



ANJ

The ANJ Group Recovery Site 2nd Progress Report

July 2021

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: 30th July 2021

Task: Second 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: South Sorong Regency, West Papua Province, 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: 96 pages of main report, including maps, figures, charts, tables, and pages of appendices.

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List of Abbreviations

ANJ	Austindo Nusantara Jaya
APL	<i>Areal Penggunaan Lain</i> /Area for use other than forestry (Development)
BPN	<i>Badan Pertanahan Nasional</i>
CITES	the Convention on International Trade in Endangered Species of Wild Fauna and Flora
COVID-19	Coronavirus Disease
DD	Data Deficient species
EN	Endangered species
FPIC	Free, Prior and Informed Consent
GIS	Geographic Information System
GPS	Global Positioning System
ha	Hectares
HCS	High Carbon Stock
HCSA	High Carbon Stock Assessment
HCV	High Conservation Value
HGU	<i>Hak Guna Usaha</i> / Right of use for agriculture
IUCN	International Union for Conservation of Nature
IUP	<i>Izin Usaha Perkebunan</i>
KEE	<i>Kawasan Ekosistem Esensial</i> / Essential Ecosystem Area
KLHK	Kementerian Lingkungan Hidup dan Kehutanan/ <i>Ministry of Environmental and Forestry</i>
km	Kilometers
KPA	Kawasan Pelestarian Alam/ <i>natural conservation areas</i>
KPK	<i>Komisi Pemberantasan Korupsi</i>
KSA	Kawasan Suaka Alam/ <i>natural sanctuary area</i>
LC	Least Concern species
m.a.s.l	Meters above sea level
MEC	Malaysian Environmental Consultants Sdn Bhd
NDPE	No Deforestation, No Peat, and No Exploitation
NTFP	Non-timber forest products
PT. PMP	PT. Putera Manunggal Perkasa
PT. PPM	PT. Permata Putera Mandiri
PT. SMM	PT. Sahabat Mewah dan Makmur
RePPPProT	Regional Physical Planning Programme for Transmigration
RSPO	Roundtable on Sustainable Palm Oil
SKT	Surat Kepemilikan Lahan
SOP	Standard Operating Procedure
TPHPB	<i>Dinas Tanaman Pangan, Hortikultura dan Perkebunan</i>
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 of 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 concession, PT. Putera Manunggal Perkasa (PT. PMP).

1.1 Objective of this document

Upon publishing the HCS Recovery Plan in February 2020, ANJ has begun implementing interim on-site management actions and planning exercises that were proposed in Phase 1 and Phase 2 of the Recovery Plan. Subsequently, ANJ issued its 1st HCS Recovery Site Progress Report in October 2020 to summarise the attempts made by the company to establish the Recovery Site as a conservation area. This document will be the 2nd HCS Recovery Site Progress Report, with the objective of reporting the continued management planning exercise made by ANJ thus far.

2 A Brief View of the Recovery Plan

As part of our commitment to offset the declared HCS area loss, ANJ has embarked on a recovery planning exercise. The construct of the recovery plan is such that it must be fully consultative and begins with the exploration of options in its West Papua concession which is not only a challenge but an initiative that will conserve an area that was originally designated for oil palm development. The challenge being the social and legal constraints in this province which requires extraordinary effort.

2.1 Key Objectives of the Recovery Plan

As part of ANJ's effort to uphold our Sustainability Policy and our buyer's commitment to NDPE, the recovery plan was designed to compensate HCS area loss that was identified within our group's oil palm concessions. The objectives of the Recovery Plan are as follows:

- To compensate for ANJ Group level clearance of HCS areas between the period of January 2016 to December 2018;
- To ensure legal and administration (regional and provincial) recognition of the Recovery Site set aside;
- To engage with stakeholders on this proposed recovery plan – ensuring full and comprehensive consultation; and
- To establish the current and future management requirements for the Recovery Site.

2.2 Recovery Plan Phases

The recovery plan has two phases. Phase 1 is the base-setting stage which requires the investigation of legal requirements, social challenges, acceptance of the additional conservation areas and compensation. These are pre-requisite actions that would lead to the establishment and subsequent management of the conservation site. Embedded within this recovery plan is the management plan exercise which depends on the successful completion of actions in Phase 1. The management planning exercise will be referred to as Phase 2, and there will be an overlap between the two phases. The key elements of Phase 1 and Phase 2 are presented Chart 2.1 below:

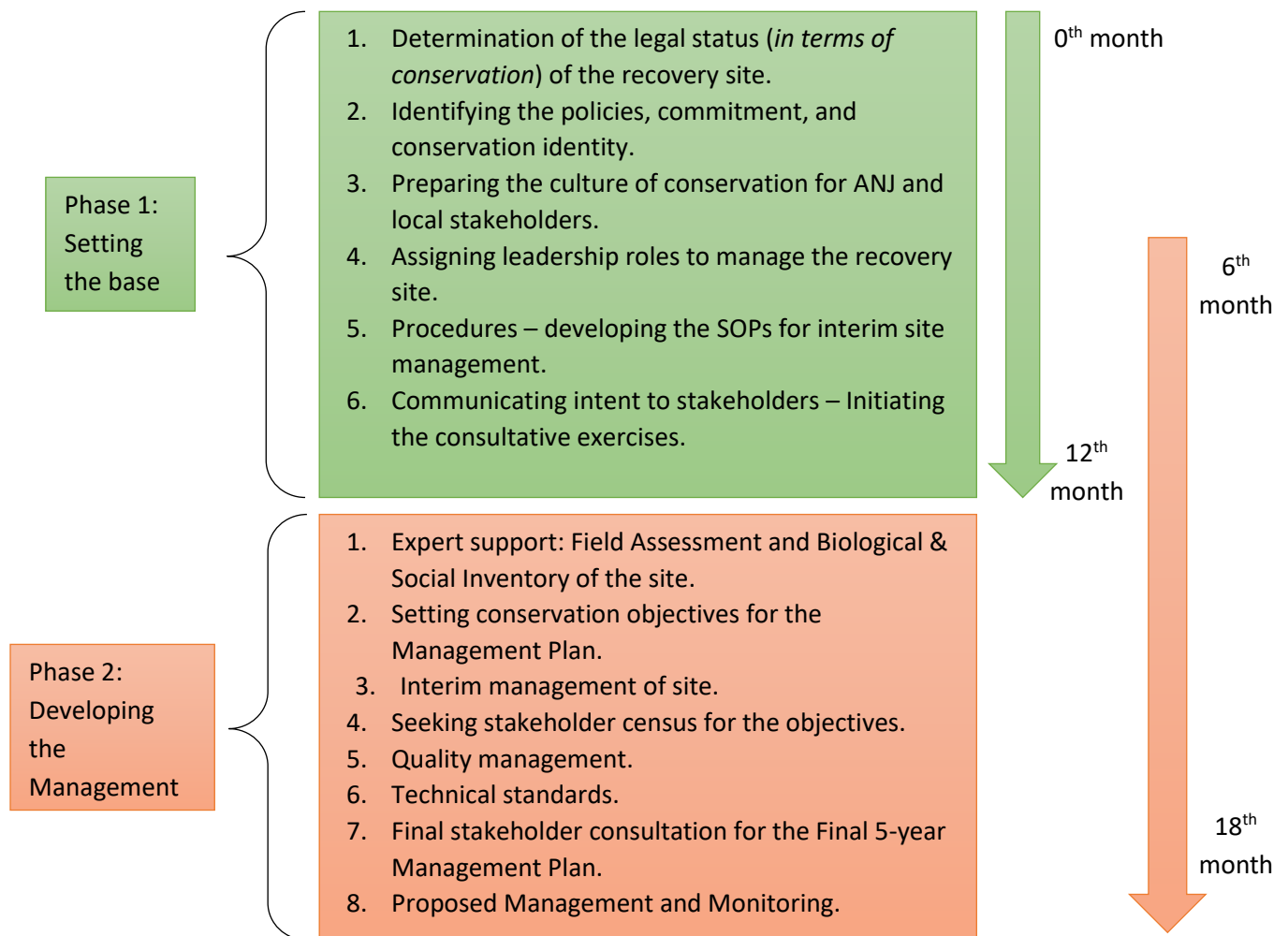


Chart 2.1: The key elements of Phase 1 and Phase 2

2.3 Summary of First Progress Report

The summary of the key initiatives and interim actions carried out in the 1st progress recovery plan is provided in Table 2.1.

Table 2.1: Key Initiatives and Interim Actions from 1st Progress Report of the ANJ Recovery Plan

Phase 1 Steps	Proposed Guidance	Key Initiatives	Interim Actions Carried out
1	Determination of the legal status (<i>in terms of conservation</i>) of the Recovery Site.	Explore Conservation Legal Status.	<ul style="list-style-type: none"> Identified Threat to the Recovery Site Legal Status. Exploring Legal Protection Alternatives (KEE & Local Provincial Protection). Initiation of Boundary demarcation.
2	Identifying the policies, commitment, and conservation identity.	Commitment Policies	<ul style="list-style-type: none"> Identification of Policies and Standard Operating Procedures (SOPs) relevant to the management of the Recovery Site.
3	Preparing the culture of conservation for ANJ and local stakeholders.	Internal Communication, Socialisation.	<ul style="list-style-type: none"> Internal Socialisation: Introducing the Recovery Plan and Recovery Site to internal stakeholders and local communities.
4	Assigning leadership roles to manage the Recovery Site.	Organisation Chart	<ul style="list-style-type: none"> Development of the ANJ Recovery Site Management Committee (Organisation Chart).
5	Procedures – developing the SOPs for interim site management.	Standard Operating Procedures	<ul style="list-style-type: none"> Identification of Standard Operating Procedures (SOPs) relevant to the management of the Recovery Site.
6	Communicating intent to stakeholders – Initiating the consultative exercises.	External Communication and Consultation.	<ul style="list-style-type: none"> Initiating External Stakeholder Consultative Process. <ul style="list-style-type: none"> Identification of internal and external stakeholders. ANJ would have to undertake an exercise to identify relevant external stakeholders especially regional. In addition to this, the exercise will attract other international set of stakeholders such as Mighty Earth.
7	Expert support: Field Assessment and Biological & Social Inventory of the site.	Biodiversity Assessment	<ul style="list-style-type: none"> Initial Ecological and Social Assessment. <ul style="list-style-type: none"> Field visit for Ecology and Social survey by technical experts. Drone Mapping.
8	Setting conservation objectives for the Management Plan.	Exploring objectives of the management plan	<ul style="list-style-type: none"> Recovery Site Management Objective Public Consultation. Management planning exercise. Developing Management Budget (Interim Budget available). Rehabilitation Strategy for Cleared Areas. Establishment of Nursery.

3 Second Progress Report

After publishing the HCS Recovery Site 1st Progress Report, ANJ continued with its efforts to undertake interim site management actions and planning exercises for the Recovery Site, despite having to endure a heightened Covid-19 pandemic situation in Indonesia. Below is the list of activities carried out in the period covered by the 2nd progress report:

- i. Independent Reassessment and Updating of ANJ Group High Carbon Stock (HCS) Loss.
- ii. Expansion of Recovery Site Extent.
- iii. Recovery Site: Legal Conservation Protection Efforts.
 - Exploring Legal Protection Alternatives (KEE and Local Provincial Protection).
- iv. Continuous Communication and Stakeholder Engagement.
- v. Building the Team – A restructuring of the Recovery Plan management committee.
- vi. Independent Preliminary Biological and Social Survey Findings.
- vii. Interim Site Management Actions in Progress: -
 - Recovery Site A and B Boundary Demarcation,
 - Drone mapping,
 - Monitoring of Site Integrity via Areal Observation,
 - Progress of Nursery and Targeted Site Rehabilitation, and
 - Expenditure.
- viii. Covid- 19 Pandemic Implication onto the Progress of Recovery Site Management Planning and Implementation.

3.1 Independent Reassessment and Updating of ANJ Group High Carbon Stock (HCS) Loss

The initial identification of HCS area loss between January 1st, 2016 to December 31st, 2018 was undertaken to determine ANJ’s HCS liability. This output was reviewed by stakeholders and a question of accuracy was raised. In view of this, ANJ commissioned a reassessment to review the assessment and identify any accuracy gaps. The period of reassessment was extended to 7th October 2019 to identify any post December 2018 clearing. The identified liability is compensated in the form of a consolidated block attached to our West Papuan concession, Indonesia.

The reassessment of potential HCS loss was conducted in PT. SMM, PT. PMP, and PT. PPM. These are the estates with operational land development during the said period and HCS loss has been detected. The independent exercise was completed in January 2021. The results of the analysis are presented in the Table 3.1 below.

Table 3.1: Comparison of HCS Loss Assessment for ANJ Group

No	Estate		Location	1 st assessment	Reassessment	Difference (ha)
				Total HCS Loss Between 2016 to 2018 (ha)	Total HCS Loss Between 2016 to 2018 (ha)	
1	Austindo Nusantara Jaya (ANJA)	ANJA	North Sumatera	-	-	-
2	Austindo Nusantara Jaya Agri Siais (SIAIS)	SIAIS		-	-	-
3	Galempa Sejahtera Bersama (GSB)	GSB	South Sumatera	-	-	-
4	Sahabat Mewah dan Makmur (SMM)	SMM	Bangka Belitung	17.81	43.42	25.61
5	Kayung Agro Lestari (KAL)	KAL	West Kalimantan	-	-	-
6	Austindo Nusantara Jaya-Papua (ANJT)	ANJT	West Papua	-	-	-
7	Putera Manunggal Perkasa (PMP)	PMP		690.32	800.49	110.17
8	Permata Putera Mandiri (PPM)	PPM		1,822.42	2,114.60	292.18
Total HCS Loss Identified (ha)				2,530.55	2,958.51	+427.96

From the desktop land cover classification, it was calculated that the accumulative HCS loss in PT. SMM, PT. PMP, and PT. PPM is now 2,958.51 ha. The difference between the first and second assessment is 427.96 ha. Although the period was extended to 7th October 2019 (date of satellite image used), no additional clearing was detected post December 2018.

3.2 Expansion of Recovery Site Extent

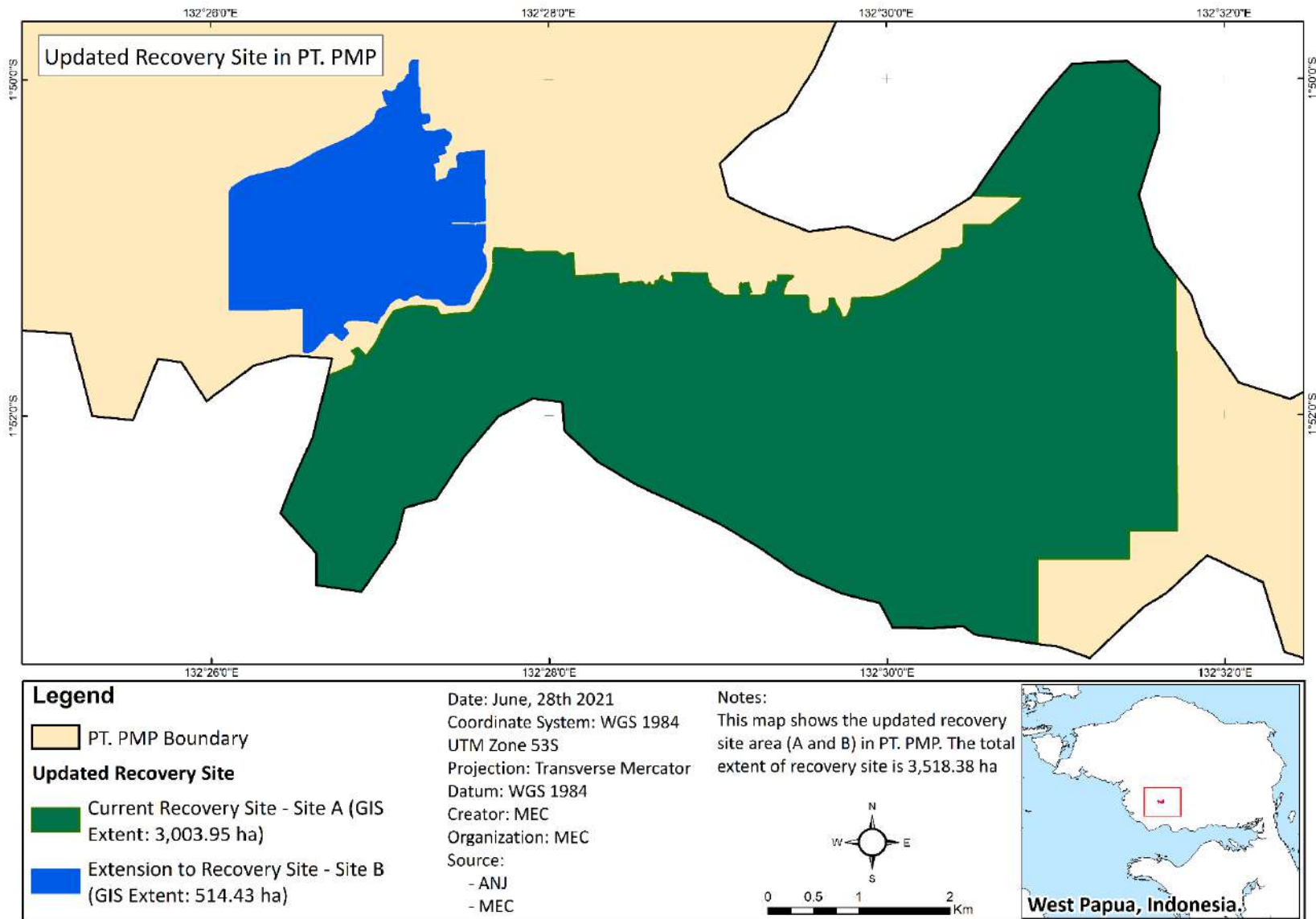
ANJ Group declares that its HCS Liability between the period of January 1st, 2016, to December 31st, 2018, now stands of 2,958.51 ha. The initial Recovery area set-aside was 3,004 ha, due to the increase in HCS loss identification based on the reassessment has prompted ANJ to extend the Recovery Site by +514 ha adjacent to our West Papua concession (Map 3.1). The new Recovery Site now stands at 3,518 ha. The additional area has high carbon stock potential and appropriate changes have been made to the Recovery Site management plan to accommodate the changes.

3.2.1 Updated Landcover

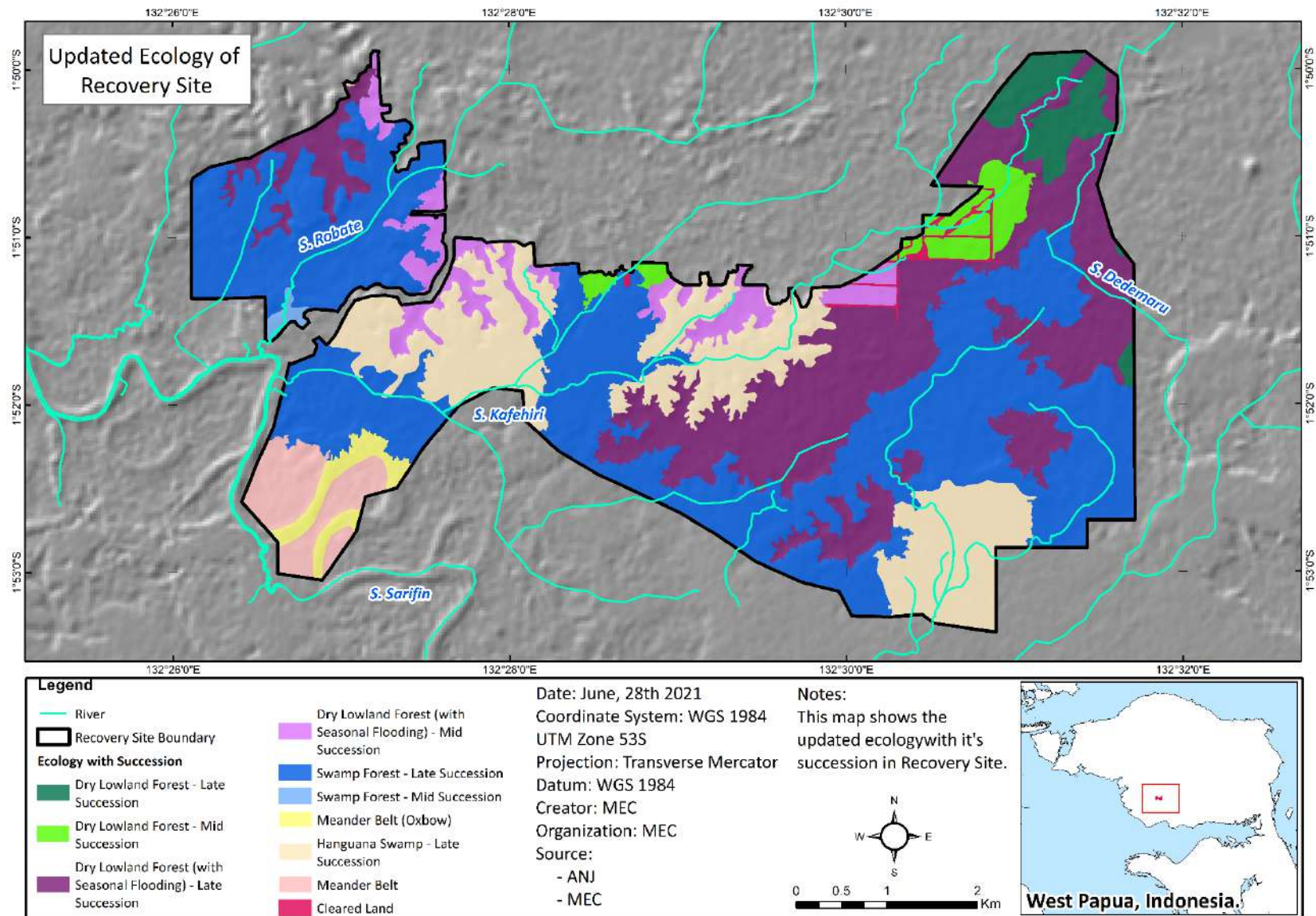
The updated land cover analysis of the Recovery Site A and B is summarised in Table 3.2 and shown Map 3.2.

