilitated areas, the condition of the boundary markers, and signboards installed as well as inventory of flora and fauna species within the Recovery Site. ANJ team collaborates with *Dinas Kehutanan, Dinas Pertanian* dan *Dinas Lingkungan Hidup Kabupaten Maybrat* in managing the site (Photo 2.20).

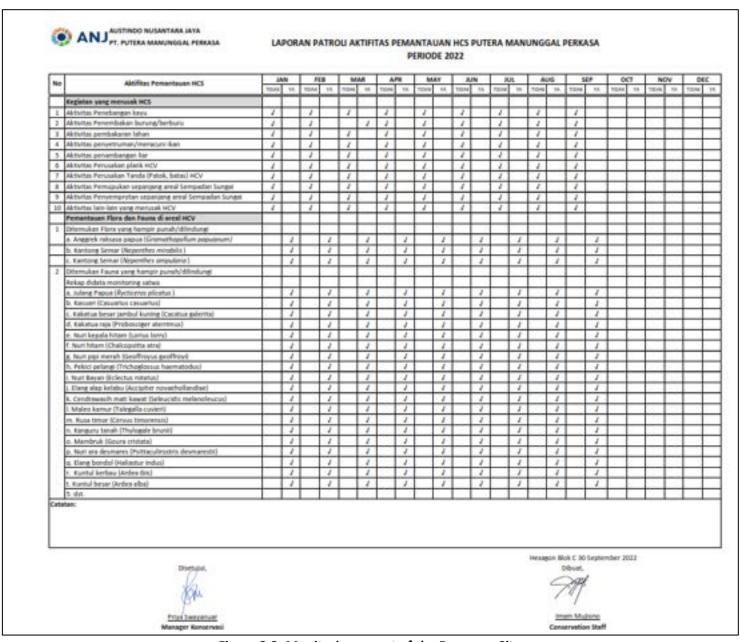


Figure 2.3: Monitoring report of the Recovery Site



Photo 2.20: Monitoring exercise together with *Dinas Kehutanan, Dinas Pertanian dan Dinas*Lingkungan Hidup Kabupaten Maybrat

3 Map Portfolio of the Recovery Site Landscape

The construction of the spatial database was seen as necessary so that the spatial data could be collected and transformed into information. Raster data in the form of satellite and drone imagery has also been analysed to generate maps. This information is primarily for the purpose formulation of the 5-year management plan for the Recovery Site. The record of the spatial information generated from various sources is summarized in Table 3.1 below.

Table 3.1: Spatial database used to generate maps

No.	Shapefile	Data Type				
1.	Recovery Site Boundary	Polygon				
2.	ANJT, PMP and PPM Boundary Shapefile (Wider Landscape)	Polygon				
3.	Watershed Model	Polygon				
4.	River Network	Line				
5.	2019 Land Cover	Polygon				
6.	Land System Model	Polygon				
7.	Forest Classes	Polygon				
8.	Aerial Photos	Point				
9.	Flight Path	Line				
10.	Biology Assessment Survey Point	Point				
11.	Wildlife Survey Track	Line				
12.	Ecological Model	Polygon				
13.	Preliminary Carbon Model	Polygon				
14.	Villages	Point				
15.	Customary Land	Polygon				
16.	Land Cover of Recovery Site	Polygon				
	Raster	Data Type				
17.	Elevation	Alos Palsar				
18.	Slope	Alos Palsar				
19.	Satellite Image	Sentinel 2A				
20.	Drone Image	Enhanced Compression Wavelet (ECW)				

A series of maps were generated using the spatial database. This exercise was undertaken to obtain a better understanding of the various ecological and biological resources of the Recovery Site. In addition to this, the wider landscape was also analysed to get a better understanding of the landscape processes supporting the Recovery Site. Table 3.2 provides the titles and description of the maps generated. The maps listed are provided as a supporting document to this report.

Table 3.2: Description of the maps generated

Map Number	Map title	Description
	Wider Land	Iscape
Map 1	Elevation Model Map of Recovery Site and its Wider Landscape	This map shows the elevation model of the Recovery Site and its wider landscape. The elevation ranges between 0 m and 260 m.
Map 2	Slope Model Map of Recovery Site and its Wider Landscape	This map shows the slopes of the Recovery Site and its wider landscape. The overall area is quite flat and not steep.
Map 3	Watershed Model of Recovery Site and its Wider Landscape	This map shows the watersheds of the Recovery Site and its wider landscape. There are 4 different river basins in the area.
Map 4	Land Cover of Recovery Site and its Wider Landscape based on KLHK Data (2019)	This map shows the land cover of the Recovery Site and its wider landscape based on 2019 KLHK data. There are 11 landcover types including forest and non-forest classes.
Map 5	Land System Model of Recovery Site and its Wider Landscape	This map shows the land system model of the Recovery Site and its wider landscape. Based on the land system model, the Recovery Site is dominated by the Puragi land system, which consists of low undulating terraces with dissected margins.
Map 6	Functional Land Use Classes of Recovery Site and its Wider Landscape	This map shows the functional land use classes of the Recovery Site and its wider landscape. There are 5 different functional land use in the wider landscape. The Recovery Site is dominated by Area for Potential Development (APL).
Map 7	Flight Path for Low-Level Aerial Reconnaissance of Recovery Site and its Wider Landscape	This map shows the flight path and the locations of the aerial photos taken of the Recovery Site and its wider landscape.
Map 8	Condition of the Recovery Site and its Wider Landscape based on October 2022 Satellite Image	This map shows the landcover condition of the Recovery Site and its wider landscape in October 2022.
Map 9	Ecological Model of Recovery Site and its Wider Landscape	This map shows the ecological model of the Recovery Site and its wider landscape. There are 22 ecological classes.
Map 10	Carbon Model Map of Recovery Site and its Wider Landscape	This map shows a carbon model of the recovery site. The above ground carbon ranges between 0 t/ha to 205 t/ha.
Map 11	Location of Villages and the Customary Land of Recovery Site and its Wider Landscape	This map shows the locations of villages and customary land of the recovery site and its wider landscape.

Map Number	Map title	Description
	Focused to Rec	overy Site
Map 12	Landcover of Recovery Site by MEC	This map shows the landcover classification of the
		Recovery Site. There are 16 classes identified.
Map 13	Watershed Model and River Network of	This map shows the watershed of the recovery site.
	Recovery Site.	There are 2 different river basins in the area.
Map 14	Slope Model Map of Recovery Site	This map shows the slopes of the Recovery Site. The
	(Thematic map).	overall area is quite flat and not steep.
Map 15	Elevation Model Map of Recovery Site	This map shows elevation model of the recovery site.
		The elevation ranges between 0 and 50 m.
Map 16	Carbon Model Map of Recovery Site	This map shows the carbon model of the recovery
		site. The above ground carbon ranges between 87
		t/ha to 205 t/ha.
Map 17	Condition of the Recovery Site on	This map shows the landcover condition based on
	November 2022	November 2022 satellite image.
Map 18	2021 Drone Map of the Recovery Site	This map shows the drone image mosaic of the
		Recovery Site. The drone images were captured in
		October 2021.
Map 19	Land System of Recovery Site Based on	This map shows the land system of the Recovery Site
	RePPProT	based on RePPProT. There are 3 different types of
		land systems within the Recovery Site. The Recovery
		Site is dominated by the Puragi land system, which
		consists of low undulating terraces with dissected
		margins.
Map 20	Biological Survey Points Surrounding	This map shows the biological survey points
	Recovery Site	surrounding the Recovery Site.

4 Management Expenditure

The total expenditure for the site management from January to October 2022 is IDR 353,093,749.00. This expenditure is inclusive of travel, field monitoring, and engagement institutional stakeholders such as *Dinas Perhutanan* (Forestry Department), *Dinas Lingkungan Hidup* (Department of Environment), *Dinas Perkebunan* (Plantation Department) and *Balai Konservasi Sumber Daya Alam* (Natural Resources Conservation Agency). This expenditure has supported the interim management actions. The management planning exercise will begin in January 2023 where the management budget for the next 5 years will be discussed and finalized.

5 End Note

The third progress report records activities undertaken by the ANJ team to ensure the integrity of the Recovery Site is maintained. A series of actions in this interim management period between January to October 2022 focused on rehabilitation, boundary demarcation, community outreach and socialisation of the importance of this site to the workers in the PT. PMP concession. It can be reported that the Recovery Site is intact due to the successful implementation of interim management actions. The logical next step would be to develop a 5-year management plan to ensure that the Recovery Site is managed sustainably to achieve its establishment objectives. In view of developing the 5-year management plan, this phase has focused on data collection. Both spatial and biological data have been attained and analysed to gain a better understanding of the site. This information will now be used in management plan formulation.

