

# **KEEP BORNEO'S FORESTS STANDING**

**Indicative Forest Footprint Evaluation of Brands Driving  
Deforestation in the Indonesian Provinces of North and East  
Kalimantan, Borneo**

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# 1. Introduction

This report is a detailed companion to the summary version of our report titled “Keep Borneo’s Forests Standing: Evaluating the Forest Footprint of Brands Driving Deforestation and Land Rights Violations in the Indonesian Provinces of East and North Kalimantan, Borneo.”

This resource digs further into the evaluation’s methodology, spatial analysis of lost or at-risk forest and peatlands, and information on supply-chain actors and customary lands. Rainforest Action Network (RAN) developed this methodology<sup>i</sup> for consumer goods manufacturing companies to use to understand and publicly disclose the impact of their global commodity supply chains on forests, peatlands and the rights of Indigenous Peoples and communities.

However, most major brands refuse to disclose their footprint. To date only Nestlé, Colgate-Palmolive and Unilever have disclosed an initial analysis of their forest footprint in the Indonesian provinces of Aceh and North Sumatra.<sup>ii</sup> Only Nestlé has begun evaluating the impact of its palm oil and pulp and palm oil supply chain in North and East Kalimantan. Nestlé intends to publish the results of its evaluation in these regions in early 2022 and to carry out a global forest footprint for key forest-risk areas in and around its supply chains by the end of 2023. In response to this lack of transparency, RAN used our forest footprint methodology to evaluate the forest footprint of 10 influential, multinational consumer goods manufacturing companies, whose forest-risk commodities are sourced from East Kalimantan and North Kalimantan. We refer to them as ‘brands’ throughout:

- Colgate-Palmolive
- Ferrero
- Kao
- Mars
- Mondelēz
- Nestlé
- Nissin Foods
- PepsiCo
- Procter & Gamble
- Unilever.

The report includes maps of forests and peatlands that the brands have impacted or could impact in the future because they source from suppliers and corporate groups responsible for forestry operations and/or pulp or palm oil plantations in both provinces. Tables and graphs detail the extent and trends of past and potential forest loss and peatland development within concession areas of known producer groups. Detailed lists of concession holders or companies with palm oil processing facilities are listed in the Annexes. Read the summary of our forest footprint evaluation findings here: [www.ran.org/Borneo\\_forest\\_footprint](http://www.ran.org/Borneo_forest_footprint)

## 2. Forest Footprint Methodology

### What Is a Forest Footprint?

While the term 'forest footprint' has been used before, we have redefined the term to mean the full accounting of a company's impact on forests and communities.

Forest footprint refers to the total area of forests and peatlands that have been impacted by a brand's consumption of forest-risk commodities or could be impacted by future expansion of industrial logging and agriculture in their supply chains. It also refers to the impact on the rights of Indigenous Peoples and local communities when these forest and peatland areas are on traditionally managed lands. A brand's footprint includes the impact of both suppliers or joint-venture partners who contribute to the destruction of forests and peatlands during their business relationship. It also includes the areas that remain at risk within all suppliers' or investees' global forest-risk commodity supply chains and sourcing regions — all of which must be publicly disclosed.

These at-risk areas include:

- forests and peatlands located within plantation development areas under a direct supplier's or investee's control
- areas under the control of third-party suppliers
- areas allocated for future logging or agricultural development within the sourcing region, and surrounding mills, refineries, or processing facilities in their global supply chains.

In disclosing its forest footprint, a company must also describe the set of actions taken to account for the entire footprint and develop strategic interventions to prevent further deforestation and rights violations while also remedying past harm.

The long-term protection and management of rainforests can be secured in part through assessing the amount of forest that has been destroyed by past commodity production, identifying the forests that remain standing and that require immediate protection from logging and conversion, and supporting the rightsholders that need their land tenure and use rights recognized.

### Methodology Steps

**Step One:** RAN identified all countries where an individual company or group of companies source forest-risk commodities, and/or where their investment entities operate.

**Step Two:** RAN selected Indonesia as a priority-sourcing country to evaluate the brands' indicative forest footprint. We focused on mapping the provinces East Kalimantan and North Kalimantan in Borneo. We selected these provinces because Indigenous Peoples and local communities manage vast areas of lands and forests. Palm oil, pulp and paper, and forestry expansion by current and potential brand suppliers or investees also affect priority landscapes and political jurisdictions in these regions.

**Step Three:** We identified suppliers and investees that produce, process or trade forest-risk commodities in the sourcing region. This included identifying all corporate groups and third-party suppliers in the brands' global supply chain or investment portfolios based on publicly available information.

RAN confirmed the footprint of nine brands in East Kalimantan and North Kalimantan by reviewing publicly disclosed data about where they source palm oil. These sources include:

- lists of direct suppliers that are palm oil traders with refineries located in East Kalimantan or sourcing from both provinces
- lists of palm oil mills in their supply chains that are in both provinces
- information on the parent companies and the extent of each corporate group, which are producers with concession areas in the region.

For Nissin Foods — the one brand that has not yet disclosed palm oil supplier lists — we reviewed the published mill lists of its known supplier, Fuji Oil, in Japan. We also reviewed data detailing the major exporters of palm oil into Japan.

RAN confirmed the brands have sourced from nine of the most influential forestry and palm oil giants in Indonesia with operations in these provinces:

- Royal Golden Eagle Group
- Sinar Mas Group
- Wilmar International
- Salim Group
- Jardine Matheson Holdings
- Triputra Group
- Rajawali Corpora
- Genting Group
- Korindo Group<sup>iii</sup>

We also identified the brands' supplier connections to other producer groups, such as those operating palm oil concessions and processing facilities in the regions.

While nine of the 10 brands have disclosed information on palm oil mills in their supply chains in East Kalimantan and North Kalimantan, not a single brand disclosed supply-chain data on the locations and owners of the plantations. This is due to each brand's failure to achieve full traceability to the plantation or farm level in their palm oil supply

chains in the provinces. Therefore, RAN has based its evaluation on the assumption that all 10 brands have sourced from all oil palm concessions holders in the provinces.

It is unclear how extensively the brands source pulp from East Kalimantan and North Kalimantan. Except for Nestlé, none of the brands disclose the supplying mills in their paper and packaging supply chains.<sup>iv</sup>

Published palm oil supplier lists show that all brands have or have had sourcing or business relationships with the largest corporate groups involved in the forestry and pulp sectors in both provinces — such as the Sinar Mas Group, Royal Golden Eagle Group, Bumitama/Roda Mas Group, Korindo Group and Salim Group.

**Steps Four, Five and Six:** We analyzed the location of forest-risk commodity processing facilities and the landbanks and concession areas where raw materials are produced by current suppliers. We also analyzed the areas where the government of Indonesia permits new forestry operations and plantation development to occur — these areas could be the landbanks of potential suppliers that provide raw materials to the brands in the future. We collated publicly available data on each corporate group's total landbanks, small to medium-size producers and smallholder farmers with permits in the region. We used spatial analysis to assess the areas of forests and peatlands that have been deforested or are at risk of logging and the expansion of industrial agriculture.

**Step Seven:** We investigated and collated information on the extent of customary and community lands and identified, where possible, the impact of suppliers' and investees' operations on Indigenous Peoples and local communities that have rights to and reside in the affected forest and peatland areas. This included impacts on their land rights, access, use, and conservation of traditionally owned forests and peatlands.

This step usually involves desktop and field-based activities. However, the COVID-19 pandemic meant RAN had to rely solely on desktop assessment to identify the extent of customary lands and the impacts on affected communities. Engagement with local stakeholders, suppliers and investees is critical to understand the extent of customary lands and how customary rights have been respected or violated. It also helps design intervention strategies to keep forests and peatlands intact and respect rights of Indigenous Peoples and local communities within existing supply chains and in areas at risk of deforestation and degradation.

### 3. Recommendations

The indicative forest footprint evaluation found that the 10 brands have had a significant negative impact on rainforests, peatlands and Indigenous and local communities in East Kalimantan and North Kalimantan.

We call on Colgate-Palmolive, Ferrero, Kao, Mars, Mondelēz, Nestlé, Nissin Foods, PepsiCo, Procter & Gamble and Unilever to take the following urgent actions to remedy the harm caused and prevent further deforestation and human rights violations in these sourcing provinces:

- Use RAN's forest footprint methodology to publicly disclose the impact of global commodity supply chains or investments on forests, peatlands and the rights of Indigenous Peoples and communities affected by the expansion of industrial agriculture in East Kalimantan and North Kalimantan.
  - Engage with rightsholders and local stakeholders to understand their forest footprint and the extent of customary lands and land conflicts.
  - Use this engagement to develop a Forest Footprint Statement detailing revisions to policies and other strategies to keep forests standing and peatlands intact and uphold the rights of Indigenous Peoples and local communities across both provinces.
- Adopt and enforce No Deforestation, No Peatland and No Exploitation (NDPE) policies.
  - Require suppliers and investees to meet the NDPE requirements at a corporate group level and across their operations in all forest-risk commodity sectors.
  - Apply commodity specific cut-off dates for deforestation and peatland development.
- Enforce policies and procedures that uphold the rights of communities to give or withhold their free, prior, and informed consent (FPIC) to development on their lands.
  - Immediately establish human rights monitoring and due diligence systems and field-based methods to verify that FPIC rights are being respected.
  - Build capacity for fulfilling FPIC rights and undertaking conflict resolution processes at the local level.
  - Require suppliers and investees to immediately forgo development in concession areas that overlap with customary lands where rightsholders have withheld their FPIC. This includes the contested lands of customary rightsholders identified in this evaluation and others identified through the future engagement of rightsholders and local stakeholders.

- Play an active role in preventing human rights and land rights violations in new frontiers of forestry and plantation expansion, including across East Kalimantan and North Kalimantan.
  - Advocate to suppliers, investees and national, provincial and district governments to support the legal recognition of customary rights and the protection of forests and peatlands within customary lands and community lands.
  - Advocate to district governments to enact regulation for recognition of Indigenous communities and their territories.
  - Advocate to the national government to ensure Indigenous Peoples' rights to land and FPIC are strengthened in national legislation.
  - Support local Civil Society Organizations that work with Indigenous communities to obtain recognition for their lands.
  
- Enact zero tolerance procedures to prevent violence, criminalization, intimidation and killing of Human Rights Defenders, including land rights and environmental defenders.
  - Advocate for legal frameworks that afford rights and protections to Human Rights Defenders in accordance with international law and human rights treaties. These include the UN Guiding Principles for Business and Human Rights, UN Declaration on the Rights of Indigenous Peoples, ILO 169 Indigenous and Tribal Peoples Convention, UN Declaration on the Rights of Peasants and the UN Declaration on Human Rights Defenders.
  
- Require suppliers and investees named in this forest footprint evaluation to prevent deforestation and peatland development in their allocated concession areas, or sourcing regions, identified as 'at risk' due to the presence of forests or peatlands.
  - Require all concession holders to conduct Integrated High Conservation Value (HCV) and High Carbon Stock (HCS) forest assessments, using the High Carbon Stock Approach, prior to any land-use change.
  - Require all concession holders to disclose the boundaries of their landholdings at a corporate group level, the HCV areas or HCS forests within them, and maps showing how their concessions overlap with customary territories.
  - Ensure transparent and pro-active monitoring and management of the identified HCV areas /HCS forests.
  - Disclose data on landbanks and concession boundaries, HCV and HCS Assessments, and the extent of their corporate groups.
  - Pro-actively engage with government on the verification of peatlands within concessions.
  - Implement best management practices on peatlands and engage in landscape conservation efforts.

- Design strategies to implement NDPE policies effectively and fairly to keep forests standing within lands of current and future smallholder farmers.
  - Support farmer efforts to secure land-ownership certificates, maintain market access, and increase benefit-sharing and incentives for the protection of village forests.
  - Incentivize the application of simplified HCS approach for smallholders.
  - Provide indicative HCV areas and HCS forests maps for village-level land use planning.
  
- Engage in rights-based collaborations to advance legal recognition of customary rights and community-based social forestry projects, to address deforestation outside of concessions and illegal deforestation within protected areas, and to enable successful enforcement of the Indonesian government moratoria.
  - Take a rights-based approach and avoid land grabs for logging or commodity production, conservation, or land-based carbon offset projects.
  - Design strategies that support rightsholders in obtaining recognition for their rights and lands. Ensure these strategies are rights-based, bottom-up approaches with governance structures that include Indigenous Peoples, local organizations, and district governments.
  - Define priority regions and interventions through meaningful consultation and support of Indigenous Peoples, local civil society organizations and their sustainable development visions.
  - Collaborate with these stakeholders to enable large-scale mapping and identify HCV areas and HCS forests.
  - Work with stakeholders to understand and determine how identified areas could be protected and recognized by the Indonesian Government as Essential Ecosystem Area (*KEE/Kawasan Ekosistem Esensial*) at jurisdictional or landscape levels.
  - Standardize HCV area/HCS forest monitoring across concessions and geographic areas to systematically identify and address the key drivers of degradation and deforestation.
  - Implement rights-based landscape or jurisdictional approaches in addition to implementing NDPE policies.

## 4. Forest Footprint Results and Analysis

### Extent of Historical Deforestation and Peatland Development Within Forest-Risk Commodity Supply Chains

This section highlights the areas of forests and peatlands that have been lost in 2009–2019 in East Kalimantan and North Kalimantan (see **Map 1**). It includes a detailed analysis of the areas impacted by the expansion of forest-risk commodities.

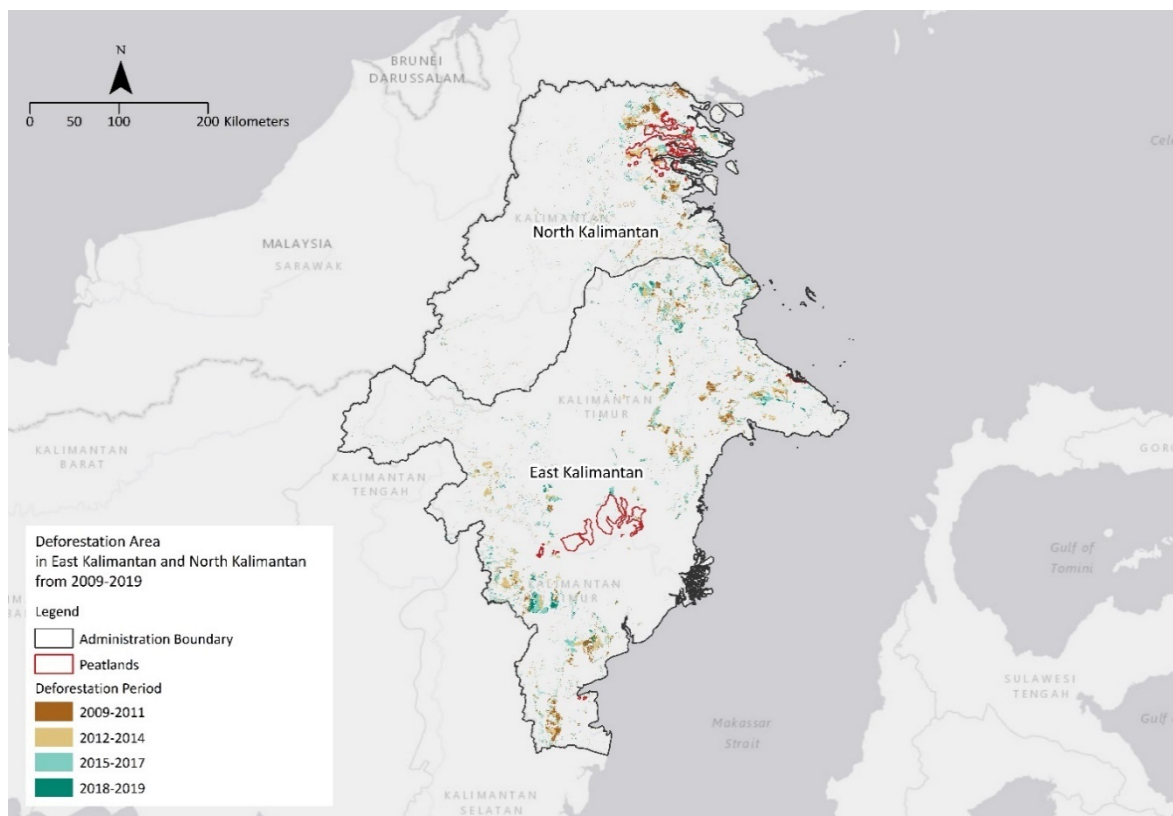
#### a. Forest Loss Across East and North Kalimantan

Our evaluation found all 10 brands have been complicit in the destruction of over 700,000 hectares of tropical rainforests in the Indonesian provinces of East Kalimantan and North Kalimantan from 2009 to 2019.