Table 3.2: Updated landcover within Recovery Site A and B

Land Cover in Recovery Area	GIS Extent (ha)	Percentage (%)
Dry Lowland Forest - Late Succession	111.76	3.2%
Dry Lowland Forest - Mid Succession	93.08	2.6%
Dry Lowland Forest (with Seasonal Flooding) - Late Succession	825.20	23.5%
Dry Lowland Forest (with Seasonal Flooding) - Mid Succession	174.87	5.0%
Swamp Forest - Late Succession	1,504.23	42.8%
Swamp Forest - Mid Succession	11.90	0.3%
Meander Belt (Oxbow)	51.95	1.5%
Hanguana Swamp - Late Succession	601.23	17.1%
Meander Belt	122.18	3.5%
Cleared Land	21.98	0.6%
Total GIS Extent (ha)	3,518.38	100.0%



Map 3.1: Location of the Recovery Site in PT. PMP



Map 3.2: Updated land cover analysis of the Recovery Site

3.3 Recovery Site: Legal Conservation Protection Efforts

As mentioned in the 1st progress report, the HCS Recovery Site currently has a legal status of *Areal Penggunaan Lain* (APL), where in the Indonesian legal context, areas in which the forest can be cleared and developed for agriculture with the approval of the provincial government. This is because the Recovery Site is located within PT. PMP's *Hak Guna Usaha* (HGU).

Exploring Legal Protection Alternatives (KEE and Local Provincial Protection)

ANJ is committed to secure the Recovery Site in PT. PMP as a conservation area. While ANJ is still exploring the possibility of declaring the Recovery Site as a *Kawasan Ekosistem Esensial* (KEE), the progress of negotiation with the local government has been proven difficult due to the rise in Covid-19 cases in West Papua. An attempt was made by ANJ to communicate the proposed collaboration with the local government to explore legal conservation protection for the HCS Recovery Site. The proof of meeting is presented in Section 3.4.2. However, ANJ is currently waiting for the Covid-19 social restrictions to be lifted before resuming focused discussions with the Bupati and provincial government on how to proceed with making the site legally recognised for conservation. In the meantime, the ANJ Government Relations team will continue to monitor and follow up with the local government on the status of their proposal from time to time.

3.4 Continuous Communication and Stakeholder Engagement

ANJ continued with its intention to communicate and engage with key stakeholders to gain feedback, consensus and build collaboration for the Recovery Site Management Plan. The internal and external stakeholder engagement proceeded from January to May 2021.

The following is a list of internal and external socialisation, as well as engagements conducted throughout the period of this 2nd progress report: -

- October 2020 – Socialisation with Division A, B and F estate workers,
- October 2020 – Socialisation with customary landowners and other local communities in Sumano Village,
- November 2020 – Socialisation with mill workers,
- January 2021 – Meeting with mandores and supervisors of each division,
- February 2021 – Socialisation with Division H estate workers,
- March 2021 - Socialisation with new workers,
- April 2021 – Internal meeting with internal staff,
- April 2021 – Socialisation with customary landowners and other local communities in Sumano Village,
- May 2021 – Socialisation with local communities in Sumano Village, and
- May 2021– Socialisation to South Sorong District Assistant.

3.4.1 Internal Stakeholder Engagement

i. Socialisation on the Recovery Site with Division A, B and F workers

The company has continued socialization with workers from Division A, B and F. The socialization with Division A, B and workers held on:

- Division B - 7th October 2020 at 7.00am,
- Division A - 16th October 2020 at 6.00am and
- Division F - 28th October 2020 at 6.30am.

A majority of these workers are from Sumano and Benawa villages (Photo 3.1). A total of 65 workers from Division A, 86 workers from Division B, and 68 workers from Division F have attended this socialisation session. The attendance list of the socialisation session is presented in the Appendix B Figure 7.1, Figure 7.2 and Figure 7.3.



Photo 3.1: Socialisation held to implement Recovery Site interim activities with Division A, B and F workers

ii. Socialisation on the Recovery Site with Mill workers

The ANJ management has also conducted socialization with mill workers on 12th November 2020 at 8.00am (

Photo 3.2). A total of 26 workers from mill have attended this socialisation session. The attendance list of the socialisation session is presented in the Appendix B Figure 7.4.



Photo 3.2: Socialisation held with mill workers

iii. Meeting with mandores and supervisors of each division

A meeting was conducted on 16th January 2021 at 10am with mandores and supervisors from each division (Photo 3.3). The objective of the meeting is to re-enforce awareness about the of Recovery Site, HCS Requirements, protection of flora and fauna, ANJ’s PENDAKI Programme, and the ANJ Conservation Policy. They were assigned to educate the other workers in the estate on the importance of the Recovery Site and its objectives. The attendance list of the socialisation session is presented in the Appendix B Figure 7.5.



Photo 3.3: Socialisation regarding the Recovery Site to mandores and supervisors

iv. Socialisation with Division H estate workers

A total of 58 workers in Division H were involved in socialization session below, see Photo 3.4. This socialisation held on 11th February 2021 at 6.30am. The objective of the socialisation is to re-enforce awareness and understanding of the Recovery Site, as well as to create the right mindset when carrying out activities for the project. The attendance list of the socialisation session is presented in the Appendix B Figure 7.6.



Photo 3.4: Socialisation regarding the Recovery Site to Division H workers

v. Socialisation with new workers.

A socialization session was conducted with 38 new workers on 23rd March 2021 at 10.00am (see Photo 3.5). The socialisation was to introduce the HCS Recovery Site, its purpose and site conservation objectives. It is also to create awareness and educate these new workers on the importance of the Recovery Site. The attendance list of the socialisation session is presented in the Appendix B Figure 7.7.



Photo 3.5: Socialisation regarding the Recovery Site to the new workers

vi. Internal Meeting among ANJ's Internal Staff

The follow-up internal meeting to discuss about the Recovery Site is carried out on 5th April 2021 (Photo 3.6). This meeting consists of Chief Operating Officer (COO), Region Head Area 3, Operational General Manager, Conservation, Compliance, Government Relationship, CID, Legal, GIS, License and Permit Departments.



Photo 3.6: Internal Meeting held to discuss the progress of Recovery Site

3.4.2 External Stakeholder Engagement

ANJ has continued the Recovery Site consultative process with local communities, and the West Papuan South Sorong government.

vii. Socialisation with Customary Landowners and other Local Communities in Sumano Village

The socialization was conducted in Balai Pertemuan Sumano Village on 14th October 2020 with the customary landowners and the local communities from 3.30pm to 4.15pm (Photo 3.7). The attendance list of the socialization is included in Appendix B Figure 7.8. The objective of the socialisation is to introduce the Recovery Site and explained the importance of conserving this area.



Photo 3.7: Socialisation on the Recovery Site with locals from Sumano Village

viii. Socialisation with Customary Landowners and other Local Communities

ANJ held discussions with the customary landowner representatives and locals from Sumano and Benawa Villages (specifically the Awee tribe). The attendance list of the socialization is included in Appendix B Figure 7.9. This socialisation held on 21st April 2021 from 4pm to 5.30pm. Refer to Photo 3.8.



Photo 3.8: Socialisation on the Recovery Site with customary landowner representatives and locals from Sumano and Benawa Villages

ix. Socialisation with Local Communities in Sumano Village

A socialisation was conducted on 3rd May 2021 and 7th May 2021 with the local communities (Photo 3.9). The attendance list of the socialization is included in Appendix B Figure 7.10 and Figure 7.11. In the socialization, ANJ team explained the locals about the of Recovery Site, HCS Requirements, protection of flora and fauna, ANJ's PENDAKI Programme, and the importance of conserving the area.



Photo 3.9: Socialisation on the Recovery Site with locals from Sumano Village

x. Socialisation to South Sorong District Assistant

ANJ also presented the HCS Recovery Site proposal and collaboration recommendation to the South Sorong District Assistant (Asisten 2 Plt Sekretaris Daerah Kabupaten Sorong Selatan), who was the 'Acting Secretary'. Refer to Photo 3.10. This meeting occurred on 5th May 2021.



Photo 3.10: Photos of engagement with the South Sorong local government

3.5 Building the Team – A restructuring of the Recovery Plan management committee

For effective management of the Recovery Site, ANJ has restructured its HCS Recovery Site management committee. The updated organization chart is presented in Chart 3.1 below.

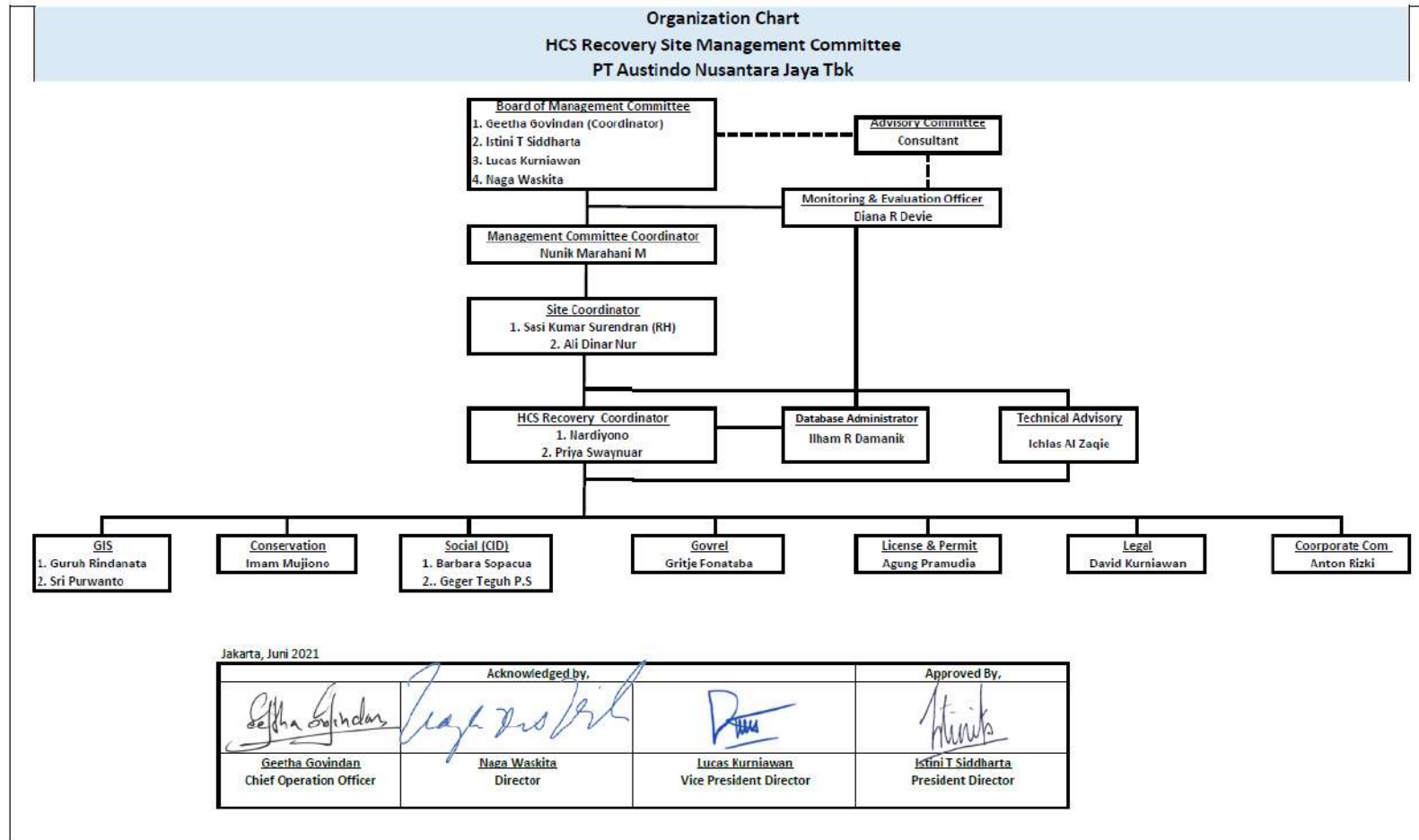


Chart 3.1: Updated ANJ HCS Recovery Site Management Committee

3.6 Independent Preliminary Biological and Social Survey Findings

The independent survey was conducted in the recovery site from 8th November to 2nd December 2020 to ground-truth the ecological conditions and to assess the presence and diversity of the flora and fauna. There were 16 sampling sites surveyed for both the ecological and botanical assessments (see Map 3.3). The count of different flora and fauna species recorded gives us a first impression of the ‘value’ a 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.

3.6.1 Preliminary Faunal Composition in the Recovery Site

A total of 101 species of vertebrates and 23 species of invertebrates were recorded in the site, giving an overall total of 124 faunal species recorded within the Recovery Site. There are 64 species of birds from 28 families, 11 species of mammals from 7 families, 9 species of fishes from 7 families, 6 species of amphibians from 3 families and 11 species of reptiles from 4 families. Over 23 species of dragonflies and butterflies were also recorded. The full animal species list is provided in Appendix A, Table 7.2, and a summary count for the Recovery Site is presented here in Table 3.3. The dominant bird families are Columbidae (pigeons) and Psittaculidae (parrots). Muridae (rodents), and Peramelidae (bandicoots) were the dominant mammals recorded. While the skinks were the most common reptiles, the Rhacophoridae and the Ceratobatrachidae were the main amphibians.

Table 3.3: Summary of vertebrates and invertebrates recorded in the Recovery Site

Group	Species count	Family Count
Vertebrates		
Birds	64	28
Reptiles	11	4
Amphibians	6	3
Mammals	11	7
Fishes	9	7
Invertebrates		
Dragonflies	10	4
Butterflies	13	8
Grand Total	124	61

Birds

Most of the Papuan bird species live in just one of the main habitat categories such as marine, mangrove, aquatic, savanna, wet tropical forest (lowland through upper montane) and alpine habitats (Kartikasari S. N., *et.al.* 2012). There are 64 bird species from 28 families found in the dry, wet and interphase areas of the Recovery Site. Bird diversity in a region depends on the variety and extent of available habitats and the niches contained therein (Dumbacher *et al.* 2006). Dominant bird species found in dry lowland forests are Columbidae (pigeons, doves), Psittaculidae (parrots) dan Meliphagidae (honeyeaters). Some of the bird species that are well adapted to wet areas found in Papua are Ardeidae (herons), Alcedinidae (kingfishers), Phalacrocoracidae (cormorants), Laridae (seagulls), Threskiornithidae (ibis). *Cacatua galerita*

and *Probosciger aterrimus* are commonly found in the transition area (wet and dry interphase) in Papua. *Casuarius casuarius*, *Megapodius reinwardt*, *Talegalla cuvieri* and *Rallina tricolor* are few examples found in the lowland and transition areas in the Recovery Site during the assessment.

Mammalia

A total of 11 mammal species from 7 families were recorded during the survey in the Recovery Site. Brown dorcopsis (*Dorcopsis muelleri*) is the only endemic species found in the site. *Sus scrofa* and *Rusa timorensis* are migrant species introduced into Papua (Kartikasari S. N., *et.al.* 2012). Wild boars are commonly found mammals in the Recovery Site. *Pteropus neohibernicus* (great flying fox) is one of the flying mammals that lives in the riparian to swamp areas as a colony. Small mammals such as *Myoictis melas* (three-striped dasyure), *Echymipera* spp (spiny bandicoot), and Muridae (rodents) are commonly found in the Recovery Site. These small mammals are most active at the night (nocturnal species).

Herpetofauna

Herpetofauna consists of reptiles and amphibians of a particular region. There are 6 amphibian species from 3 families and 11 reptile species from 4 families. Frogs in Papua are ecologically diverse, encompassing a variety of fossorial, terrestrial, semi-aquatic, scansorial, and arboreal forms. Frogs are commonly heard in swamp areas in the Recovery Site. However, these frogs such as *Papurana* spp. were rarely seen because they are either in between the roots or the Hanguana plants. *Litoria multicolor* is one of the treefrog species found in the Recovery Site. Ground frogs such as *Cornufer batantae*, *Cornufer punctatus* and *Cornufer papuensis* are also found in the dry lowland areas in the Recovery Site. The majority of detected reptiles from the Scincidae family were found in the drier forest areas with lots of litter and piles of fallen wood. Other reptile species such *Carlia fusca* and *Emoia longicauda* were commonly found near settlements and plantations. *Hypsilurus modestus* from the Agamidae family and *Varanus doreanus* from the Varanidae family were both found in dry and interphase areas, inhabiting trees.

Freshwater fish

A total of 9 freshwater fish species from 7 families were recorded in the Recovery Site. One of the freshwater fish found in the site, *Mogurnda lineata* is endemic to Papua. This species inhabits small, clear, rainforest streams in foot-hills. *Hephaestus* sp and *Chilatherina* sp are found in the narrow river in low-hilly areas and these species can share habitats with *Hemibagrus* sp and *Oreochromis* sp which are commonly found in large rivers. Swamp areas are the main habitat for the freshwater fish in the Recovery Site. *Hemibagrus* cf. *nemurus*, *Channa striata* and *Trichopodus pectoralis* are few species found in Recovery Site that inhabits shallow sluggish or standing-water habitats with a lot of aquatic vegetation.

Insects

There are 13 butterfly species from 8 families and 10 dragonfly species from 4 families that have been identified in the Recovery Site. Dragonflies and butterflies have their functions in monitoring the quality of water and the environment. Dragonflies can be used as an indicator of clean water. *Gynacantha kirbyi*, *Rhinocypha tinctoria*, *Neurothemis stigmatizans*, *Orthetrum villosovittatum* and *Rhyothemis resplendens* were found in the small streams in between dryland areas. Meanwhile, temporal dragonflies such as

Agriocnemis rubescens, *Papuagrion auriculatum*, *Brachydiplax duivenbodei* and *Nannophya pygmaea* were found in the inundated swamp areas. Butterflies are important pollinators, and they also provide food for other organisms such as birds, reptiles and amphibians. *Danis danis*, *Ideopsis juvenata*, *Taenaris catops*, *Graphium aristeus* and *Hypolimnas* sp. are the few species found in the Recovery Site.

From the 124 fauna species identified in the Recovery Site, there are 2 Vulnerable (VU), 120 Least Concern (LC) and 2 Data Deficient (DD) species listed in the IUCN Red List (refer Table 3.4).

Table 3.4: RTE fauna species listed in Global IUCN Red list found in the Recovery Site

IUCN Red list categories	Species	Count of species
Vulnerable	<i>Goura cristata</i>	1
	<i>Rusa timorensis</i> (introduced)	1
Least Concern	-	120
Data Deficient	<i>Litoria multicolor</i>	1
	<i>Papuagrion auriculatum</i>	1
Grand Total		124

A total of 15 species are protected under CITES, of these, only *Probosciger aterrimus* is protected under Appendix I and other species are protected under Appendix II. There are also species protected under national legislation (*Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia NOMOR P.106/MENLHK/SETJEN/KUM.1/12/2018*). This legislation records the legal protection status for several species of wildlife. Twenty-one (21) species are listed as being protected in the Recovery Site. Almost all the CITES protected species are also protected under national legislation.

When considering endemism, it is better to disregard national boundaries and instead, focus on biogeographical realities. Thus, we consider endemics as species endemic to the island of Papua (Table 3.5). A total of 42 fauna species were found to be endemic to Papua in the Recovery Site. A bird species migratory analysis was also undertaken. There are 6 winter migrants from the continental north and the rest of the species are relatively common elsewhere.