6 Appendices

6.1 Appendix A: Data Table

Table 6.1: List of plant species recorded in the landscape of Recovery Site (2020 and 2021)

No	Family	Consina		IUCN	CITEC	P.106/	Endemic	la casina
No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
1	Dipterocarpaceae	Hopea inexpectata	CR	B1ab(iii)+2ab(iii) ver 3.1	-	-	٧	-
2	Lauraceae	Cinnamomum Iongipedicellatum	CR	B1ab(i,ii,iii)+2ab(i,ii,iii) ver 3.1	-	-	٧	-
3	Apocynaceae	Alstonia breviloba	EN	B1ab(iii)+2ab(iii) ver 3.1	-	-	٧	-
4	Calophyllaceae	Calophyllum robustum	EN	B1ab(iii)+2ab(iii) ver 3.1	-	-	٧	-
5	Calophyllaceae	Calophyllum waliense	EN	B1ab(iii)+2ab(iii) ver 3.1	-	-	-	-
6	Calophyllaceae	Calophyllum persimile	EN	B1ab(iii)+2ab(iii) ver 3.1	-	-	٧	-
7	Euphorbiaceae	Macaranga lanceolata	EN	B2ab(iii) ver 3.1	=	-	٧	-
8	Euphorbiaceae	Macaranga intonsa	EN	B2ab(iii) ver 3.1	-	-	٧	-
9	Calophyllaceae	Calophyllum trachycaule	VU	B2ab(iii) ver 3.1	-	-	٧	-
10	Dipterocarpaceae	Anisoptera thurifera	VU	A3cd ver 3.1	-	-	-	-
11	Lauraceae	Cryptocarya iridescens	VU	B2ab(i,ii,iii,iv) ver 3.1	-	-	٧	-
12	Polygalaceae	Xanthophyllum suberosum	VU	B2ab(iii) ver 3.1	-	-	٧	-
13	Sapotaceae	Madhuca orientalis	VU	B1ab(iii,iv,v)+2ab(iii,iv,v) ver 3.1	-	-	٧	-
14	Cyatheaceae	Sphaeropteris glauca	LC	ver 3.1	Appendix II	-	-	-
15	Nepenthaceae	Nepenthes ampullaria	LC	ver 3.1	Appendix II	-	-	-
16	Nepenthaceae	Nepenthes mirabilis	LC	ver 3.1	Appendix II	-	-	-
17	Orchidaceae	Bromheadia finlaysoniana	LC	ver 3.1	Appendix II	-	-	-
18	Orchidaceae	Bulbophyllum macranthum	LC	ver 3.1	Appendix II	-	-	-
19	Orchidaceae	Claderia viridiflora	LC	ver 3.1	Appendix II	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
20	Orchidaceae	Grammatophyllum	-	-	Appendix II	-	-	-
		pantherinum						
21	Orchidaceae	Macodes sanderiana	-	-	Appendix II	-	-	-
22	Orchidaceae	Thrixspermum	-	-	Appendix II	-	-	-
		congestum						
23	Orchidaceae	Dendrobium smillieae	-	-	Appendix II	-	-	-
24	Orchidaceae	Dipodium pandanum	-	-	Appendix II	-	-	-
25	Orchidaceae	Acriopsis liliifolia	-	-	Appendix II	-	-	-
26	Orchidaceae	Dendrobium nindii	LC	ver 3.1	Appendix II	-	-	-
27	Orchidaceae	Thrixspermum amplexicaule	-	-	Appendix II	-	-	-
28	Thymelaeaceae	Gonystylus macrophyllus	LC	ver 3.1	Appendix II	-	-	-
29	Araucariaceae	Agathis labillardierei	NT	ver 3.1	-	٧	٧	-
30	Achariaceae	Pangium edule	-	-	-	-	-	-
31	Anacardiaceae	Dracontomelon dao	LC	ver 3.1	-	-	-	-
32	Anacardiaceae	Gluta sp	-	-	-	-	-	-
33	Anacardiaceae	Buchanania arborescens	LC	ver 3.1	-	-	-	-
34	Anacardiaceae	Campnosperma sp	-	-	-	-	-	-
35	Anacardiaceae	Campnosperma brevipetiolatum	LC	ver 3.1	-	-	-	-
36	Anacardiaceae	Gluta papuana	LC	ver 3.1	-	-	٧	-
37	Anacardiaceae	Mangifera inocarpoides	NT	B1ab(iii) ver 3.1	-	-	٧	-
38	Annonaceae	Cyathocalyx sp	-	-	-	-	-	-
39	Annonaceae	Uvaria rosenbergiana	-	-	-	-	-	-
40	Annonaceae	Artabotrys sp	-	-	-	-	-	-
41	Annonaceae	Hubera forbesii	-	-	-	-	٧	-
42	Annonaceae	Polyalthia sp	-	-	-	-	-	-
43	Annonaceae	Popowia odoardi	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
44	Annonaceae	Cananga odorata	LC	ver 3.1	-	-	-	-
45	Apocynaceae	Cerbera floribunda	LC	ver 3.1	-	-	-	-
46	Apocynaceae	Dischidia sp	-	-	-	-	-	-
47	Apocynaceae	Voacanga grandifolia	-	-	-	-	-	-
48	Apocynaceae	Alstonia spatulata	LC	ver 3.1	-	-	-	-
49	Apocynaceae	Hoya sp	-	-	-	-	-	-
50	Aquifoliaceae	llex sp	-	-	-	-	-	-
51	Araceae	Epipremnum sp	-	-	-	-	-	-
52	Araceae	Scindapsus sp	-	-	-	-	-	-
53	Araceae	Lasia spinosa	LC	ver 3.1	-	-	-	-
54	Araceae	Pothos sp	-	-	-	-	-	-
55	Araceae	Schismatoglottis sp	-	-	-	-	-	-
56	Araceae	Pothos papuanus	-	-	-	-	-	-
57	Araceae	Rhaphidophora sp	-	-	-	-	-	-
58	Araliaceae	Polyscias ledermannii	LC	ver 3.1	-	-	٧	-
59	Araliaceae	Schefflera sp	-	-	-	-	-	-
60	Arecaceae	Areca sp	-	-	-	-	-	-
61	Arecaceae	Borassodendron sp	-	-	-	-	-	-
62	Arecaceae	Caryota sp	-	-	-	-	-	-
63	Arecaceae	Korthalsia sp	-	-	-	-	-	-
64	Arecaceae	Livistona sp	-	-	-	-	-	-
65	Arecaceae	Oncosperma sp	-	-	-	-	-	-
66	Arecaceae	Pinanga sp	-	-	-	-	-	-
67	Arecaceae	Areca macrocalyx	LC	ver 3.1	-	-	-	-
68	Arecaceae	Calamus sp3	-	-	-	-	-	-
69	Arecaceae	Licuala crassiflora	LC	ver 3.1	-	-	-	-
70	Arecaceae	Linospadix sp	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
71	Arecaceae	Pinanga sp1	-	-	-	-	-	-
72	Arecaceae	Pinanga sp2	-	-	-	-	-	-
73	Arecaceae	Sommieria sp	-	-	-	-	-	-
74	Arecaceae	Calamus sp1	-	-	-	-	-	-
75	Arecaceae	Calamus sp2	-	-	-	-	-	-
76	Arecaceae	Licuala sp	-	-	-	-	-	-
77	Arecaceae	Metroxylon sagu	LC	ver 3.1	-	-	-	-
78	Asparagaceae	Dracaena angustifolia	-	-	-	-	-	-
79	Aspleniaceae	Asplenium nidus	-	-	-	-	-	-
80	Asteliaceae	Dracaena sp	-	-	-	-	-	-
81	Athyriaceae	Diplazium sp	-	-	-	-	-	-
82	Blechnaceae	Stenochlaena palustris	-	-	-	-	-	-
83	Burseraceae	Canarium cf. vulgare	-	-	-	-	-	-
84	Burseraceae	Haplolobus sp	-	-	=	-	-	-
85	Burseraceae	Santiria sp	-	-	-	-	-	-
86	Burseraceae	Canarium decumanum	NT	B2ab(iii) ver 3.1	-	-	-	-
87	Burseraceae	Canarium rigidum	DD	ver 3.1	-	-	-	-
88	Burseraceae	Canarium sp	-	-	-	-	-	-
89	Burseraceae	Canarium acutifolium	-	-	-	-	-	-
90	Burseraceae	Canarium maluense	LC	ver 3.1	-	-	-	-
91	Calophyllaceae	Mesua sp1	-	-	=	-	-	-
92	Calophyllaceae	Calophyllum laticostatum	NT	B2b(iii) ver 3.1	-	-	-	-
93	Calophyllaceae	Mesua sp2	-	-	-	-	-	-
94	Calophyllaceae	Mesua sp3	-	-	-	-	-	-
95	Calophyllaceae	Calophyllum goniocarpum	LC	ver 3.1	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
96	Calophyllaceae	Calophyllum sp	-	-	-	-	-	-
97	Calophyllaceae	Kayea coriacea	DD	ver 3.1	-	-	٧	-
98	Cannabaceae	Gironniera subaequalis	LC	ver 3.1	=	-	-	-
99	Cardiopteridaceae	Gonocaryum litorale	LC	ver 3.1	-	-	-	-
100	Cardiopteridaceae	Gonocaryum sp	-	-	-	-	-	-
101	Celastraceae	Lophopetalum torricellense	LC	ver 3.1	-	-	٧	-
102	Chrysobalanaceae	Parastemon sp	-	-	-	-	-	-
103	Chrysobalanaceae	Parinari nonda	LC	ver 3.1	-	-	-	-
104	Chrysobalanaceae	Atuna excelsa subsp. racemosa	LC	ver 3.1	-	-	-	-
105	Clusiaceae	Garcinia cf. latissima	-	-	-	-	-	-
106	Clusiaceae	Garcinia hunsteinii	LC	ver 3.1	-	-	٧	-
107	Clusiaceae	Garcinia hollrungii	LC	ver 3.1	-	-	-	-
108	Clusiaceae	Garcinia ledermannii	LC	ver 3.1	-	-	٧	-
109	Clusiaceae	Garcinia schraderi	LC	ver 3.1	-	-	٧	-
110	Combretaceae	Terminalia sp	-	-	-	-	-	-
111	Compositae	Riddellia sp	-	-	-	-	-	-
112	Cunoniaceae	Ceratopetalum succirubrum	LC	ver 3.1	-	-	-	-
113	Cunoniaceae	Ceratopetalum tetrapterum	-	-	-	-	-	-
114	Cyatheaceae	Scleria sp	-	-	-	-	-	-
115	Davalliaceae	Davallia sp	-	-	-	-	-	-
116	Dilleniaceae	Dillenia sp	-	-	-	-	-	-
117	Dipterocarpaceae	Anisoptera thurifera subsp. Polyandra	-	-	-	-	-	-
118	Dipterocarpaceae	Hopea iriana	NT	ver 3.1	-	-	٧	-
119	Dipterocarpaceae	Hopea forbesii	NT	A2cd ver 3.1	-	-	٧	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
120	Dipterocarpaceae	Нореа рариапа	-	-	-	-	٧	-
121	Dipterocarpaceae	Hopea similis	-	-	-	-	٧	-
122	Dipterocarpaceae	Vatica rassak	LC	ver 3.1	-	-	-	-
123	Ebenaceae	Diospyros sp1	-	-	-	-	-	-
124	Ebenaceae	Diospyros sp2	-	-	-	-	-	-
125	Elaeocarpaceae	Elaeocarpus sp	-	-	-	-	-	-
126	Elaeocarpaceae	Sloanea sp	-	-	-	-	-	-
127	Elaeocarpaceae	Elaeocarpus sp1	-	-	-	-	-	-
128	Elaeocarpaceae	Elaeocarpus sp2	-	-	=	-	-	-
129	Elaeocarpaceae	Elaeocarpus sp3	-	-	-	-	-	-
130	Euphorbiaceae	Claoxylon sp	-	-	-	-	-	-
131	Euphorbiaceae	Macaranga cf. yakasii	-	-	=	-	-	-
132	Euphorbiaceae	Macaranga similis	-	-	-	-	-	-
133	Euphorbiaceae	Macaranga suwo	-	-	=	-	٧	-
134	Euphorbiaceae	Macaranga villosula	-	-	-	-	٧	-
135	Euphorbiaceae	Neoscortechinia forbesii	LC	ver 3.1	-	-	-	-
136	Euphorbiaceae	Agrostistachys borneensis	LC	ver 3.1	-	-	-	-
137	Euphorbiaceae	Blumeodendron sp	-	-	-	-	-	-
138	Euphorbiaceae	Croton sp	-	-	-	-	-	-
139	Euphorbiaceae	Macaranga rufibarbis	LC	ver 3.1	-	-	٧	-
140	Euphorbiaceae	Macaranga sp	-	-	-	-	-	-
141	Euphorbiaceae	Pimelodendron amboinicum	LC	ver 3.1	-	-	-	-
142	Fagaceae	Castanopsis acuminatissima	-	-	-	-	-	-
143	Fagaceae	Lithocarpus celebicus	-	-	-	-	-	-
144	Fagaceae	Lithocarpus sp	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
145	Fagaceae	Quercus sp1	-	-	-	-	-	-
146	Fagaceae	Lithocarpus cf. rufovillosus	-	-	-	-	-	-
147	Fagaceae	Lithocarpus megacarpus	-	-	-	-	٧	-
148	Fagaceae	Quercus sp2	-	-	-	-	-	-
149	Fagaceae	Quercus sp3	-	-	-	-	-	-
150	Flagellariaceae	Flagellaria sp	-	-	-	-	-	-
151	Flagellariaceae	Flagellaria indica	-	-	-	-	-	-
152	Gentianaceae	Utania volubilis	-	-	-	-	-	-
153	Gleicheniaceae	Dicranopteris linearis	LC	ver 3.1	-	-	-	-
154	Hanguanaceae	Hanguana malayana	LC	ver 3.1	-	-	-	-
155	Icacinaceae	Platea cf. excelsa	-	-	-	-	-	-
156	Ixonanthaceae	Ixonanthes sp	-	-	-	-	-	-
157	Juglandaceae	Engelhardia sp	-	-	-	-	-	-
158	Lamiaceae	Teijsmanniodendron bogoriense	LC	ver 3.1	-	-	-	-
159	Lamiaceae	Teijsmanniodendron hollrungii	LC	ver 3.1	-	-	-	-
160	Lamiaceae	Callicarpa tomentosa	LC	ver 3.1	-	-	-	-
161	Lamiaceae	Gmelina sp	-	-	-	-	-	-
162	Lauraceae	Cryptocarya densiflora	LC	ver 3.1	-	-	-	-
163	Lauraceae	Cryptocarya subfalcata	LC	ver 3.1	-	-	٧	-
164	Lauraceae	Litsea sp1	-	-	-	-	-	-
165	Lauraceae	Litsea sp2	-	-	-	-	-	-
166	Lauraceae	Actinodaphne multiflora	-	-	-	-	-	-
167	Lauraceae	Cryptocarya depressa	LC	ver 3.1	-	-	-	-
168	Lauraceae	Cryptocarya laevigata	LC	ver 3.1	-	-	-	-
169	Lauraceae	Cryptocarya sp	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
170	Lauraceae	Dehaasia sp	-	-	-	-	-	-
171	Lauraceae	Endiandra sp	-	-	-	-	-	-
172	Lauraceae	Litsea sp	-	-	-	-	-	-
173	Lauraceae	Cinnamomum clemensii	LC	ver 3.1	-	-	٧	-
174	Lecythidaceae	Barringtonia sp	-	-	-	-	-	-
175	Leguminosae	Crudia papuana	LC	ver 3.1	-	-	-	-
176	Leguminosae	Dalbergia sp	-	-	-	-	-	-
177	Leguminosae	Inocarpus fagifer	-	-	-	-	-	-
178	Leguminosae	Archidendron clypearia	LC	ver 3.1	-	-	-	-
179	Leguminosae	Cynometra psilogyne	LC	ver 3.1	-	-	-	-
180	Leguminosae	Cynometra schefferi	-	-	-	-	-	-
181	Leguminosae	Derris sp	-	-	-	-	-	-
182	Leguminosae	Vigna sp	-	-	-	-	-	-
183	Leguminosae	Cynometra brassii	NT	ver 3.1	-	-	٧	-
184	Leguminosae	Intsia bijuga	NT	A2cd+3cd+4cd ver 3.1	-	-	-	-
185	Loganiaceae	Utania racemosa	-	-	-	-	-	-
186	Loganiaceae	Neuburgia corynocarpa	LC	ver 3.1	-	-	-	-
187	Lygodiaceae	Lygodium longiflorum	-	-	-	-	-	-
188	Lygodiaceae	Lygodium microphyllum	LC	ver 3.1	-	-	-	٧
189	Malvaceae	Sterculia cf. shillinglawii	-	-	-	-	-	-
190	Malvaceae	Sterculia sp	-	-	-	-	-	-
191	Marantaceae	Maranta sp	-	-	-	-	-	-
192	Melastomataceae	Medinilla sp	-	-	-	-	-	-
193	Melastomataceae	Memecylon sp	-	-	-	-	-	-
194	Melastomataceae	Astronia ferruginea	-	-	-	-	-	-
195	Melastomataceae	Astronia papuana	-	-	-	-	٧	-
196	Melastomataceae	Clidemia sp	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
197	Melastomataceae	Pternandra sp	-	-	-	-	-	-
198	Meliaceae	Aglaia cf. agglomerata	-	-	-	-	-	-
199	Meliaceae	Aglaia sp2	-	-	-	-	-	-
200	Meliaceae	Aglaia tomentosa	LC	ver 2.3	-	-	-	-
201	Meliaceae	Chisocheton sp	-	-	-	-	-	-
202	Meliaceae	Dysoxylum sp	-	-	-	-	-	-
203	Meliaceae	Sandoricum koetjape	LC	ver 3.1	-	-	-	-
204	Meliaceae	Chisocheton sayeri	LC	ver 3.1	-	-	٧	-
205	Meliaceae	Aglaia sp1	-	-	-	-	-	-
206	Menispermaceae	Stephania sp	-	-	-	-	-	-
207	Menispermaceae	Stephania japonica	-	-	-	-	-	-
208	Monimiaceae	Kibara coriacea	LC	ver 2.3	-	-	-	-
209	Monimiaceae	Steganthera fasciculata	-	-	-	-	٧	-
210	Moraceae	Artocarpus lanceifolius	-	-	-	-	-	-
211	Moraceae	Ficus bernaysii	LC	ver 3.1	-	-	-	-
212	Moraceae	Ficus trachypison	-	-	-	-	-	-
213	Moraceae	Artocarpus sp	-	-	-	-	-	-
214	Moraceae	Ficus sp	-	-	-	-	-	-
215	Moraceae	Ficus villosa	-	-	-	-	-	-
216	Moraceae	Artocarpus altilis	-	-	-	-	-	-
217	Myristicaceae	Myristica cf. atrocorticata	-	-	-	-	-	-
218	Myristicaceae	Myristica chrysophylla	LC	ver 3.1	-	-	٧	-
219	Myristicaceae	Myristica lancifolia	LC	ver 3.1	-	-	-	-
220	Myristicaceae	Myristica schleinitzii	-	-	-	-	-	-
221	Myristicaceae	Myristica sp	-	-	-	-	-	-