These rainforests were logged and/or converted to palm oil and pulp and paper plantations across both provinces during that 10-year period. The brands' complicity includes sourcing commodities from palm oil, pulp and paper, and forestry companies operating in the provinces or from undertaking joint venture partnerships with these companies.

In East Kalimantan, the forest loss was 487,631 ha within well-known oil palm, and pulp and timber concessions. In North Kalimantan, forest loss was 243,740 ha in the same concessions. The East Kalimantan forest loss made up 68.2% of the province's total forest loss (714,935 ha) and the forest loss in North Kalimantan was 76.4% of the province's total forest loss (319,063 ha).

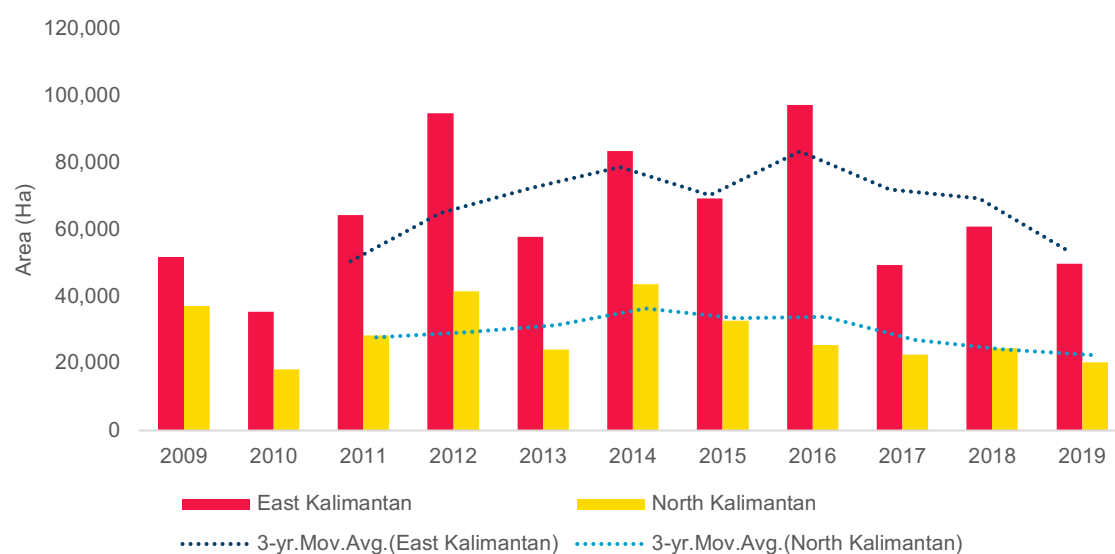
Together, the forest loss from oil palm, and pulp and timber concessions made up 70% of the total forest loss across both provinces, which represented more than 1 million ha. In 2009, there was 13,342,873 ha of forest in both provinces. In 2019, the remaining forest cover was 12,308,875 ha (see **Table 1**).



*Map 1: Forest loss and peatland development within forest-risk commodity supply chains in East and North Kalimantan (2009–2019)*

The total deforestation rate of East Kalimantan was more than double the rate of North Kalimantan. In East Kalimantan, the highest forest loss happened in 2012 and 2016. In North Kalimantan, the highest deforestation rates occurred in 2012 and 2014 (see **Graph 1**). The highest deforestation for both provinces combined happened in 2012, with a total forest loss of 136,336 ha. There was a 35% decline in deforestation rates in 2017–2019 compared to the previous three-year-period (2014–2016).

In East Kalimantan, the forest loss is distributed widely across several districts, including West Kutai, Penajam, North Paser, East Kutai and Berau. In North Kalimantan, deforestation is concentrated in the north-east bordering Sabah, near coastal areas and along riverbanks in Nunukan, Bulungan and Tana Tidung districts.



Graph 1: Comparative forest loss and three-year averages in East and North Kalimantan (2009–2019)

**Table 1. Annual and Total Forest Loss in East and North Kalimantan (2009–2019)**

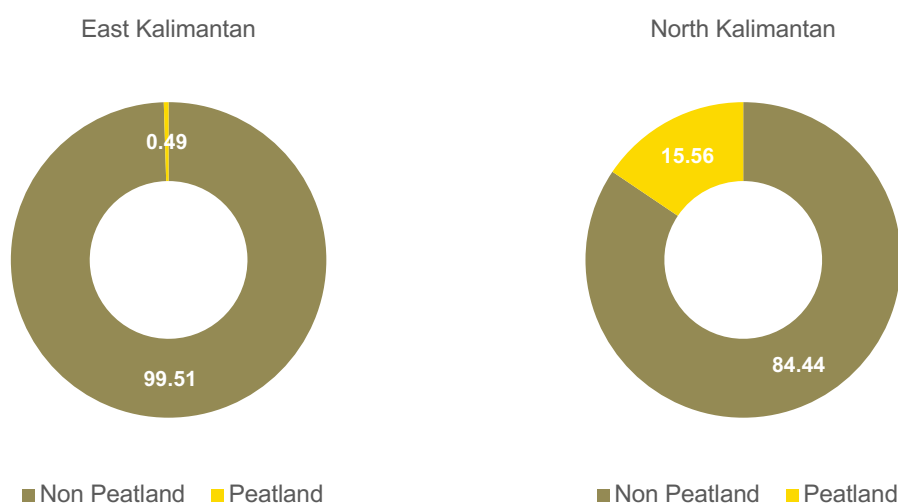
Province	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Area (ha)
East Kalimantan	51,727	35,535	64,430	94,741	57,897	83,565	69,367	97,271	49,479	60,999	49,925	714,935
North Kalimantan	37,118	18,268	28,390	41,595	24,148	43,634	32,802	25,604	22,630	24,579	20,297	319,063
Total Area (ha)	88,844	53,803	92,820	136,335	82,045	127,199	102,168	122,875	72,109	85,578	70,223	1,033,998

## b. Forest Loss in Peatlands

Peatland deforestation in North Kalimantan was significantly higher than in East Kalimantan (see **Table 2**). In East Kalimantan, the total forest loss in peatlands (3,479 ha) only represented 0.5% of total forest loss (714,935 ha). In North Kalimantan, there was 49,647 ha of total forest loss in peatlands, which represented 15.6% of the province's total forest loss (see **Graph 2**).

**Table 2. Forest Loss in East and North Kalimantan by Soil Type (2009–2019)**

Province	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Area (ha)
East Kalimantan	51,727	35,535	64,430	94,741	57,897	83,565	69,367	97,271	49,479	60,999	49,925	714,935
Non-Peatland	51,689	35,129	64,244	94,498	57,849	83,134	68,980	95,767	49,376	60,912	49,879	711,456
Peatland	38	406	186	243	49	431	386	1,504	103	87	46	3,479
North Kalimantan	37,118	18,268	28,390	41,595	24,148	43,634	32,802	25,604	22,630	24,579	20,297	319,063
Non-Peatland	36,533	16,927	24,504	32,503	17,704	34,032	24,781	24,306	19,829	21,498	16,800	269,416
Peatland	585	1,341	3,887	9,092	6,444	9,602	8,021	1,299	2,801	3,080	3,497	49,647
Total Area (ha)	88,844	53,803	92,820	136,335	82,045	127,199	102,168	122,875	72,109	85,578	70,223	1,033,998



Graph 2: Forest loss percentage in peatland and non-peatland in East and North Kalimantan (2009–2019)

### C. Forest Loss by Land-Use Categorization

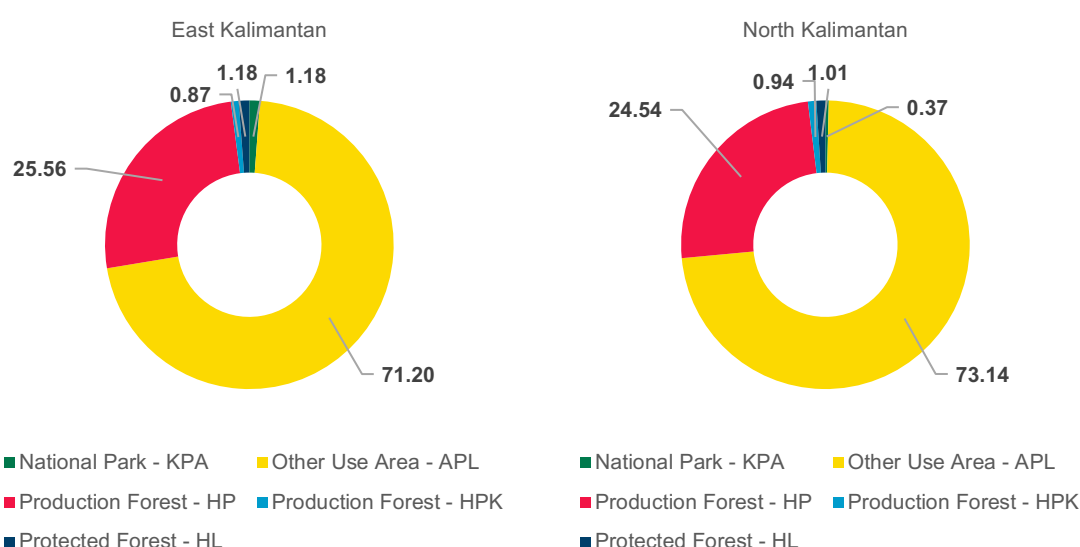
Forest loss in East Kalimantan happened mostly in forest estates on lands designated other use area (APL) by the Indonesian Government (see **Table 3** and **Graph 3**). Other use areas lost 509,055 ha of forest, which accounted for 71.2% of the total forest loss in the province. This was followed by areas designated production forest (HP) with 182,750 ha of forest loss (25.56%) and a small portion of areas designated convertible production forest (HPK) with 67,253 ha (0.87%). The remaining forest loss of 16,886 ha occurred within protected forest (HL) and national parks (KPA), representing 2.36% of total forest loss.

The same trend is observed for North Kalimantan, where most of the forest loss occurred in the same forest type and represented a similar proportion of overall forest loss in the province. Other use areas had the greatest forest loss at 233,376 ha, which represented 73.14% of total loss. This was followed by 78,294 ha in convertible production forests (24.54%) and 2,994 ha in production forests (0.94%). The proportion of forest loss within protected forests and national parks was slightly smaller at 1.31%, representing 4,397 ha.

**Table 3. Forest Loss in East and North Kalimantan by Forest Estate (2009–2019)**

Province	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Area (ha)
East Kalimantan	51,727	35,535	64,430	94,741	57,897	83,565	69,367	97,271	49,479	60,999	49,925	714,935
National Park – KPA	652	132	613	637	198	521	825	4,074	355	301	154	8,461
Other Use Area – APL	42,892	26,615	51,210	75,824	46,999	59,365	42,372	57,043	32,171	41,446	33,118	509,055
Production Forest – HP	7,639	8,342	11,914	16,453	9,935	22,172	24,702	32,346	15,626	17,998	15,623	182,750
Convertible Production Forest – HPK	187	175	292	926	382	799	648	883	661	660	630	6,243

Protected Forest – HL	355	271	400	901	383	708	819	2,925	667	595	400	8,425
North Kalimantan	37,118	18,268	28,390	41,595	24,148	43,634	32,802	25,604	22,630	24,579	20,297	319,063
National Park – KPA	43	77	33	132	82	200	203	147	111	97	63	1,188
Other Use Area – APL	32,517	14,888	22,542	32,426	19,764	29,823	18,998	17,511	14,054	16,021	14,834	233,378
Convertible Production Forest – HP	3,976	2,978	5,455	8,490	3,831	12,659	13,024	7,167	7,786	7,913	5,014	78,294
Production Forest – HPK	302	188	184	179	229	414	220	437	412	238	191	2,994
Protected Forest – HL	280	137	177	367	241	537	356	343	266	309	195	3,209
Total Area (ha)	88,844	53,803	92,820	136,335	82,045	127,199	102,168	122,875	72,109	85,578	70,223	1,033,998



Graph 3: Forest loss percentage by forest estate in East and North Kalimantan (2009–2019)

#### d. Forest Loss Within and Outside Concessions

Our evaluation found the greatest amount of deforestation happened within concessions allocated to forestry and agribusiness companies by the Indonesian Government. The most forest loss occurred in oil palm concessions in both provinces over the 10-year period. However, there was also substantial forest loss outside concessions.

The forest loss within oil palm and timber plantation concessions and overlapping concession areas accounted for a higher percentage of total forest loss in each province, compared to outside these areas. In East Kalimantan, there was 487,631 ha of forest loss within oil palm and timber plantations<sup>v</sup> concessions, as well as overlap areas (68.21%). In North Kalimantan, oil palm concessions, timber concessions and overlap areas were home to 243,740 ha of forest loss (76.39%).

Deforestation within oil palm concessions was 5% higher than forest loss within timber plantation concessions in East Kalimantan. The loss in North Kalimantan oil palm concessions was 8% higher than in timber plantation concessions.

There was also substantial forest loss outside concessions. In East Kalimantan, forest loss outside of known oil palm and timber plantation concessions accounted for 31.79% of total forest loss in the province (227,333 ha). In North Kalimantan, forest loss outside of known concessions represented 23.61% of the province's total forest loss (75,322 ha). The overall deforestation trends within and outside concession areas are similar for both provinces (see **Graph 4**).

Deforestation within oil palm concessions was accumulatively the highest over the 10-year period. However, the annual figures in **Table 4** highlight a continued decrease in deforestation within oil palm concessions after 2014 in both provinces.

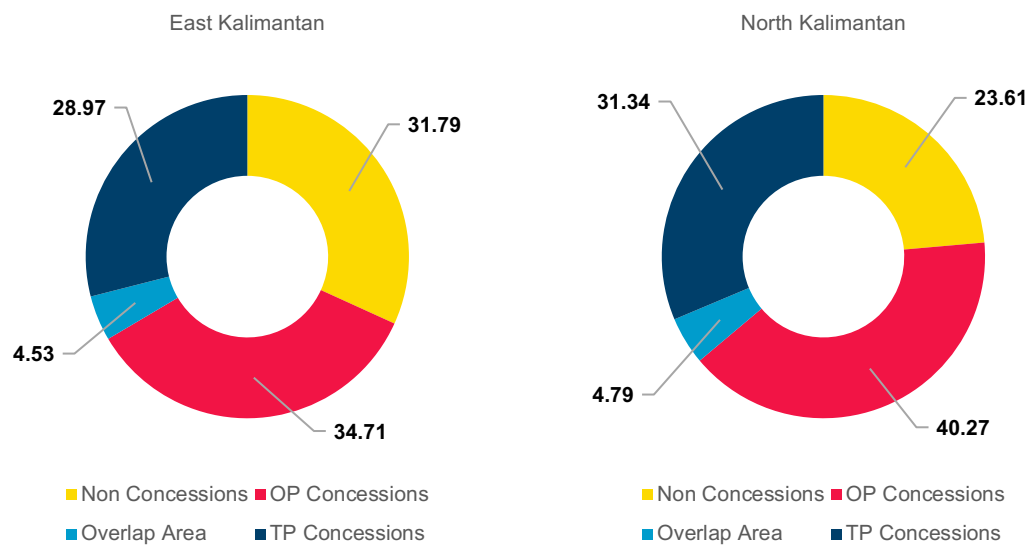
**Table 4. Forest Loss in East and North Kalimantan by Concession Boundary (2009–2019)**

Province	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Area (ha)
East Kalimantan	51,727	35,535	64,430	94,741	57,897	83,565	69,367	97,271	49,479	60,999	49,925	714,935
Outside Concessions	18,888	9,767	15,677	23,438	16,664	24,410	24,670	40,252	14,095	22,513	16,931	227,303
OP Concessions	23,155	16,370	33,106	49,495	29,137	29,881	16,376	17,903	12,114	10,212	10,399	248,148
Overlap Area	1,422	922	2,524	5,188	2,464	5,287	2,905	4,398	2,333	2,895	2,030	32,368
TP Concessions	8,261	8,476	13,123	16,619	9,632	23,988	25,416	34,718	20,937	25,379	20,566	207,115
North Kalimantan	37,118	18,268	28,390	41,595	24,148	43,634	32,802	25,604	22,630	24,579	20,297	319,063
Outside Concessions	6,913	3,801	6,694	8,200	5,302	10,065	7,675	8,231	6,106	6,350	5,986	75,322
OP Concessions	24,066	10,091	13,686	20,288	12,325	16,190	8,481	6,884	5,953	5,609	4,897	128,471
Overlap Area	670	1,088	1,634	2,779	1,636	1,740	1,593	801	665	1,616	1,057	15,280
TP Concessions	5,469	3,287	6,375	10,328	4,885	15,638	15,053	9,687	9,907	11,003	8,357	99,989
Total Area (ha)	88,844	53,803	92,820	136,335	82,045	127,199	102,168	122,875	72,109	85,578	70,223	1,033,998