Table 3.5: Numbers of endemic and migrant bird species recorded in the Recovery Site

Distribution	Species count	Scientific Names
Endemic to island of Papua	42	<ul style="list-style-type: none"> • <i>Arhopala adherbal</i> • <i>Chalcopsitta atra</i> • <i>Ducula pinon</i> • <i>Goura cristata</i> • <i>Henicopernis longicauda</i> • <i>Lorius lory</i> • <i>Manucodia ater</i> • <i>Talegalla cuvieri</i> • <i>Papuagrion auriculatum</i> • <i>Papuagrion cf. occipital</i> and 32 other species.
Migrants (bird)	6	<ul style="list-style-type: none"> • <i>Ardea alba</i>

Distribution	Species count	Scientific Names
		<ul style="list-style-type: none"> • <i>Chlidonias leucopterus</i> • <i>Ixobrychus flavicollis</i> • <i>Threskiornis moluccus</i> • <i>Microcarbo melanoleucos</i> • <i>Phalacrocorax sulcirostris</i>

A summary of conservation status of fauna species found in the Recovery Site is presented in Table 3.6 below.

Table 3.6: Numbers of animal species based on conservation status found in the Recovery Site

Conservation Status	Amphibian	Bird	Butterfly	Mammal	Reptile	Fish	Dragonfly	Total
Vulnerable - VU (IUCN)	-	1	-	1	-	-	-	2
App. I (CITES)	-	1	-	-	-	-	-	1
App. II (CITES)	-	12	-	1	1	-	-	14
PP 106 tahun 2018 (Indonesia) - Protected	-	20	-	1	-	-	-	21
Endemic to Papua	3	27	4	1	4	1	2	42
Migrant species	-	6	-	-	-	-	-	6
Total								86

There are numerous ways for measuring biodiversity and comparing evenness among trophic communities – feeding groups. It is a useful measure for this aspect of biodiversity because it looks at an important ecological role played by each species and gives an insight into how the ecological community functions. Biological diversity and community stability increases when a community eats different foods – including each other, in different ways, sizes, places, etc. To assess biodiversity, we can build an ecological model for feeding groups and the types of food they eat. Table 3.7 summarises the feeding classes indicating that the majority of the faunal species present are insectivores, then followed by frugivores, omnivores, nectarivores, and frugivore-insectivores. It can be concluded that most of the animals in the Recovery Site are insect feeders.

Table 3.7: Percentage of animal species based on feeding guilds

Primary Diet	Total species	Percentage (%)
Insectivore	39	31%
Frugivore	23	19%
Omnivore	18	15%
Nectarivore	13	10%
Frugivore-insectivore	13	10%
Piscivore	4	3%
Piscivore-insectivore	4	3%
Carnivore	3	2%
Nectarivore-insectivore	4	3%
Herbivore	1	1%
Folivore - frugivore	1	1%
Gramnivore-insectivore	1	1%
Total	124	100

The presence of (animal) species with various feeding guilds indicates that the conditions in the Recovery Site has sufficient ecological diversity and dynamic enough to support carnivores, omnivores and herbivores. For example, carnivore species such as the *Haliastur indus*, *Accipiter hiogaster* and *Henicopernis longicauda* are top predators in the food chain. There are also fruit eaters (Frugivore) who are important for maintaining flora diversity in Papua's forests such as bats from the Pteropodidae, Western crowned pigeon (*Goura Cristata*) and Hornbill (*Rhyticeros plicatus*). There are nectar feeders that serve as natural pollinators such as the olive-backed sunbird (*Cinnyris jugular*) and butterflies.

3.6.2 Photo Documentation of Wildlife found in the Recovery Site

Birds



Accipiter hiogaster - Variable Goshawk



Ardea alba modesta - Eastern Great Egret



Arses telescopthalmus - Frilled Monarch



Cacatua galerita - Sulphur-crested Cockatoo



Campochaera sloetii - Golden Cuckooshrike



Carterornis chrysomela - Golden Monarch



Casuarius - Southern Cassowary (by Camera Trap)



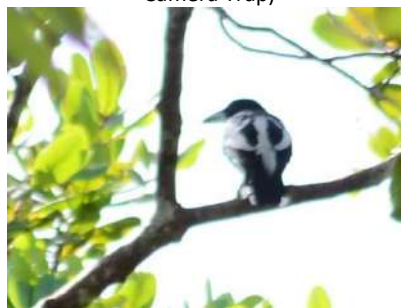
Casuarius - Southern Cassowary (by Camera Trap)



Chalcopsitta atra - Black Lory



Chlidonias leucopterus - White-winged Tern



Cracticus cassicus - Hooded Butcherbird



Dacelo gaudichaud - Rufous-bellied Kookaburra



Dicurus bracteatus - Spangled Drongo



Ducula pinon - Pinon's Imperial-pigeon



Eclectus polychloros - Papuan Eclectus



Edolisoma schisticeps - Grey-headed Cicadabird



Geoffroyus geoffroyi - Red-cheeked Parrot



Goura cristata - Western Crowned-Pigeon (by Camera Trap)



Haliastur indus - Brahminy Kite



Henicopernis longicauda - Long-tailed Honey-buzzard



Ixobrychus flavicollis - Black Bittern



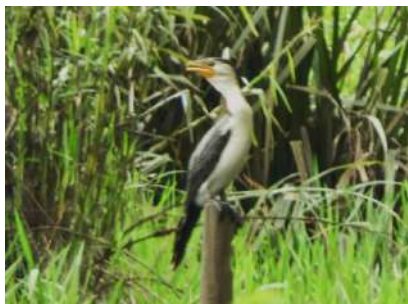
Leptocoma aspasia - Black Sunbird



Lorius lory - Black-capped Lory



Megapodius reinwardt - Orange-footed Scrubfowl (by Camera Trap)



Microcarbo melanoleucos - Little Pied Cormorant



Phalacrocorax sulcirostris - Little Black Cormorant



Ptilinopus coronulatus - Coroneted Fruit-Dove



Ptilinopus iozonus - Orange-bellied Fruit-dove



Ptilinopus perlatus - Pink-spotted Fruit-dove



Rallina cf. tricolor - Red-necked Crake (by Camera Trap)



Rhipidura maculipectus - Black Thicket-fantail



Rhyticeros plicatus - Papuan Hornbill

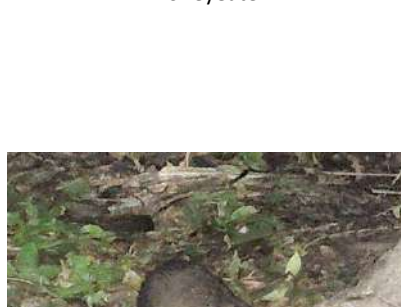


Symposiachrus manadensis - Hooded Monarch

Threskiornis moluccus - Australian White Ibis



Xanthotis flaviventer - Tawny-breasted Honeyeater



Mammals



Echymipera rufescens - Long-nosed echymipera (by Camera Trap)



Echymipera sp1 – Bandicoot (by Camera Trap)



Myoictis melas - Three Striped Dasyure (by Camera Trap)



Pteropus neohibernicus - Great Flying fox



Pteropus neohibernicus - Great Flying fox



Rattus cf. praetor - large New Guinea spiny rat (by Camera Trap)



Rattus sp1 – Rat (by Camera Trap)



Rattus sp2 – Rat (by Camera Trap)



Rusa timorensis - Deer (head skull)



Sus scrofa – Wildboar (by Camera Trap)



Sus scrofa – Wildboar (by Camera Trap)



Kaki dari Lau-lau (*Dorcopsis* sp) hasil perburuan

Reptiles



Carlia fusca - Brown four-fingered skink



Emoia caeruleocauda - Pasific Bluetail Emo Skink



Emoia longicauda - Long-tailed Slender Tree Skink



Emoia longicauda - Long-tailed Slender Tree Skink



Emoia pallidiceps - De Vis' Emo Skink



Emoia physicae - Slender Emo Skink



Hypsilurus modestus - Modest forest dragon



Hypsilurus modestus - Modest forest dragon



Lialis jicari - Papua Snake Lizard



Lygisaurus novaeguineae - New Guinea Four-fingered Skink



Sphenomorphus simus - Papuan Black-sided Forest Skink



Sphenomorphus jobiensis - Papuan Forest Skink



Varanus doreanus - Blue-tailed Monitor

Amphibians



Cornufer cf. batantae - Batanta wrinkled ground frog



Cornufer cf. batantae



Cornufer cf. batantae



Cornufer cf. punctatus - Dotted wrinkled ground frog



Cornufer papuensis - Papua wrinkled ground frog



Papurana sp2 (juvenile)



Litoria multicolor - Multi-coloured Treefrog



Litoria multicolor -



Litoria multicolor -



Papurana sp3



Papurana sp3

Fish



Channa striata - Striped snakehead



Chilatherina sp - Rainbow Fish



Hemibagrus cf. *nemurus* - Asian redtail catfish



Hemibagrus sp - Baung Catfish



Hephaestus sp - Grunter



Mogurnda lineata - Kokoda Mogurnda Goby



Mogurnda sp - Goby



Oreochromis sp - Tilapia



Trichopodus pectoralis - Snakeskin gouramy

Butterflies



Arhopala adherbal



Arhopala thamyras



Coscinocera hercules - Hercules Moth



Danis - Large Green-Banded Blue



Eurema blanda - Three-spot Grass-yellow



Graphium aristeus - Fivebar Swordtail



Ideopsis juvena - Grey Glassy Tiger



Lexias aeropa - Orange-banded Plane



Praetaxila statira



Protulioenemis biplagiata - Moth



Taenaris catops - Amathusiid Butterfly



Tridrepana sp - Moth



Zizina sp - Moth



Unidentified - Moth



Unidentified - Moth



Unidentified - Moth



Unidentified - Moth



Unidentified - Moth

Dragonflies



Agriocnemis rubescens - Variable Sprite



Brachydiplax duivenbodei - Darkmouth



Gynacantha kirbyi - Slender Duskhawker



Nannophya pygmaea - Scarlet Dwarf



Neurothemis stigmatizans - Painted Grasshawk



Neurothemis stigmatizans - Painted Grasshawk



Orthetrum villosivittatum - Fiery Skimmer



Papuagrion auriculatum - Black stripe



Papuagrion cf. occipitale



Rhinocypha tincta - Papuan jewel



Rhyothemis resplendens - Jewel flutterer

3.6.3 Forest and Vegetation Types in the Recovery Site

A total of 16 sites were surveyed, consisting of 10 plots and 6 observation points. The Recovery Site is covered with different vegetation or forest types, from dryland to wetland with stands of different successional stages. There are 3 main vegetation types are found in the Recovery Site. These are dry lowland forest, swamp forest and *hanguana* swamp.

Dryland Lowland Forest

Six plots were surveyed in this forest type. The slopes of the plots ranged from about 4°- 7°. The lowland forest in the Recovery Site comprised of early as well as mid to late succession forests. The dominant species found were *Hopea papuana*, *Hopea iriana*, *Chisocheton* sp, *Vatica rassak*, *Pinanga* sp, *Licuala* sp, *Ampelocissus* sp and *Calamus* spp.

Swamp Forest

The main feature of this forest type is that it is continuously inundated with water, even during the dry season. Four plots were surveyed and most of the area was flat. There were 2 plots with early succession and 2 with late succession forests. The dominant species found were *Vatica rassak*, *Alstonia spatulata*, *Artocarpus lanceifolius*, *Macaranga similis*, *Hanguana malayana*, *Pandanus* sp, *Thrixspermum amplexicaule*, *Uncaria* sp, *Stenochlaena palustris* and *Freycinetia* sp.

Hanguana Swamps

Hanguana swamps are categorised separately as they are essentially floating mats of *Hanguana malayanum* that are tightly intertwined. They can sometimes break away as islands and establish elsewhere, where the water is not too deep. The plants are about 2m in height and from a distance appears as savanna (grassland). Apart from Hanguana, other species are also found and these include *Pandanus papuanus*, *Cerbera floribunda*, *Alstonia spatulata*, *Stenochlaena palustris*, *Metroxylon sagu*, *Nepenthes mirabilis*, *Nepenthes mirabilis*.

3.6.4 Preliminary Botanical Composition in the Recovery Site

A total of 183 species from 65 families of plants were identified in the Recovery Site. The dominant families were Orchidaceae, Arecaceae, Euphorbiaceae and Myristicaceae. A detailed species list of the identified plants is presented in Appendix A Table 7.1.

From the 183 flora species identified in the site, there are 1 Critically Endangered (CR) species, 3 Endangered (EN) species 2 Vulnerable (VU) species, 3 Near Threatened (NT) species, 36 Least Concern (LC) species and 2 Data Deficient (DD) species listed under the IUCN Red List. These protected species are shown in Table 3.8 below.

Table 3.8: RTE plant species listed in Global IUCN Red List found in the Recovery Site.

IUCN Red List categories	Species	Count of Species
Critically Endangered	<i>Hopea inexpectata</i>	1
Endangered	<i>Macaranga cf. yakasii</i>	3
	<i>Macaranga villosula</i>	
	<i>Cryptocarya subfalcata</i>	
Vulnerable	<i>Anisoptera thurifera</i>	2
	<i>Cryptocarya iridescens</i>	
Near Threatened	<i>Aglaia cf. agglomerata</i>	3
	<i>Hopea forbesii</i>	
	<i>Intsia bijuga</i>	
Least Concern	-	36
Data Deficient	<i>Calophyllum persimile</i>	2
	<i>Myristica cf. atrocorticata</i>	
Grand Total		47

There are 10 CITES Appendix II species recorded in the Recovery Site. Thirty-two (32) plant species found within the site are endemic to Papua Island. The endemic and CITES plant species found are presented in Table 3.9 below.

Table 3.9: CITES protected and endemic species identified in the Recovery Site

Conservation status	Species count	Scientific Names
CITES (Appendix II)	10	<ul style="list-style-type: none"> • <i>Acriopsis liliifolia</i> • <i>Bromheadia finlaysoniana</i> • <i>Bulbophyllum macranthum</i> • <i>Claderia viridiflora</i> • <i>Dendrobium nindii</i> • <i>Macodes sandariana</i> • <i>Nepenthes ampullaria</i> • <i>Nepenthes mirabilis</i> • <i>Thrixspermum amplexicaule</i> • <i>Thrixspermum congestum</i>
Endemic species	32	<ul style="list-style-type: none"> • <i>Aglaia tomentosa</i> • <i>Alstonia spatulate</i> • <i>Cananga odorata</i> • <i>Crudia papuana</i> • <i>Dracaena angustifolia</i> • <i>Gonocaryum littorale</i> • <i>Macaranga similis</i> • <i>Metroxylon sagu</i> • <i>Teijsmanniodendron bogoriense</i> • <i>Vatica rassak</i> and 22 other species.

A summary of the conservation status of plants found in the Recovery Site is presented in Table 3.10.

Table 3.10: Numbers of plant species based on conservation status found in the site.

No	Conservation Status	Category	Species count
1	IUCN Red list	Critically Endangered - CR	1
		Endangered - EN	3
		Vulnerable - VU	2
2	CITES	Appendix II	10
3	Endemic species	Papua Island	32
Total			48

3.6.5 Photo Documentation of Plants found in the Recovery Site



Hopea inexpectata - Critically Endangered



Cryptocarya subfalcata - Endangered



Macaranga villosula - Endangered



Cryptocarya subfalcata - Vulnerable



Cryptocarya iridescens - Vulnerable



Hopea forbesii - Near Threatened



Intsia bijuga - Near Threatened



Cerbera floribunda - Least concern



Hopea iriana - Least concern



Nageia wallichiana - Least concern



Hanguana malayana – Least concern



Vatica rassak – Least concern



Crudia papuana - Least concern



Ceratopetalum succirubrum - Least concern



Myristica cf. atrocorticata - Data Defficient



Calophyllum persimile - Data Defficient



Dendrobium nindii – CITES APP II



Claderia viridiflora – CITES APP II



Bromheadia finlaysoniana – CITES APP II



Bulbophyllum macranthum – CITES APP II



Macodes sandariana – CITES APP II



Acriopsis liliifolia – CITES APP II



Thrixspermum amplexicaule – CITES APPII



Thrixspermum congestum – CITES APPII



Nepenthes ampullaria – CITES APPII



Nepenthes mirabilis – CITES APPII



Garcinia schraderi – Endemik



Myristica undulatifolia – Endemik



Cinnamomum clemensii– Endemik



Aporosa nigropunctata– Endemik



Garcinia ledermannii– Endemik



Syzygium kipidamasii – Endemik



Hopea similis – Endemik



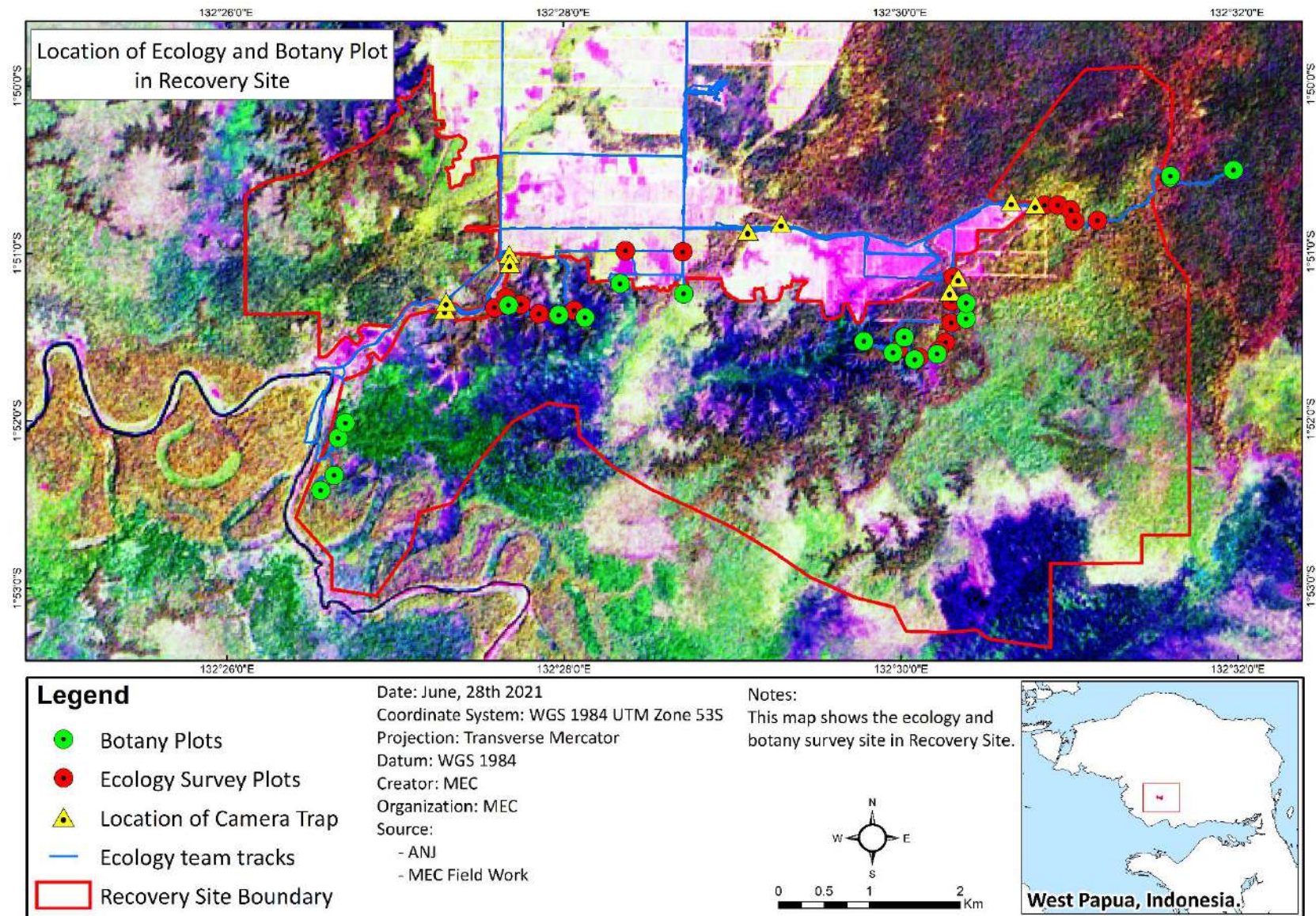
Hopea papuana – Endemik



Steganthera fasciculata – Endemik



Stemonurus monticolus – Endemik



Map 3.3: Location of sampling sites for ecology survey, botany plots and camera traps in the Recovery Site

3.6.6 High Carbon Stock Classification and Carbon Assessment of the Recovery Site

Medium Density Forest

Three plots in the Recovery Site were identified as Medium Density Forest (Table 3.11). The density of the trees above 5cm dbh ranges from 1,760 trees/ha to 2,920 trees/ha. The basal area of the stands would also indicate the regeneration status of the stand, with a high basal area associated with late succession stands and a low basal area with early succession stands. The basal area of the trees ranges from 25.68 m²/ha to 36.28 m²/ha. The biomass will also indicate the maturity of the stand. The biomass of the stands ranges from 219.32 t/ha to 304.07 t/ha. The corresponding carbon stock ranges from 103.08 tC/ha to 142.91 tC/ha.