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No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
222	Myristicaceae	Gymnacranthera farquhariana	-	-	-	-	-	-
223	Myristicaceae	Horsfieldia hellwigii	LC	ver 3.1	-	-	-	-
224	Myristicaceae	Horsfieldia irya	LC	ver 3.4	-	-	-	-
225	Myristicaceae	Horsfieldia sp	-	-	-	-	-	-
226	Myristicaceae	Myristica undulatifolia	LC	ver 3.1	-	-	٧	-
227	Myrtaceae	Rhodamnia sp	-	-	-	-	-	-
228	Myrtaceae	Syzygium cf. puberulum	-	-	-	-	-	-
229	Myrtaceae	Acmena sp	-	-	-	-	-	-
230	Myrtaceae	Decaspermum bracteatum	-	-	-	-	-	-
231	Myrtaceae	Kania eugenioides	-	-	-	-	٧	-
232	Myrtaceae	Memecylon sp1	-	-	=	-	-	-
233	Myrtaceae	Memecylon sp2	-	-	-	-	-	-
234	Myrtaceae	Rhodamnia latifolia	-	-	-	-	-	-
235	Myrtaceae	Rhodomyrtus elegans	-	-	-	-	-	-
236	Myrtaceae	Syzygium cauliflorum	-	-	-	-	٧	-
237	Myrtaceae	Syzygium cf. watutense	-	-	-	-	-	-
238	Myrtaceae	Syzygium furfuraceum	LC	ver 3.1	-	-	-	-
239	Myrtaceae	Syzygium kuiense	-	-	-	-	٧	-
240	Myrtaceae	Syzygium subcorymbosum	LC	ver 3.1	-	-	-	-
241	Myrtaceae	Syzygium versteegii	-	-	-	-	٧	-
242	Myrtaceae	Xanthostemon sp	-	-	-	-	-	-
243	Myrtaceae	Syzygium kipidamasii	-	-	-	-	٧	-
244	Myrtaceae	Syzygium sp1	-	-	-	-	-	-
245	Myrtaceae	Syzygium sp2	-	-	-	-	-	-
246	Myrtaceae	Syzygium sp3	-	-	-	-	-	-