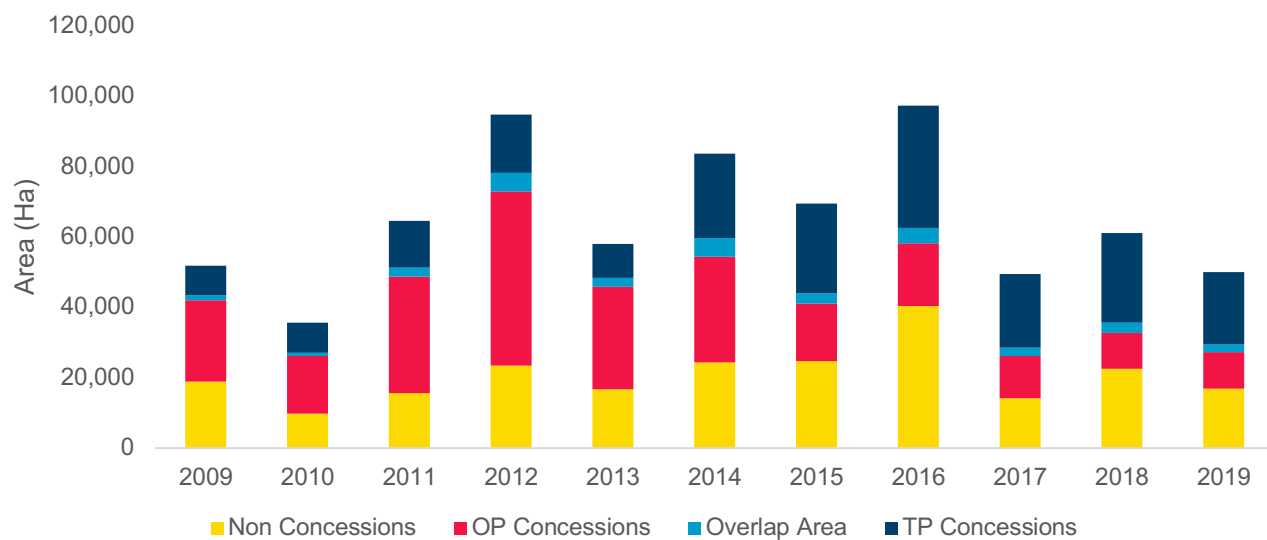
Notes:

- Outside Concessions: Area outside oil palm and timber concessions, and timber plantations
- OP Concessions: Oil Palm Concession License
- TP Concessions: Timber Plantation Concession/Forest Utilization Business License (IUPHHK HTI, IUPHHK IUPHHK HA, IUPHHK RE, IUPHHK HKM, IUPHHK HTR)
- Overlap area: Overlapping area between OP concessions and TP concessions

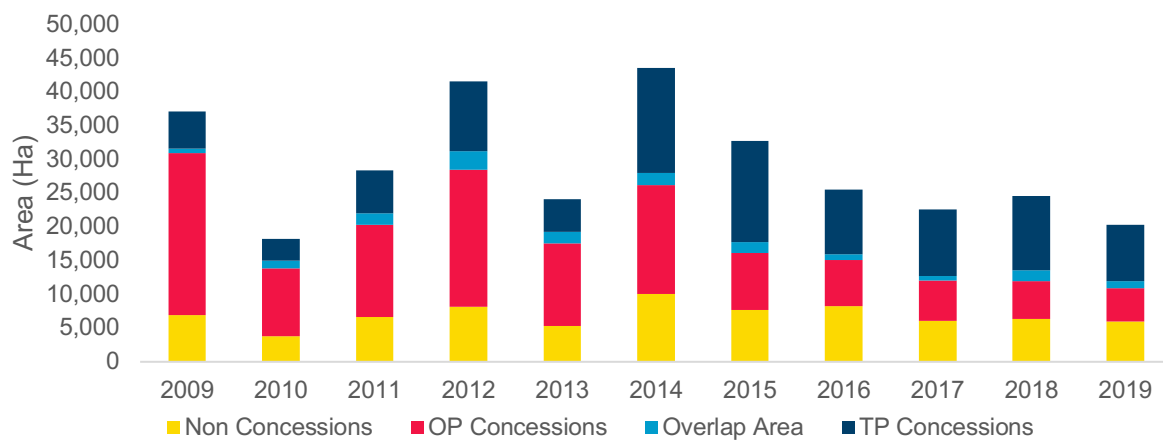
From 2015 to 2019, the combined forest loss in East Kalimantan timber plantation concessions represented 38.84% of total forest loss in the province and was higher than in oil palm concessions (20.49%). In North Kalimantan, the deforestation within timber plantation concessions represented 42.89% of total forest loss and was almost double the forest loss within oil palm concessions (25.27%) — see **Graphs 5** and **6**.



Graph 4: Percentage of forest loss by concession type in East and North Kalimantan (2009–2019)



Graph 5: Comparison of forest loss within and outside concessions in East Kalimantan (2009–2019)



Graph 6: Comparison of forest loss within and outside concessions in North Kalimantan (2009–2019)

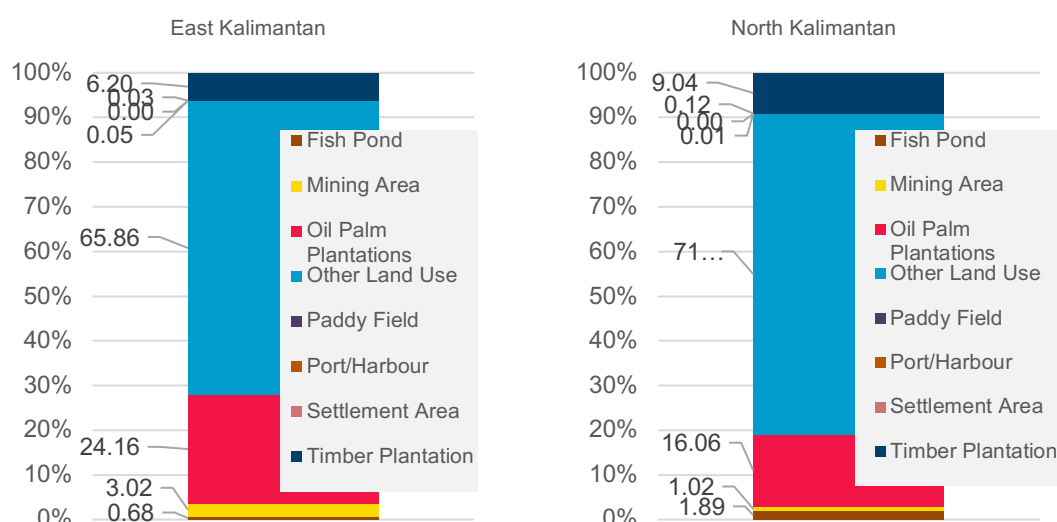
### e. Land-Use Change and Key Deforestation Drivers

Our evaluation found the expansion of logging and oil palm and pulp plantations were top drivers of deforestation and peatland development in East Kalimantan and North Kalimantan.

Based on available 2019 palm oil and timber plantation layers, oil palm plantations are the second-largest driver of conversion, followed by timber plantations. At a minimum, the combined plantation expansion contributed to 30% of deforestation in East Kalimantan and 25% of deforestation in North Kalimantan (see **Graph 7**).

A further detailed analysis would be needed to determine the exact proportions of oil palm and timber plantations within the other land use category, which could potentially place them as the top two drivers of deforestation. In general, the available data sets attribute any oil palm plantings younger than five years to other land use. Therefore, these areas have not been factored into the figures of deforestation that can be attributed to oil palm and timber plantations.

Other limitations to this analysis include using data layers for palm oil (Adria et al, 2019) and timber plantation layers (Ministry of Forestry), which are derived from Landset and Sentinel data with medium or lower resolution. A big proportion of the deforestation currently categorized under other land use could be contributed to forest conversion for oil palm and timber plantations if a high-resolution technology was used.



Graph 7: Percentage of key deforestation drivers in East and North Kalimantan (2009–2019)

Notes:

\*Other Land Use:

- Shrubs, swamp shrubs, dryland agriculture, mixed dryland agriculture, transmigration area, grassland/savannah, bare land/open area, swamp water body

Our analysis showed that more than 70% of deforestation occurred within oil palm and timber plantation concessions and their overlap areas. Once we coupled this data with the details in **Table 5**, we could assume that a significant proportion of the deforestation in these concessions eventually led to longer-term development by oil palm and timber plantations. This includes deforested land that may have been unplanted and concessions owners who might be waiting for investment or other incentives to plant the cleared land at the end of 2019. Similarly, some deforestation outside of concessions for other use areas (23% of total deforestation in East Kalimantan and 19% in North Kalimantan) could be attributed to palm oil and timber plantations' expansion over time.

Table 5. Land Cover Type After Deforestation (2009–2019)

Province		Concession Type				Total Area (ha)	Total Area (%)
		Non-Concessions	OP Concessions	Overlap Area	TP Concessions		
East Kalimantan	Land Cover 2019	227,303	248,148	32,368	207,115	714,935	100
Land Cover Type After Deforestation 2009–2019	Fish Pond	4,621	250	0	0	4,871	0.68
	Mining Area	10,265	6,355	100	4,876	21,596	3.02
	Oil Palm Plantations	44,056	122,149	3,420	3,083	172,709	24.16
	Other Land Use	165,747	118,977	22,435	163,699	470,858	65.86
	Paddy Field	278	0	0	45	323	0.05
	Port/Harbor	29	0	0	0	29	0.00
	Settlement Area	114	52	7	43	216	0.03
	Timber Plantations	2,193	365	6,407	35,368	44,333	6.20

North Kalimantan	Land Cover 2019	75,322	128,471	15,280	99,989	319,063	100
Land Cover Type After Deforestation in 2009–2019	Fish Pond	4,910	677	35	416	6,038	1.89
	Mining Area	1,294	951	6	1,013	3,264	1.02
	Oil Palm Plantations	7,557	41,392	1,549	745	51,243	16.06
	Other Land Use	60,743	84,621	12,206	71,699	229,268	71.86
	Paddy Field	6	0	0	15	21	0.01
	Port/Harbor	0	0	0	0	0	0.00
	Settlement Area	163	139	0	77	379	0.12
	Timber Plantation	650	690	1,484	26,025	28,849	9.04
Total Area (Ha)		302,626	376,619	47,648	307,105	1,033,998	100

Notes:

- Non-concessions: Areas outside oil palm concessions, timber plantations and timber logging concessions
- OP concessions: Oil Palm Concession License
- TP concessions: Timber Plantation Concession/Forest Utilization Business License (IUPHHK HTI, IUPHHK IUPHHK HA, IUPHHK RE, IUPHHK HKM, IUPHHK HTR)
- Overlap area: Overlapping area Between OP concessions and TP concessions

## f. The Impact of Palm Oil and Pulp Plantation Expansion on Forest Cover

This section provides a more detailed analysis of land-use change trends and the proportion of deforestation directly attributed to palm oil and pulp plantation expansion. The analysis includes data on the conversion of forest according to forest and soil types (see **Table 6**). It also looks at land-use changes within and outside areas such as conservation and protected forest, social forestry, customary land (*Lahan Komunitas Adat*), peatland/peatland hydrological unit (KHG) and other protected areas.

**Our evaluation found 172,709 ha of rainforests were converted to oil palm plantations in East Kalimantan and 51,234 ha faced the same fate in North Kalimantan.**

In East Kalimantan, 54 ha were rainforests on peatlands and 204 ha were in conservation areas. In North Kalimantan, 2,574 ha were rainforests on peatlands and 2,737 ha were in conservation areas. These figures are conservative estimates due to data limitations to confirming that cleared lands had been planted with oil palms. The data only identifies oil palm planted for five years or more.

The proportion of forest cover converted to oil palm plantation was generally higher in East Kalimantan (79.6%) than in North Kalimantan (64%). In contrast, the proportion of forest cover converted to timber plantation was slightly higher in North Kalimantan (36%) than in East Kalimantan (20.4%). Interestingly, in East Kalimantan there was no forest cover conversion for both oil palm and timber plantation on peatland in undegraded forest. In general, peatland forest cover conversion occurred at a higher rate in North Kalimantan — 16.4% of the total forest cover conversion — than in East Kalimantan (0.09%).

The conversion of undegraded forest was much higher in North Kalimantan (3,484 ha) where 85% was converted to timber. The majority of this undegraded forest was on

peatland — 75% of the undegraded forest conversion to oil palm and timber was on peatland.

In East Kalimantan, a majority of forest conversion happened on mineral soil (non-peatlands). Forest conversion on peatlands occurred only on a small area (194 ha) and represented 0.09% of the total forest conversion. In North Kalimantan, the total conversion rate of forests on peatlands for both oil palm and timber plantations was much more significant, representing 19.7% of total forest loss (15,778 ha).

**Table 6. Forest Cover Converted to Oil Palm and Timber Plantations by Forest and Soil Types (2009–2019)**

Province/Land Cover 2019-Commodity	Degraded Forest		Degraded Forest Total	Undegraded Forest		Undegraded Forest Total	Total Area <sup>vi</sup> (ha)
	Non-Peatland	Peatland		Non-Peatland	Peatland		
East Kalimantan	216,047	194	216,241	800	0	800	217,042
Oil Palm Plantation	171,714	194	171,908	800	0	800	172,709
Timber Plantation	44,333		44,333		0	0	44,333
North Kalimantan	63,465	13,143	76,608	849	2,635	3,484	80,092
Oil Palm Plantation	47,030	3,687	50,717	227	299	526	51,243
Timber Plantation	16,435	9,456	25,891	622	2,336	2,958	28,849
Total Area (ha)	279,512	13,337	292,849	1,649	2,635	4,285	297,134

Across both provinces, most of the forest conversion happened in other use areas, followed by production forests for both soil types and commodities (see **Table 7**). But proportionally timber plantations were driving more of the forest conversion on peatlands. About 16% of forest conversion for timber plantations was on peatlands, and a majority of the forest conversion took place in production forests. In North Kalimantan, 40% of deforestation for timber plantations was on peatlands (11,792 ha).

**Table 7. Forest Cover Converted to Oil Palm and Timber Plantations by Forest Estate and Soil Type<sup>vii</sup>**

Province/Land Cover 2019-Commodity	Non-Peatland					Non-Peatland Total	Peatland			Peatland Total	Total Area (ha)
	National Park – KPA	Other Use Area – APL	Production Forest – HP	Production Forest – HPK	Protected Forest – HL		Other Use Area – APL	Production Forest – HP	Production Forest – HPK		
East Kalimantan	57	170,119	46,118	487	67	216,847	194			194	217,042
Oil Palm Plantation	57	168,733	3,272	404	49	172,514	194			194	172,709
Timber Plantation		1,386	42,846	84	18	44,333					44,333
North Kalimantan		48,395	15,849	70	0	64,314	4,114	11,660	5	15,778	80,092
Oil Palm Plantation		45,248	1,959	50	0	47,257	3,986			3,986	51,243
Timber Plantation		3,147	13,890	20		17,057	128	11,660	5	11,792	28,849
Total Area (ha)	57	218,514	61,966	557	67	281,161	4,308	11,660	5	15,973	297,134

A Peatland Hydrological Unit (PHU) is the categorization of peatlands based on their ecosystem functions under PP No.71/2014 Jo PP No.57/2016 from the Ministry of Environment and Forestry (MoEF). PHUs are divided according to their primary functions for peatland ecosystems. These include protection function (conservation zones) and cultivation function (cultivation zones). Conservation zones protect and regulate water balance, carbon stock storage, and conservation biodiversity. They are usually up to three meters deep. Peatlands in cultivation zones are usually more than three meters deep.