Table 3.11: Density, basal area, biomass and carbon stock for trees found in sampling plots

No	Plot	Density (stems/ha)			Basal Area (m ² /ha)			Biomass (t/ha)			Carbon (t/ha)
		Dbh > 15cm	Dbh 5 - 14.9cm	Total	Dbh > 15cm	Dbh 5 - 14.9cm	Total	Dbh > 15 cm	Dbh 5 - 14.9.cm	Total	
1	R1	260	1500	1760	18.73	6.95	25.68	180.54	38.78	219.32	103.08
2	R3	480	2000	2480	23.67	12.54	36.22	205.73	74.28	280.01	131.61
3	R10	320	2600	2920	24.24	12.04	36.28	237.21	66.86	304.07	142.91

High Density Forest

A total of 7 plots were identified as High-Density Forest in the Recovery Site (Table 3.12). The density of the trees above 5cm dbh ranges from 280 trees/ha to 1,980 trees/ha. The basal area of the stands would also indicate the regeneration status of the stand, with a high basal area associated with late succession stands and a low basal area with early succession stands. The basal area of the trees ranges from 35.11 m²/ha to 49.96 m²/ha. The biomass will also indicate the maturity of the stand. The biomass of the stands ranges from 342.21 t/ha to 474.85 t/ha. The corresponding carbon stock ranges from 160.84 tC/ha to 223.18 tC/ ha.

Table 3.12: Density, basal area, biomass and carbon stock for trees found in sampling plots

No	Plot	Density (stems/ha)			Basal Area (m ² /ha)			Biomass (t/ha)			Carbon (t/ha)
		Dbh > 15cm	Dbh 5 - 14.9cm	Total	Dbh > 15cm	Dbh 5 - 14.9cm	Total	Dbh > 15 cm	Dbh 5 - 14.9.cm	Total	
1	R2	560	1100	1660	32.81	7.20	40.00	299.66	42.55	342.21	160.84
2	R5	340	1000	1340	32.03	5.89	37.93	332.44	34.27	366.71	172.35
3	R6	540	900	1440	38.45	4.92	43.38	355.65	27.53	383.18	180.09
4	R7	180	100	280	34.54	0.57	35.11	395.39	3.20	398.58	187.33
5	R8	220	300	520	35.77	1.53	37.30	395.13	8.42	403.56	189.67
6	R9	280	1700	1980	37.55	8.88	46.42	413.07	49.97	463.03	217.63
7	R4	480	1000	1480	44.83	5.13	49.96	445.10	29.75	474.85	223.18

3.6.7 Social Findings in the Recovery Site

Legal Status of Recovery Site

The legal status of the Recovery Site is as follows:

- The Recovery Site, covering 3,518.38 ha, is located in the HGU of PT. PMP which is classified as *Areal Penggunaan Lain* (APL). This is based on the Administrative of Forest Classes Map (*Peta Kawasan Hutan*) and Provincial Water Conservation Area of West Papua (*Konservasi Perairan Provinsi Papua Barat*) in the scale of 1:250,000 (*Lampiran Keputusan Menteri Kehutanan No. SK.783/Menhut-II/2014 tanggal 22 September 2014*).
- A letter from the government securing areas with High Conservation Value for site protection – *Surat Edaran Nomor 10/SE/VII/2015 mengenai ‘Penerbitan Izin pada Areal Hutan Konservasi Bernilai Tinggi’ bagian 5c. ayat 1 menyatakan ‘Perusahaan yang memiliki areal HCV tetap menjaga kelestarian dan tidak melakukan land clearing pada areal tersebut’*. Source: *Menteri Agraria dan Tata Ruang/ Kepala Badan Pertanahan Nasional*. **However, the High Conservation approach recognition is not support by TPHPB. This contradiction both legally and interdepartmental confusion further poses a challenge to conserving the Recovery Site. This is being handled by the Government Relations team in Sorong.**

Policies and Standard Operating Procedures related to Conservation and Social Management

Below is the list of policies and Standard Operating Procedures (SOP) issued and adopted by PT.PMP (see Table 3.13). This list of policies and SOPs being implemented in the Recovery Site.

Table 3.13: List of policies and SOPS relevant to PT.PMP

No	Category	ANJ Conservation and Social Management Related Policies, SOPs and Memos
1	Policy	<ul style="list-style-type: none"> • Conservation Policy Manual (MAN-CSV-001), 1st October 2018. • Sustainability Policy, 31st October 2019. • Policy towards Respect for Human Rights, Human Trafficking and Forced Labour (<i>Kebijakan Penghormatan terhadap Hak Asasi Manusia, Perdagangan Manusia, dan Kerja Paksa</i>), 4th August 2016. • Management of Emergency Situations Manual (<i>Pengendalian Keadaan Darurat</i>), MAN-SEHS-002, 1st November 2018.
2	Standard Operating Procedure (SOP)	<ul style="list-style-type: none"> • SOP for Land Release and Compensation, 021/HR&GA/CP/<i>Pembebasan Lahan</i>/6th – 9th June 2009. • SOP for Compensation of Land Customary Rights, SOP-LEG-03, 1st June 2013. • SOP for Communication and Information Dissemination, SOP-LEG-02, 1st September 2015. • SOP for Managing Land Ownership Conflicts, SOP-LEG-03, 1st September 2015. • SOP for Response During Emergency, 1st September 2018. • SOP for Fire Prevention and Control Measures, SOP-EHS-005, 29th April 2017. • SOP for Management of High Value Conservation Area and Recovery Site, 1st October 2020.
3	Internal Memo	<ul style="list-style-type: none"> • Internal Memo for Prohibition of Employment of Children under 18 years old, 01/IM/PT.PMP/III/2017, 10th March 2017. • Internal Memo for Protection of Women Worker’s Reproductive Rights, 02/IM/PT.PMP/III/2017, 10th March 2017.

No	Category	ANJ Conservation and Social Management Related Policies, SOPs and Memos
		<ul style="list-style-type: none"> • Internal Memo for Freedom of Association, Prevention of Child Employment and Equal Opportunities for All Workers, 003/IM-HR/V/2017, 1st May 2017. • Internal Memo on Participatory and Customary Land Rights Boundary Mapping Among Customary Landowners, 01/PMP-KBN/GMO/IM/I/2018, 15th January 2018. • Internal Memo on Mechanism for Transparency of Information and Request of Information, 02/ANJ-KBN/GMO/IM/I/2018, 17th January 2018. • Internal Memo for Grievance Mechanism, 01/ANJ-KBN/GMO/IM/II/2018, 5th February 2018. • Internal Memo Regarding Appointment of Communication Officer/Consultant, 1st April 2018. • Internal Memo Regarding the Policy Compliance on the Protection of Protected Flora and Fauna Species, and the Conservation of HCV areas within the PT. PMP HGU concession, HGU PT PMP, IM-02-CONS-PMP-19. • Internal Memo regarding instructions for the management of cover crop invasion of conservation sites, IM-01-CONS-PMP-19.

3.6.8 An Understanding of the Land Ownership System

The clans strongly believe that the natural resources such as land, forest and water sources belong to them as the land and its resources are handed down by their ancestors. The land ownership system in Papua shows that there are two types of control of these resources. The control being:

1. The first tribe/clan which arrived and settled in an area will have ownership and control of the area. They take ownership of land and all the natural resources available. The subsequent tribe/clan who arrive are subject to conditions laid by the first settlers who have taken control. Even the forest areas as a source of livelihood is also arranged according to the clans who came first.
2. The ownership and control of the land and resources are handed over to the eldest son. This practice is observed in most tribes in West Papua, Indonesia. Therefore, many of the inheritances follow the ambilineal descent systems that is, the sons inherit land or property belonging to either the father or mother.

For tribes found in the Bird's Head Peninsula of West Papua (where the ANJ concessions are located), the pattern of ownership and authority over natural resources, which is land and forest resources, the system is divided into three groups. The three groups being:

1. **By way of inheritance**, where the inheritance of ownership and authority over land is based on the family tree and descendants. The ownership and authority of the resources is entrusted from ancestors to the eldest in a clan.
2. **Invasion of a region by another clan**, the ownership and the authority over the region is obtained by way of staging a war against the other clans. The winning clan will gain control and authority over the losing clan as well as taking control and ownership of all the natural resources within the territory that they have won from the other clan.
3. **Clans through exploration**, where clans expand into new regions and take control and authority over the natural resources in the new regions that they have expanded into. This normally happens when the region occupied by clans suffer natural disasters and therefore the clans are forced to migrate and seek new safe territories.

From group 2 and 3 above, the tribes and clans then continue to practice land ownership by inheritance (following group 1), where they inherit forest regions from their ancestors. They typically use rivers, hills and significant geological formations as boundaries between other tribes and clans.

3.6.9 National Laws Involved

The indigenous people are still placed as the object of nation's forest management. However, to date, the communities following customs and traditions in maintaining that the ownership and authority belongs to them. They do not recognize the state's authority and control over the natural resources of the forest. The two reasons stated below should be the determining policy for the care and welfare of the forest in the process of decentralization in the future.

UU No. 5 year 1960	The country has taken over control and power all the communal community's cultures existing over the natural resources and have a brought them under authority of the state. This has become a root cause of conflict over the ownership of the natural resources in the provinces in Papua.
UU No. 41 year 1999	The rights of the culture of the indigenous people over the natural resources of the forest have been accommodated in the regulations PP No. 34 Year 2002 regarding forest management and arrangement of plans for the forest maintenance, benefits and uses of forest area. The management of the forest is still within the ambit of the government.

However, it must be kept in mind that the region of West Papua, Indonesia is an autonomous province, and the locals are entitled to special privileges.

Land Ownerships within the Recovery Site

The Recovery Site is located in Sumano village customary land. The people of Sumano village are from the Awee tribe. The land ownership in the Recovery Site appears to belong to Clans (marga) as identified below:

- | | |
|-----------------|------------------|
| a. Clan Taerare | k. Clan Bae |
| b. Clan Hohame | l. Clan Timumure |
| c. Clan Tinebe | m. Clan Awaje |
| d. Clan Wowane | n. Clan Gowe |
| e. Clan Taune | o. Clan Akeræ |
| f. Clan Kakane | p. Clan Ketae |
| g. Clan Way | q. Clan Hadome |
| h. Clan Orië | r. Clan Wahube |
| i. Clan Kayubi | s. Clan More |
| j. Clan Kabie | |

A demonstration of their ownership is shown in Photo 3.11, where a signage placed has been placed by the local communities in the Recovery Site. This is to show their land use rights in the area.





Photo 3.11: Signage showing land use rights by the Hohame Clan



Local Community Dependency on Natural Resources in the Recovery Site

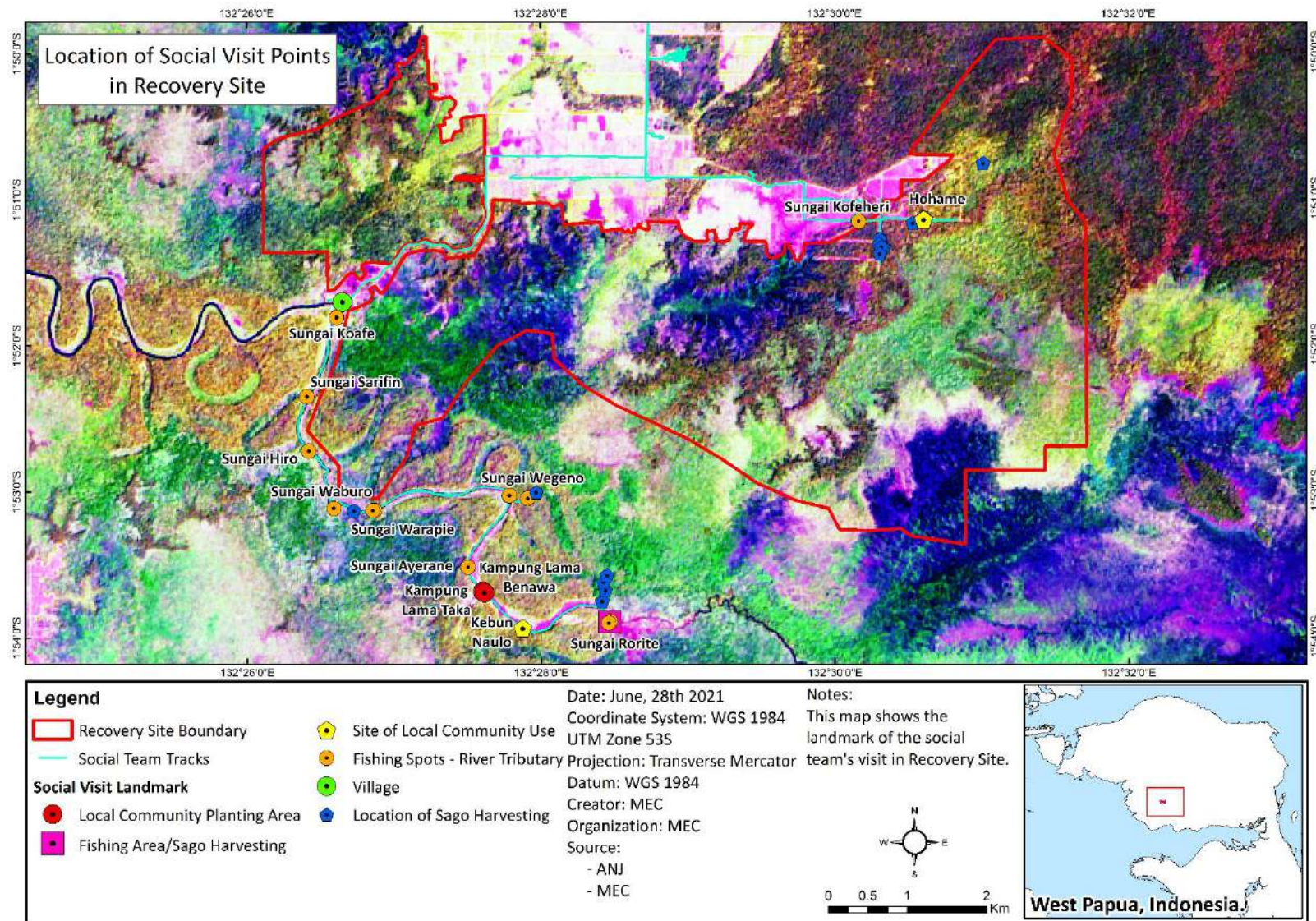
The local community from Sumano Village is highly dependent on natural resources within the Recovery Site. The Recovery Site provides the Sumano villagers and local workers living within PT. PMP estate (Block G10) with food (carbohydrate and protein) and Non-Timber Forest Products (NTFP) to fulfill their basic necessities. Map 3.4 shows several locations where locals collect NTFP. Table 3.14 shows the local’s dependency on natural resources found within the Recovery Site.

Table 3.14: Dependency of local communities towards natural resources

No	Natural Resources	Description
1	Sago trees	<ul style="list-style-type: none"> • Sago is the main source of food for Sumano villagers. There are many clusters of sago trees found within the Recovery Site. The location of the sago trees can be easily accessed by locals using the access roads in PT.PMP estate. Majority of Sumano villagers harvest sago along Sarifin River as there are plentiful supply of sago trees and it is easier to access via river. • Normally one sago tree is only sufficient for a family of 4 to 6 people for two (2) weeks. Apart from sago, the people also consume rice as source of carbohydrate. • The locals also utilise the sago fronds as building materials for their houses and the leaves for the roof. • Sago is also a source of income for the people as one stem of the sago tree can produce from 100 kg to 150 kg of sago, whereby 10 kg of sago can be sold for around Rp. 100,000.

No	Natural Resources	Description
		 <p style="text-align: center;">Sago trees within the Recovery Site</p>  <p style="text-align: center;">Road access in the Recovery Site</p>
2	Rattan	Rattan plants are still available in the Recovery Site and collected by workers in G10 workers housing for their own use in making ropes, weaving baskets and for other uses.
3	Source of fruits and vegetables.	The locals can easily obtain fruits such as <i>Matoa</i> , <i>jambu hutan</i> and <i>pinang</i> . Vegetables such as fern, <i>umbut sagu</i> , star gooseberry, cassava leave, sago shoots, bamboo shoots and others are also easily found within the Recovery Site. The resources are consumed and sold to generate family income.

No	Natural Resources	Description
4	Plants with medicinal values	<p>Certain plants found within the Recovery Site have medicinal value and locals still use for treatment. These plants include:</p> <ul style="list-style-type: none"> • <i>Daun Gatal</i> used for joint pains and swellings, • Sap from <i>Alstonia</i> sp used to treat women after giving birth, • Sap from <i>Ficus</i> sp used for treating wound, • <i>Akar Bajakah</i> used to boost stamina, • Young leaves from sago trees used to treat stomachache.
5	Forest as source of protein	<p>The protein needs of Sumano villagers are acquired mainly through hunting. The locals hunt wild pigs, deer, cassowary, monitor lizards, birds and snakes by using traps, spears, blow darts and also dogs. The traps will be checked once a week by the locals. The local community also consumes sago worms as a source of protein. Besides consumption, local communities sell the hunted animals to generate income. For example, an adult wild pig can be sold for Rp. 3,000,000 and a deer thigh part can be sold for Rp. 300,000.</p> <div style="text-align: center;">  <p>Hunting activities by the local community</p> </div>
6	River as source of protein -	<p>Protein needs such as fish and prawns are obtained by fishing in the rivers and swampy areas. Kofeheri River within Recovery Site is the main river used for fishing. Locals catch fish using line and bait (<i>bubu and tombak</i>). A variety of freshwater species such as eel-tail catfish, snakehead, tilapia and others are caught.</p> <div style="text-align: center;">  <p>Kofeheri River in the Recovery Site</p> </div>



Map 3.4: Location of sampling sites for social field surveys in the Recovery Site

3.7 Interim Site Management Actions in Progress

The following sections show the continued progress of implementing the Recovery Site management interim actions. A summary of activities is listed below: -

- i. Recovery Site A and B Boundary Demarcation,
- ii. Drone mapping,
- iii. Monitoring of Site Integrity via Areal Observation,
- iv. Progress of Nursery and Targeted Site Rehabilitation, and
- v. Budget expenditure.

3.7.1 Recovery Site A and B Boundary Demarcation

A total of 7 informative signboards and 63 boundary markers have been installed along the northern boundary of the Recovery Site A and in between Recovery Site A and B (see Photo 3.12). The boundary markers were placed in the northern section (see Photo 3.14). The preparation of the boundary markers to be installed in the Recovery Site is showed in Photo 3.13. Boundary demarcation in this section was targeted to be completed before December 2021 as the location was easily accessible through the estate road network.



Photo 3.12: Informative signboards (plang) for local communities and internal stakeholders



Photo 3.13: Preparation of boundary markers



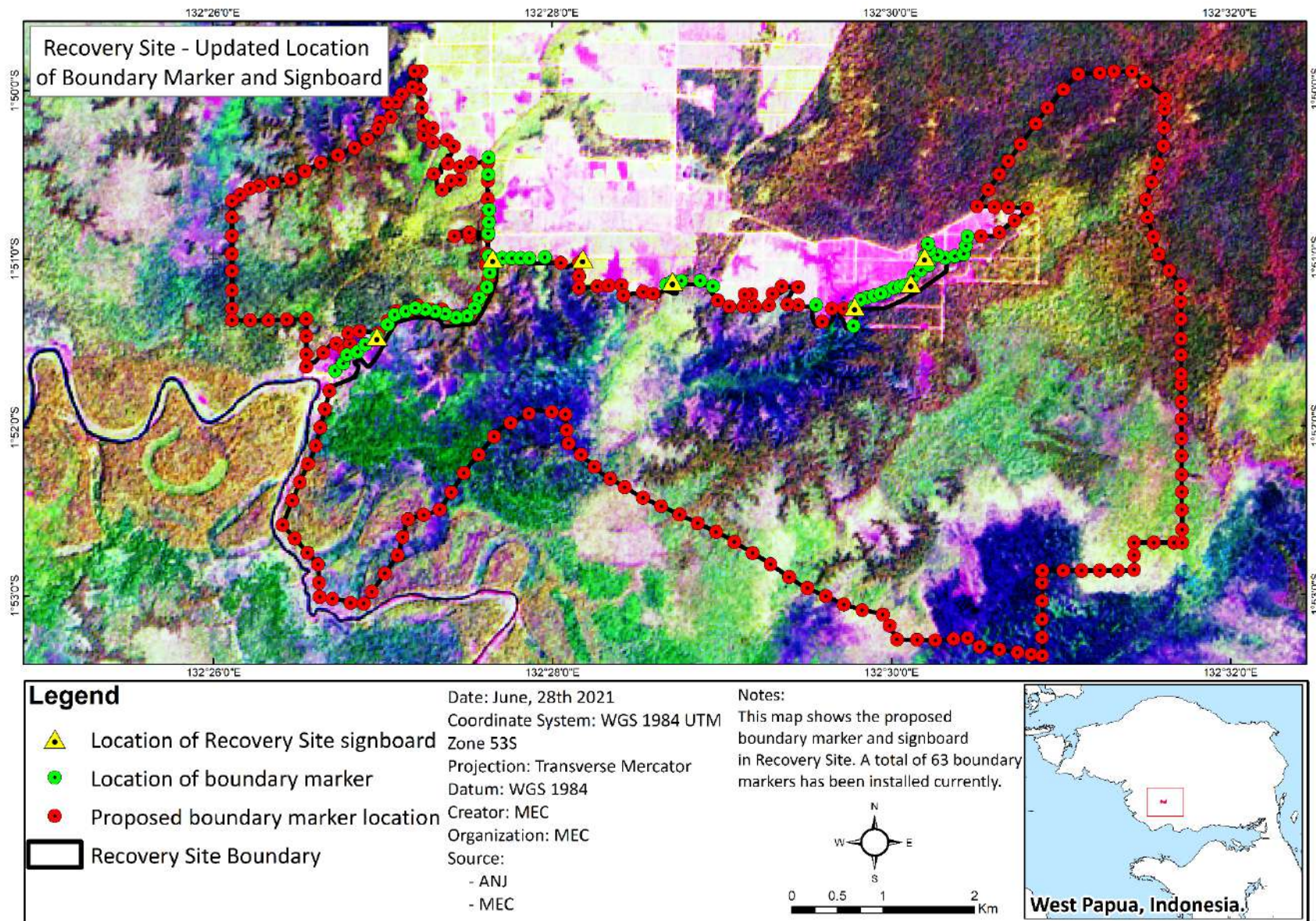
Photo 3.14: Boundary markers were placed in the northern boundary of the Recovery Site

Table 3.15 shows the list of GPS coordinates where the markers and signboards have been installed, and Map 3.5 shows the locations of these boundary markers placed.