NI-	Family.	Consider		IUCN	CITEC	P.106/	Endemic	
No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
247	Nephrolepidaceae	Nephrolepis sp	-	-	-	-	-	-
248	Ochnaceae	Schuurmansia cf. montana	-	-	-	-	-	-
249	Oleaceae	Chionanthus sp	-	-	-	-	-	-
250	Orchidaceae	Bulbophyllum sp1	-	-	-	-	-	-
251	Orchidaceae	Bulbophyllum sp2	-	-	-	-	-	-
252	Orchidaceae	Coelogyne sp	-	-	-	-	-	-
253	Orchidaceae	Dendrobium sp	-	-	-	-	-	-
254	Orchidaceae	Flickingeria sp	-	-	-	-	-	-
255	Orchidaceae	Pseudovanilla sp	-	-	-	-	-	-
256	Orchidaceae	Bulbophyllum sp	-	-	-	-	-	-
257	Orobanchaceae	Ceratocalyx sp	-	-	-	-	-	-
258	Pandanaceae	Freycinetia sp	-	-	-	-	-	-
259	Pandanaceae	Pandanus brosimos	-	-	-	-	٧	-
260	Pandanaceae	Freycinetia sp1	-	-	-	-	-	-
261	Pandanaceae	Freycinetia sp2	-	-	-	-	-	-
262	Pandanaceae	Pandanus papuanus	-	-	-	-	-	-
263	Pandanaceae	Pandanus sp	-	-	-	-	-	-
264	Pentaphylacaceae	Adinandra forbesii	NT	B2ab(ii,iii)	-	-	٧	-
265	Pentaphylacaceae	Ternstroemia cherryi	-	-	-	-	٧	-
266	Pentaphylacaceae	Ternstroemia sp	-	-	-	-	-	-
267	Phyllanthaceae	Glochidion cf. striatum	-	-	-	-	-	-
268	Phyllanthaceae	Antidesma excavatum	LC	ver 3.1	-	-	-	-
269	Phyllanthaceae	Cleistanthus sp	-	-	-	-	-	-
270	Phyllanthaceae	Glochidion littorale	LC	ver 3.1	-	-	-	-
271	Phyllanthaceae	Glochidion sp	-	-	-	-	-	-
272	Phyllanthaceae	Aporosa nigropunctata	LC	ver 3.1	-	-	٧	-

NI-	Family.	Consider		IUCN	CITEC	P.106/	Endemic	
No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
273	Phyllanthaceae	Aporosa papuana	LC	ver 3.1	-	-	-	-
274	Piperaceae	Piper sp	-	-	-	-	-	-
275	Podocarpaceae	Nageia wallichiana	LC	ver 3.1	-	-	-	-
276	Polygalaceae	Xanthophyllum papuanum	LC	ver 3.1	-	-	-	-
277	Polypodiaceae	Drynaria sp	-	-	-	-	-	-
278	Primulaceae	Fittingia sp	-	-	-	-	-	-
279	Primulaceae	Fittingia tubiflora	LC	ver 3.1	-	-	٧	-
280	Primulaceae	Ardisia imperialis	-	-	-	-	٧	-
281	Pteridaceae	Taenitis sp	-	-	-	-	-	-
282	Putranjivaceae	Drypetes sp	-	-	-	-	-	-
283	Rhamnaceae	Ziziphus sp	-	-	-	-	-	-
284	Rhizophoraceae	Gynotroches axillaris	-	-	-	-	-	-
285	Rhizophoraceae	Pellacalyx sp	-	-	-	-	-	-
286	Rubiaceae	Ixora sp	-	-	-	-	-	-
287	Rubiaceae	Myrmecodia sp	-	-	-	-	-	-
288	Rubiaceae	Neonauclea sp	-	-	-	-	-	-
289	Rubiaceae	Nauclea sp	-	-	-	-	-	-
290	Rubiaceae	Hydnophytum microphyllum	-	-	-	-	٧	-
291	Rubiaceae	Psychotria sp	-	-	-	-	-	-
292	Rubiaceae	Uncaria sp	-	-	-	-	-	-
293	Rutaceae	Melicope rubra	-	-	-	-	٧	-
294	Rutaceae	Melicope elleryana	LC	ver 3.1	-	-	-	-
295	Rutaceae	Melicope sp	-	-	-	-	-	-
296	Sabiaceae	Meliosma pinnata	-	-	-	-	-	-
297	Salicaceae	Homalium foetidum	LC	ver 3.1	-	-	-	-

NI-	Family.	Consider		IUCN	CITEC	P.106/	Endemic	
No.	Family	Species	Status	Criteria	CITES	2018	Papua	Invasive
298	Sapindaceae	Cupaniopsis curvidens	LC	ver 3.1	-	-	٧	-
299	Sapindaceae	Rhysotoechia sp	-	-	-	-	-	-
300	Sapindaceae	Trigonachras cf. papuensis	-	-	-	-	-	-
301	Sapotaceae	Palaquium sp1	-	-	-	-	-	-
302	Sapotaceae	Palaquium sp2	-	-	-	-	-	-
303	Sapotaceae	Palaquium sp3	-	-	-	-	-	-
304	Sapotaceae	Burckella polymera	-	-	-	-	٧	-
305	Sapotaceae	Mimusops cf. fasciculata	-	-	-	-	-	-
306	Sapotaceae	Palaquium pseudocalophyllum	DD	ver 3.1	-	-	٧	-
307	Sapotaceae	Palaquium sp4	-	-	-	-	-	-
308	Saxifragaceae	Sericolea sp	-	-	-	-	-	-
309	Selaginellaceae	Selaginella sp	-	-	-	-	-	-
310	Smilacaceae	Smilax sp	-	-	-	-	-	-
311	Stemonuraceae	Stemonurus monticola	LC	ver 3.1	-	-	٧	-
312	Symplocaceae	Symplocos cochinchinensis	-	-	-	-	-	-
313	Tetramelaceae	Octomeles sumatrana	LC	ver 3.1	-	-	-	-
314	Theaceae	Gordonia cf. amboinensis	-	-	-	-	-	-
315	Theaceae	Polyspora papuana	LC	ver 3.1	-	-	٧	-
316	Vitaceae	Ampelocissus sp	-	-	-	-	-	-
317	Vitaceae	Cissus sp	-	-	-	-	-	-
318	Zingiberaceae	Alpinia cf. kiungensis	-	-	-	-	-	-
319	Zingiberaceae	Hornstedtia scottiana	-	-	-	-	-	-
320	Zingiberaceae	Zingiberaceae sp1	-	-	-	-	-	-
321	Zingiberaceae	Zingiberaceae sp2	-	-	-	-	-	-
322	Zingiberaceae	Alpinia sp1	-	-	-	-	-	-

No.	Family	Species		IUCN	CITES	P.106/	Endemic	Invasive
NO.		Species	Status	Criteria	CHES	2018	Papua	ilivasive
323	Zingiberaceae	Alpinia sp2	-	-	-	-	-	-
324	Zingiberaceae	Alpinia sp3	-	-	-	-	-	-
325	Zingiberaceae	Etlingera sp	-	-	-	-	-	-