In East Kalimantan, forest cover conversion to oil palm in Peatland Hydrological Units (PHUs) occurred in very small proportions in both cultivation zones (54 ha) and conservation zones (204 ha). In North Kalimantan, forest conversion to oil palm and timber plantations in PHUs was much higher: 8.6% of forest conversion took place in cultivation zones (6,900 ha) and 16.9% in conservation zones (13,562 ha). More of the forest conversion was for timber plantations — about three times higher than the PHU forest for oil palm plantations (see **Table 8**).

**Table 8. Forest Cover Converted to Oil Palm and Timber Plantations by Peat Hydrological Unit**

Province/Land Cover 2019-Commodity	PHU		Non PHU	Total Area (ha)
	Cultivation Zones	Conservation Zones		
East Kalimantan	54	204	216,784	217,042
Oil Palm Plantation	54	204	172,451	172,709
Timber Plantation			44,333	44,333
North Kalimantan	6,900	13,562	59,630	80,092
Oil Palm Plantation	2,574	2,737	45,932	51,243
Timber Plantation	4,326	10,825	13,698	28,849
Total Area (ha)	6,954	13,766	276,414	297,134

A significant majority of forest conversion happened outside conservation areas and protected forests (see **Table 9**). Conversion of conservation areas and protected forests took place only in East Kalimantan, which was about 0.04% of the total forest conversion.

**Table 9. Forest Cover Converted to Oil Palm and Timber Plantations Inside and Outside Conservation and Protected Forests**

Province/Land Cover 2019-Commodity	Inside Conservation and Protected Forest	Outside Conservation and Protected Forest
East Kalimantan	124	216,918
Oil Palm Plantation	106	172,603
Timber Plantation	18	44,315
North Kalimantan	0	80,092
Oil Palm Plantation	0	51,243
Timber Plantation	0	28,849
Total Area (ha)	124	297,010

The evaluation also analyzed the proportion of deforestation and forest conversion that happened on customary lands (see **Table 10**). The results reveal there was only a small proportion of forest cover conversion to oil palm and timber plantations on customary lands in East Kalimantan (.4%) and North Kalimantan (.08).

This analysis was based on the Badan Registrasi Wilayah Adat (BRWA) data registry — which is the official registry for government-recognized customary lands in Indonesia.

**Table 10. Forest Cover Converted to Oil Palm and Timber Plantations by Customary Land (BRWA) and Soil Type (2009–2019)**

Province/Land Cover 2019-Commodity	Non-Peatland		Non-Peatland Total	Peatland		Total Area (ha)
	Customary Land (BRWA)	Outside Customary Land		Outside Customary Land	Peatland Total	
East Kalimantan	840	216,008	216,847	194	194	217,042
Oil Palm Plantation	840	171,674	172,514	194	194	172,709
Timber Plantation		44,333	44,333			44,333
North Kalimantan	68	64,246	64,314	15,778	15,778	80,092
Oil Palm Plantation	56	47,201	47,257	3,986	3,986	51,243
Timber Plantation	12	17,045	17,057	11,792	11,792	28,849
Total Area (ha)	908	280,254	281,161	15,973	15,973	297,134

Notes:

\* BRWA = Agency for Registration of Customary Territory. This is a non-government agency, which enables Indigenous Peoples to register their territory (following BRWA guidelines). However, the BRWA registry is not exhaustive, so the actual extent of the areas that Indigenous Peoples consider their customary territory is larger.

## g. District Impacts of Oil Palm, Pulp and Forestry Product Production

This section looks at the impact on forests and peatlands at a district level. It presents data on the extent of impacts that can be attributed to the production of oil palm, pulp and forestry products, both through industrial plantation and smallholder development.

In East Kalimantan, deforestation and conversion to oil palm and timber occurred in all districts (see **Table 11**). The districts with the largest proportion of deforestation for oil palm and timber plantations were Kutai Timur (29.7%), followed by Berau (21.4%) and Kutai Barat (17.2%). Deforestation on peatlands occurred only in Kutai Kartanegara, where it was 2.2% of the total deforestation in the district. Across the province, there was 8,805 ha of deforestation for smallholder oil palm plantations, representing only 5.1% of total deforestation for oil palm. There was 163,710 ha of deforestation for industrial plantations, representing 94.9% of total deforestation for oil palm in the province.

Deforestation in oil palm and timber plantations happened in different proportions between districts. Palm oil was the main driver for deforestation in Berau, Kutai Barat, Kutai Timur and Mahulu. Mahulu is the only one of these four districts where there was no deforestation for timber plantations. In contrast, a larger proportion of deforestation for timber plantations occurred in Kutai Kartanegara, Paser and Penajam Paser Utara.

**Table 11. The Extent of Oil Palm and Timber Plantation Deforestation by District and Soil Type in East Kalimantan (2009–2019)**

Province/District/Plantation	Non-Peatland	Peatland	Total Area (ha)
East Kalimantan	216,847	194	217,042
Berau	46,456	0	46,456
Oil Palm Plantation	39,755	0	39,755
Industrial Mature Oil Palm Plantation	37,612	0	37,612
Smallholder Mature Oil Palm Plantation	2,143	0	2,143
Timber Plantation	6,701	0	6,701
Timber Plantation	6,701	0	6,701
Kota Balikpapan	1	0	1
Oil Palm Plantation	1	0	1
Industrial Mature Oil Palm Plantation	0	0	0
Smallholder Mature Oil Palm Plantation	1	0	1
Kutai Barat	37,411	0	37,411
Oil Palm Plantation	35,030	0	35,030
Industrial Mature Oil Palm Plantation	33,772	0	33,772
Smallholder Mature Oil Palm Plantation	1,259	0	1,259
Timber Plantation	2,381	0	2,381
Timber Plantation	2,381	0	2,381
Kutai Timur	64,374	0	64,374
Oil Palm Plantation	61,215	0	61,215
Industrial Mature Oil Palm Plantation	59,025	0	59,025
Smallholder Mature Oil Palm Plantation	2,190	0	2,190
Timber Plantation	3,159	0	3,159
Timber Plantation	3,159	0	3,159
Kutai Kartanegara	8,496	194	8,691
Oil Palm Plantation	476	194	670
Industrial Mature Oil Palm Plantation	466	190	656
Smallholder Mature Oil Palm Plantation	10	4	14
Timber Plantation	8,021	0	8,021
Timber Plantation	8,021	0	8,021
Mahakam Ulu	5,068	0	5,068
Oil Palm Plantation	5,067	0	5,067
Industrial Mature Oil Palm Plantation	4,608	0	4,608
Smallholder Mature Oil Palm Plantation	459	0	459
Timber Plantation	0	0	0
Timber Plantation	0	0	0
Paser	35,288	0	35,288
Oil Palm Plantation	24,808	0	24,808
Industrial Mature Oil Palm Plantation	22,741	0	22,741
Smallholder Mature Oil Palm Plantation	2,067	0	2,067
Timber Plantation	10,481	0	10,481
Timber Plantation	10,481	0	10,481
Penajam Paser Utara	19,753	0	19,753
Oil Palm Plantation	6,163	0	6,163
Industrial Mature Oil Palm Plantation	5,486	0	5,486
Smallholder Mature Oil Palm Plantation	676	0	676
Timber Plantation	13,591	0	13,591
Timber Plantation	13,591	0	13,591

In North Kalimantan, the districts with the highest deforestation rates were Nunukan (48.8%), Bulungan (29.6%) and Tana Tidung (20.5%). Almost half of the province's deforestation took place in Nunukan (see **Table 12**). Forests in Malinau remained relatively intact, with no industrial forest conversion for oil palm or timber plantations evident. The highest proportion of peatland deforestation occurred in Tana Tidung across 8,360 ha, which represented 53% of total peatland deforestation in the province, and across 7,419 ha in Nunukan (47%).

Oil palm was the main driver of deforestation in Nunukan. In Tana Tidung, deforestation was mainly due to timber plantations. Bulungan and Malinau had no deforestation on peatlands. Similarly, in East Kalimantan deforestation for smallholder oil palm plantations represented less than 5% of the total forest conversion for oil palm in the province.

**Table 12. The Extent of Oil Palm and Timber Plantation Deforestation by District and Soil Type in North Kalimantan (2009–2019)**

Province/District/Plantation	Non-Peatland	Peatland	Total Area (ha)
North Kalimantan	64,314	15,778	80,092
Bulungan	23,726	0	23,726
Oil Palm Plantation	15,735	0	15,735
Industrial Mature Oil Palm Plantation	14,525	0	14,525
Smallholder Mature Oil Palm Plantation	1,210	0	1,210
Timber Plantation	7,991	0	7,991
Timber Plantation	7,991	0	7,991
Malinau	9	0	9
Oil Palm Plantation	9	0	9
Smallholder Mature Oil Palm Plantation	9	0	9
Nunukan	32,482	7,419	39,901
Oil Palm Plantation	29,584	492	30,076
Industrial Mature Oil Palm Plantation	28,586	339	28,925
Smallholder Mature Oil Palm Plantation	998	152	1,151
Timber Plantation	2,898	6,927	9,825
Timber Plantation	2,898	6,927	9,825
Tana Tidung	8,097	8,360	16,457
Oil Palm Plantation	1,929	3,494	5,423
Industrial Mature Oil Palm Plantation	1,819	3,171	4,990
Smallholder Mature Oil Palm Plantation	110	323	433
Timber Plantation	6,168	4,865	11,034
Timber Plantation	6,168	4,865	11,034

## Forests and Peatlands at Risk of Conversion and Degradation From Forest-Risk Commodity Expansion

This section highlights the forests and peatlands that remain at risk of conversion and degradation for forest-risk commodities within East Kalimantan and North Kalimantan. This analysis focus on the forest-risk commodities of palm oil, pulp, and timber. At-risk forests are defined as forests located in other use areas or other land-use categories that are zoned for exploitation by the Indonesian Government and/or within existing oil palm, timber and logging concessions.

**Our evaluation found 8,250,265 ha — about two-thirds of the remaining 12,308,874 ha of forests in both provinces — are currently at risk. These forests have been allocated to companies for conversion to plantations or remain zoned for logging or agribusiness production. A vast majority of the total forested peatland across both provinces, 128,896 ha or 83%, is also at risk (see Map 2).**

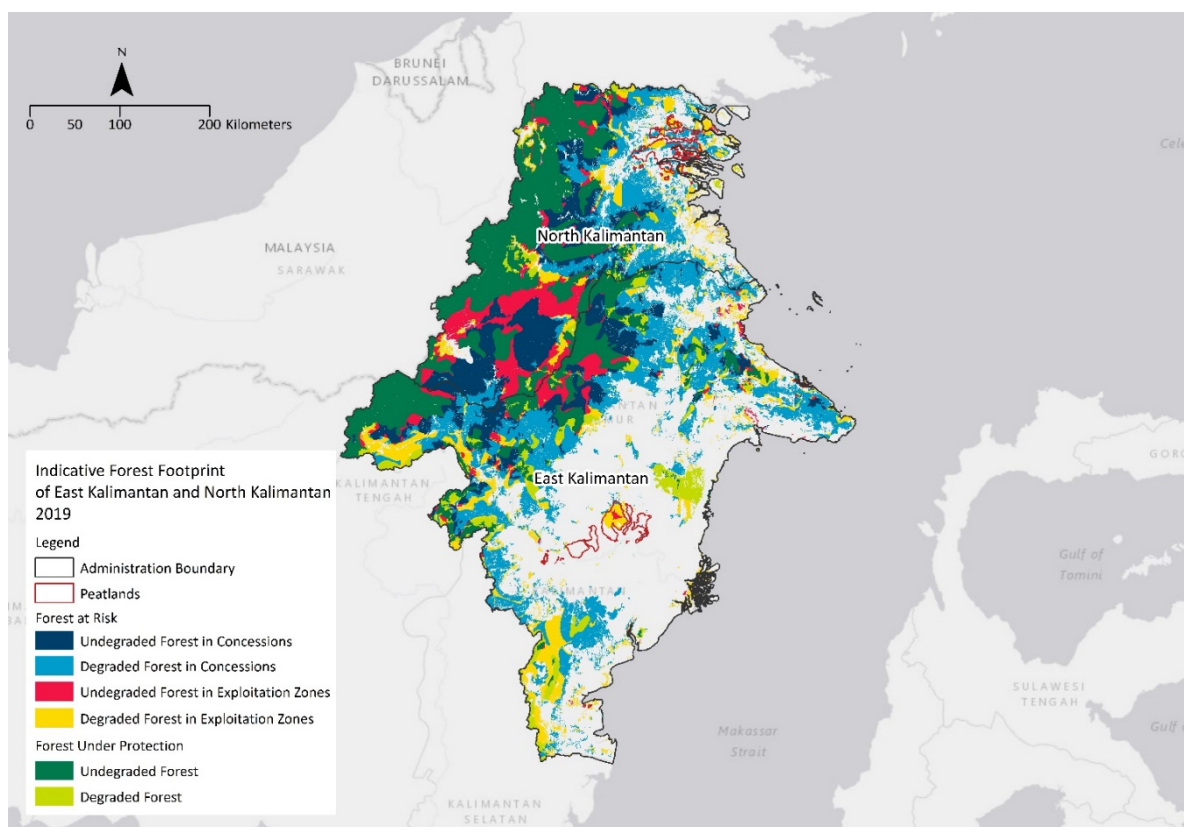
The proportion of at-risk forest is higher in East Kalimantan, where there is a total of 4,322,836 ha at risk in concessions or other use areas, which are not covered by the Indonesian Government's Primary Forest and Peatlands Moratorium. This represents 65.49% of the province's remaining forest cover. In North Kalimantan, 2,724,882 ha of at-risk forest represents 47.74% of the province's remaining forest cover.

In East Kalimantan, undegraded remaining forest can be found mainly along the borders with North Kalimantan. Remaining degraded forest can be found mainly in the province's north-east and south-west. In North Kalimantan, most of the remaining undegraded forest within concessions and other use areas are situated in the western and southern part of the province, which is close to undegraded protected forest.

The Indonesian Government's Primary Forest and Peatlands Moratorium covers 1,210,547 ha of the 8,250,265 ha of at-risk forests. If the moratorium is extended in perpetuity and adequately enforced, the area at risk could be reduced to 7,047,718 ha, or 57.25% of remaining forests in both provinces.

Across both provinces, there are 128,896 ha of at-risk forest on peatlands that are not covered by the Indonesian Government Moratorium, representing 83.78% of total peatland forests. **Map 2** also confirms findings from previous sections that some of the peatland areas in the eastern part of the province are degraded.

In 2019, 6,295,876 ha was undegraded forest, representing 51.1% of the forest cover in East and North Kalimantan (see **Table 13**). The remaining 6,012,998 ha (48.9%) was degraded forest<sup>viii</sup>. Of the undegraded forest, 3.95 million ha (62.7%) was located in North Kalimantan while the remaining 2.35 million ha (37.3%) was in East Kalimantan. More than a half of the remaining undegraded forest — a total of 3.3 million hectares (52.50%) — is formally protected. About 1.97 million ha or a third (31.27%) was located within allocated concessions. The remaining 1.02 million ha (16.23%) was allocated by the government to other use areas.



Notes:

- Forest in concessions = remaining forest inside oil palm and timber plantations, and logging concessions
- Forest in exploitation zones = remaining forest in APL, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

*Map 2: Remaining forest and peatland at risk in East and North Kalimantan as of 2019*

Of the degraded forest, 4.25 million ha (70.73%) was located in East Kalimantan while 1,76 million ha (29.3%) was in North Kalimantan. Two-thirds (62.7%) of the degraded forest was located within concessions, 25% in other use areas and 12.4% in formally protected forest.

In East Kalimantan, peatland degradation happened mostly in other use areas — covering 43,950 ha. In North Kalimantan, peatland degradation mostly occurred in concessions areas: 56,784 ha (58.1%) of peatlands were degraded in concessions, followed by 30,572 ha (31.3%) in other use areas. All remaining peatlands are located outside of formally protected forest areas in both provinces.