Table 3.15: Recovery Site Boundary Demarcation Coordinates

No	GPS Coordinates		Newly Added Signboards and boundary markers
	X	Y	
Informative Signboard			
1	132° 26' 58.3" E	1° 51' 27.8" S	
2	132° 27' 39.3" E	1° 51' 00.0" S	
3	132° 28' 43.0" E	1° 51' 08.3" S	
4	132° 28' 11.2" E	1° 51' 00.1" S	
5	132° 29' 47.4" E	1° 51' 17.4" S	Newly Added
6	132° 30' 07.3" E	1° 51' 09.1" S	Newly Added
7	132° 30' 12.2" E	1° 50' 59.7" S	Newly Added
Boundary Markers			
1	132° 26' 43.5" E	1° 51' 39.9" S	
2	132° 26' 46.4" E	1° 51' 37.3" S	
3	132° 26' 47.7" E	1° 51' 34.3" S	
4	132° 26' 51.5" E	1° 51' 33.2" S	
5	132° 26' 54.2" E	1° 51' 30.6" S	
6	132° 26' 58.3" E	1° 51' 27.8" S	
7	132° 27' 02.2" E	1° 51' 23.5" S	
8	132° 27' 04.6" E	1° 51' 20.0" S	
9	132° 27' 08.5" E	1° 51' 18.8" S	
10	132° 27' 39.3" E	1° 51' 00.0" S	
11	132° 27' 42.8" E	1° 50' 59.9" S	
12	132° 27' 46.1" E	1° 50' 59.9" S	
13	132° 27' 49.2" E	1° 51' 00.0" S	
14	132° 27' 52.4" E	1° 51' 00.0" S	
15	132° 27' 57.8" E	1° 50' 59.6" S	
16	132° 27' 38.5" E	1° 51' 03.0" S	
17	132° 27' 38.3" E	1° 51' 05.1" S	
18	132° 27' 37.3" E	1° 51' 10.2" S	
19	132° 27' 34.5" E	1° 51' 14.1" S	
20	132° 27' 32.9" E	1° 51' 17.7" S	
21	132° 27' 30.2" E	1° 51' 20.5" S	
22	132° 27' 26.4" E	1° 51' 21.1" S	
23	132° 27' 22.5" E	1° 51' 19.7" S	
24	132° 27' 19.0" E	1° 51' 18.8" S	
25	132° 27' 15.5" E	1° 51' 18.2" S	
26	132° 27' 11.9" E	1° 51' 17.6" S	

No	GPS Coordinates		Newly Added Signboards and boundary markers
	X	Y	
27	132° 28' 40.8" E	1° 51' 09.4" S	
28	132° 28' 43.0" E	1° 51' 08.3" S	
29	132° 28' 46.1" E	1° 51' 08.1" S	
30	132° 28' 52.8" E	1° 51' 08.0" S	
31	132° 28' 57.3" E	1° 51' 10.0" S	Newly Added
32	132° 29' 33.8" E	1° 51' 16.8" S	Newly Added
33	132° 29' 47.0" E	1° 51' 24.2" S	Newly Added
34	132° 29' 47.4" E	1° 51' 17.4" S	Newly Added
35	132° 29' 51.9" E	1° 51' 14.1" S	Newly Added
36	132° 29' 54.4" E	1° 51' 13.4" S	Newly Added
37	132° 29' 58.3" E	1° 51' 12.2" S	Newly Added
38	132° 30' 01.2" E	1° 51' 10.7" S	Newly Added
39	132° 30' 03.6" E	1° 51' 10.2" S	Newly Added
40	132° 30' 05.4" E	1° 51' 09.8" S	Newly Added
41	132° 30' 07.3" E	1° 51' 09.1" S	Newly Added
42	132° 30' 08.3" E	1° 51' 06.5" S	Newly Added
43	132° 30' 10.9" E	1° 51' 04.4" S	Newly Added
44	132° 30' 13.7" E	1° 51' 02.6" S	Newly Added
45	132° 30' 12.2" E	1° 50' 59.7" S	Newly Added
46	132° 30' 19.5" E	1° 51' 00.0" S	Newly Added
47	132° 30' 23.0" E	1° 50' 59.4" S	Newly Added
48	132° 30' 26.1" E	1° 50' 58.7" S	Newly Added
49	132° 30' 26.9" E	1° 50' 55.7" S	Newly Added
50	132° 30' 27.4" E	1° 50' 52.4" S	Newly Added
51	132° 30' 16.8" E	1° 50' 59.0" S	Newly Added
52	132° 30' 14.0" E	1° 50' 57.3" S	Newly Added
53	132° 30' 13.4" E	1° 50' 55.0" S	Newly Added
54	132° 29' 49.5" E	1° 51' 14.9" S	Newly Added
55	132° 29' 56.7" E	1° 51' 12.7" S	Newly Added
56	132° 27' 37.9" E	1° 50' 24.1" S	Newly Added
57	132° 27' 38.1" E	1° 50' 24.3" S	Newly Added
58	132° 27' 37.8" E	1° 50' 30.1" S	Newly Added
59	132° 27' 38.2" E	1° 50' 30.4" S	Newly Added
60	132° 27' 38.1" E	1° 50' 42.6" S	Newly Added
61	132° 27' 38.0" E	1° 50' 47.1" S	Newly Added
62	132° 27' 37.8" E	1° 50' 51.1" S	Newly Added
63	132° 27' 38.0" E	1° 50' 59.1" S	Newly Added



Map 3.5: Location of proposed and installed boundary markers (patok) and signboards in the Recovery Site (1st and 2nd Progress)

3.7.2 Drone mapping

There is no further progress with the drone mapping for HCS Recovery Site in PT. PMP. This is due to the ANJ Group's drone mapping planning, where drone activity has been planned in ANJ's other concession, specifically in PT. SMM and PT. KAL. The drone team was also unable to re-enter West Papua due to Covid-19 travel restrictions. The delayed of the Recovery Site drone mapping was also attributed to bad weather conditions on-site. The drone mapping for the HCS Recovery Site is scheduled to continue in September 2021.

3.7.3 Monitoring of Site Integrity via Areal Observation

Despite the bad weather, the ANJ on-site team managed to conduct monitoring the activities in the Recovery Site through areal observation. A series of aerial photographs are presented in Photo 3.15.





Photo 3.15: Aerial Photographs of Recovery Site

3.7.4 Progress of Nursery and Targeted Site Rehabilitation

A. Progress of Plant Nursery

The plant nursery has been fully established. The GPS coordinate of the nursery is 1°50'00.1" S, 132°28'54.8" E. The site team continued to grow selected endemic and localised plant species for rehabilitation purposes. There is a total of 1,355 tree saplings grown in the nursery from January till March 2021, see Photo 3.16. A draft Technical Guidance for Planting Stock Production and Rehabilitation is available for site implementation in Section 7.3, Appendix C.





Photo 3.16: Progress of plant nursery

A. Rehabilitation Progress

ANJ on-site team has started rehabilitating this cleared area from December 2020 till March 2021. The total rehabilitated area by March 2021 is 4.3 ha. Location of the rehabilitated areas are shown in Map 3.6.

Rehabilitation progress of the Recovery Site - January 2021

About 1 ha of the block I62 and I63 in Recovery Site have been restored with *Kuku*, *Pulai* and *Durian* trees. See in Photo 3.17.





Photo 3.17: Rehabilitation progress in the Recovery Site for January 2021

Rehabilitation progress of the Recovery Site - February 2021

About 1 ha of the rehabilitation area have been planted with 100 seedlings of *Agathis* sp and *Arthocarpus* sp. See in Photo 3.18.



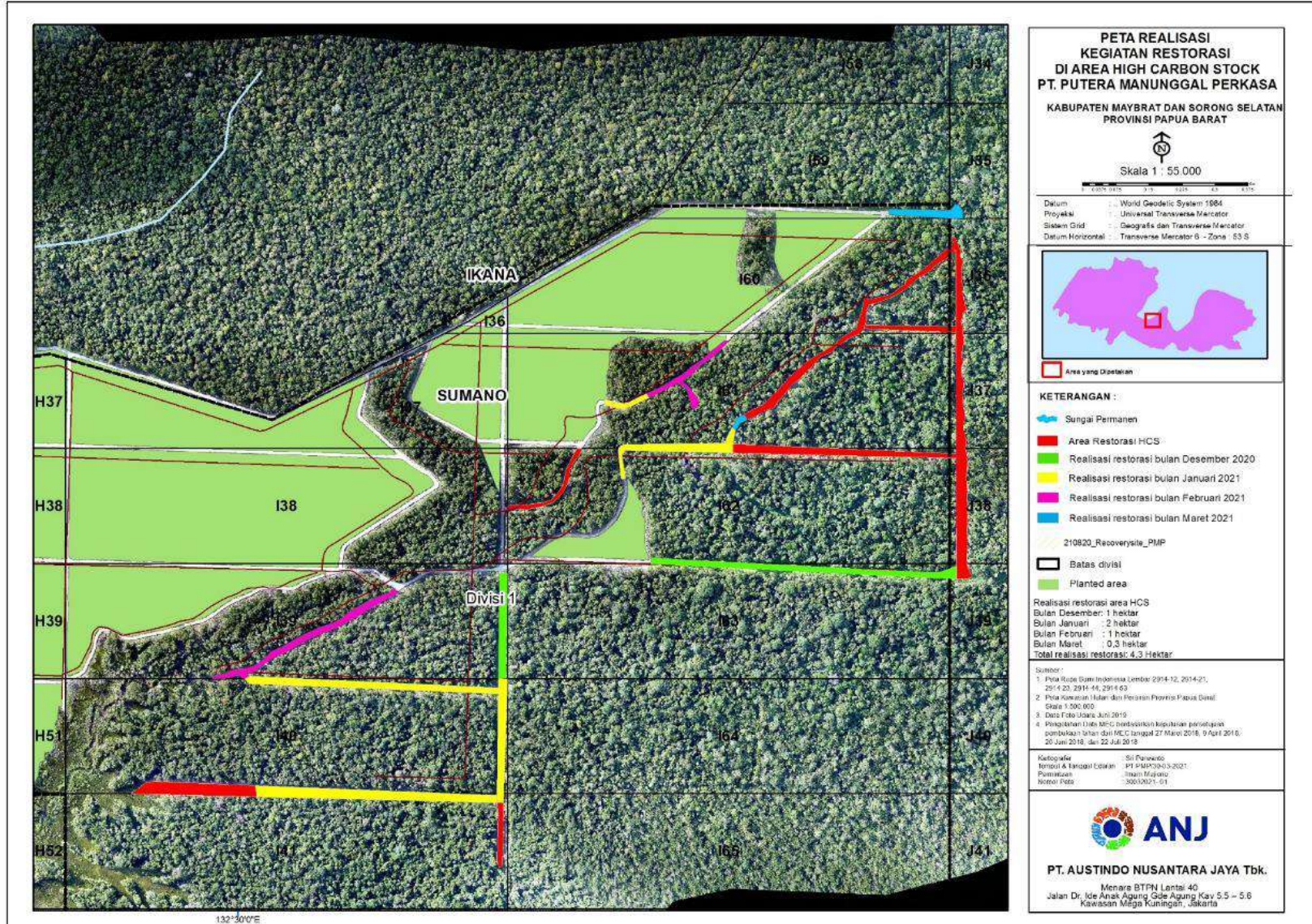
Photo 3.18: Rehabilitation progress in the Recovery Site for February 2021

Rehabilitation progress of the Recovery Site - March 2021

About 0.3 ha of the rehabilitation area have been planted with 100 seedlings of *Agathis* sp and *Alstonia* sp. See in Photo 3.19.



Photo 3.19: Rehabilitation progress in the Recovery Site for March 2021



Map 3.6: Cleared areas within the Recovery Site that has been rehabilitated from December 2020 to March 2021

* The area that seems to be not vegetated has oil palm planting and is outside the Recovery Site and its clearance has been compensated for within the Recovery Site

3.7.5 Expenditure

The full expenditure for the Recovery Site management in the 2nd progress is showed in Table 3.16. Tentatively IDR 500 million has been budgeted for rehabilitation.

Table 3.16: Expenditure for the Recovery Site Management

No	Month	Description	Cost (Rp)	Quantity	Unit	Total (IDR)
1	Nov-20	Ecological and Social Survey Expenses	63,985,943	1	Package	190,060,503
2	Dec 2020 - Jun 2021	Cost of making and installing Boundary stone stakes	91,091	63	Pieces	5,738,733
3	Dec 2020 - Jun 2021	Cost of making and installing HCS sign board	1,735,714	7	Pieces	12,149,998
4	October 2020 - July 2021	Socialisation with Kampung Sumano and Supervision Expenditure (Staff, CID, Govrel, Sustainability, Environment (estimates))	n/a	n/a	Package	219,250,000
5	Jan - July 2021	Salaries for Daily Non-Staff workers for site operation (Jan-July 2021)	7,042,015	7	Month	49,294,103
6	July 2021	Environmental Control & Nursery Expenses	11,310,000	1	Package	11,310,000
		Total				487,803,337
7	On-going	Rehabilitation Cost				500,000,000

4 Covid- 19 Pandemic Implication onto the Progress of Recovery Site Management Planning and Implementation.

Progress of the recovery site's interim management interim action and the actual management planning exercise has been setback due to the various Covid-19 restriction in West Papua. The public consultation exercise was impeded due to the social restriction placed. Field assessments were also postponed due to travel restrictions. The nett result of the Covid-19 pandemic is that there is an overall delay in the implementation of management actions required, not only for securing the site but also seeking stakeholder consensus.

Saying this however, the site is still being managed effectively, in terms of integrity, awareness raising, local community support, rehabilitation and boundary demarcation.

5 End Note

Irrespective of the delays, there has been progress in the management of the ANJ recovery site in West Papua. The company in the interim is pursuing legal acceptance and also seeking collaborations with the local government. The focus is on gaining recognition for the ANJ Recovery Site. The legal recognition is imperative to ensure sustained conservation management. ANJ is committed to effective long-term management of the site as part of our commitment to our purchasers who uphold the NDPE requirements

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7 Appendices

7.1 Appendix A: Data Table

Table 7.1: List of plant species recorded in the landscape of Recovery Site

No	Family	Species	IUCN Red List	CITES	P 106/2018	Endemic
1	Dipterocarpaceae	<i>Hopea inexpectata</i>	CR	-	-	√
2	Euphorbiaceae	<i>Macaranga cf. yakasii</i>	EN	-	-	-
3	Euphorbiaceae	<i>Macaranga villosula</i>	EN	-	-	√
4	Lauraceae	<i>Cryptocarya subfalcata</i>	EN	-	-	√
5	Dipterocarpaceae	<i>Anisoptera thurifera</i>	VU	-	-	-
6	Lauraceae	<i>Cryptocarya iridescens</i>	VU	-	-	√
7	Nepenthaceae	<i>Nepenthes ampullaria</i>	LC	II	-	-
8	Nepenthaceae	<i>Nepenthes mirabilis</i>	LC	II	-	-
9	Orchidaceae	<i>Acriopsis liliifolia</i>	-	II	-	-
10	Orchidaceae	<i>Bromheadia finlaysoniana</i>	LC	II	-	-
11	Orchidaceae	<i>Bulbophyllum macranthum</i>	LC	II	-	-
12	Orchidaceae	<i>Claderia viridiflora</i>	LC	II	-	-
13	Orchidaceae	<i>Dendrobium nindii</i>	LC	II	-	-
14	Orchidaceae	<i>Macodes sanderiana</i>	-	II	-	-
15	Orchidaceae	<i>Thrixspermum amplexicaule</i>	-	II	-	-
16	Orchidaceae	<i>Thrixspermum congestum</i>	-	II	-	-
17	Anacardiaceae	<i>Gluta papuana</i>	LC	-	-	√
18	Anacardiaceae	<i>Mangifera inoarpoides</i>	-	-	-	√
19	Araceae	<i>Pothos papuanus</i>	-	-	-	√
20	Araliaceae	<i>Polyscias ledermannii</i>	-	-	-	√
21	Calophyllaceae	<i>Calophyllum persimile</i>	DD	-	-	√
22	Calophyllaceae	<i>Calophyllum trachycaule</i>	-	-	-	√
23	Calophyllaceae	<i>Kayea coriacea</i>	-	-	-	√
24	Clusiaceae	<i>Garcinia hollrungii</i>	-	-	-	√
25	Clusiaceae	<i>Garcinia ledermannii</i>	-	-	-	√
26	Clusiaceae	<i>Garcinia schraderi</i>	LC	-	-	√
27	Dipterocarpaceae	<i>Hopea forbesii</i>	NT	-	-	√
28	Dipterocarpaceae	<i>Hopea papuana</i>	-	-	-	√
29	Dipterocarpaceae	<i>Hopea similis</i>	-	-	-	√
30	Euphorbiaceae	<i>Macaranga lanceolata</i>	LC	-	-	√
31	Euphorbiaceae	<i>Macaranga suwo</i>	-	-	-	√
32	Lauraceae	<i>Cinnamomum clemensii</i>	LC	-	-	√
33	Meliaceae	<i>Aglaiia cf. agglomerata</i>	NT	-	-	√
34	Monimiaceae	<i>Steganthera fasciculata</i>	-	-	-	√
35	Myristicaceae	<i>Horsfieldia hellwigii</i>	LC	-	-	√
36	Myristicaceae	<i>Myristica cf. atrocorticata</i>	DD	-	-	√
37	Myristicaceae	<i>Myristica chrysophylla</i>	LC	-	-	√
38	Myristicaceae	<i>Myristica undulatifolia</i>	LC	-	-	√
39	Myrtaceae	<i>Syzygium kipidamasii</i>	-	-	-	√