Table 6.2: List of fauna species recorded in the landscape of Recovery Site

						Feeding	Cor	nservatio	on Status		Resident		Assess peri	
No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
1	Ikan	Eleotridae	Mogurnda lineata	Kokoda Mogurnda Goby	-	Omnivore	EN	-	-	Endemic	BR	W	1	-
2	Burung	Columbidae	Goura cristata	Western Crowned Pigeon	Mambruk Ubiaat	Frugivore	VU	II	Protected	Endemic	BRw	F	1	1
3	Mamalia	Cervidae	Rusa timorensis	Javan Deer	Rusa Timor	Herbivore	VU	-	Protected	-	BR	F/O	1	-
4	Burung	Accipitridae	Accipiter hiogaster	Variable Goshawk	Elang alap kelabu	Carnivore	LC	П	Protected	-	BR	F/O	1	1
5	Burung	Accipitridae	Haliaeetus leucogaster	White-bellied Sea- Eagle	Elanglaut Perut- putih	Carnivore	LC	II	Protected	-	BR	W	-	1
6	Burung	Accipitridae	Haliastur indus	Brahminy kite	Elang Bondol	Carnivore	LC	II	Protected	-	BR	F/W	1	-
7	Burung	Accipitridae	Henicopernis longicauda	Long-tailed Honey Buzzard	Elang Ekor-panjang	Carnivore	LC	II	Protected	Endemic	BR	F/O	1	-
8	Burung	Alcedinidae	Ceyx azureus	Azure kingfisher	Raja-udang biru- langit	Piscivore- insectivore	LC	-	-	-	BR	F/W	-	1
9	Burung	Alcedinidae	Dacelo gaudichaud	Rufous-bellied Kookaburra	Kukabura Perut- merah	Piscivore- insectivore	LC	-	-	Endemic	BR	F/W	1	1
10	Burung	Alcedinidae	Syma torotoro	Yellow-Billed Kingfisher	Cekakak Torotoro	Piscivore- insectivore	LC	-	-	-	BR	F	1	1
11	Burung	Anatidae	Dendrocygna guttata	Spotted Whistling- duck	Belibis totol	Omnivore	LC	-	-	-	BR	W	-	1
12	Burung	Apodidae	Collocalia esculenta	Glossy Swiftlet	Walet Sapi	Insectivore	LC	-	-	-	BR	Α	1	-
13	Burung	Apodidae	Mearnsia novaeguineae	Papuan Spinetail	Kapinis jarum Papua	Insectivore	LC	-	-	Endemic	BR	А	1	1
14	Burung	Ardeidae	Ardea alba modesta	Eastern Great Egret	Kuntul besar	Piscivore	LC	-	Protected	-	М	W	1	1
15	Burung	Ardeidae	Ardea intermedia	Intermediate Egret	Kuntul Perak	Piscivore- insectivore	LC	-	-	-	BR	W	-	1
16	Burung	Ardeidae	Ardea sumatrana	Great-billed Heron	Cangak laut	Piscivore	LC	-	Protected	-	nB	Oc/S	-	1
17	Burung	Ardeidae	Egretta garzetta	Little egret	Kuntul Kecil	Piscivore- insectivore	LC	-	-	-	nB	W	-	1
18	Burung	Ardeidae	Ixobrychus flavicollis	Black Bittern	Bambangan Hitam	Piscivore- insectivore	LC	-	Protected	-	М	W	1	-

No	Class	Family	Calantific Name	6	Landmanna	Feeding	Cor	nservatio	on Status	Fudania	Resident	Habitat	Assess peri	
No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
19	Burung	Artamidae	Cracticus cassicus	Hooded Butcherbird	Jagal Papua	Frugivore- insectivore	LC	-	-	Endemic	BR	F	1	1
20	Burung	Artamidae	Melloria quoyi	Black Butcherbird	Jagal Hitam	Frugivore- insectivore	LC	=	-	-	BR	F	1	-
21	Burung	Artamidae	Peltops blainvillii	Lowland Peltops	Peltops Hutan	Insectivore	LC	-	-	Endemic	BR	F	1	1
22	Burung	Bucerotidae	Rhyticeros plicatus	Papuan Hornbill	Julang Irian	Frugivore	LC	II	Protected	-	BR	F	1	1
23	Burung	Cacatuidae	Cacatua galerita	Sulphur-Crested Cockatoo	Kakatua Koki	Frugivore	LC	II	Protected	-	BR	F/O	1	1
24	Burung	Cacatuidae	Probosciger aterrimus	Palm Cockatoo	Kakatua Raja	Frugivore	LC	I	Protected	-	BR	F/O	1	-
25	Burung	Campephagidae	Campochaera sloetii	Golden Cuckooshrike	Kepudang sungu emas	Frugivore- Insectivore	LC	-	-	Endemic	BR	F	1	-
26	Burung	Campephagidae	Coracina boyeri	Boyer's Cuckooshrike	Kepudang-sungu Kelek-coklat	Frugivore- insectivore	LC	-	-	Endemic	BR	F	-	1
27	Burung	Campephagidae	Coracina papuensis	White-bellied Cuckooshrike	Burung Kepudang sungguh kartula	Frugivore- Insectivore	LC	-	-	-	BR	F	1	-
28	Burung	Campephagidae	Edolisoma melas	New Guinea Cicadabird	Kepudang-sungu Hitam	Frugivore- Insectivore	LC	-	-	Endemic	BR	F	1	-
29	Burung	Campephagidae	Edolisoma schisticeps	Grey-headed Cicadabird	Kepudang sunngu desin	Frugivore- Insectivore	LC	-	-	Endemic	BR	F	1	-
30	Burung	Casuariidae	Casuarius casuarius	Southern Cassowary	Kasuari Gelambir- ganda	Omnivore	LC	-	Protected	-	BR	F	1	-
31	Burung	Casuariidae	Casuarius sp	Cassowary	Kasuari	Omnivore	-	-	-	-	BR	F	-	1
32	Burung	Columbidae	Chalcophaps stephani	Stephan's Emerald Dove	Delimukan Timur	Frugivore	LC	-	-	-	BR	F	1	-
33	Burung	Columbidae	Ducula pinon	Pinon's Imperial- pigeon	Pergam Pinon	Frugivore	LC	-	-	Endemic	BR	F/O	1	-
34	Burung	Columbidae	Ducula zoeae	Zoe's Imperial- pigeon	Pergam Zoe	Frugivore	LC	-	-	Endemic	BR	F	1	1
35	Burung	Columbidae	Gallicolumba rufigula	Cinnamon Ground- dove	Delimukan Pomo	Frugivore	LC	-	-	Endemic	BR	F	-	1
36	Burung	Columbidae	Macropygia amboinensis	Slender-billed Cuckoo-dove	Uncal ambon	Frugivore	LC	-	-	-	BR	F	-	1

							Cor	servatio	on Status				Assess	
No.	Class	Family	Scientific Name	Common name	Local name	Feeding	Col		ni Status	Endemic	Resident	Habitat	per	od
		,,				guild	IUCN	CITES	P.106 /2018		/Migrant		2020	2021
37	Burung	Columbidae	Macropygia phasianella	Brown Cuckoo-dove	Uncal Ambon	Frugivore	LC	-	-	-	BR	F/O	1	1
38	Burung	Columbidae	Megaloprepia magnifica	Wompoo Fruit- Dove	Walik Wompu	Frugivore	LC	-	-	-	BR	F	1	1
39	Burung	Columbidae	Ptilinopus aurantiifrons	Orange-fronted Fruit Dove	Walik Dahi-jingga	Frugivore	LC	-	-	Endemic	BR	F	1	-
40	Burung	Columbidae	Ptilinopus coronulatus	Coroneted Fruit- Dove	Walik Lunggung	Frugivore	LC	-	-	Endemic	BR	F	1	-
41	Burung	Columbidae	Ptilinopus iozonus	Orange-Bellied Fruit Dove	Walik Perut-jingga	Frugivore	LC	-	-	Endemic	BR	F	1	1
42	Burung	Columbidae	Ptilinopus nainus	Dwarf Fruit Dove	Walik Kerdil	Frugivore	LC	-	-	Endemic	BR	F	1	1
43	Burung	Columbidae	Ptilinopus ornatus	Ornate Fruit Dove	Walik buma	Frugivore	LC	-	-	Endemic	BR	F	1	-
44	Burung	Columbidae	Ptilinopus perlatus	Pink-spotted Fruit Dove	Walik Mutiara	Frugivore	LC	-	-	Endemic	BR	F	1	-
45	Burung	Columbidae	Ptilinopus superbus	Superb Fruit Dove	Walik Raja	Frugivore	LC	-	-	-	BR	F/O	-	1
46	Burung	Columbidae	Reinwardtoena reinwardti	Great Cuckoo-Dove	Uncal Besar	Frugivore	LC	-	-	-	BR	F	-	1
47	Burung	Coraciidae	Eurystomus orientalis	Oriental Dollarbird	Tiong lampu Biasa	Insectivore	LC	-	-	-	BR(is)+M	F/O	-	1
48	Burung	Cuculidae	Cacomantis variolosus	Brush Cuckoo	Wiwik rimba	Insectivore	LC	-	-	-	BR+M	F/O	1	1
49	Burung	Cuculidae	Centropus menbeki	Ivory-billed Coucal	Bubut Pini	Insectivore	LC	-	-	Endemic	BR	F	-	1
50	Burung	Dicaeidae	Dicaeum pectorale	Olive-crowned Flowerpacker	Cabai Papua	Frugivore	LC	-	-	Endemic	BR	F	-	1
51	Burung	Dicruridae	Dicrurus bracteatus	Spangled Drongo	Srigunting Lencana	Insectivore	LC	-	-	-	BR+M	F/O	1	-
52	Burung	Estrildidae	Lonchura tristissima	Streak Headed Manikin	Bondol coreng	Gramnivore- insectivore	LC	-	-	Endemic	BR	F	1	-
53	Burung	Hemiprocnidae	Hemiprocne mystacea	Moustached treeswift	Tepekong kumis	Insectivore	LC	-	-	-	BR	A/F	1	-
54	Burung	Laridae	Chlidonias leucopterus	White-winged Tern	Dara Laut sayap putih	Piscivore- insectivore	LC	-	Protected	-	M	W	1	-
55	Burung	Megapodiidae	Megapodius reinwardt	Orange-footed Scrubfowl	Gosong Kaki-merah	Frugivore- insectivore	LC	-	Protected	-	BRs,w	F	1	-