**Table 13. Forests and Peatlands at Risk of Conversion or Degradation as of 2019**

Forest Cover 2019	East Kalimantan		East Kalimantan Total	North Kalimantan		North Kalimantan Total	Total Area (ha)
	Non-Peatland	Peatland		Non-Peatland	Peatland		
Undegraded Forest Formally Protected	1,208,064	0	1,208,064	2,097,064	0	2,097,064	3,305,128
Degraded Forest Formally Protected	609,027	0	609,027	136,455	0	136,455	745,481

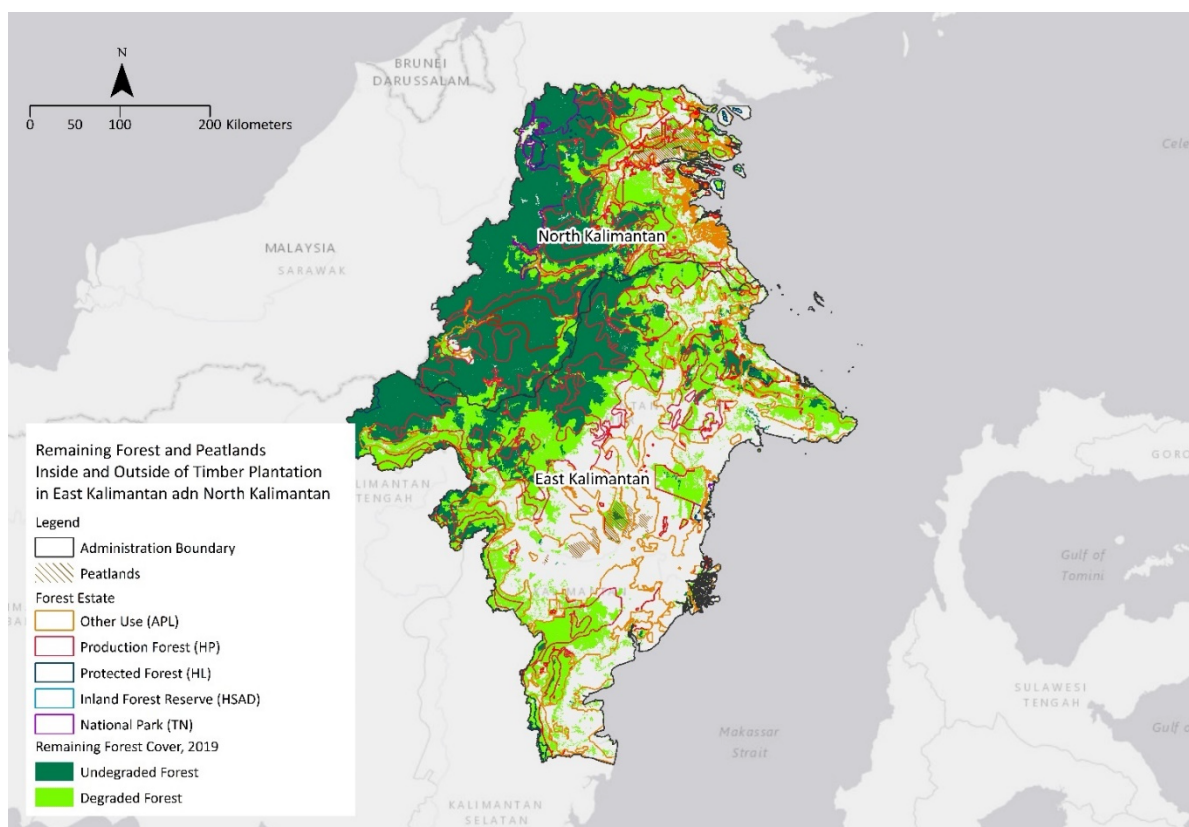
Undegraded Forest in Concessions	818,117	106	818,223	1,143,559	6,998	1,150,557	1,968,780
Degraded Forest in Concessions	2,620,926	4,124	2,625,051	1,085,375	56,784	1,142,159	3,767,210
Undegraded Forest in Exploitation Zones	313,902	7,907	321,809	696,719	3,441	700,159	1,021,968
Degraded Forest in Exploitation Zones	974,903	43,950	1,018,853	450,882	30,572	481,454	1,500,307
Total Area (ha)	6,544,939	56,087	6,601,027	5,610,054	97,795	5,707,848	12,308,874

### a. Remaining Forest and Peatlands by Forest Estate

In 2019, undegraded forest is situated mostly in the hinterland while the degraded forest is distributed around the undegraded forest and partially off the hinterland. In East Kalimantan, a larger proportion of degraded forest is in protected areas than it is in North Kalimantan (see **Map 3**).

The total remaining forest in East Kalimantan is 6,601,027 ha (see **Table 14**). More than half the remaining forest — 3,41 million ha (51.76%) — is located in other use areas, followed by lands allocated by the Indonesian Government as protected forests (26.26%) and production forests (18.95%).

The total remaining forest in North Kalimantan is 5,707,848 ha (see **Table 15**). Almost one third of the remaining forest is undegraded forest and is formally protected — 2.09 million ha (30.01%) of the total forest cover. Forest located in concessions are both degraded (16.34%) and undegraded forests (16.46%). Almost half the remaining forest – 2.6 million hectares (46.04%) is in other use areas.



Notes:

- Forest in concessions = remaining forest inside oil palm and timber plantations, and logging concessions
- Forest in exploitation zones = remaining forest in other use areas, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

Map 3: Remaining forest and peatlands inside and outside forest estates in East and North Kalimantan

**Table 14. Remaining Forest by Forest Estate in East Kalimantan as of 2019**

Forest Cover 2019	National Park – KPA	Nature Reserve and Nature Preservation Forest – KSA	Other Use Area – APL	Production Forest – HP	Production Forest – HPK	Protected Forest – HL	Total Area (ha)	Total Area (%)
Undegraded Forest Formally Protected	9,247	2	0	0	0	1,198,815	1,208,064	18.30
Degraded Forest Formally Protected	129,631	0	0	0	0	479,396	609,027	9.23
Undegraded Forest in Concessions	0	0	721,432	73,601	3,159	20,030	818,223	12.40
Degraded Forest in Concessions	1	0	1,634,730	913,864	41,163	35,293	2,625,051	39.77

Undegraded Forest in Exploitation Zones	0	0	301,945	19,073	791	0	321,809	4.88
Degraded Forest in Exploitation Zones	0	0	758,863	244,407	15,583	0	1,018,853	15.43
Total Area	138,879	2	3,416,970	1,250,945	60,696	1,733,534	6,601,027	100

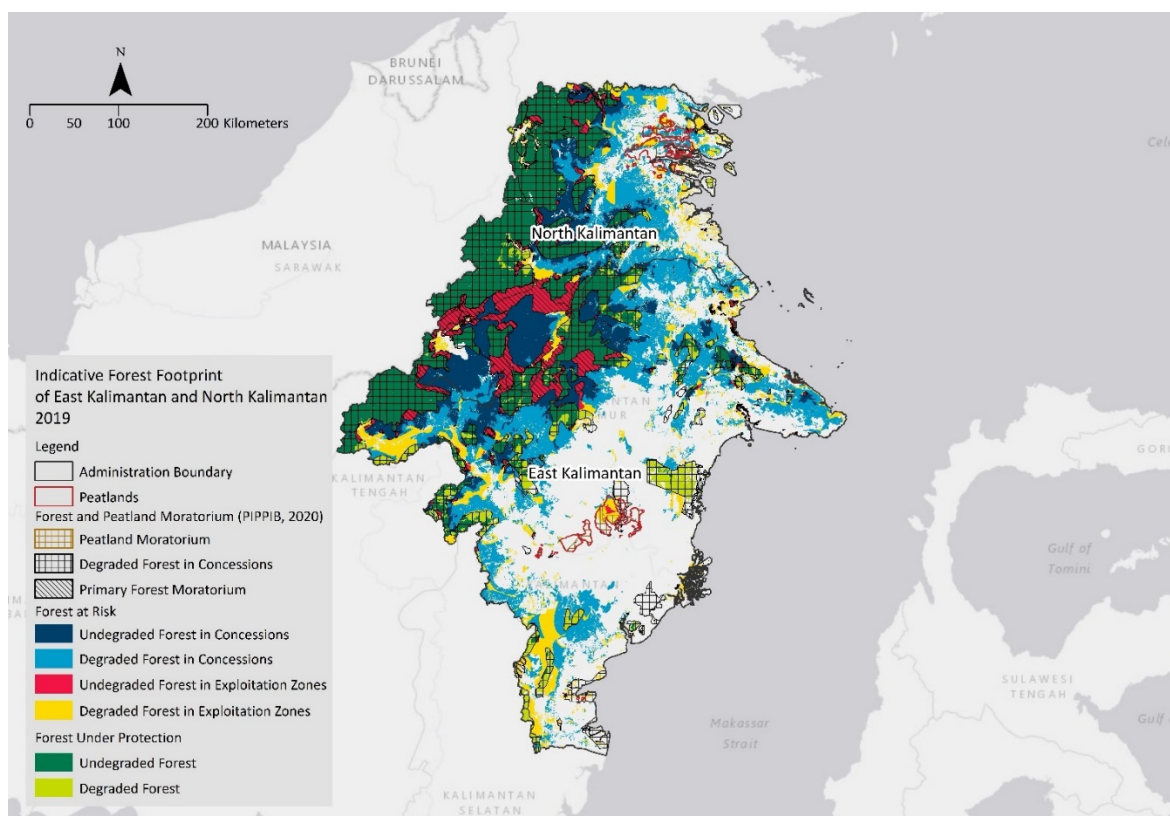
**Table 15. Remaining Forest by Forest Estate in North Kalimantan as of 2019**

Forest Cover 2019	National Park – KPA	Other Use Area – APL	Production Forest – HP	Production Forest – HPK	Protected Forest – HL	Total Area (ha)	Total Area (%)
Undegraded Forest Formally Protected	1,196,651	0	0	0	900,413	2,097,064	30.01
Degraded Forest Formally Protected	58,244	0	0	0	78,210	136,455	1.95
Undegraded Forest in Concessions	1,948	921,831	211,825	1,306	13,648	1,150,557	16.46
Degraded Forest in Concessions	0	725,246	402,321	9,565	5,028	1,142,159	16.34
Undegraded Forest in Potential Development	0	621,946	78,165	48	0	700,159	10.02
Degraded Forest in Potential Development	0	358,970	85,425	37,059	0	481,454	6.89
Total Area	1,256,843	2,627,993	777,736	47,978	997,299	5,707,848	100

## b. Forests and Peatlands Subject to the Government Moratorium

**Our analysis demonstrates that significant areas of forests in both East Kalimantan and North Kalimantan are not afforded any protection by the Moratorium.**

As of 2019, the Indonesia Government's Moratorium on Peatlands, Forest Estates and Primary Forests covers 5,256,788 ha (42.71%) of the total remaining forest in both provinces (see **Map 4**). In East Kalimantan, the Moratorium covers 2,227,222 ha, representing 34.50% of the province's total remaining forest (6,601,027 ha). In North Kalimantan, the Moratorium covers 2,979,143 ha, representing 52.19% of the province's total remaining forest (5,707,848 ha) — see **Graph 10**.



Notes:

- Forest in concessions = remaining forest inside oil palm and timber plantations, and logging concessions
- Forest in exploitation zones = remaining forest in APL, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

Map 4: At-risk forests and peatlands overlayed with areas covered by the Moratorium on Peatlands, Forest Estates and Primary Forests

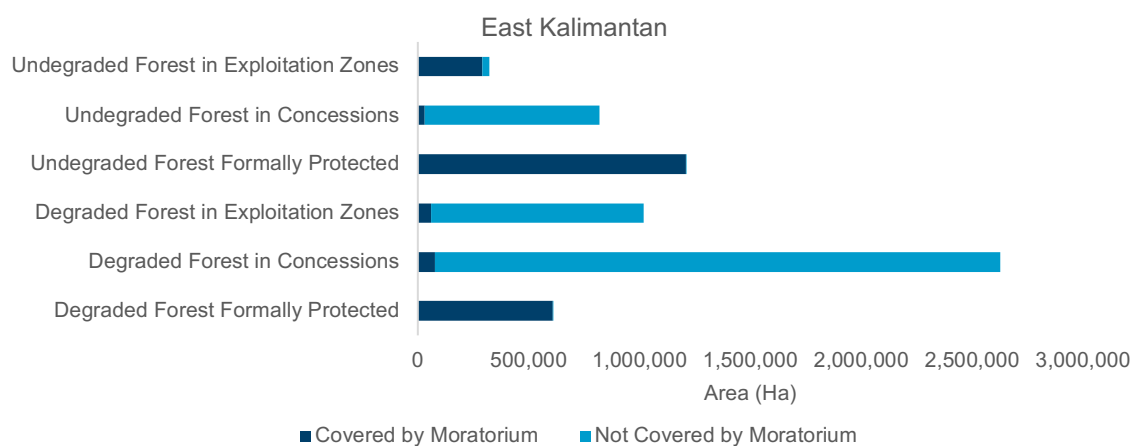
**Table 16** presents more detail on the proportion of forests and peatlands subject to the Moratorium and the extent of forests in each province that are not afforded any protection. Under the Moratorium's official Indicative Map of Granting New License / *peta indikatif penundaan pemberian izin baru (pippib)*, the Moratorium applies to all new licensing for undegraded forest formally protected and in exploitation zones for both provinces.

**Table 16. At-risk Forests and Peatlands Inside and Outside the Moratorium on Peatlands, Forest Estates and Primary Forests**

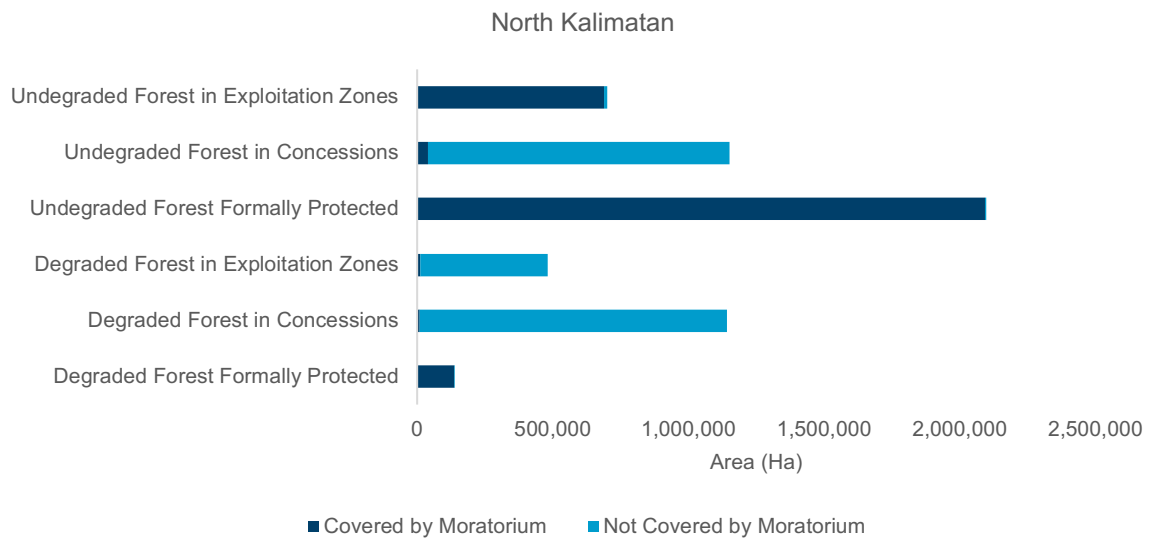
Province/Forest Cover 2019	Peatland Moratorium	Forest Estate Moratorium	Primary Forest Moratorium	Not Covered by Moratorium	Total Area (ha)
East Kalimantan	24,956	1,903,479	349,210	4,323,381	6,601,027
Degraded Forest Formally Protected	0	608,459	135	433	609,027
Degraded Forest in Concessions	891	35,729	41,094	2,547,337	2,625,051

Degraded Forest in Exploitation Zones	21,967	26,070	11,652	959,164	1,018,853
Undegraded Forest Formally Protected	0	1,207,534	417	113	1,208,064
Undegraded Forest in Concessions	106	20,833	10,606	786,679	818,223
Undegraded Forest in Exploitation Zones	1,992	4,854	285,307	29,656	321,809
<b>North Kalimantan</b>	<b>17,143</b>	<b>2,250,117</b>	<b>711,883</b>	<b>2,728,706</b>	<b>5,707,848</b>
Degraded Forest Formally Protected	0	135,890	0	565	136,455
Degraded Forest in Concessions	3,070	5,123	0	1,133,966	1,142,159
Degraded Forest in Exploitation Zones	12,110	32	36	469,277	481,454
Undegraded Forest Formally Protected	0	2,092,667	1,138	3,259	2,097,064
Undegraded Forest in Concessions	1,081	15,757	23,441	1,110,279	1,150,557
Undegraded Forest in Exploitation Zones	882	649	687,269	11,360	700,159
<b>Total Area (ha)</b>	<b>42,099</b>	<b>4,153,596</b>	<b>1,061,093</b>	<b>7,052,087</b>	<b>12,308,875</b>

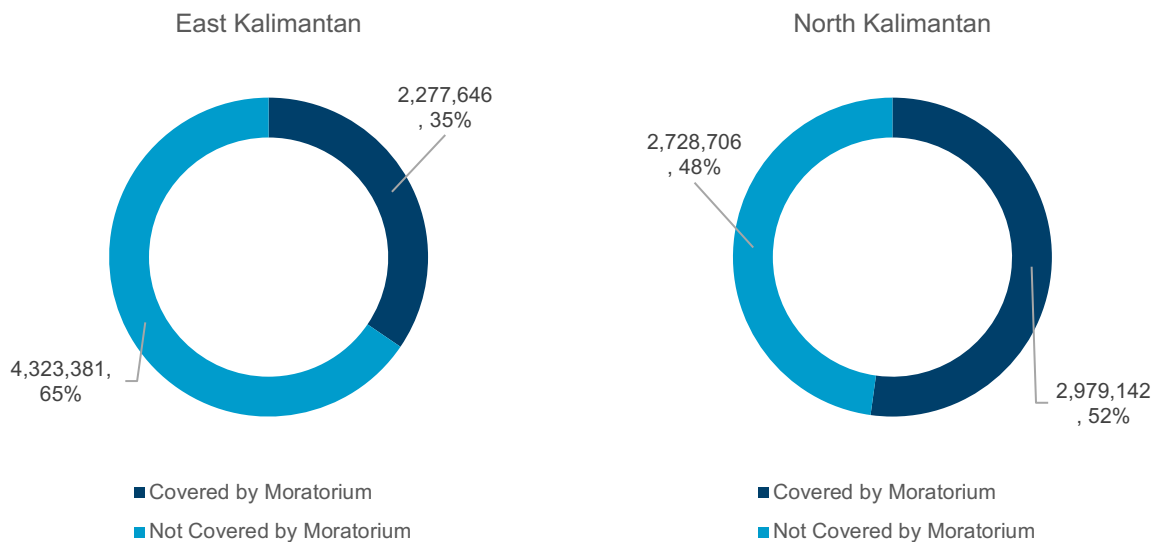
There is a significant area of undegraded forests within concessions that are not covered by the Moratorium. Significant areas of degraded forests are also at risk both within concessions and the exploitation zones as they are not covered by the Moratorium (see **Graphs 8 and 9**).