No	Family	Species	IUCN Red List	CITES	P 106/ 2018	Endemic
40	Pandanaceae	<i>Pandanus brosimos</i>	-	-	-	√
41	Phyllanthaceae	<i>Aporosa nigropunctata</i>	LC	-	-	√
42	Phyllanthaceae	<i>Glochidion cf. striatum</i>	-	-	-	√
43	Rubiaceae	<i>Hydnophytum microphyllum</i>	-	-	-	√
44	Stemonuraceae	<i>Stemonurus monticolus</i>	-	-	-	√
45	Achariaceae	<i>Pangium edule</i>	-	-	-	-
46	Anacardiaceae	<i>Camptosperma brevipetiolatum</i>	LC	-	-	-
47	Anacardiaceae	<i>Dracontomelon dao</i>	-	-	-	-
48	Anacardiaceae	<i>Gluta sp</i>	-	-	-	-
49	Annonaceae	<i>Cananga odorata</i>	LC	-	-	-
50	Annonaceae	<i>Cyathocalyx sp</i>	-	-	-	-
51	Annonaceae	<i>Uvaria rosenbergiana</i>	-	-	-	-
52	Apocynaceae	<i>Alstonia spatulata</i>	LC	-	-	-
53	Apocynaceae	<i>Cerbera floribunda</i>	LC	-	-	-
54	Apocynaceae	<i>Dischidia sp</i>	-	-	-	-
55	Apocynaceae	<i>Hoya sp</i>	-	-	-	-
56	Aquifoliaceae	<i>Ilex sp</i>	-	-	-	-
57	Araceae	<i>Epipremnum sp</i>	-	-	-	-
58	Araceae	<i>Rhaphidophora sp</i>	-	-	-	-
59	Araceae	<i>Scindapsus sp</i>	-	-	-	-
60	Arecaceae	<i>Areca sp</i>	-	-	-	-
61	Arecaceae	<i>Borassodendron sp</i>	-	-	-	-
62	Arecaceae	<i>Calamus sp1</i>	-	-	-	-
63	Arecaceae	<i>Calamus sp2</i>	-	-	-	-
64	Arecaceae	<i>Caryota sp</i>	-	-	-	-
65	Arecaceae	<i>Korthalsia sp</i>	-	-	-	-
66	Arecaceae	<i>Licuala sp</i>	-	-	-	-
67	Arecaceae	<i>Livistona sp</i>	-	-	-	-
68	Arecaceae	<i>Metroxylon sagu</i>	-	-	-	-
69	Arecaceae	<i>Oncosperma sp</i>	-	-	-	-
70	Arecaceae	<i>Pinanga sp</i>	-	-	-	-
71	Asparagaceae	<i>Dracaena angustifolia</i>	-	-	-	-
72	Aspleniaceae	<i>Asplenium nidus</i>	-	-	-	-
73	Athyriaceae	<i>Diplazium sp</i>	-	-	-	-
74	Blechnaceae	<i>Stenochlaena palustris</i>	-	-	-	-
75	Burseraceae	<i>Canarium acutifolium</i>	-	-	-	-
76	Burseraceae	<i>Canarium cf. vulgare</i>	-	-	-	-
77	Burseraceae	<i>Canarium maluense</i>	LC	-	-	-
78	Burseraceae	<i>Haplolobus sp</i>	-	-	-	-
79	Burseraceae	<i>Santiria sp</i>	-	-	-	-
80	Calophyllaceae	<i>Calophyllum goniocarpum</i>	LC	-	-	-
81	Calophyllaceae	<i>Calophyllum sp</i>	-	-	-	-
82	Calophyllaceae	<i>Mesua sp</i>	-	-	-	-
83	Cardiopteridaceae	<i>Gonocaryum litorale</i>	-	-	-	-
84	Chrysobalanaceae	<i>Parastemon sp</i>	-	-	-	-

No	Family	Species	IUCN Red List	CITES	P 106/2018	Endemic
85	Chrysobalanaceae	<i>Parinari nonda</i>	-	-	-	-
86	Combretaceae	<i>Terminalia sp</i>	-	-	-	-
87	Cunoniaceae	<i>Ceratopetalum succirubrum</i>	LC	-	-	-
88	Cyatheaceae	<i>Cyathea contaminans</i>	-	-	-	-
89	Cyatheaceae	<i>Scleria sp</i>	-	-	-	-
90	Dipterocarpaceae	<i>Vatica rassak</i>	LC	-	-	-
91	Ebenaceae	<i>Diospyros sp</i>	-	-	-	-
92	Ebenaceae	<i>Diospyros sp2</i>	-	-	-	-
93	Elaeocarpaceae	<i>Elaeocarpus sp</i>	-	-	-	-
94	Elaeocarpaceae	<i>Sloanea sp</i>	-	-	-	-
95	Euphorbiaceae	<i>Claoxylon sp</i>	-	-	-	-
96	Euphorbiaceae	<i>Macaranga similis</i>	-	-	-	-
97	Euphorbiaceae	<i>Macaranga sp</i>	-	-	-	-
98	Euphorbiaceae	<i>Neoscortechinia forbesii</i>	-	-	-	-
99	Euphorbiaceae	<i>Pimelodendron amboinicum</i>	-	-	-	-
100	Fagaceae	<i>Castanopsis acuminatissima</i>	LC	-	-	-
101	Fagaceae	<i>Lithocarpus celebicus</i>	LC	-	-	-
102	Fagaceae	<i>Lithocarpus sp</i>	-	-	-	-
103	Fagaceae	<i>Quercus sp</i>	-	-	-	-
104	Flagellariaceae	<i>Flagellaria sp</i>	-	-	-	-
105	Hanguanaceae	<i>Hanguana malayana</i>	LC	-	-	-
106	Ixonanthaceae	<i>Ixonanthes sp</i>	-	-	-	-
107	Lamiaceae	<i>Teijsmanniodendron bogoriense</i>	LC	-	-	-
108	Lamiaceae	<i>Teijsmanniodendron hollrungii</i>	LC	-	-	-
109	Lauraceae	<i>Cryptocarya densiflora</i>	-	-	-	-
110	Lauraceae	<i>Litsea sp1</i>	-	-	-	-
111	Lauraceae	<i>Litsea sp2</i>	-	-	-	-
112	Lecythidaceae	<i>Barringtonia sp</i>	-	-	-	-
113	Leguminosae	<i>Crudia papuana</i>	LC	-	-	-
114	Leguminosae	<i>Dalbergia sp</i>	-	-	-	-
115	Leguminosae	<i>Inocarpus fagifer</i>	LC	-	-	-
116	Leguminosae	<i>Intsia bijuga</i>	NT	-	-	-
117	Leguminosae	<i>Maniltoa brassii</i>	-	-	-	-
118	Loganiaceae	<i>Utania racemosa</i>	-	-	-	-
119	Malvaceae	<i>Sterculia cf. shillinglawii</i>	LC	-	-	-
120	Marantaceae	<i>Maranta sp</i>	-	-	-	-
121	Melastomataceae	<i>Medinilla sp</i>	-	-	-	-
122	Melastomataceae	<i>Memecylon sp</i>	-	-	-	-
123	Melastomataceae	<i>Pternandra sp</i>	-	-	-	-
124	Meliaceae	<i>Aglaia sp1</i>	-	-	-	-
125	Meliaceae	<i>Aglaia sp2</i>	-	-	-	-
126	Meliaceae	<i>Aglaia tomentosa</i>	LC	-	-	-
127	Meliaceae	<i>Chisocheton sp</i>	-	-	-	-
128	Meliaceae	<i>Dysoxylum sp</i>	-	-	-	-
129	Meliaceae	<i>Sandoricum koetjape</i>	LC	-	-	-

No	Family	Species	IUCN Red List	CITES	P 106/ 2018	Endemic
130	Menispermaceae	<i>Stephania sp</i>	-	-	-	-
131	Monimiaceae	<i>Kibara coriacea</i>	LC	-	-	-
132	Moraceae	<i>Artocarpus altilis</i>	-	-	-	-
133	Moraceae	<i>Artocarpus lanceifolius</i>	-	-	-	-
134	Moraceae	<i>Ficus bernaysii</i>	-	-	-	-
135	Moraceae	<i>Ficus trachypison</i>	-	-	-	-
136	Myristicaceae	<i>Gymnacranthera farquhariana</i>	-	-	-	-
137	Myristicaceae	<i>Horsfieldia irya</i>	LC	-	-	-
138	Myristicaceae	<i>Horsfieldia sp</i>	-	-	-	-
139	Myristicaceae	<i>Myristica lancifolia</i>	-	-	-	-
140	Myrtaceae	<i>Rhodamnia sp</i>	-	-	-	-
141	Myrtaceae	<i>Syzygium cf. puberulum</i>	-	-	-	-
142	Myrtaceae	<i>Syzygium sp1</i>	-	-	-	-
143	Myrtaceae	<i>Syzygium sp2</i>	-	-	-	-
144	Myrtaceae	<i>Syzygium sp3</i>	-	-	-	-
145	Nephrolepidaceae	<i>Nephrolepis sp</i>	-	-	-	-
146	Orchidaceae	<i>Bulbophyllum sp</i>	-	-	-	-
147	Orchidaceae	<i>Bulbophyllum sp1</i>	-	-	-	-
148	Orchidaceae	<i>Bulbophyllum sp2</i>	-	-	-	-
149	Orchidaceae	<i>Coelogyne sp</i>	-	-	-	-
150	Orchidaceae	<i>Dendrobium sp</i>	-	-	-	-
151	Orchidaceae	<i>Flickingeria sp</i>	-	-	-	-
152	Orchidaceae	<i>Grammatophyllum papuanum</i>	-	-	-	-
153	Pandanaceae	<i>Freycinetia sp</i>	-	-	-	-
154	Pandanaceae	<i>Pandanus papuanus</i>	-	-	-	-
155	Pandanaceae	<i>Pandanus sp</i>	-	-	-	-
156	Phyllanthaceae	<i>Aporosa papuana</i>	-	-	-	-
157	Piperaceae	<i>Piper sp</i>	-	-	-	-
158	Podocarpaceae	<i>Nageia wallichiana</i>	LC	-	-	-
159	Polygalaceae	<i>Xanthophyllum papuanum</i>	-	-	-	-
160	Polypodiaceae	<i>Drynaria sp</i>	-	-	-	-
161	Primulaceae	<i>Fittingia sp</i>	-	-	-	-
162	Putranjivaceae	<i>Drypetes sp</i>	-	-	-	-
163	Rhamnaceae	<i>Ziziphus sp</i>	-	-	-	-
164	Rubiaceae	<i>Ixora sp</i>	-	-	-	-
165	Rubiaceae	<i>Myrmecodia sp</i>	-	-	-	-
166	Rubiaceae	<i>Neonauclea sp</i>	-	-	-	-
167	Rubiaceae	<i>Psychotria sp</i>	-	-	-	-
168	Rubiaceae	<i>Uncaria sp</i>	-	-	-	-
169	Rutaceae	<i>Melicope rubra</i>	-	-	-	-
170	Sabiaceae	<i>Meliosma pinnata</i>	-	-	-	-
171	Salicaceae	<i>Homalium foetidum</i>	LC	-	-	-
172	Sapotaceae	<i>Palaquium sp1</i>	-	-	-	-
173	Sapotaceae	<i>Palaquium sp2</i>	-	-	-	-
174	Sapotaceae	<i>Palaquium sp3</i>	-	-	-	-

No	Family	Species	IUCN Red List	CITES	P 106/2018	Endemic
175	Smilacaceae	<i>Smilax sp</i>	-	-	-	-
176	Symplocaceae	<i>Symplocos cochinchinensis</i>	-	-	-	-
177	Theaceae	<i>Gordonia cf. amboinensis</i>	-	-	-	-
178	Vitaceae	<i>Ampelocissus sp</i>	-	-	-	-
179	Vitaceae	<i>Cissus sp</i>	-	-	-	-
180	Zingiberaceae	<i>Alpinia sp1</i>	-	-	-	-
181	Zingiberaceae	<i>Alpinia sp2</i>	-	-	-	-
182	Zingiberaceae	<i>Alpinia sp3</i>	-	-	-	-
183	Zingiberaceae	<i>Etilingera sp</i>	-	-	-	-

Table 7.2: List of fauna species recorded in the landscape of Recovery Site

No.	Class	Family	Scientific Name	Common Name	Indonesia Name	Feeding Guild	CITES	IUCN	P.106 /2018	Endemic	Resident /Migrant	Habitat
1	Burung	Accipitridae	<i>Accipiter hiogaster</i>	Variable Goshawk	Elang alap kelabu	Carnivore	II	LC	P	-	BR	F/O
2	Burung	Accipitridae	<i>Haliastur indus</i>	Brahminy kite	Elang Bondol	Carnivore	II	LC	P	-	BR	F/W
3	Burung	Accipitridae	<i>Henicopernis longicauda</i>	Long-tailed Honey Buzzard	Elang Ekor-panjang	Carnivore	II	LC	P	E	BR	F/O
4	Burung	Alcedinidae	<i>Dacelo gaudichaud</i>	Rufous-bellied Kookaburra	Kukabura Perut-merah	Piscivore-insectivore	-	LC	-	E	BR	F/W
5	Burung	Alcedinidae	<i>Syma torotoro</i>	Yellow-Billed Kingfisher	Cekakak Torotoro	Piscivore-insectivore	-	LC	-	E	BR	F
6	Burung	Apodidae	<i>Collocalia esculenta</i>	Glossy Swiftlet	Walet Sapi	Insectivore	-	LC	-	-	BR	A
7	Burung	Apodidae	<i>Mearnsia novaeguineae</i>	Papuan Spinetailed Swift	Kapinis jarum Papua	Insectivore	-	LC	-	-	BR	A
8	Burung	Ardeidae	<i>Ardea alba / Ardea alba modesta</i>	Great White Egret	Kuntul besar	Piscivore	-	LC	P	-	M	W
9	Burung	Ardeidae	<i>Ixobrychus flavicollis</i>	Black Bittern	Bambangan Hitam	Piscivore-insectivore	-	LC	P	-	M	W
10	Burung	Artamidae	<i>Cracticus cassicus</i>	Hooded Butcherbird	Jagal Papua	Frugivore-insectivore	-	LC	-	E	BR	F
11	Burung	Artamidae	<i>Melloria quoyi</i>	Black Butcherbird	Jagal Hitam	Frugivore-insectivore	-	LC	-	-	BR	F
12	Burung	Bucerotidae	<i>Rhyticeros plicatus</i>	Papuan Hornbill	Julang Irian	Frugivore	II	LC	P	-	BR	F
13	Burung	Cacatuidae	<i>Cacatua galerita</i>	Sulphur-Crested Cockatoo	Kakatua Koki	Frugivore	II	LC	P	-	BR	F/O
14	Burung	Cacatuidae	<i>Probosciger aterrimus</i>	Palm Cockatoo	Kakatua Raja	Frugivore	I	LC	P	-	BR	F/O
15	Burung	Campephagidae	<i>Campochaera sloetii</i>	Golden Cuckooshrike	Kepudang sungu emas	Frugivore-Insectivore	-	LC	-	E	BR	F
16	Burung	Campephagidae	<i>Coracina papuensis</i>	White-bellied Cuckooshrike	Burung Kepudang sungguh kartula	Frugivore-Insectivore	-	LC	-	-	BR	F
17	Burung	Campephagidae	<i>Edolisoma melas</i>	Black Cicadabird	Kepudang-sungu Hitam	Frugivore-Insectivore	-	LC	-	-	BR	F
18	Burung	Campephagidae	<i>Edolisoma schisticeps</i>	Grey-headed Cicadabird	Kepudang sunngu desin	Frugivore-Insectivore	-	LC	-	E	BR	F
19	Burung	Casuariidae	<i>Casuarius casuarius</i>	Southern Cassowary	Kasuari Gelambir-ganda	Omnivore	-	LC	P	-	BR	F
20	Burung	Columbidae	<i>Chalcophaps stephani</i>	Stephan's Emerald Dove	Delimukan Timur	Frugivore	-	LC	-	-	BR	F
21	Burung	Columbidae	<i>Ducula pinon</i>	Pinon's Imperial-pigeon	Pergam Pinon	Frugivore	-	LC	-	E	BR	F/O
22	Burung	Columbidae	<i>Ducula zoeae</i>	Zoe's Imperial-pigeon	Pergam Zoe	Frugivore	-	LC	-	E	BR	F
23	Burung	Columbidae	<i>Goura cristata</i>	Western Crowned Pigeon	Mambruk Ubiaat	Frugivore	II	VU	P	E	BRw	F
24	Burung	Columbidae	<i>Macropygia phasianella</i>	Brown Cuckoo-dove	Uncal Ambon	Frugivore	-	LC	-	-	BR	F/O
25	Burung	Columbidae	<i>Megaloprepia magnifica</i>	Wompoo Fruit-Dove	Walik Wompu	Frugivore	-	LC	-	-	BR	F
26	Burung	Columbidae	<i>Ptilinopus aurantifrons</i>	Orange-fronted Fruit Dove	Walik Dahi-jingga	Frugivore	-	LC	-	E	BR	F
27	Burung	Columbidae	<i>Ptilinopus coronulatus</i>	Coroneted Fruit-Dove	Walik Lunggung	Frugivore	-	LC	-	E	BR	F
28	Burung	Columbidae	<i>Ptilinopus iozonus</i>	Orange-Bellied Fruit Dove	Walik Perut-jingga	Frugivore	-	LC	-	E	BR	F
29	Burung	Columbidae	<i>Ptilinopus nainus</i>	Dwarf Fruit Dove	Walik Kerdil	Frugivore	-	LC	-	E	BR	F
30	Burung	Columbidae	<i>Ptilinopus ornatus</i>	Ornate Fruit Dove	Walik buma	Frugivore	-	LC	-	E	BR	F
31	Burung	Columbidae	<i>Ptilinopus perlatus</i>	Pink-spotted Fruit Dove	Walik Mutiara	Frugivore	-	LC	-	E	BR	F
32	Burung	Corvidae	<i>Myiagra alecto</i>	Shining Flycatcher	Sikatan Kilap	Insectivore	-	LC	-	-	BR	Fm/O
33	Burung	Corvidae	<i>Peltops blainvillii</i>	Lowland Peltops	Peltops Hutan	Insectivore	-	LC	-	E	BR	F
34	Burung	Cuculidae	<i>Cacomantis variolosus</i>	Brush Cuckoo	Wiwik rimba	Insectivore	-	LC	-	-	BR+M	F/O
35	Burung	Dicruridae	<i>Dicrurus bracteatus</i>	Spangled Drongo	Srigunting Lencana	Insectivore	-	LC	-	-	BR+M	F/O
36	Burung	Estrildidae	<i>Lonchura tristissima</i>	Streak Headed Manikin	Bondol coreng	Gramnivore-insectivore	-	LC	-	E	BR	F
37	Burung	Hemiprocnidae	<i>Hemiprocne mystacea</i>	Moustached treeswift	Tepekong kumis	Insectivore	-	LC	-	-	BR	A/F
38	Burung	Laridae	<i>Chlidonias leucopterus</i>	White-winged Tern	Dara Laut sayap putih	Piscivore-insectivore	-	LC	P	-	M	W
39	Burung	Megapodiidae	<i>Megapodius reinwardt</i>	Orange-footed Scrubfowl	Gosong Kaki-merah	Frugivore-insectivore	-	LC	P	-	BRs,w	F
40	Burung	Megapodiidae	<i>Talegalla cuvieri</i>	Red-billed Brushturkey	Maleo Kamur	Frugivore-insectivore	-	LC	P	E	BR	F
41	Burung	Meliphagidae	<i>Microptilotis flavirictus</i>	Yellow-gaped Honeyeater	Meliphaga Paruh-kuning	Frugivore-insectivore	-	LC	-	E	BR	F/O
42	Burung	Meliphagidae	<i>Philemon buceroides</i>	Helmeted Friarbird	Cikukua Tanduk	Frugivore-insectivore	-	LC	-	-	BR	F/O
43	Burung	Meliphagidae	<i>Pycnopygius stictocephalus</i>	Streak-Headed Honeyeater	Isap madu Kepala-coreng	Nectarivore-insectivore	-	LC	-	E	BR	F/O
44	Burung	Meliphagidae	<i>Xanthotis flaviventer</i>	Tawny-breasted Honeyeater	Isap madu dada coklat	Nectarivore-insectivore	-	LC	-	-	BR	F/O