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No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
56	Burung	Megapodiidae	Talegalla cuvieri	Red-billed Brush- turkey	Maleo Kamur	Frugivore- insectivore	LC	-	Protected	Endemic	BR	F	1	1
57	Burung	Meliphagidae	Meliphaga aruensis	Puff-backed Honeyeater	Meliphaga aru	Frugivore	LC	-	-	Endemic	BR	F	-	1
58	Burung	Meliphagidae	Meliphaga sp	Honeyeater	Meliphaga	Frugivore	-	-	-	-	BR	F	-	1
59	Burung	Meliphagidae	Microptilotis flavirictus	Yellow-gaped Honeyeater	Meliphaga Paruh- kuning	Frugivore- insectivore	LC	-	-	Endemic	BR	F/O	1	-
60	Burung	Meliphagidae	Philemon buceroides	Helmeted Friarbird	Cikukua Tanduk	Frugivore- insectivore	LC	-	-	-	BR	F/O	1	1
61	Burung	Meliphagidae	Pycnopygius stictocephalus	Streak-Headed Honeyeater	Isap madu Kepala- coreng	Nectarivore- insectivore	LC	-	-	Endemic	BR	F/O	1	-
62	Burung	Meliphagidae	Xanthotis flaviventer	Tawny-breasted Honeyeater	Isap madu dada coklat	Nectarivore- insectivore	LC	-	-	-	BR	F/O	1	1
63	Burung	Monarchidae	Arses telescopthalmus	Frilled Monarch	Kehicap Biku-biku	Insectivore	LC	-	-	Endemic	BR	F	1	1
64	Burung	Monarchidae	Carterornis chrysomela	Golden Monarch	Kehicap Emas	Insectivore	LC	-	-	-	BR	F	1	-
65	Burung	Monarchidae	Myiagra alecto	Shining Flycatcher	Sikatan Kilap	Insectivore	LC	-	-	-	BR	Fm/O	1	1
66	Burung	Monarchidae	Symposiachrus manadensis	Hooded Monarch	Kehicap Bertopi	Insectivore	LC	-	-	Endemic	BR	F	1	1
67	Burung	Motacillidae	Motacilla cinerea	Grey Wagtail	Kicuit batu	Insectivore	LC	-	-	-	М	0	-	1
68	Burung	Nectariniidae	Cinnyris jugularis	Olive-Backed Sunbird	Burung madu Sriganti	Nectarivore- insectivore	LC	-	-	-	BR	F/O	1	1
69	Burung	Nectariniidae	Leptocoma aspasia	Black Sunbird	Burung madu Hitam	Nectarivore- insectivore	LC	-	-	-	BR	F/O	1	1
70	Burung	Oriolidae	Oriolus szalayi	Brown Oriole	Kepudang Coklat	Frugivore	LC	-	-	Endemic	BR	F	1	-
71	Burung	Paradisaeidae	Manucodia ater	Glossy-mantled Manucode	Manucodia Kilap	Frugivore- Insectivore	LC	II	Protected	Endemic	BR	F	1	1
72	Burung	Phalacrocoracidae	Microcarbo melanoleucos	Little Pied Cormorant	Pecuk padi Belang	Piscivore	LC	-	-	-	Ms	W	1	1
73	Burung	Phalacrocoracidae	Phalacrocorax sulcirostris	Little Black Cormorant	Pecuk-padi hitam	Piscivore	LC	-	-	-	Ms	W	1	1
74	Burung	Podargidae	Podargus papuensis	Papuan frogmouth	Paruh-kodok papua	Carnivore	LC	-	-	-	BR	F/O	-	1

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No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
75	Burung	Psittacidae	Chalcopsitta atra	Black Lory	Nuri Hitam	Frugivore	LC	Ш	Protected	Endemic	BR	F/O	1	1
76	Burung	Psittacidae	Eclectus polychloros	Papuan Eclectus	Nuri Bayan	Frugivore	LC	II	Protected	-	BR	F	1	1
77	Burung	Psittacidae	Geoffroyus geoffroyi	Red-cheeked Parrot	Nuri Pipi-merah	Frugivore	LC	II	Protected	-	BR	F	1	1
78	Burung	Psittacidae	Lorius lory	Black-capped Lory	Kasturi Kepala- hitam	Frugivore	LC	II	Protected	Endemic	BR	F	1	1
19	Burung	Psittacidae	Trichoglossus haematodus	Coconut Lorikeet	Perkici Pelangi	Frugivore	LC	II	Protected	-	BR	F/O	1	1
80	Burung	Rallidae	Rallina cf. tricolor	Red-necked Crake	Tikusan Tukar	Insectivore	LC	-	-	-	BR	F	1	-
81	Burung	Rhipiduridae	Rhipidura leucophrys	Willie Wagtail	Kipasan Kebun	Insectivore	LC	-	-	-	BR	0	-	1
82	Burung	Rhipiduridae	Rhipidura leucothorax	White-bellied Thicket-Fantail	Kipasan-semak Perut-putih	Insectivore	LC	-	-	Endemic	BR	F/O	-	1
83	Burung	Rhipiduridae	Rhipidura maculipectus	Black Thicket-fantail	Kipasan-semak Hitam	Insectivore	LC	-	-	Endemic	BRs	F	1	-
84	Burung	Sturnidae	Aplonis metallica	Metallic Starling	Perling Ungu	Frugivore- insectivore	LC	-	-	-	BR+M	F/O	-	1
85	Burung	Sturnidae	Mino anais	Golden Myna	Mino Emas	Frugivore- insectivore	LC	-	-	Endemic	BR	F	1	-
86	Burung	Sturnidae	Mino dumontii	Yellow-faced Myna	Mino Muka-kuning	Frugivore- insectivore	LC	-	-	Endemic	BR	F	1	1
87	Burung	Threskiornithidae	Threskiornis moluccus	Australian Ibis	Ibis Australia	Piscivore	LC	-	Protected	-	М	W	1	-
88	Mamalia	Dasyuridae	Myoictis melas	Three Striped Dasyure	Insinsi Pasin	Insectivore	LC	-	-	Endemic	BR	F	1	-
89	Mamalia	Macropodidae	Dorcopsis muelleri	Brown Dorcopsis	Lau-lau tanah	Folivore - frugivore	LC	-	-	Endemic	BR	F	1	-
90	Mamalia	Muridae	Rattus praetor	large New Guinea spiny rat	Tikus Senok	Omnivore	LC	-	-	-	BR	F	1	1
91	Mamalia	Muridae	Rattus sp.	Rats	-	Omnivore	-	-	-	-	BR	F	-	1
92	Mamalia	Muridae	Rattus sp1.	Rat	Tikus	Omnivore	-	-	-	-	BR	F	1	-
93	Mamalia	Muridae	Rattus sp2.	Rat	Tikus	Omnivore	-	-	-	-	BR	F	1	-

						Feeding	Coi	nservatio	n Status		Resident		Assess per	
No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
94	Mamalia	Peramelidae	Echymipera cf. kalubu	Common Echymipera	-	Omnivore	LC	-	-	Endemic	BR	F	1	1
95	Mamalia	Peramelidae	Echymipera rufescens	Long-nosed echymipera	Kalubu Nambap-Sop	Omnivore	LC	-	-	-	BR	F	1	1
96	Mamalia	Peramelidae	Echymipera sp1.	Bandicoot	Bandikut	Omnivore	-	-	-	-	BR	F	1	1
97	Mamalia	Peramelidae	Echymipera sp2.	Bandicoot	Bandikut	Omnivore	-	-	=	-	BR	F	1	-
98	Mamalia	Pteropodidae	Pteropus neohibernicus	Great Flying fox	Kalong Bismark	Frugivore	LC	II	-	Endemic	BR	A/F	1	1
99	Mamalia	Suidae	Sus scrofa	Wild Boar	Babi hutan	Omnivore	LC	-	-	-	BR	F/O	1	1
100	Reptil	Agamidae	Hypsilurus modestus	Modest forest dragon	-	Insectivore	LC	-	-	-	BR	F/W	1	=
101	Reptil	Gekkonidae	Gehyra sp.	Four-clawed gecko	-	Insectivore	-	-	-	-	BR	F/O	=	1
102	Reptil	Pygopodidae	Lialis jicari	New Guinea Snake- Lizard	Kadal-pensil	Insectivore	LC	-	-	Endemic	BR	F	1	-
103	Reptil	Scincidae	Carlia fusca	Brown four-fingered skink	Kadal coklat	Insectivore	LC	-	-	Endemic	BR	F	1	-
104	Reptil	Scincidae	Emoia atrocostata	Littoral whiptail- skink	-	Insectivore	LC	-	-	-	BR	F	-	1
105	Reptil	Scincidae	Emoia caeruleocauda	Pasific Bluetail Emo Skink	Kadal ekor biru	Insectivore	LC	-	-	-	BR	F	1	1
106	Reptil	Scincidae	Emoia longicauda	Long-tailed Slender Tree Skink	Kadal emoia ekor panjang	Insectivore	LC	-	-	-	BR	F	1	1
107	Reptil	Scincidae	Emoia pallidiceps	De Vis' Emo Skink	Kadal emoia	Insectivore	LC	-	-	Endemic	BR	F	1	-
108	Reptil	Scincidae	Emoia physicae	Slender Emo Skink	Kadal emoia	Insectivore	LC	-	-	Endemic	BR	F	1	1
109	Reptil	Scincidae	Lygisaurus novaeguineae	New Guinea Four- fingered Skink	-	Insectivore	LC	-	-	Endemic	BR	F	1	1
111	Reptil	Scincidae	Sphenomorphus jobiensis	Papuan Forest Skink	-	Insectivore	LC	-	-	Endemic	BR	F	1	-
111	Reptil	Scincidae	Sphenomorphus simus	Common Forest Skink	-	Insectivore	LC	-	-	Endemic	BR	F	1	1
112	Reptil	Varanidae	Varanus doreanus	Blue-tailed Monitor	-	Omnivore	LC	II	-	-	BR	F	1	1
113	Reptil	Varanidae	Varanus jobiensis	Peach-throated Monitor	-	Omnivore	LC	II	-	Endemic	BR	F/W	-	1