*Graph 8: Forests and peatlands subject to the Moratorium on Peatlands, Forest Estates and Primary Forests in East Kalimantan*



Graph 9: Forests and peatlands subjected to the Moratorium on Peatlands, Forest Estates and Primary Forests in North Kalimantan



Graph 10: Proportion of forests and peatlands subjected to the Moratorium on Peatlands, Forest Estates and Primary Forests in East and North Kalimantan

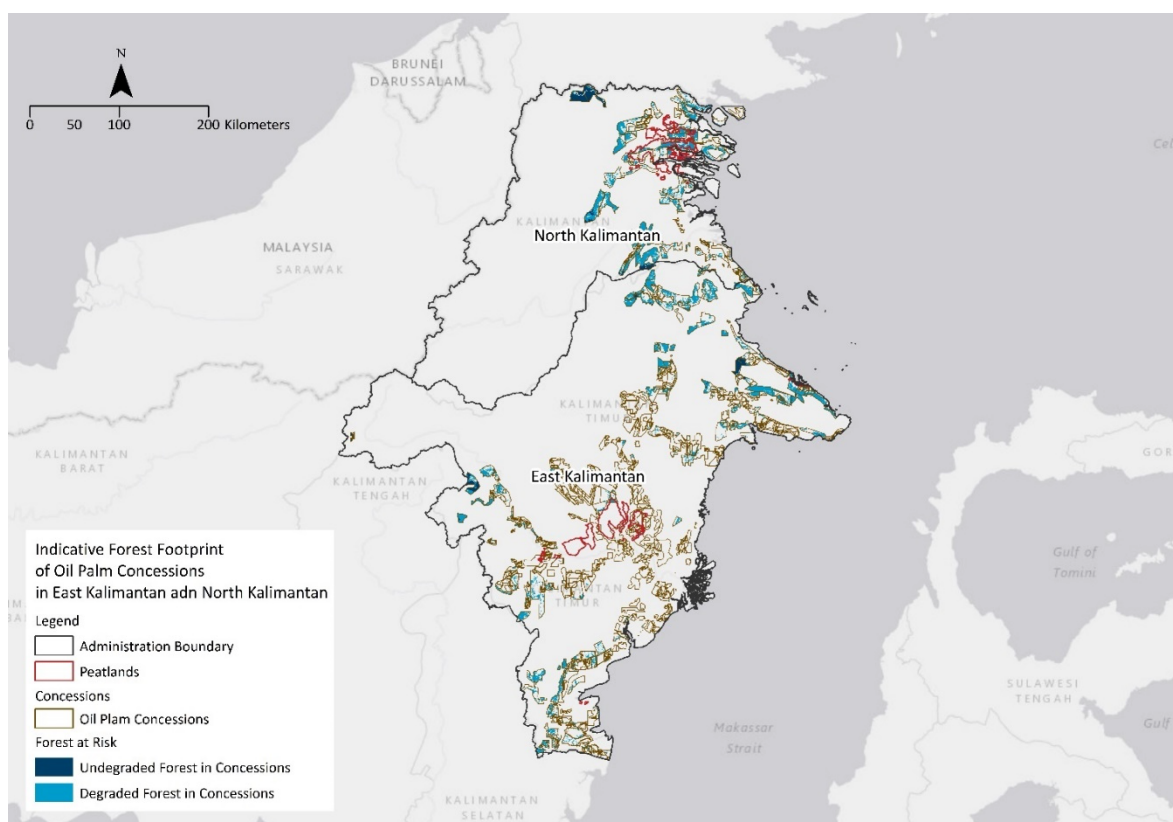
## Forests and Peatlands at Risk Within Oil Palm Plantations, Timber Plantations and Logging Concessions

This section provides more detailed insights into at-risk forests within companies' concessions. It outlines the areas at risk and the proportion of undegraded and degraded forests at risk from oil palm and pulp and paper expansion in both provinces.

### a. Forest and Peatlands at Risk Within Oil Palm Concessions.

Our analysis found 2,522,275 ha of forests remain at risk of being degraded or converted to oil palm and pulp plantations in areas zoned for exploitation (other use areas). By 2019, more than half a million hectares remained at risk within concessions allocated by the government to companies for palm oil development.

In East Kalimantan, over 330,000 ha are at risk within oil palm concessions. In North Kalimantan, over 260,000 ha are at risk within existing oil palm concessions and over 48,500 ha are located on peatlands. Nearly 73,000 ha are primary (undegraded) forests, and 525,000 ha are secondary forests (degraded forests) inside concessions (see **Map 5**).



Notes:

- Forest in concessions = remaining forest inside oil palm concessions
- Forest in exploitation zones = remaining forest in APL, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

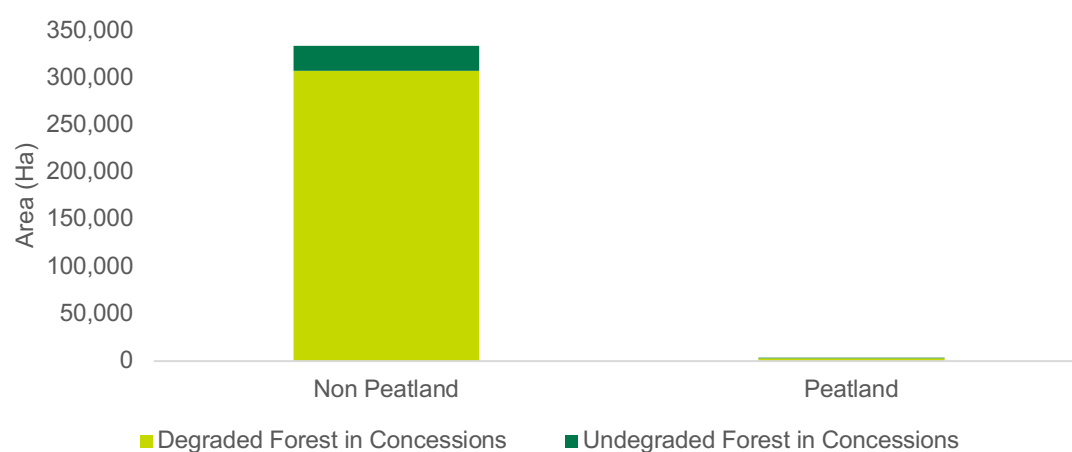
*Map 5: Forests and peatlands at immediate risk of conversion or degradation from oil palm expansion within concessions in East and North Kalimantan*

In 2019, more than 500,000 ha of forest were at risk from oil palm expansion within concessions across both provinces (see **Table 17**). In East Kalimantan, there was a total of

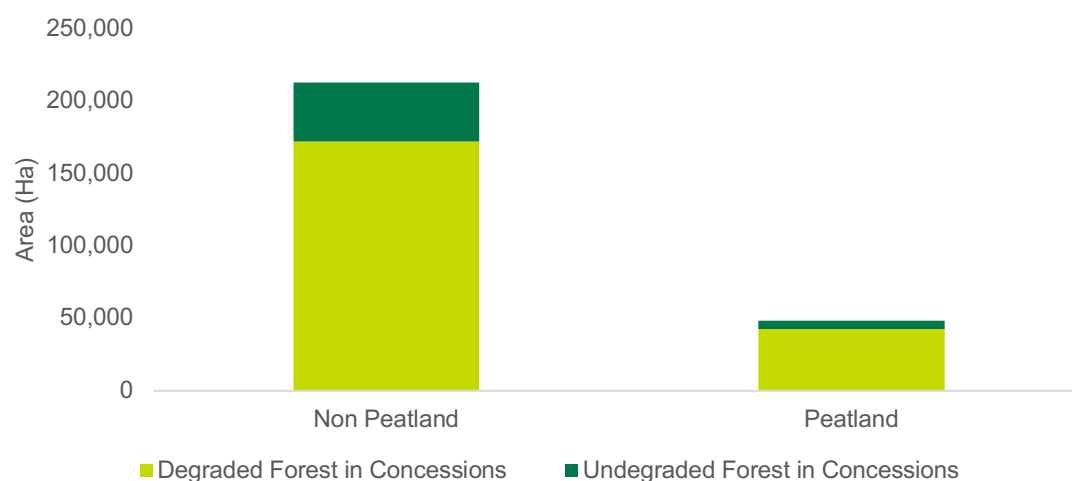
336,320 ha of at-risk forest within existing oil palm concessions. Out of this total, 333,268 ha were on mineral soils and 3,052 ha were on peatlands (see **Graph 11**). In North Kalimantan, there were 261,517 ha of forests at risk from oil palm expansion with 18.5% (48,508 ha) located on peatlands (see **Graph 12**).

**Table 17. Forests at Risk of Conversion or Degradation from Oil Palm Expansion Within Concessions as of 2019**

Forest Cover 2019	East Kalimantan		East Kalimantan Total	North Kalimantan		North Kalimantan Total	Total Area (ha)
	Non-Peatland	Peatland		Non-Peatland	Peatland		
Degraded Forest in Concessions	307,151	2,946	310,098	172,112	42,691	214,803	524,901
Undegraded Forest in Concessions	26,117	106	26,223	40,896	5,818	46,713	72,936
Total Area (ha)	333,268	3,052	336,320	213,008	48,508	261,517	597,837



*Graph 11: Forests at immediate risk of conversion or degradation from the expansion of oil palm plantations in East Kalimantan as of 2019*



Graph 12: Forests at immediate risk of conversion or degradation from the expansion of oil palm plantations in North Kalimantan as of 2019

### b. Forest and Peatlands at Risk Within Timber Concessions.

A further 5 million ha of forests and peatlands are at risk of conversion or degradation within pulp and paper, timber and rubber concessions in East Kalimantan and North Kalimantan as of 2019. These include degraded and undegraded forests and peatlands (see **Table 18**) and are found across different concession types (see **Tables 19** and **20**).

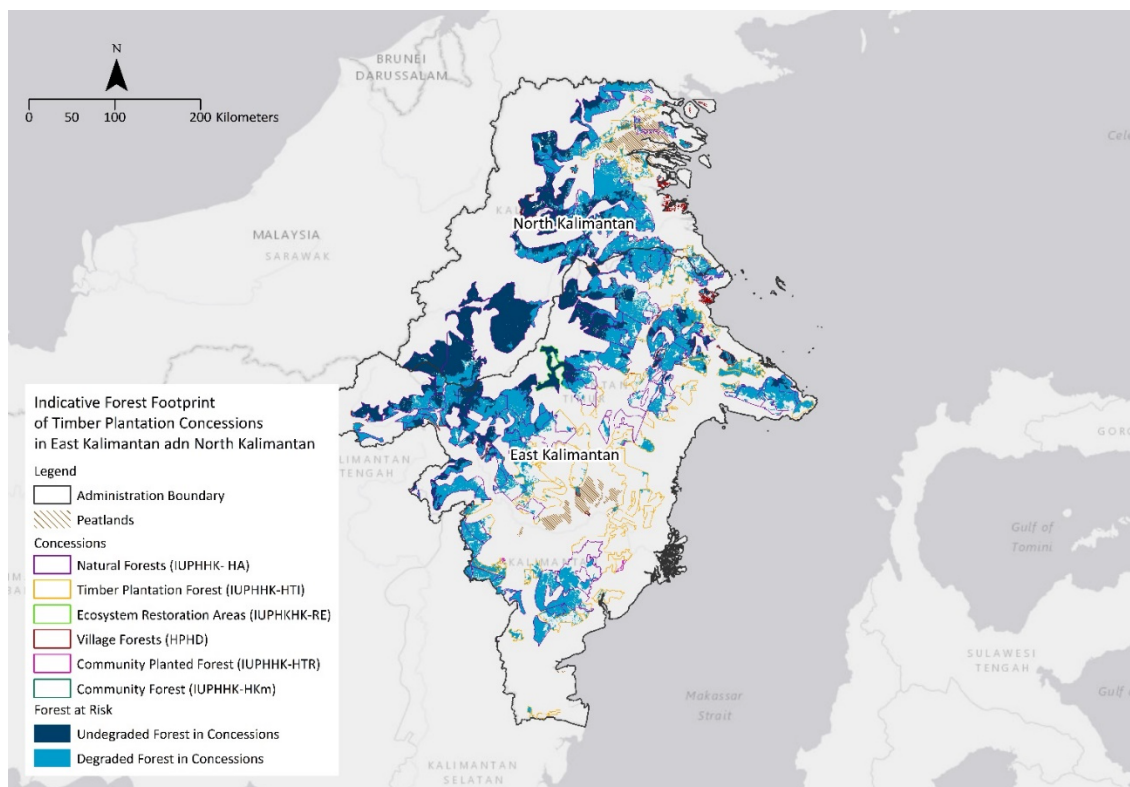
The potential logging of intact primary forests, including those on peatlands inside concessions must be averted. Over 700,000 ha of intact forests remain within the concessions of one company called PT. Sumalindo Lestari Jaya (PT. SLJ) in four concession areas — PT. Ensem Timber, PT. SLJ Tbk, PT. SLJ II, PT. SLJ IV and PT. SLJ V. These primary forests are at risk of industrial logging despite their close proximity to the Kayan Mentanrang National Park and Bukit Seput Hawung Nature Reserve.

Significant areas of forests remain at risk of logging in concessions controlled by:

- PT. Sumalindo Lestari Jaya (PT. SLJ)
- Sinar Mas Forestry
- Royal Golden Eagle Group
- Roda Mas Group
- RKR
- Alas Kesuma
- Hanurat
- Intraca Wood
- Sumber Mas
- Wana Rimba Kencana
- Inhutani I

- countless others with unknown parent companies.

The protection of over 3,249,000 ha of secondary forests from further degradation from logging concessions and timber plantations is also critical across both provinces. In North Kalimantan, a majority of the undegraded forest in concessions and the exploitation zone is in the hinterland. In East Kalimantan, the undegraded forest is distributed across the province (see **Map 6**).