No.	Class	Family	Scientific Name	Common Name	Indonesia Name	Feeding Guild	CITES	IUCN	P.106 /2018	Endemic	Resident /Migrant	Habitat
45	Burung	Monarchidae	<i>Arses telescopthalmus</i>	Frilled Monarch	Kehicap Biku-biku	Insectivore	-	LC	-	-	BR	F
46	Burung	Monarchidae	<i>Carterornis chrysomela</i>	Golden Monarch	Kehicap Emas	Insectivore	-	LC	-	-	BR	F
47	Burung	Monarchidae	<i>Symposiachrus manadensis</i>	Hooded Monarch	Kehicap Bertopi	Insectivore	-	LC	-	-	BR	F
48	Burung	Nectariniidae	<i>Cinnyris jugularis</i>	Olive-Backed Sunbird	Burung madu Sriganti	Nectarivore-insectivore	-	LC	-	-	BR	F/O
49	Burung	Nectariniidae	<i>Leptocoma aspasia</i>	Black Sunbird	Burung madu Hitam	Nectarivore-insectivore	-	LC	-	-	BR	F/O
50	Burung	Oriolidae	<i>Oriolus szalayi</i>	Brown Oriole	Kepudang Coklat	Frugivore	-	LC	-	E	BR	F
51	Burung	Paradisaeidae	<i>Manucodia ater</i>	Glossy-mantled Manucode	Manucodia Kilap	Frugivore-Insectivore	II	LC	P	E	BR	F
52	Burung	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	Pecuk padi Belang	Piscivore	-	LC	-	-	Ms	W
53	Burung	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	Pecuk-padi hitam	Piscivore	-	LC	-	-	Ms	W
54	Burung	Psittaculidae	<i>Chalcopsitta atra</i>	Black Lory	Nuri Hitam	Frugivore	II	LC	P	E	BR	F/O
55	Burung	Psittaculidae	<i>Eclactus polychloros</i>	Papuan Eclactus	Nuri bayan maluku	Frugivore	-	LC	-	-	BR	F
56	Burung	Psittaculidae	<i>Eclactus roratus</i>	Eclactus parrot	Nuri Bayan	Frugivore	II	LC	P	-	BR	F/O
57	Burung	Psittaculidae	<i>Geoffroyus geoffroyi</i>	Red-cheeked Parrot	Nuri Pipi-merah	Frugivore	II	LC	P	-	BR	F
58	Burung	Psittaculidae	<i>Lorius lory</i>	Black-capped Lory	Kasturi Kepala-hitam	Frugivore	II	LC	P	E	BR	F
59	Burung	Psittaculidae	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Perkici Pelangi	Frugivore	II	LC	P	-	BR	F/O
60	Burung	Rallidae	<i>Rallina cf. tricolor</i>	Red-necked Crake	Tikusan Tukar	Insectivore	-	LC	-	-	BR	F
61	Burung	Rhipiduridae	<i>Rhipidura maculipectus</i>	Black Thicket-fantail	Kipasan-semak Hitam	Insectivore	-	LC	-	E	BRs	F
62	Burung	Sturnidae	<i>Mino anais</i>	Golden Myna	Mino Emas	Frugivore-insectivore	-	LC	-	E	BR	F
63	Burung	Sturnidae	<i>Mino dumontii</i>	Yellow-faced Myna	Mino Muka-kuning	Frugivore-insectivore	-	LC	-	E	BR	F
64	Burung	Threskiornithidae	<i>Threskiornis moluccus</i>	Australian White Ibis	Ibis Australia	Piscivore	-	LC	P	-	M	W
65	Mamalia	Cervidae	<i>Rusa timorensis</i>	Javan Rusa	Rusa Timor	Herbivore	-	VU	P	-	BR	F/O
66	Mamalia	Dasyuridae	<i>Myoictis melas</i>	Three Striped Dasyure	Insinsi Pasin	Insectivore	-	LC	-	-	BR	F
67	Mamalia	Macropodidae	<i>Dorcopsis muelleri</i>	Brown Dorcopsis	Lau-lau tanah	Folivore - frugivore	-	LC	-	E	BR	F
68	Mamalia	Muridae	<i>Rattus praetor</i>	large New Guinea spiny rat	Tikus Senok	Omnivore	-	LC	-	-	BR	F
69	Mamalia	Muridae	<i>Rattus sp1</i>	Rat	Tikus	Omnivore	-	LC	-	-	BR	F
70	Mamalia	Muridae	<i>Rattus sp2</i>	Rat	Tikus	Omnivore	-	LC	-	-	BR	F
71	Mamalia	Peramelidae	<i>Echymipera rufescens</i>	Long-nosed echymipera	Kalubu Nambap-Sop	Omnivore	-	LC	-	-	BR	F
72	Mamalia	Peramelidae	<i>Echymipera sp1</i>	Bandicoot	Bandikut	Omnivore	-	LC	-	-	BR	F
73	Mamalia	Peramelidae	<i>Echymipera sp2</i>	Bandicoot	Bandikut	Omnivore	-	LC	-	-	BR	F
74	Mamalia	Pteropodidae	<i>Pteropus neohibernicus</i>	Great Flying fox	Kalong Bismark	Frugivore	II	LC	-	-	BR+M	A/F
75	Mamalia	Suidae	<i>Sus scrofa</i>	Wild Boar	Babi hutan	Omnivore	-	LC	-	-	BR	F/O
76	Reptil	Agamidae	<i>Hypsilurus modestus</i>	Modest forest dragon	-	Insectivore	-	LC	-	-	BR	F/W
77	Reptil	Pygopodidae	<i>Lialis jicari</i>	Papua Snake Lizard	Kadal-pensil	Insectivore	-	LC	-	-	BR	F
78	Reptil	Scincidae	<i>Carlia fusca</i>	Brown four-fingered skink	Kadal coklat	Insectivore	-	LC	-	E	BR	F
79	Reptil	Scincidae	<i>Emoia caeruleocauda</i>	Pacific Bluetail Emo Skink	Kadal ekor biru	Insectivore	-	LC	-	-	BR	F
80	Reptil	Scincidae	<i>Emoia longicauda</i>	Long-tailed Slender Tree Skink	Kadal emoia ekor panjang	Insectivore	-	LC	-	-	BR	F
81	Reptil	Scincidae	<i>Emoia pallidiceps</i>	De Vis' Emo Skink	Kadal emoia	Insectivore	-	LC	-	-	BR	F
82	Reptil	Scincidae	<i>Emoia physicae</i>	Slender Emo Skink	Kadal emoia	Insectivore	-	LC	-	E	BR	F
83	Reptil	Scincidae	<i>Lygisaurus novaeguineae</i>	New Guinea Four-fingered Skink	-	Insectivore	-	LC	-	-	BR	F
84	Reptil	Scincidae	<i>Sphenomorphus jobiensis</i>	Papuan Forest Skink	-	Insectivore	-	LC	-	E	BR	F
85	Reptil	Scincidae	<i>Sphenomorphus simus</i>	Papuan Black-sided Forest Skink	-	Insectivore	-	LC	-	E	BR	F
86	Reptil	Varanidae	<i>Varanus doreanus</i>	Blue-tailed Monitor	-	Omnivore	II	LC	-	-	BR	F
87	Amphibi	Ceratobatrachidae	<i>Cornufer cf. batantae</i>	Batanta wrinkled ground frog	-	Insectivore	-	LC	-	E	BR	F/W
88	Amphibi	Ceratobatrachidae	<i>Cornufer cf. punctatus</i>	dotted wrinkled ground frog	-	Insectivore	-	LC	-	E	BR	F/W
89	Amphibi	Ceratobatrachidae	<i>Cornufer papuensis</i>	Papua wrinkled ground frog	-	Insectivore	-	LC	-	-	BR	W

No.	Class	Family	Scientific Name	Common Name	Indonesia Name	Feeding Guild	CITES	IUCN	P.106 /2018	Endemic	Resident /Migrant	Habitat
90	Amphibi	Pelodyadidae	<i>Litoria multicolor</i>	Multi-coloured Treefrog	-	Insectivore	-	DD	-	E	BR	F/W
91	Amphibi	Ranidae	<i>Papurana sp2</i>	-	-	Insectivore	-	LC	-	-	BR	W
92	Amphibi	Ranidae	<i>Papurana sp3</i>	-	-	Insectivore	-	LC	-	-	BR	W
93	Ikan	Bagridae	<i>Hemibagrus cf. nemurus</i>	Asian redbtail catfish	Baung	Omnivore	-	LC	-	-	BR	W
94	Ikan	Bagridae	<i>Hemibagrus sp</i>	Baung Catfish	Baung	Omnivore	-	LC	-	-	BR	W
95	Ikan	Channidae	<i>Channa striata</i>	Striped snakehead	Gabus	Omnivore	-	LC	-	-	BR	W
96	Ikan	Cichlidae	<i>Oreochromis sp</i>	Tilapia	-	Omnivore	-	LC	-	-	BR	W
97	Ikan	Eleotridae	<i>Mogurnda lineata</i>	Kokoda Mogurnda Goby	-	Omnivore	-	LC	-	E	BR	W
98	Ikan	Eleotridae	<i>Mogurnda sp</i>	Goby	-	Omnivore	-	LC	-	-	BR	W
99	Ikan	Melanotaeniidae	<i>Chilatherina sp</i>	Rainbow Fish	-	Omnivore	-	LC	-	-	BR	W
100	Ikan	Osphronemidae	<i>Trichopodus pectoralis</i>	gourami	Sepat rawa	Omnivore	-	LC	-	-	BR	W
101	Ikan	Terapontidae	<i>Hephaestus sp</i>	Grunter	-	Omnivore	-	LC	-	-	BR	W
102	Kupu-kupu	Drepanidae	<i>Tridrepana sp</i>	Moth	-	Nectarivore	-	LC	-	-	BR	F/O
103	Kupu-kupu	Geometridae	<i>Protulioenemis biplagiata</i>	Moth	-	Nectarivore	-	LC	-	-	BR	F/O
104	Kupu-kupu	Lycaenidae	<i>Arhopala adherbal</i>	-	-	Nectarivore	-	LC	-	E	BR	F/O
105	Kupu-kupu	Lycaenidae	<i>Arhopala thamyras</i>	-	-	Nectarivore	-	LC	-	E	BR	F/O
106	Kupu-kupu	Lycaenidae	<i>Danis danis</i>	Large Green-Banded Blue	-	Nectarivore	-	LC	-	-	BR	F/O
107	Kupu-kupu	Lycaenidae	<i>Zizina sp</i>	Moth	-	Nectarivore	-	LC	-	-	BR	F/O
108	Kupu-kupu	Nymphalidae	<i>Hypolimnas sp</i>	-	-	Nectarivore	-	LC	-	-	BR	F/O
109	Kupu-kupu	Nymphalidae	<i>Ideopsis juvena</i>	Grey Glassy Tiger	-	Nectarivore	-	LC	-	-	BR	F/O
110	Kupu-kupu	Nymphalidae	<i>Taenaris catops</i>	Amathusiid Butterfly	-	Nectarivore	-	LC	-	E	BR	F/O
111	Kupu-kupu	Papilionidae	<i>Graphium aristeus</i>	Fivebar Swordtail	-	Nectarivore	-	LC	-	-	BR	F/O
112	Kupu-kupu	Pieridae	<i>Eurema blanda</i>	Three-spot Grass-yellow	-	Nectarivore	-	LC	-	-	BR	F/O
113	Kupu-kupu	Riodinidae	<i>Praetaxila statira</i>	-	-	Nectarivore	-	LC	-	E	BR	F/O
114	Kupu-kupu	Saturniidae	<i>Coscinocera hercules</i>	Hercules Moth	-	Nectarivore	-	LC	-	-	BR	F/O
115	Capung	Aeshnidae	<i>Gynacantha kirbyi</i>	Slender Duskhawker	-	Insectivore	-	LC	-	-	BR	W
116	Capung	Chlorocyphidae	<i>Rhinocypha tincta</i>	Papuan jewel	-	Insectivore	-	LC	-	-	BR	W
117	Capung	Coenagrionidae	<i>Agriocnemis rubescens</i>	Variable Sprite	-	Insectivore	-	LC	-	-	BR	W
118	Capung	Coenagrionidae	<i>Papuagrion auriculatum</i>	Black stripe	-	Insectivore	-	DD	-	E	BR	W
119	Capung	Coenagrionidae	<i>Papuagrion cf. occipitale</i>	Dragonflies	-	Insectivore	-	LC	-	E	BR	F/W
120	Capung	Libellulidae	<i>Brachydiplax duivenbodei</i>	Darkmouth	-	Insectivore	-	LC	-	-	BR	W
121	Capung	Libellulidae	<i>Nannophya pygmaea</i>	Hachou-tombo	-	Insectivore	-	LC	-	-	BR	W
122	Capung	Libellulidae	<i>Neurothemis stigmatizans</i>	Painted Grasshawk	-	Insectivore	-	LC	-	-	BR	W
123	Capung	Libellulidae	<i>Orthetrum villosivittatum</i>	Fiery Skimmer	-	Insectivore	-	LC	-	-	BR	W
124	Capung	Libellulidae	<i>Rhyothemis resplendens</i>	Jewel flutterer	-	Insectivore	-	LC	-	-	BR	W

Note for table above:

- Resident/ Migrant: BR-Breeding resident, BRr-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 (or nearly so) to north and east Papua, BRse- Restricted (or nearly so) to south-eastern Papua, BRis-Restricted to islands, BR?-Residential status uncertain, M-Non-breeding temperate winter migrants, Ms-Non-breeding migrants restricted mostly to southern Papua, BR+M-Breeding residents with populations seasonally augmented by non-breeding visitors, V-Vagrant/rare 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

7.2 Appendix B: Attendance List of Internal and External Socialisation



DAFTAR HADIR PERTEMUAN

Hari : RABU
 Tanggal : 07-10-2020
 Waktu : 07.00 - SECESA1
 Tempat : BARAE DIV. 2
 Agenda : HCU DAN HCS INDEKSI

NO	NAMA	JABATAN	Kampung Asal	Tanda Tangan
1	EDON TAUNE	PRUMING	SUMANDU ✓	[Signature]
2	JEPENIAS TAUNE	PRUMING	SUMANDU ✓	[Signature]
3	LUTHER WADER	MANOR	BIAR	[Signature]
4	FADUN	KERAM PAJEN	KENDARI	[Signature]
5	SUGIARDO	KESAM PAJEN	JAWA TENGAH	[Signature]
6	AGY SUPRIANTO SIDIK	MANOR	MEDAN	[Signature]
7	ARDIANSAH NUSAND	MANOR	SUKAHATI SELATAN	[Signature]
8	AGUSTINO MISUEL S	MANOR	KUPANG	[Signature]
9	HEIN WADER	PEMANEN	BIAR	[Signature]
10	BERNARDUS PATIYAN	PEMANEN	BIAR	[Signature]
11	YANUSUP FAIDIBAN	PEMANEN	BIAR	[Signature]
12	CITOLAU FIKRIE HIRPINI	PEMANEN	BIAR	[Signature]
13	RONALD STEVANUS WADER	PEMANEN	BIAR	[Signature]

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14	ABRAHAM SABAROTER	PEMANEN	BIAR	[Signature]
15	YUNUS AWELE	PEMANEN	BIAR	[Signature]
16	RULAN RUDAH WADER	PEMANEN	BIAR	[Signature]
17	MARTEN WADER-IR	PEMANEN	BIAR	[Signature]
18	AUDYSIUS E. PAJIBAN	PEMANEN	BIAR	[Signature]
19	AMNON RULAN WADER	PEMANEN	BIAR	[Signature]
20	YERHEZEL YESAYA WADER	PEMANEN	BIAR	[Signature]
21	HEMPRE WADER	PEMANEN	BIAR	[Signature]
22	YULES PAJIBAN	PEMANEN	BIAR	[Signature]
23	ZETH FAIDIBAN	PEMANEN	BIAR	[Signature]
24	VALENTINUS TANDRA	PEMANEN	BIAR	[Signature]
25	PATRIKUS KAMAT	PEMANEN	BIAR	[Signature]
26	SILAS FAIDIBAN	PEMANEN	BIAR	[Signature]
27	JOSSE FERDINANDUS	PEMANEN	KUPANG	[Signature]
28	MARTELA WIER WADER	PEMANEN	BIAR	[Signature]
29	AELX SIANARAD	PEMANEN	JAWA TENGAH	[Signature]
30	LUCAS CAMPUS	PEMANEN	KUPANG	[Signature]
31	FERAN KARDIANAN	PEMANEN	BIMA	[Signature]
32	YOKA MIRIND	PEMANEN	BIAR	[Signature]



33	ANTONIO DE PAIS	PEMANEN	KUPANG	[Signature]
34	JULIO CORRES	PEMANEN	KUPANG	[Signature]
35	PALUS BERNARDO ALVES	PEMANEN	KUPANG	[Signature]
36	JARNE BELLO	PEMANEN	KUPANG	[Signature]
37	SEBASTIAO SOARES	PEMANEN	KUPANG	[Signature]
38	YOSEPH SERAN	PEMANEN	BIAR	[Signature]
39	DEBEO SOARES	PEMANEN	KUPANG	[Signature]
40	MARCELLUS SERAN	PEMANEN	BIAR	[Signature]
41	YOHANES MARELIMBO	PEMANEN	BIAR	[Signature]
42	CHIRITO BOMES	PEMANEN	KUPANG	[Signature]
43	JUJO BAPTISTA	PEMANEN	KUPANG	[Signature]
44	MARCELINO SOARES	PEMANEN	KUPANG	[Signature]
45	FILIPU BIRTO	PEMANEN	KUPANG	[Signature]
46	PANDI FANCI KAHAR	PEMANEN	KUPANG	[Signature]
47	JIMMY MARCEA	PEMANEN	KUPANG	[Signature]
48	SILVSTER PAMULUS. N	PEMANEN	KUPANG	[Signature]
49	DOMINIANUS AIR	PEMANEN	MAVRANT	[Signature]
50	YOSIP PARTIWI WADER	PEMANEN	BIAR	[Signature]
51	YOHANES SABAROTER	PEMANEN	BIAR	[Signature]



52	EDU PETU SANTO MALE	PELODING	BIAR	[Signature]
53	WELLEM MANSOEN	PELODING	BIAR	[Signature]
54	YUSUF YERHEZEL KAPAT	PELODING	BIAR	[Signature]
55	FERI PAJIBAN	PRUMING	BARJANAGORA	[Signature]
56	YONI GUNAWAN	PRUMING	BARJANAGORA	[Signature]
57	AMON SETI BUDI	PRUMING	BARJANAGORA	[Signature]
58	PAMLAN	PRUMING	BARJANAGORA	[Signature]
59	KARPAN	PRUMING	BARJANAGORA	[Signature]
60	ANDI SAPTEA	PRUMING	BARJANAGORA	[Signature]
61	MIDIA ISMAYANI	PRUMING	BARJANAGORA	[Signature]
62	MARCO	PRUMING	BARJANAGORA	[Signature]
63	ABDUL SOLEH	PRUMING	BARJANAGORA	[Signature]
64	DEDI PAJIBAN	PRUMING	BARJANAGORA	[Signature]
65	GUARDO	PRUMING	SOLO	[Signature]
66	SUHADI	PEMANEN	SOLO	[Signature]
67	JUMUDI	PEMANEN	SOLO	[Signature]
68	TESLI MULHOLALI	PEMANEN	SOLO	[Signature]
69	BACAS BACILUN	PEMANEN	SOLO	[Signature]
70	PENDRI	PEMANEN	SOLO	[Signature]



71	MATHUS	PEMANEN	SOLO	
72	ICHWANUDIN	PEMANEN	SOLO	
73	BINTARO	CHEMIS	TRENGGALEK	
74	DEM PRASETYWAN	CHEMIS	TRENGGALEK	
75	MUR HADI	CHEMIS	TRENGGALEK	
76	KEMIS	CHEMIS	TRENGGALEK	
77	REMENTOR	PETAUPUNAN	AMBOA	
78	YANCE	PETAUPUNAN	AMBOA	
79	DEMI	PETAUPUNAN	AMBOA	
80	FRANCEI	PETAUPUNAN	AMBOA	
81	STI OMI	PETAUPUNAN	AMBOA	
82	KRISTIAN	PETAUPUNAN	AMBOA	
83	STEVY	PETAUPUNAN	AMBOA	
84	JOHN BILLY	PEMUPUNAN	AMBOA	
85	IFAN	PEMUPUNAN	AMBOA	
86	ASUN	PEMUPUNAN	AMBOA	

Figure 7.1: Attendance List of Socialisation with Division B workers



DAFTAR HADIR PERTEMUAN

Hari : JUMAT
 Tanggal : 16 OKTOBER / 2016
 Waktu : 06 : 00 WIT
 Tempat : DIVISI A / 1 (SATU)
 Agenda : APOL PAGI

NO	NAMA	JABATAN	Kampung Asal	Tanda Tangan
1	KALUBUS B. BURDAM	PKWT	BLAK	[Signature]
2	ALFRET. FAIKRAWEN	PKWT	BLAK	[Signature]
3	YOSTAN A. LUWOKAS	PKWT	TIMOR / KUPANG	[Signature]
4	ARDITUS. BERU	PKWT	TIMOR / KUPANG	[Signature]
5	OTRES. TEPA	PKWT	TIMOR / KUPANG	[Signature]
6	AGUSTINUS. KELI MANG	PKWT	TIMOR / FLORES	[Signature]
7	GENRI-MINER	PKWT	TIMOR / KUPANG	[Signature]
8	FIKHAROUS. KONO	PKWT	TIMOR / KUPANG	[Signature]
9	RICHARD LUTURKEY	PKWT	AMBON	[Signature]
10	JEFRI. SUSAY	PKWT	INAWATAN	[Signature]
11	OKTOVIANUS. MILI	PKWT	MAKBON/MOY	[Signature]
12	PASKAHIO. JAMAN	PKWT	TIMOR / FLORES	[Signature]
13	YANDY. PARNIA AP	PKWT	BLAK.	[Signature]