No	Class	Sec. 11.	Cotoodiffo Nome	6	11	Feeding	Coi	nservatio	n Status	E. dani's	Resident	Habitat	Assess peri	
No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
114	Amphibi	Ceratobatrachidae	Cornufer cf. batantae	Batanta wrinkled ground frog	-	Insectivore	LC	-	-	Endemic	BR	F/W	1	-
115	Amphibi	Ceratobatrachidae	Cornufer cf. punctatus	dotted wrinkled ground frog	-	Insectivore	LC	-	-	Endemic	BR	F/W	1	-
116	Amphibi	Ceratobatrachidae	Cornufer papuensis	Papua wrinkled ground frog	-	Insectivore	LC	-	-	-	BR	W	1	-
117	Amphibi	Pelodryadidae	Litoria multicolor	Multi-coloured Treefrog	-	Insectivore	DD	-	-	Endemic	BR	F/W	1	-
118	Amphibi	Ranidae	Papurana sp1.	-	Katak rawa	Insectivore	-	-	-	-	BR	W	-	1
119	Amphibi	Ranidae	Papurana sp2.	-	-	Insectivore	-	-	-	-	BR	W	1	1
120	Amphibi	Ranidae	Papurana sp3.	-	-	Insectivore	-	-	-	-	BR	W	1	1
121	Ikan	Bagridae	Hemibagrus cf. nemurus	Asian redtail catfish	Baung	Omnivore	LC	-	-	-	BR	W	1	-
122	Ikan	Bagridae	Hemibagrus sp	Baung Catfish	Baung	Omnivore	-	-	-	-	BR	W	1	-
123	Ikan	Channidae	Channa striata	Snakehead Murrel	Gabus	Omnivore	LC	-	-	-	BR	W	1	-
124	Ikan	Cichlidae	Oreochromis sp	Tilapia	-	Omnivore	-	-	-	-	BR	W	1	-
125	Ikan	Eleotridae	Mogurnda sp	Goby	-	Omnivore	-	-	-	-	BR	W	1	-
126	Ikan	Melanotaeniidae	Chilatherina sp	Rainbow Fish	-	Omnivore	-	-	-	-	BR	W	1	-
127	Ikan	Osphronemidae	Trichopodus pectoralis	Snakeskin Gourami	Sepat rawa	Omnivore	LC	-	-	-	BR	W	1	-
128	Ikan	Terapontidae	Hephaestus sp	Grunter	-	Omnivore	-	-	-	-	BR	W	1	-
129	Capung	Aeshnidae	Agyrtacantha dirupta	Trifid duskhawker	-	Insectivore	LC	-	-	-	BR	W	-	1
130	Capung	Aeshnidae	Gynacantha kirbyi	Slender Duskhawker	-	Insectivore	LC	-	-	-	BR	W	1	1
131	Capung	Aeshnidae	Plattycantha acuta	Darner	-	Insectivore	DD	-	-	-	BR	W	-	1
132	Capung	Chlorocyphidae	Rhinocypha tincta	Papuan jewel	-	Insectivore	LC	-	-	-	BR	W	1	-
133	Capung	Coenagrionidae	Agriocnemis rubescens	Variable Sprite	-	Insectivore	-	-	-	-	BR	W	1	-
134	Capung	Coenagrionidae	Ischnura pruinescens	Colourful Bluetail	-	Insectivore	LC	-	-	-	BR	W	=	1

						Feeding	Co	nservatio	n Status		Resident		Assess per	
No.	Class	Family	Scientific Name	Common name	Local name	guild	IUCN	CITES	P.106 /2018	Endemic	/Migrant	Habitat	2020	2021
135	Capung	Coenagrionidae	Papuagrion auriculatum	Black stripe	-	Insectivore	DD	-	-	Endemic	BR	W	1	-
136	Capung	Coenagrionidae	Papuagrion cf. occipitale	Dragonflies	-	Insectivore	LC	-	-	Endemic	BR	F/W	1	-
137	Capung	Coenagrionidae	Teinobasis luciae	-	-	Insectivore	DD	-	-	Endemic	BR	W	-	1
138	Capung	Libellulidae	Agrionoptera insignis	Red Swamp dragon	-	Insectivore	LC	-	-	-	BR	W	-	1
139	Capung	Libellulidae	Brachydiplax duivenbodei	Darkmouth	-	Insectivore	LC	-	-	-	BR	W	1	1
140	Capung	Libellulidae	Nannophya pygmaea	Hachou-tombo	-	Insectivore	LC	-	-	-	BR	W	1	-
141	Capung	Libellulidae	Neurothemis stigmatizans	Painted Grasshawk	-	Insectivore	LC	-	-	-	BR	W	1	1
142	Capung	Libellulidae	Orthetrum villosovittatum	Fiery Skimmer	-	Insectivore	LC	-	-	-	BR	W	1	=
143	Capung	Libellulidae	Protorthemis coronata	-	-	Insectivore	LC	-	-	-	BR	F/O	-	1
144	Capung	Libellulidae	Rhyothemis resplendens	Jewel flutterer	-	Insectivore	LC	-	-	-	BR	W	1	-
145	Capung	Libellulidae	Zyxomma elgneri	Short-tailed duskdarter	-	Insectivore	LC	-	-	-	BR	F/O	-	1
146	Kupu- kupu	Drepanidae	Tridrepana sp	Moth	-	Nectarivore	-	-	-	-	BR	F/O	1	-
147	Kupu- kupu	Geometridae	Protuliocnemis biplagiata	Moth	-	Nectarivore	-	-	-	-	BR	F/O	1	-
148	Kupu- kupu	Lycaenidae	Arhopala adherbal	-	-	Nectarivore	=	-	-	Endemic	BR	F/O	1	-
149	Kupu- kupu	Lycaenidae	Arhopala axiothea	-	-	Nectarivore	-	-	-	-	BR	F/O	ı	1
150	Kupu- kupu	Lycaenidae	Arhopala thamyras	-	-	Nectarivore	-	-	-	Endemic	BR	F/O	1	1
151	Kupu- kupu	Lycaenidae	Danis danis	Large Green- Banded Blue	=	Nectarivore	-	-	-	-	BR	F/O	1	-
152	Kupu- kupu	Lycaenidae	Zizina sp	Moth	-	Nectarivore	-	-	-	-	BR	F/O	1	-

No.	Class	Family	Scientific Name	Common name	Local name	Feeding	Coi	nservatio	n Status	Endemic	Resident	Habitat	Assess per	
NO.	Class	Family	Scientific Name	Common name	Local Haine	guild	IUCN	CITES	P.106 /2018	Endennic	/Migrant	חמטונמנ	2020	2021
153	Kupu- kupu	Nymphalidae	Cethosia cydippe	Eastern Red Lacewing	-	Nectarivore	-	-	-	-	BR	F/O	-	1
154	Kupu- kupu	Nymphalidae	Hypolimnas sp	-	-	Nectarivore	-	-	-	-	BR	F/O	1	-
155	Kupu- kupu	Nymphalidae	Ideopsis juventa	Grey Glassy Tiger	-	Nectarivore	-	-	-	-	BR	F/O	1	1
156	Kupu- kupu	Nymphalidae	Mycalesis sp2.	Bush Brown	-	Nectarivore	-	-	=	-	BR	F/O	=	1
157	Kupu- kupu	Nymphalidae	Taenaris catops	Amathusiid Butterfly	-	Nectarivore	-	-	-	Endemic	BR	F/O	1	-
158	Kupu- kupu	Papilionidae	Graphium aristeus	Fivebar Swordtail	-	Nectarivore	-	-	-	-	BR	F/O	1	-
159	Kupu- kupu	Pieridae	Eurema blanda	Three-spot Grass- yellow	-	Nectarivore	-	-	-	-	BR	F/O	1	-
160	Kupu- kupu	Riodinidae	Praetaxila statira	-	-	Nectarivore	-	-	-	Endemic	BR	F/O	1	-
161	Kupu- kupu	Saturniidae	Coscinocera hercules	Hercules Moth	-	Nectarivore	-	-	-	-	BR	F/O	1	-

Note for table above:

- Resident/ Migrant: BR-Breeding resident, BRe-Restricted (or nearly so) to eastern Papua, BRn-Restricted (or nearly so) to northern Papua, BRc-Restricted (or nearly so) to central Papua, BRs-Restricted (or nearly so) to southern Papua, BRn-Restricted to islands, BR?-Residential status uncertain, M-Non-breeding temperate winter migrants, Ms-Non-breeding visitor & escapees, nB-Non breeding visitor, seasonal pattern uncertain
- Habitat: S-Coastal or pelagic (oceanic) seabirds, W-Wetland species; rivers, estuaries, lakes, marshes, etc., Wc-Coastal wetland species; mangroves, estuaries, etc., G-Grasslands, W/G-Wetlands and grasslands, F-Forest-species (Closed forest or open, lightly wooded areas), Fc-Restricted to coastal or island forests, Fm-Mostly mangrove forest, Sv-Savannah, O-Open and disturbed areas (grassland, urban, agricultural, scrub etc.), Oc-Open areas near the coast, C-Coastal, A-Aerial
- CITES: I & II Indicates species listed under CITES Appendix I or II
- IUCN: CR-Critically Endangered, EN-Endangered, VU-Vulnerable, nt- Near Threatened
- Protected by Indonesian Rules: P.106 KLHK 2018