Notes:

- Forest in concessions = remaining forest inside timber plantations and logging concessions
- Forest in exploitation zones = remaining forest in other use areas, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

Map 6: Forests and peatlands at risk of conversion or degradation from pulp and paper, rubber or timber-logging expansion within timber concessions

**Table 18. Forests and Peatlands at Risk of Conversion or Degradation From the Expansion of Timber Plantations Within Concessions as of 2019**

Forest Cover 2019	East Kalimantan		East Kalimantan Total	North Kalimantan		North Kalimantan Total	Total Area (ha)
	Non-Peatland	Peatland		Non-Peatland	Peatland		
Degraded Forest in Concessions	2,317,570	1,178	2,318,748	916,888	14,093	930,982	3,249,730
Undegraded Forest in Concessions	792,400	0	792,400	1,102,663	1,181	1,103,844	1,896,244

Total Area (ha)	3,109,970	1,178	3,111,148	2,019,551	15,274	2,034,825	5,145,973
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**Table 19. Forests and Peatlands at Risk of Conversion or Degradation from the Expansion of Timber Plantations by Concession Type in East Kalimantan**

Forest Cover 2019/Concessions Type	Non-Peatland	Peatland	Total Area (ha)	Total Area (%)
Degraded Forest in Concessions	2,317,570	1,178	2,318,748	100
Logging Concession (IUPHHK-HA)	1,949,686	0	1,949,686	84.08
Timber Plantation (IUPHHK HTI)	353,222	1,178	354,400	15.28
Ecosystem Restoration Concession (IUPHHK-RE)	7,634	0	7,634	0.33
Village Forests (HPHD)	3,795	0	3,795	0.16
Community Forest (IUPHHK-HTR)	2,665	0	2,665	0.11
Community Forest (IUPHHK-HKm)	569	0	569	0.02
Undegraded Forest in Concessions	792,400	0	792,400	100
Logging Concession (IUPHHK-HA)	693,202	0	693,202	87.48
Timber Plantation (IUPHHK HTI)	20,652	0	20,652	2.61
Ecosystem Restoration Concession (IUPHHK-RE)	78,147	0	78,147	9.86
Village Forests (HPHD)	400	0	400	0.05
Community Forest (IUPHHK-HTR)	0	0	0	0
Community Forest (IUPHHK-HKm)	0	0	0	0
Total Area	3,109,970	1,178	3,111,148	

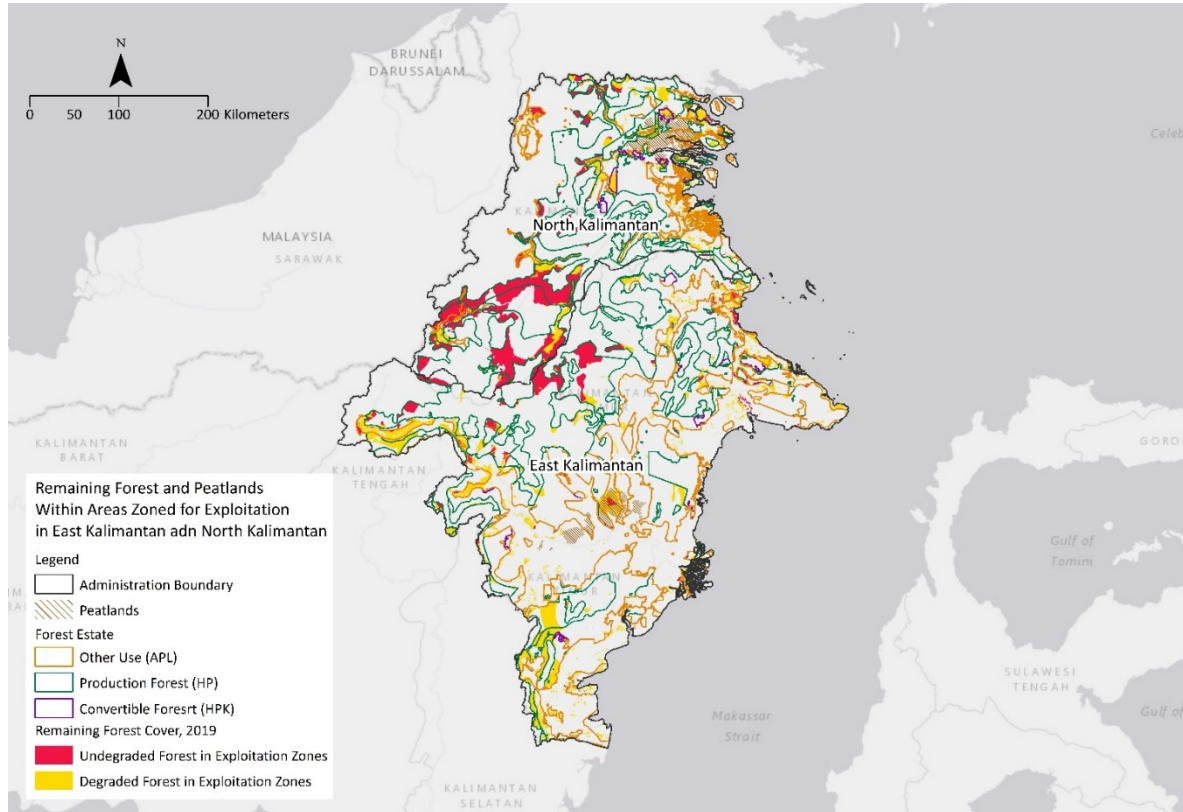
**Table 20. Forests and Peatlands at Risk of Conversion or Degradation From the Expansion of Timber Plantations by Concession Type in North Kalimantan**

Forest Cover 2019/Concessions Type	Non-Peatland	Peatland	Total Area (ha)	Total Area (%)
Degraded Forest in Concessions	916,888	14,093	930,982	100
Logging Concession(IUPHHK-HA)	824,625	6,228	830,853	89.24
Timber Plantation(IUPHHK HTI)	82,137	7,820	89,956	9.66
Ecosystem Restoration Concession (IUPHHK-RE)	0	0	0	0.00
Village Forests (HPHD)	3,626	0	3,626	0.39
Community Forest (IUPHHK-HTR)	126	0	126	0.01
Community Forest (IUPHHK-HKm)	6,375	45	6,420	0.69
Undegraded Forest in Concessions	1,102,663	1,181	1,103,844	100
Logging Concession(IUPHHK-HA)	1,101,021	9	1,101,030	99.75
Timber Plantation (IUPHHK HTI)	1,484	1,172	2,655	0.24
Ecosystem Restoration Concession (IUPHHK-RE)	0	0	0	0.00
Village Forests (HPHD)	0	0	0	0.00
Community Forest (IUPHHK-HTR)	0	0	0	0.00
Community Forest (IUPHHK-HKm)	158	0	158	0.01
Total Area	2,019,551	15,274	2,034,825	

## Remaining Forest Zoned for Exploitation and at Risk from Future Forest-Risk Commodity Expansion

This section reveals the forests and peatlands that remain at risk because the Indonesian Government has designated them to land-use categories within exploitation zones that allow forest conversion and/or degradation (see **Map 7**).

Our evaluation found over 2.5 million ha of forests are at risk from oil palm and pulp and paper expansion outside existing concessions and across both provinces.



Notes:

- Forest in concessions = remaining forest inside oil palm and timber plantations, and logging concession
- Forest in exploitation zones = remaining forest in other use areas, production forests, convertible production forests
- Forest under protection = remaining forest in national parks, nature reserves and nature preservation forests and protected forests

Map 7: Remaining forests and peatlands at risk in exploitation zones in East and North Kalimantan

In East Kalimantan 76% of forests in exploitation zones are already degraded while in North Kalimantan 40.8% are degraded and 49.2% are undegraded (see **Table 21**). A majority of the peatlands in the exploitation zones in both East Kalimantan and North Kalimantan are already degraded: 84.8% in East Kalimantan and 89.9% in North Kalimantan.

In East Kalimantan, a majority of the undegraded at-risk forest is in other use areas (93.8%) while in North Kalimantan 88.8% is in other use areas and 11.2% is in production forest (see Tables 22 and 23).

**Table 21. Remaining Forest at Risk Within Exploitation Zones in East and North Kalimantan as of 2019**

Forest Cover 2019	East Kalimantan		East Kalimantan Total	North Kalimantan		North Kalimantan Total	Total Area (Ha)
	Non-Peatland	Peatland		Non-Peatland	Peatland		
Degraded Forest in Exploitation Zones	974,903	43,950	1,018,853	450,882	30,572	481,454	1,500,307
Undegraded Forest in Exploitation Zones	313,902	7,907	321,809	696,719	3,441	700,159	1,021,968
Total Area (Ha)	1,288,806	51,856	1,340,662	1,147,600	34,013	1,181,613	2,522,275

**Table 22. Remaining Forest and Peatland at Risk in Exploitation Zones by Forest Estate in East Kalimantan as of 2019**

Forest Cover 2019/Forest Estate	Non-Peatland	Peatland	Total Area (Ha)	Total Area (%)
Degraded Forest in Exploitation Zones	974,903	43,950	1,018,853	100
Other Use Area – APL	723,478	35,385	758,863	74.48
Production Forest – HP	236,018	8,389	244,407	23.99
Convertible Forest – HPK	15,407	176	15,583	1.53
Undegraded Forest in Exploitation Zones	313,902	7,907	321,809	100
Other Use Area – APL	294,600	7,345	301,945	93.83
Production Forest – HP	18,512	562	19,073	5.93
Convertible Forest – HPK	791		791	0.25
Total Area	1,288,806	51,856	1,340,662	

**Table 23. Remaining Forest and Peatland at Risk in Exploitation Zones by Forest Estate in North Kalimantan as of 2019**

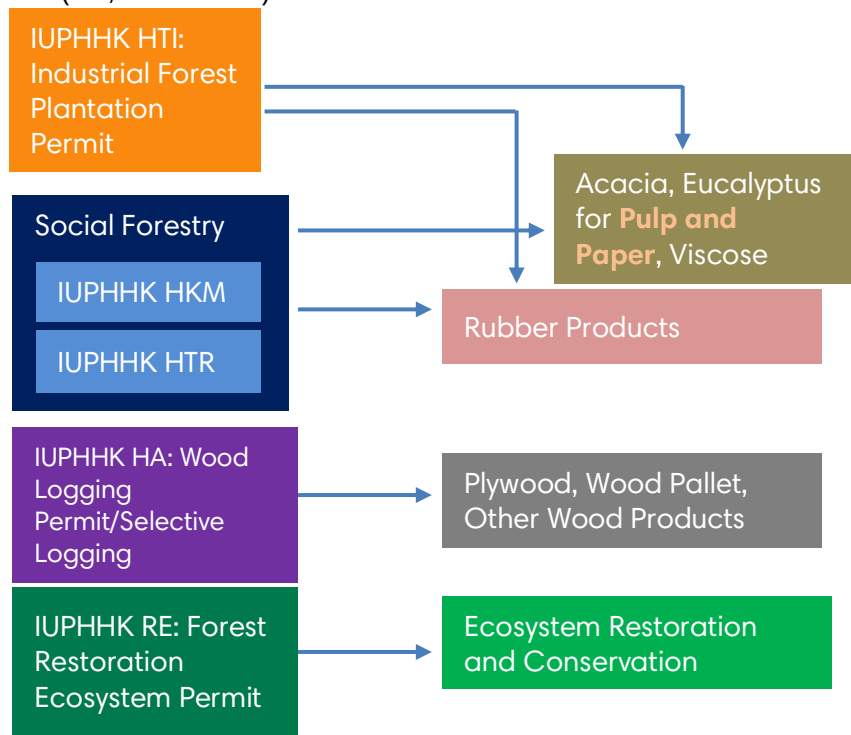
Forest Cover 2019/Forest Estate	Non-Peatland	Peatland	Total Area (Ha)	Total Area (%)
Degraded Forest in Exploitation Zones	450,882	30,572	481,454	100
Other Use Area – APL	345,765	13,205	358,970	74.56
Production Forest – HP	73,385	12,040	85,425	17.74
Convertible Production Forest – HPK	31,732	5,327	37,059	7.70
Undegraded Forest in Exploitation Zones	696,719	3,441	700,159	100
Other Use Area – APL	619,016	2,930	621,946	88.83
Production Forest – HP	77,703	463	78,165	11.16
Convertible Production Forest – HPK		48	48	0.01
Total Area	1,147,600	34,013	1,181,613	

# Key Supply Chain Actors in Past and Potential Deforestation and Degradation

This chapter presents data on supply chain actors that are brand suppliers and responsible for past and potential deforestation and peatland development through their concessions, landbanks, processing facilities and export facilities. This includes analyzing the forest-risk commodity operations associated with nine influential corporate groups in the Indonesian palm oil and pulp sector. It highlights the forest loss and remaining forest cover within known oil palm, pulp and paper, and rubber concessions of these groups.

The 10 brands remain responsible for destruction of rainforests and peatlands across both provinces through their sourcing of palm oil from plantations in the region.

Our analysis focuses on palm oil, where we used *Hak Guna Lahan* (HGU) concessions data, and pulp and paper plantations, which are combined with rubber as these two commodities share the same concession permits (HTI, HKM and HTR) — see **Graph 13**. We have not included the third category of timber logging and ecosystem restorations concessions (HA, HD and RE).



Graph 13: Types of timber plantation permits linked to end products

The highest forest loss percentage occurred in palm oil concessions (33.1%), followed by pulp and paper, and rubber plantations (24.6%) — see **Table 24**. A detailed list of known concessions for these commodities are provided in **Annex 1** (palm oil), **Annex 2** (pulp and

paper, and rubber) and **Annex 3** (all timber plantations, timber logging and ecosystem restoration concessions).

**Table 24. Forest Loss and Remaining Forest by Key Forest-Risk Commodities and Concession Permits in East and North Kalimantan**

Commodity	Total Forest Loss (ha, 2009–2019)	Total Remaining Forest (ha, 2019)	Total Forest Baseline (2009)	% Forest Loss	% Forest Baseline
Palm Oil (HGU)	422,561.0	853,822.1	1,276,383.1	33.1	66.9
Timber Plantation	354,753.2	5,162,408.1	5,517,161.2	6.4	93.6
Rubber and Pulp & Paper (HTI, HKM, HTR)	156,091.8	477,599.0	633,690.8	24.6	75.4
Other plantations (HA, HD, RE)	198,661.3	4,684,809.1	4,883,470.4	4.1	95.9

**a. Nine Major Corporate Groups With Operations and Supply Chains in East and North Kalimantan**

Nine out of 10 major corporate groups featured in *Keep Forests Standing*<sup>ix</sup> have their own palm oil, pulp, timber or rubber operations, direct suppliers or third-party suppliers in East Kalimantan and/or North Kalimantan (see **Tables 25** and **26**). They are therefore responsible in part for the forest footprint from logging and plantation expansion in both provinces. The nine groups include:

- Royal Golden Eagle (palm oil and pulp and paper)
- Sinar Mas Group (palm oil and pulp and paper)
- Wilmar International (palm oil)
- Salim Group (palm oil, pulp and paper, and rubber)
- Jardine Matheson Group (palm oil)
- Triputra Group (palm oil, pulp and paper, and rubber)
- Rajawali Corpora (palm oil)
- Genting Group (palm oil)
- Korindo Group (pulp and paper)

You can find more details on their palm oil, timber or pulp plantation concessions in **Annexes 1–3** and/or their palm oil processing facilities in **Annex 4**.

**Table 25. Major Groups' Palm Oil Operations and/or Supply Chain Presence in East and North Kalimantan**

Major Group (Palm Oil)	North Kalimantan	East Kalimantan
Best Industry Group	No known operations/ suppliers	No known operations/ suppliers
Genting Group	No known operations/ suppliers	Direct supplier(s)
Jardine Matheson Group	No known operations/ suppliers	Own Plantations (5)/ direct suppliers
Korindo Group	No known operations/ suppliers	No known operations/ suppliers
Rajawali Corpora	No known operations/ suppliers	Direct suppliers

Royal Golden Eagle Group	Direct suppliers	Refinery, direct suppliers
Salim Group	No known operations/ suppliers	Own Plantations (8), direct suppliers
Sinar Mas Group	Direct suppliers	Own Plantations (6), direct suppliers
Triputra Group	No known operations/ suppliers	Own Plantations (7), direct suppliers
Wilmar International	Direct suppliers	Refinery (not operation), direct suppliers

**Table 26. Major Groups' Pulp and Paper, and Rubber, Operations and/or Supply Chain Presence in East and North Kalimantan**

Major Group (Pulp and Paper, Rubber)	North Kalimantan	East Kalimantan
Jardine Matheson Group*	No known operations/ suppliers	No known operations/ suppliers
Korindo Group	No known operations/ suppliers	Direct suppliers
Royal Golden Eagle	Direct suppliers	Direct suppliers
Salim Group*	No known operations/ suppliers	Rubber Plantation(s)
Triputra Group*	Rubber Plantation(s)	Rubber Plantation(s)
Sinar Mas Group	Direct suppliers	Direct suppliers

\*Contains rubber plantation

## b. Forest Loss and Remaining Forest Within Oil Palm Concessions

Our analysis identified 45 known producer groups with palm oil concessions across East Kalimantan and North Kalimantan. Many are supplying palm oil to the major brands — as revealed by the brands' own published supplier lists. First Resources Group had the largest forest footprint for palm oil expansion across both provinces. This one corporate group was responsible for over 80,000 ha of forest destruction in 2009–2019.