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14	DESBY. I. FAHARDI	PKWT	JAWA	[Signature]
15	TONI. RIYATMO	PKWT	JAWA	[Signature]
16	RUMATA	PKWT	JAWA	[Signature]
17	ABDUL. HALIM	PKWT	BIMA	[Signature]
18	AHMAD MUSARAK	PKWT	JAWA	[Signature]
19	ERWIN ADI. SUSILO	PKWT	JAWA	[Signature]
20	AHMAD WARIS	PKWT	JAWA	[Signature]
21	SUEIMAN	PKWT	JAWA	[Signature]
22	STEWART	BORONGAN	AMBON	[Signature]
23	ROLI	BORONGAN	AMBON	[Signature]
24	SIMON	BORONGAN	AMBON	[Signature]
25	YANDI	BORONGAN	AMBON	[Signature]
26	LUKEN	BORONGAN	AMBON	[Signature]
27	JHEN. NAMCERNA	BORONGAN	AMBON	[Signature]
28	BILLY. M	BORONGAN	BLAK	[Signature]
29	YUSEF. KONO	PKWT	TIMOR	[Signature]
30	FAHMADI	PKWT	KALIMANTAN	[Signature]
31	BAKTI SARUNG ALD	MANDOR	TORAJA	[Signature]
32	ELVIS. YAPLO LO	MANDOR	TEMINABUAN	[Signature]



33	CHRISTIAN F. NOHO	MANDOR	TIMOR/MANGARAI	[Signature]
34	ISMAIL. MAHOTIAD	MANDOR	BLAK	[Signature]
35	NANDES. C. KAKISINA	MANDOR	AMBON	[Signature]
36	EMBEL. PARDI	PKWT	INAWATAN	[Signature]
37	MARKUS. MORE	BORONGAN	BENAWA ✓	[Signature]
38	YEREMIAS. WAHUBE	BORONGAN	ATORI	[Signature]
39	SPENYEL. HOHAME	KHT	BENAWA ✓	[Signature]
40	APMER. MORE	KHT	BENAWA ✓	[Signature]
41	DANCIS. KAYUBI	KHT	SUMANO ✓	[Signature]
42	OPES. HOHAME	KHT	BENAWA ✓	[Signature]
43	MEKSEM. IDEME	KHT	SUMANO ✓	[Signature]
44	LEA. TAERARE	PKWTT	SUMANO ✓	[Signature]
45	YULINCE	PKWTT	SUMANO ✓	[Signature]
46	ANITA. HOHAME	PKWTT	SUMANO ✓	[Signature]
47	KALACE. TAERARE	PKWTT	SUMANO ✓	[Signature]
48	MARINA. WAHUBE	PKWTT	SUMANO ✓	[Signature]
49	OLVIANA. IDEME	PKWTT	SUMANO ✓	[Signature]
50	PIDLOP. WOWANE	MANDOR	BENAWA ✓	[Signature]
51	LEONARD HOHAME	MANDOR	BENAWA ✓	[Signature]



52	DAUD. HOHAME	KHT	BENAWA ✓	[Signature]
53	SALIMAN	KHT	JAWA	[Signature]
54	ROBERT HOHAME	KHT	BENAWA ✓	[Signature]
55	AVACE WAHUBE	KHT	BENAWA ✓	[Signature]
56	ANGGANETA. HOHAME	KHT	BENAWA ✓	[Signature]
57	HUBERTINA. WAHUBE	KHT	BENAWA ✓	[Signature]
58	IMELDA. WOWANE	KHT	BENAWA ✓	[Signature]
59	IRENE. AUME	KHT	BENAWA ✓	[Signature]
60	NELCE. MOINE	KHT	BENAWA ✓	[Signature]
61	PINCE. HADOME	KHT	BENAWA ✓	[Signature]
62	SALOMINA. HOHAME	KHT	BENAWA ✓	[Signature]
63	SELFINA. DAIMAR	KHT	BENAWA ✓	[Signature]
64	SELVINA. KABYE	KHT	BENAWA ✓	[Signature]
65	YUDIK. HOHAME	KHT	BENAWA ✓	[Signature]
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Figure 7.2: Attendance List of Socialisation with Division A workers



DAFTAR HADIR PERTEMUAN

Hari : RABU
 Tanggal : 28 /10 /2020
 Waktu : 06.30
 Tempat : BAREK DEV. 06
 Agenda : Sosialisasi di 'konser Basi' alam

NO	NAMA	ASAL KAMPUNG	JABATAN	Tanda Tangan
1	Tarsisius Hardin	Manggakai Flores	Mandor Perawatan	[Signature]
2	Muharis	Matassar	Karyawan/PEWT	[Signature]
3	Miruf Seripudin	Banjarnegara	Karyawan PKWT	[Signature]
4	Soidin	Banjarnegara	Karyawan	[Signature]
5	Paisal	Malangsar	PEWT	[Signature]
6	DADAN	KARAWANG	KARYAWAN PEWT	[Signature]
7	M.FREDI	MEOU	KARYAWAN PEWT	[Signature]
8	ALI-SUMARTA	GARUT	KARYAWAN PEWT	[Signature]
9	SEPTIANA	MAJALENKA	KARYAWAN PEWT	[Signature]
10	Ardianis Tiirudoby	AMBON	PEWT	[Signature]
11	Berhadus Bunahanda	AMBON	PEWT	[Signature]
12	TOPIK Urdhman	Kerang/Barus Banyuwangi	PEWT	[Signature]
13	Rachmat Abdul B.	Banyuwangi/Kelapa	—	[Signature]

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14	ZUBAT	FRESHY	PEWT	[Signature]
15	Krisno Galus	MANGGARAI	PEWT	[Signature]
16	Anfin Saich	MANGGARAI	PEWT	[Signature]
17	TIKNO. S. I	GREUT	PEWT	[Signature]
18	Risqi Fauzi W	Purbalingga	PEWT	[Signature]
19	Pedi Julianto	BANJAR	PEWT	[Signature]
20	Aripin	MANGGARAI	PEWT	[Signature]
21	Amri SETIYANLY	SEMARANG	PEWT	[Signature]
22	Kharisun	BANJAR	PEWT	[Signature]
23	Achmad Afandi	SEMARANG	PEWT	[Signature]
24	Riski Yanuar	Ju	PEWT	[Signature]
25	Yenus. Tebe	SUMARNO	KHT. Semarang	[Signature]
26	slamat M. Kreo?	SIBOLGA	PEWT	[Signature]
27	Q. Suli Taopape	SUMARNO	KHT Semarang	[Signature]
28	Theo Widiane	SUMARNO	KHT Semarang	[Signature]
29	JEMELUME	BEHAWA.	[Signature]	[Signature]
30	YOSEP. A	BENAWA. KHT		[Signature]
31				
32				



33	SARIPUODIN	Jempang	PEWT	[Signature]
34	M. IKBAL.	Jempang	PEWT	[Signature]
35	MARUKUS. BATTAPAN-	Samlaki	PEWT	[Signature]
36	SAI NILL	Jempang	PEWT	[Signature]
37	FAISAL	Jempang	PEWT	[Signature]
38	Harfeinap J. Barad.	MANGGARAI	PEWT	[Signature]
39	M. IKRA	Bopomat	PEWT	[Signature]
40	RUSLI	Jempang	PEWT	[Signature]
41	M. SALE	Bima	PEWT	[Signature]
42	SAIFUL	Jempang	PEWT	[Signature]
43	RUSLI BARU	PURANG	PEWT	[Signature]
44	IKWAN	PURANG	PEWT	[Signature]
45	SYAMSIR	PURANG	PEWT	[Signature]
46	Rusmana.	BANJAR	PEWT	[Signature]
47	ANVAR. R.	Jempang	PEWT	[Signature]
48	Bagus BAREP Muin	BANJAR	PEWT	[Signature]
49	MISWANTO	BANJAR	PEWT	[Signature]
50	-	-	PEWT	-
51	-	-	-	-



7150	HEARDIANA	Makassar.	PEWT	[Signature]
7251	CICIK Rindang	Jawa	PEWT	[Signature]
7352	MUR CAHYA	Makassar.	PEWT	[Signature]
7453	NURANI	Makassar.	PEWT	[Signature]
7554	NURBIA	Makassar.	PEWT	[Signature]
7655	Eldh sn Margati	Jawa Barat.	PEWT	[Signature]
7756	Ododan.	Jawa Barat	PEWT	[Signature]
7857	ANA	Makassar.	PEWT	[Signature]
7958	BAHIR	Makassar.	PEWT	[Signature]
8059	FAUZI	Pelopo	PEWT	[Signature]
8160	YALDI	Makassar.	PEWT	[Signature]
8261	YUSMAAM	Makassar.	PEWT	[Signature]
8362	ACO AMEALI	Samlaki	PEWT	[Signature]
8463	F. ATADJALIM.	Samlaki	PEWT	[Signature]
8564	RISWAN	Makassar.	PEWT	[Signature]
8665	TURSONO	Jawa Barat	PEWT	[Signature]
8766	MATIAS.	Samlaki	PEWT	[Signature]
8867	SARIMAY	Bima.	PEWT	[Signature]
8968	JODI	Bima.	PEWT	[Signature]

Figure 7.3: Attendance List of Socialisation with Division F workers



DAFTAR HADIR PERTEMUAN

Hari : Kamis
 Tanggal :
 Waktu : 12 November 2020 / 07.30 - Selesai
 Tempat : Mill
 Agenda : Sosialisasi Kebijakan Konserasi, HCS & AUS PEUDAKI

NO	NAMA	ASAL KAMPUNG	JABATAN	Tanda Tangan
1	YOSEP. JACSON.	Kamp. Warsar	M. Boiler.	
2	MULKI.S		PRESS	
3	Johannis ms	Luwuk (Sulung)	WELDER	
4	AFIF S HIDAYAT		STERILIZER	
5	HABEL WAJOM	MAYBRAT		
6	Abdul Lutfi	forong.	M. PROCESS	
7	ARAHIMAN.A	SOP-SEL	GRADING	
8	DANSA DI FARIZY	SORONG	MAINTENANCE	
9	KRISHNO SUBANDOT	SEMARANG	MEKANIK	
10	AGUSTINUS KAITAMA	MAYBRAT	LIMBA	
11	Valentino. W. NIO	SORONG	MEKANIK	
12	MUHAMMAD RIWAN	SORONG	MAINTENANCE	
13	PUTRA AEFANI .A.B	SORONG	KLARIFIKASI	

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14	Sahrumanjaya		maintenance	
15	IKBAL ARIFIN		Loading Ramp	
16	AHMAT ASKHORI		Maintenance	
17	Fredrik. AIFUFU	METEMANI	Limbal	
18	ANWAR	Dompu	PKWT	
19	Jeiles. A. Momot		Kernel	
20	Leonardo. Ohoiwuhun		Dispath	
21	RIZKY EDI S		Analisis	
22	Irfan Adi Saputra		OP LAB	
23	BRIAN. Y. ICALISA		OP. FINESSER	
24	SANDO. GULTOM	MEDAN	Op. DISPATCH	
25	APNER.A.YARANGGA	BENAWA	H. BOELER BOELER	
26	GAJAR SONKIN		OP. BOILER	
27				
28				
29				
30				
31				
32				

Figure 7.4: Attendance List of Socialisation with mill workers



DAFTAR HADIR PERTEMUAN

Hari : Sabtu
 Tanggal : 16, Januari 2021
 Waktu : 09.00 WIT s/d selesai
 Tempat : G15 STUDIO PMIP
 Agenda : - Training RSP0 & 1580
 - Traceability

NO	NAMA	DEPARTEMEN	TANDA TANGAN
1	Pubi Sarwedi Siregar	DIV 8	
2	Muarifin	DIV 8	
3	Maeselus Bere	DIV 8	
4	Ydranes Sende	DIV 6	
5	Said Jibu	DIV 7	
6	JEASON SANGADJI	DIV 7	
7	Thomas B. J. Klu	DIV 5	
8	MANDAS KAKISINA	DIV 1	
9	NATALDO SIGALINGGING	DIV 9	
10	Andre Saragih	DIV 5	
11	Muhammad Ikhfal	DIV 4	
12	Ary Supriady Strait	DIV 2	
13	Imanto	DIV 10	
14	DONISWIS	DIV 10	
15	Muhammad Rizal	DIV 4	

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 Nomor Pokok Perusahaan

Figure 7.5: Attendance List of Socialisation with mandores and supervisors



DAFTAR HADIR PERTEMUAN

Hari :
 Tanggal :
 Waktu : 06:30
 Tempat : Div. H
 Agenda : Konservasi



NO	NAMA	ASAL KAMPUNG	JABATAN	Tanda Tangan
1	Usuanto	Kebumen, Jateng	PKWT, Panen	1. [Signature]
2	Hidayat	Kebumen, Jateng	PKWT, Panen	2. [Signature]
3	Usuanto	Kebumen, Jateng	PKWT, Panen	3. [Signature]
4	Rohyadi	Kebumen, Jateng	PKWT, Panen	4. [Signature]
5	Ushab	Kebumen, Jateng	PKWT, Panen	5. [Signature]
6	Toha	Kebumen, Jateng	PKWT, Panen	6. [Signature]
7	Muarifin	Kebumen, Jateng	PKWT, Mandor Panen	7. [Signature]
8	Sabar	Jeneponto, Sulsel	PKWT, Perawatan	8. [Signature]
9	Muslimin	Goa, Sulsel	PKWT, Panen	9. [Signature]
10	Rusti	Binamu, Sulsel	PKWT, Perawatan	10. [Signature]
11	Risal Kamarudin	Binamu, Sulsel	PKWT, Perawatan	11. [Signature]
12	Arpin	Luwu Utara, Sulsel	PKWT, Panen	12. [Signature]
13	Sugiyono	Cilacap, Jateng	PKWT, Loading	13. [Signature]





14	Aswago	Cilacap, Jateng	PKWT, Panen	14. [Signature]
15	Nurazam	Cilacap, Jateng	PKWT, Panen	15. [Signature]
16	Edi Yusuf	Cilacap, Jateng	PKWT, Panen	16. [Signature]
17	Rahmat	B.Lampung	PKWT, Perawatan	17. [Signature]
18	Risal	Goa, Sulsel	PKWT, Panen	18. [Signature]
19	Fernandha	Goa, Sulsel	PKWT, Perawatan	19. [Signature]
20	Jani	Goa, Sulsel	PKWT, Perawatan	20. [Signature]
21	Rofinus - S - N	Kupang	PKWT, Pengawas	21. [Signature]
22	Franiskus Klam	Kupang	PKWT, Kranir Panen	22. [Signature]
23	Yunus	Jeniponto, Sulsel	PKWT, Panen	23. [Signature]
24	Suelirman - B	Jeniponto, Sulsel	PKWT, Panen	24. [Signature]
25	Stevanus - Fahile	Kupang	PKWT, Pengawas	25. [Signature]
26	Marselus beru	Kupang	Mandor B.	26. [Signature]
27	Piji - S - Sarwegar	Medan	Kranir Panen	27. [Signature]
28				28.
29				29.
30				30.
31				31.
32				32.

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Figure 7.6: Attendance List of Socialisation with Division H workers

 ANJ SAFETY INDUCTION	No. Dokumen	FRM-ZSOP EHS 038	
	Edisi / Revisi	1 / 1	
	Tanggal Berlaku		
	Hal	2 / 1	

No	Nama	Tanggal	Tanda Tangan
1	DEDI MRAU	1	
2	ANDI A. MRAU	2	
3	GONGKI TAT MDUN	3	
4	VUFRIANO . A. HELIO	4	
5	RICHARDO XIMONES ONO NAHAK	5	
6	ROJALINUS DA SILVA NAHAK	6	
7	DANIEL B. NAHAK.	7	
8	AGUSTINUS NAHAK	8	
9	DAMIANUS SOARES BERE		
10	MELVIANUS TAHU	10	
11	FERDINANDUS KLAN	11	
12	RONI RONALDO KLAN	12	
13	REBERTUS SERAN	13	
14	FRANSISKUS KLAN	14	
15	JEFRIANUS BRIW	15	
16	NIKODIMUS BRIA	16	
17	ABRAHAM BRIA	17	
18	FREDERIKUS NAHAK	18	
19		19	
20		20	

 ANJ SAFETY INDUCTION	No. Dokumen	FRM-ZSOP EHS 038	
	Edisi / Revisi	1 / 1	
	Tanggal Berlaku		
	Hal	2 / 1	

No	Nama	Tanggal	Tanda Tangan
1	SILVESTER HAMAN	1	
2	RENSIANUS LARU	2	
3	DAMIANUS OTTU	3	
4	ORDIANUS SERAN	4	
5	BLANTINUS SEUK SERAN	5	
6	PRIMUS SERAN	6	
7	EMANUEL NAHAK	7	
8	PALTIZAR MADERA	8	
9	RAIMUNDO SOBAI	9	
10	JANUARIO MARIA BOONIDA	10	
11	ANTONI M SOARES	11	
12	DANIEL MARTINS	12	
13	AGUSTINO BERMALI	13	
14	ANTHON MANA'D	14	
15	ALSIND SOARES	15	
16	YONAS DOS SANTOS	16	
17	SIMON PETRUS	17	
18	MATALINO DJ TILMAN	18	
19	JOSE SAIMITO ALMEIDA DE JESUS	19	
20	RONY SAKAN	20	

Figure 7.7: Attendance List of Socialisation with new workers



DAFTAR HADIR

Hari: KAMIS
 Tanggal: 14 OKTOBER 2020
 Waktu: 10 : 45 -
 Tempat: KAMPUNG SUMANO
 Agenda: SOSIALISASI KONSERVASI B HCS

No	Nama	Alamat	Status/Jabatan	Tanda tangan	
1	Soleman Tiche	SUMANO	Pemula HCS ulay	1	1
2	Imelda Wowane	Sumano	PHU	2	2
3	Sikas orie	Sumano	PHU	3	3
4	Ayub orie	Sumano	PHU	4	4
5	Yance hobame	Sumano	PHU	5	5
6	Yulius Taerare	Sumano	KEP KAMP. SUMANO	6	6
7	Dortea Taerare	Sumano	PHU	7	7
8	Yurince Taerare	Sumano	PHU	8	8
9	Lea Taerare	Sumano	PHU	9	9
10	Pince Hadome	Sumano	PHU	10	10
11	Eda Fayobi	Sumano	PHU	11	11
12	Paisa Taerare	Sumano	PHU	12	12
13	Demianus Hobame	Sumano	PHU	13	13
14	Martha Taerare	Sumano	PHU	14	14
15	HERMANSY ADI	PT. PMP	CID MGR.	15	15
16				16	16

Figure 7.8: Attendance List of Socialisation in Sumano Village



DAFTAR HADIR PERTEMUAN

Hari : 23 Jumat
 Tanggal : 23 April 2021
 Waktu : 16.00 - 17.30
 Tempat : Perumahan G10
 Agenda : Sosialisasi HCS & Konservasi

NO	NAMA	ASAL KAMPUNG	JABATAN	Tanda Tangan
1	OLOP ubuwana	Sumano		<i>[Signature]</i>
2	Leo Hotans	Banawa		<i>[Signature]</i>
3	Suleman tineta	Sumano		<i>[Signature]</i>
4	Elfradus Kabiya	Banawa 2		<i>[Signature]</i>
5	Lambertus	Banawa		<i>[Signature]</i>
6	Martha Tacare	Sumano		<i>[Signature]</i>
7				
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13				

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Figure 7.9: Attendance List of Socialisation with Customary Landowners and Local Communities



DAFTAR HADIR PERTEMUAN

Hari : Selasa
 Tanggal : 03/05/2021
 Waktu : 12:51 WIT
 Tempat : Kediruman Bple Gilas Orié.
 Agenda : Sosialisasi HCS.

NO	NAMA	ASAL KAMPUNG	JABATAN	Tanda Tangan
1	Gilas Orié.	Sumano	Permitir Hk ulaya	
2	Ayub Orié.	Sumano	anali.	
3	Isak Hadome.	Sumano	P.Hu.	
4	Yance Arume.	PT. PPM dan PMP	Staf CID.	
5				
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Figure 7.10: Attendance List of Socialisation with Local Communities in Sumano Village

ANJ		DAFTAR HADIR	
Hari/ Tanggal		: Jumat / 7 Mei 2021	
Pukul		: 10.00 w.t s/d selesai	
Tempat		: Kampung Sumano	
Nama Kegiatan		: Sosialisasi HCS	
NO	Nama	Asal	Tanda Tangan
1	Solomon Tineba	Kampung Sumano	[Signature]
2	Tomas faerarea	Kampung Sumano	[Signature]
3	Petrus Hohame	Kampung Sumano	[Signature]
4	Bonga Tanne	Kampung Sumano	[Signature]
5	Dorlina Hohame	Kampung Sumano	[Signature]
6	Agustinus Hadoani	" "	[Signature]
7	Wilfridus Pona	" "	[Signature]
8	Florianus Mau	Kampung Sumano	[Signature]
9			
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Figure 7.11: Attendance List of Socialisation with Local Communities in Sumano Village

7.3 Appendix C: Petunjuk Teknis Persemaian dan Rehabilitasi (Technical Guidance for Planting Stock Production and Rehabilitation)

- Please refer to the attachment

Note: Appendix PDF version of the maps are available in the onedrive link provided in this submission email.