6.2 Appendix B

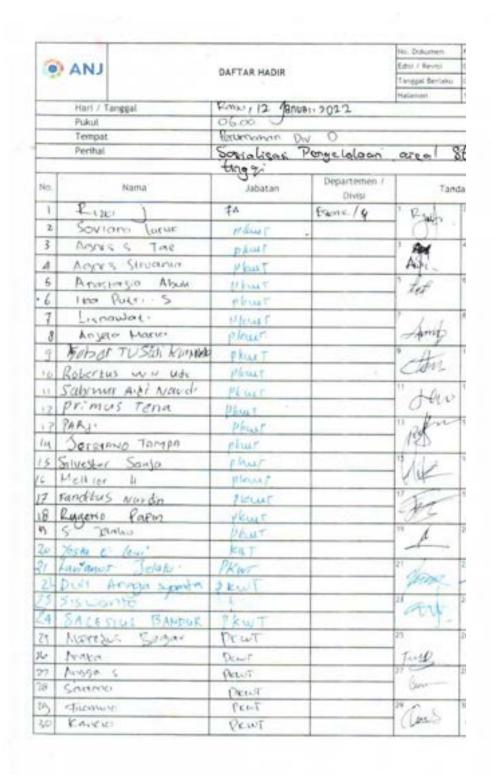
6.2.1 <u>Attendance List of Internal Socialisation</u>

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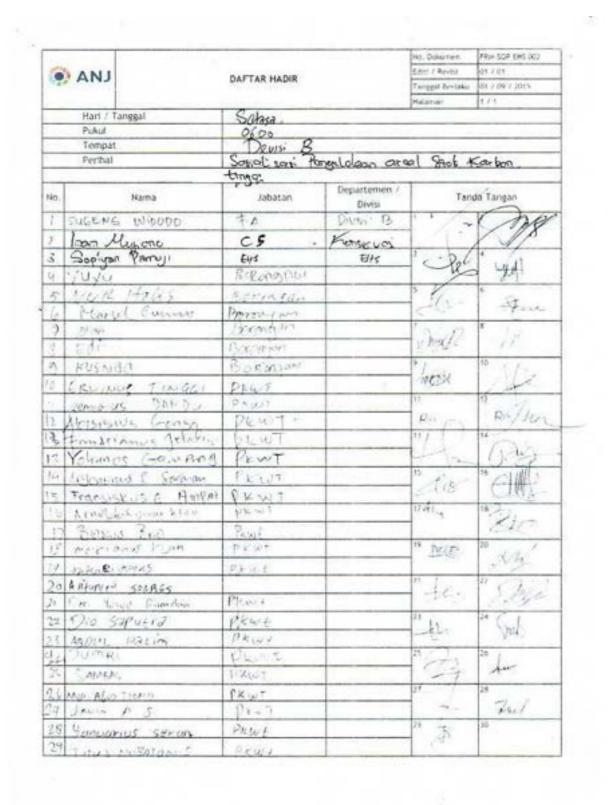
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Figure 6.1: Attendance List of Socialisation with Division F and G workers



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Figure 6.2: Attendance List of Socialisation with Division D workers



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Figure 6.3: Attendance List of Socialisation with Division B workers



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Agenda : Sallabisca: FSP0 1286 LCCE, EMS, tonservali a MCS, Edujuhan Beshalangutan Milai -Mai Prazitana

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ANJ

DAFTAR HADIR PERTEMUAN

Tanggal 63-02-14gov waittu 07:00 Tempet 90-3 Agenda

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DAFTAR HADIR PERTEMUAN

Hari : と含れば
Tanggal : 03 - 0シ - 20シン
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Agenda :

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Figure 6.4: Attendance List of Socialisation with Division C workers



: 4 Februari 2022 (Juriot) Hari

Tanggal: 06.00 Waktu

Tempat : Divisi A Agenda : Sosia lisasi Espo ISPO, SCCS, EHS, Dilai Milai P. Konservor L HCS, Edulation Berkelanitan

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39	JOHAHIS. Merung	4	
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PT Putera Manunggal Perkasa Amam Notia, 3A Floor, Suite 3A 92 J. H.R. Flaums Said Kay (310-11), Jaconta 12910, Indonesia T 92 231 2965 1777 F 162 231 2965 1788 www.amj-graup.com Member of ANJ Group

Figure 6.5: Attendance List of Socialisation with Division A workers

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Figure 6.6: Attendance List of Socialisation with Division E workers

Hari : Selesca Tanggal : 5 Juni 2022

Waktu : 15.00 WIT Tempat : Ruong Meeting M.IL

Agenda : Preterman Lics Bipartit Periode Juni 2022

NO	NAMA	DEPARTEMEN	TANDA TANGAN
1	VERI RP.	* SADAR	Joann
2	Asri Wahyu Thaharu	suct. Compliance	Talua .
3	Jalnos Livus	Agronomi / Dw. 7	1
4	Khairennas	Agronomi / Div. 3.	1
5	Muh. Juni N.	Dav 3	Sales .
6	GAYUH SUANG	HR&GA	19
7	Anwar A	ELINIK	WA
8	Ruacoy Neulohy	Fad -	
9	Naita Fallom	Kerani Div. 7	April
10	Вамьив вынторо	Security	394
n	Mahiyanto	MI	94
12	Sust. S-Letsoin	HR	Buc
13	Mohd Rinaldo	HEGA	Am
14	Tursi H. Puren	Attrovoms /ex. Brown	inness
15	Sopiyan Pamuji	EHS	, White
16	Mardianti	Civil	Ment
17	Tanz	CWT	9
18	Panadoni	20	The -

19	Ahhum	Sym fryer	Jany
20	Batselic Tähutku	Keroni CWT	Block
21	Brendic C. Chay	trainers	But
22	Venia fahayu Hur Romadhani		. Alm
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Figure 6.7: Attendance List of Socialisation with Staff and Workers



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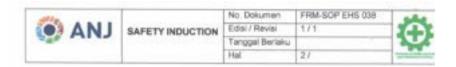
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No	Nama	Tanda Tangan	
1	Gabriel Dude .	1	
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Figure 6.8: Attendance List of Socialisation with New Workers



Figure 6.9: Attendance List of Socialisation with Securities

Hari : Komrs Tanggal : 01/05/2021 Waktu : 02-00

Tempat : MAI Agenda : 506 tolisas tebijakon Hes

NO	NAMA	Departemen	Domisili	Tanda Tangan
1	SURIATNO	Mill		No
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9	IKBAL . A	MILL		Lee
10	Sodan M Flaton	Pos	,	52
11	Disk-1	MILL		or.
12	Mario, 5	Mill		Kale .
13	Henglei, warks	Mill		of family
14	Yoraka Kahav	MICL		Oto L
15	SUARDI	MIL		Tour
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17	Isanah sha	Baci i	J.L.
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37	Agustinus o	Mill	Broke
38	Makel W	Mill	1

39	Billeam.E.R	Mill	1
40	THOMAS SAFOF	Min	Hug
41	Ahmas askhan	MIL	Jr.
42	Wayen Maring	Mill	Show -
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Figure 6.10: Attendance List of Socialisation with Mill Workers

6.2.2 Attendance List of External Socialisation

DAFTAR HADIR PERTEMUAN

Hari : Solotu

Tanggal: 11 Juni 2022

Waktu: 09.00 Tempat: Gis Studio

Agenda: Socialisasi le Kontraktor terbait pengelolaan HCS

NO	NAMA	DEPARTEMEN	TANDA TANGAN
1	MUHJIDOW	PT. WMS	Juni >
2	HAPPY.L	PT. WMS	ther.
3	GANANG S	PT. WHY	Cons
4	M. SAMUDERA	PT. WHJ	Sand
5	WETWAND. PARINUSSA	PT. 545	82
6	Agner F. Pakpahan	Flonservoji	\mathcal{A}
7	Agner F. Pakpahan	EHS	
8	Bambang BIANTORO	SECUPITY	1849
9	Asi Wahyu Thahora	sust. Complorce	Wat
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PT Putera Manunggal Perkasa

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Figure 6.11: Attendance List of Socialisation with Contractors

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Hari

Tanggal: 24

Waktu: 15.00 Tempat: puay Meeting pt pole.

Agenda: Penanda tanganan Benta Acara Verifitati lapangan

artal Kon Germei & HCS oleh Penda Maybrat

NO	NAMA	DEPARTEMEN	TANDA TANGAN
1	Navdiyoro	Kongerver.	A -
2	Horman. Sowe	Tua marga Gowe	Hayas
3	HENDRIA HOHANG	mer Sandallat	- Clark
4	YANCE HORAME	KeTua malfo	Shi
5.	NAFTALI JITMAU, ST	REPACA SERSI PELAPORAN	#
6-	Banyamin Resim, S. Hut	KEHUTANAN	Bufa
7.	278-KABIBS. HOWNY, SP	Distrass PERTAMAN	Must
8.	ONESIMUS. ATHABU, SP	DINAS PERTANLAN	Olifiz
9.	MAIKEL WAY , SP.	DINAS PERTANIAN	Sarel,
10	Yance Gung	CIO Dept-pr. pmp	the 1
71	Mochael. M.R.	Govel pmp	MWS.
12.	Venis A. Farman	STAT PERTANGEN	1 Die
13.	Yoseph Tora, sp.	STAF PERTANIAN	Aprila.
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PT Putera Manunggal Perkasa

Afrium Mulia, 3A Floor, Suite 3A-02. JL H.R. Rasuna Said Kav. B10-11, Jakarta 12910, Indonesia T |62 21 | 2965 1777 F |62 21 | 2965 1788

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Figure 6.12: Attendance List of Socialisation with local government agencies and customary landowners from Awe'e and Kaiso tribe