The palm oil companies responsible for the most deforestation inside their own concessions include:

- First Resources Group
- Kuala Lumpur Kepong Berhad
- Jardine Matheson Holdings (Astra Agro Lestari)
- Triputra Group
- Kaestindo Group
- Berca Group
- Bima Palm
- Rugao Shuangma
- Salim Group
- NPC Resources
- Sinar Mas Group
- Samling Group
- THS Resources
- Tsani Hutani Abadi
- Wanamaja Adhitama

- REA Holding
- Teladan Prima

Significant forest areas remain in the palm oil concessions of:

- First Resources Group
- Jardine Matheson Holdings (Astra Agro Lestari)
- Indo Karyna
- Kaestindo Group
- KLK
- Salim Group
- Berca Group
- Wanamaja Adhitama
- REA Holdings
- Triputra Group
- Teladan Prima
- Rugao Shuangma
- THS Resources

In North Kalimantan, nearly 60,000 ha have been cleared and over 250,000 ha remain at risk inside concessions controlled by companies with unknown corporate group ownership. We identified 15 known producer groups with palm oil plantations concessions in North Kalimantan, mostly in Bulungan and Nunukan. We have highlighted the forest destroyed by each group, as well as forest remaining inside their concessions (see **Table 27**). Total forest cover across concessions was reduced from 494,606.69 ha in 2009 to 354,842 ha in 2019.

**Table 27. Forest Loss and Remaining Forest Within Oil Palm Concessions in North Kalimantan**

Oil Palm Plantation Company Group	Total Forest Loss (ha, 2009-2019)	Total Remaining Forest (ha, 2019)	District
Citra Sawit Lestari	564	588	Bulungan
Cooperatives	24	22	Nunukan
FELDA Global Venture	259	4	Tana Tidung
Fima Corporation	126	448	Nunukan
First Resources Group	61,985	69,755	Nunukan, Tana Tidung
IJM Corporation	392	902	Bulungan
Kencana Agri Group	1,904	527	Bulungan
KLK	25	829	Bulungan
No Group/Group Not Found	59,566	250,973	Bulungan, Malinau, Nunukan, Tana Tidung
Palma Serasih	10	5	Bulungan
REA Holding	1,394	8,662	Tana Tidung
Rugao Shuangma	6,791	2,648	Nunukan
Samling Group	2,064	200	Bulungan
TH Plantations	27	1	Tana Tidung

<b>TSH Resources</b>	2,625	1,465	Bulungan
<b>Wanamaja Adhitama</b>	1,895	17,506	Malinau, Nunukan
<b>Wings</b>	116	307	Bulungan

The palm oil footprint in East Kalimantan was much more extensive (see **Table 28**). We identified 37 known major producer groups with operations in this region. In 2009, the total forest area within oil palm concessions was 781,776.40 ha. This total forest cover was reduced by 36.2% to 498,983 ha in 2019. A majority of this forest loss was in the districts of Kutai Timur and Kutai Barat. The table also shows 180,844 ha of forest were cleared within concession areas where the parent company was unknown.

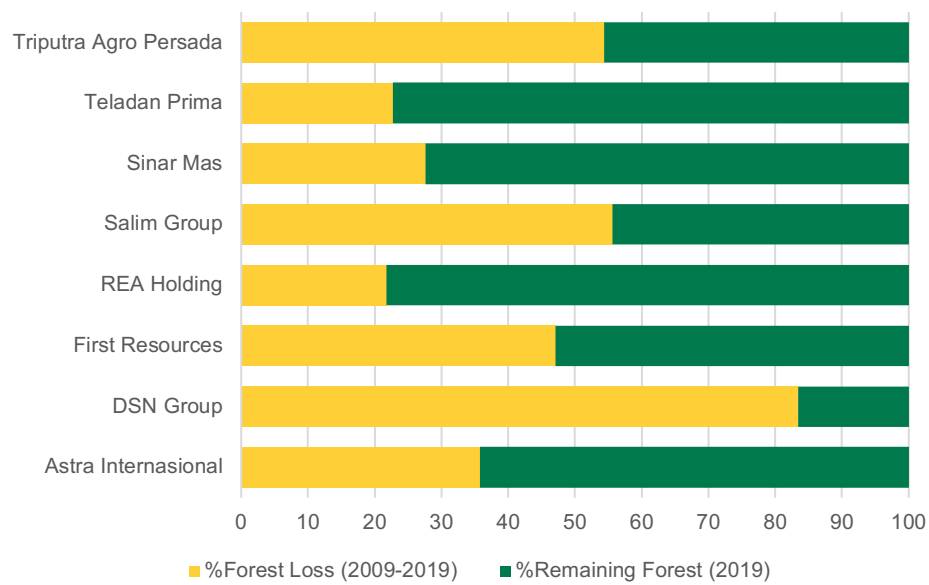
**Table 28. Forest Loss and Remaining Forest Within Oil Palm Concessions in East Kalimantan**

Oil Palm Plantation Company Group	Total Forest Loss (ha, 2009-2019)	Total Remaining Forest (ha, 2019)	District
Aditya Agrindo	15	2	Kutai Timur
Ancora Kapital	850	47	Kutai Kartanegara
Jardines (Astra) International	7,906	14,200	Kutai Timur, Paser, Penajam Paser Utara
Berca Group	6,261	5,225	Bulungan, Kutai Timur
Bima Palm	4,223	1,199	Kutai Timur
CT Agro	395	61	Kutai Barat
Dharma Agung Wijaya	66	55	Kutai Timur
DSN Group	956	190	Kutai Timur
Fairco group	1,169	1,396	Kutai Timur
First Resources Group	15,808	17,757	Berau, Kutai Barat, Mahakam Ulu, Paser
Glenealy Bhd	1	0	Berau
Goodhope	49	885	Penajam Paser Utara
Hanurata Co	986	1,578	Kutai Timur
IJM Plantation	201	22	Kutai Timur
Independent Plantations	267	686	Paser
Indo Karya	1,493	8,013	Paser
Kaestindo Group	8,525	5,672	Kutai Timur
Kalpataru Investama	724	453	Kutai Kartanegara
Kencana Agri Group	479	118	Berau, Kutai Kartanegara, Paser
KLK	14,093	42,005	Berau, Kutai Timur
Makin	130	8	Kutai Timur
MP Evans	28	14	Kutai Kartanegara
No Group/Group Not Found	180,844	349,580	Berau, Balikpapan, Kutai Barat, Kutai Kartanegara, Kutai Timur, Mahakam Ulu, Paser, Penajam Paser Utara
NPC Resources	5,277	4,082	Kutai Kartanegara, Kutai Timur

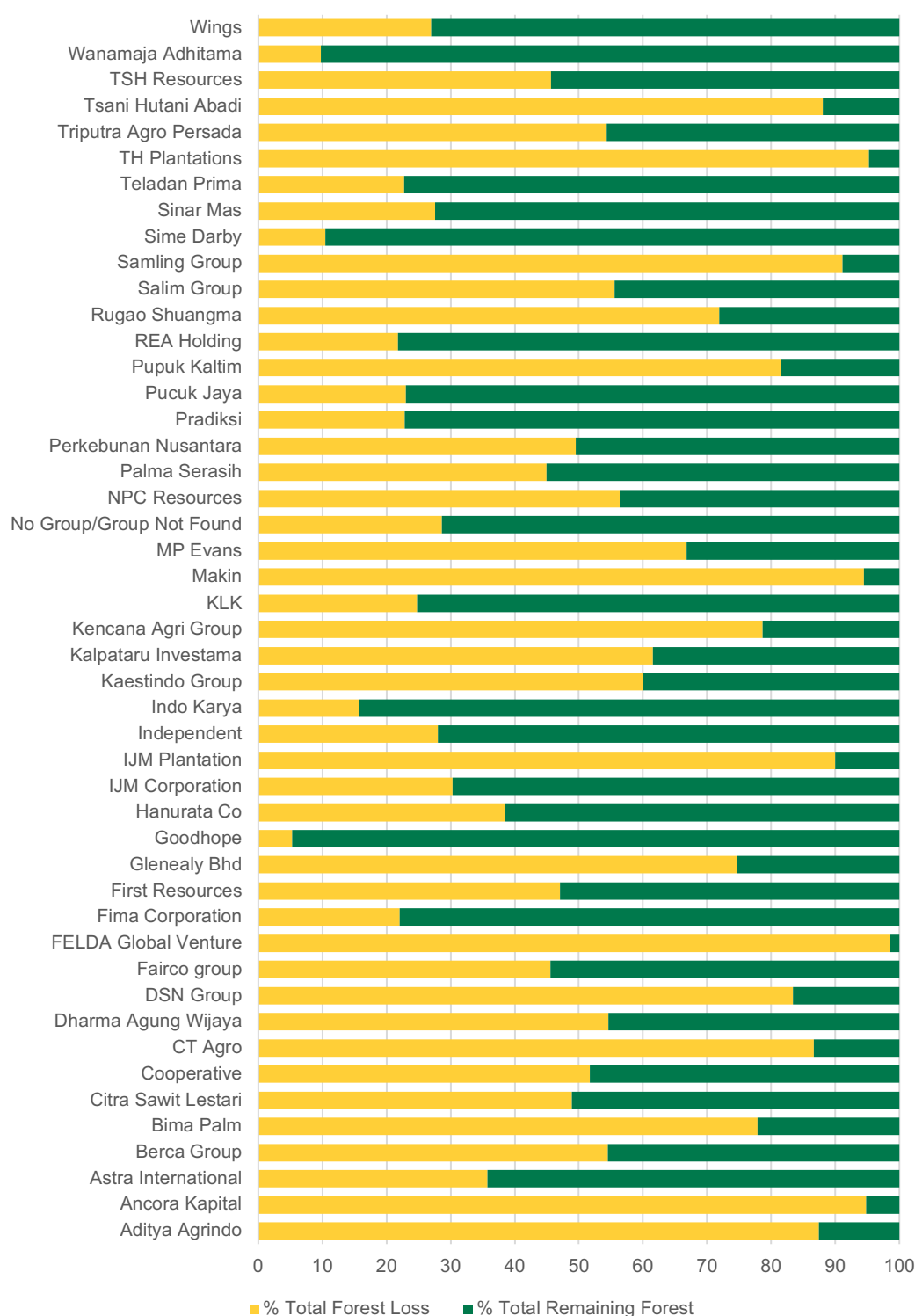
Palma Serasih	3,895	4,780	Berau, Kutai Barat, Kutai Timur
Perkebunan Nusantara	3,314	3,377	Paser, Penajam Paser Utara
Pradiksi	1,516	5,116	Paser
Pucuk Jaya	2	7	Paser
Pupuk Kaltim	2,277	514	Kutai Timur
REA Holding	1,708	2,482	Berau, Kutai Barat, Kutai Kartanegara, Kutai Timur
Salim Group	5,759	4,600	Kutai Barat, Kutai Timur, Penajam Paser Utara
Samling Group	27	4	Berau
Sime Darby	1,005	8,562	Paser
Sinar Mas	1,163	3,054	Kutai Kartanegara, Kutai Timur
Teladan Prima	1,268	4,316	Berau, Kutai Timur, Paser
Triputra Agro Persada	7,251	6,080	Berau, Kutai Timur, Kutai Barat, Mahakam Ulu
Tsani Hutani Abadi	2,112	288	Kutai Barat
TSH Resources	751	2,547	Kutai Barat
Wings	0	8	Paser, Penajam Paser Utara

Eight groups had the highest percentage of forest loss inside their concessions across East Kalimantan and North Kalimantan in 2009–2019 (see **Graph 14**). Three of these major groups (Triputra Group, Salim Group and DSN Group) lost more than 50% of forest cover within their concessions. After these eight major groups, the next top deforesters on a percentage basis were FELDA Global Venture and Ancora Capital, which deforested more than 90% of the forest area within their concessions (see **Graph 15**).

The highest nominal forest loss was recorded for PT. Palma Kharisma Sekawan in Berau, East Kalimantan, with 12,463.10 ha of forest loss (for details see producer level data available in **Annex 1**). The lowest amount of forest loss occurred in PT Langgeng Muara Makmur (Sime Darby), located in Paser District, East Kalimantan.



Graph 14: Forest loss (2009–2019) and remaining forest cover (2019) for eight major oil palm producers, East and North Kalimantan



Graph 15: Forest loss (2009–2019) and remaining forest cover (2019) across known oil palm producers in East and North Kalimantan

## First Resources Group

First Resources Group is a major palm oil producer in Indonesia and has the largest number of palm oil concessions across both provinces. It is responsible for the largest area of forest clearance of any palm oil producer, with over 80,000 ha of forest destruction in 2009–2019. Over 88,000 ha remain at risk inside its concessions, including forests that are on the customary lands of Indigenous communities.

For years, First Resources has been the focus of controversy both for its destruction of rainforests and its failure to respect the land rights of communities.<sup>x</sup> More recently the company — and its owners the Fangiono family<sup>xi</sup> — have been exposed for the use of ‘shadow companies’.<sup>xii</sup>

It is common practice for major conglomerates to use opaque ownership structures and offshore holdings known as ‘shadow companies’ to hide their true ownership or connections with companies that continue to expand and engage in controversial practices.

First Resources may be functionally part of the same group as FAP Agri (formerly called Fangiono Agro Plantation) and Ciliandry Anky Abadi Group (CAA). First Resources claims to be complying with the ‘No Deforestation, No Peat and No Exploitation’ (NDPE) policies of its clients, the major brands. However, its shadow companies have persisted in clearing forests and violating human rights.<sup>xiii</sup>

First Resources and FAP Agri have five concessions in the district of Mahakam Ulu, East Kalimantan.<sup>xiv</sup> Only one of these concessions is an official First Resources’ subsidiary — PT. Kalimantan Green Persada.<sup>xv</sup> This subsidiary overlaps the customary lands of the Indigenous community of Long Isun, who are opposed to the development of pulp, timber and palm oil plantations and mining on their customary lands.<sup>xvi</sup> The Long Isun Indigenous community have petitioned all levels of government for legal recognition of their customary forests. They are waiting for the district government to issue regulations — the first step in the process to achieve recognition of land rights in Indonesia.

Three of the other concessions — PT. Marsam Citra Adiperkasa, PT. Borneo Bhakti Sejahtera and PT. Setia Agro Utama — are alleged to be subsidiaries of FAP Agri.<sup>xvii</sup> The fifth concession PT. Setia Agro Abadi (PT SAA) has also been identified by NGOs as controlled by FAP Agri, although Indonesian company registry profiles suggest the beneficial owner is the businessman Sulaidy, a close associate of the Fangiono family.<sup>xviii</sup> First Resources and the Fangiono family continue to reject claims that First Resources and FAP Agri are functionally the same group and that CAA is under their management control.<sup>xix</sup>

Unresolved land conflict continues between the Fangiono-family associated companies and Indigenous communities in East Kalimantan and North Kalimantan. Many communities with customary rights were coerced into signing over parts of their ancestral lands, unaware they were signing away their territories in perpetuity. Or they remain in

conflict with the companies as they oppose development by the First Resources group on their customary lands.<sup>xx</sup>

One case is PT. Karangjuang Hijau Lestari (PT KHL) — which is part of FAP Agri, whose ultimate beneficial owner is Wirastuty Fangiono. The palm oil company coerced five Dayak Agabag communities in Sebuk sub-district in Nunukan, North Kalimantan — the villages of Tetaban, Bebanas, Melasu Baru, Lulu and Sujau — to sign over large parts of their ancestral lands for palm oil production. None of the representatives were made aware that they would be signing away their territories in perpetuity. The company patrols its plantation and has criminalized villagers that it claims have illegally harvested oil palm fruit from contested concession areas. These five communities continue to advocate to district and national governments for the legal recognition of rights to their ancestral lands. They also advocate to the local legislature for a fair mediation of the conflict and for police charges to be dropped against village representatives that have been arrested by police acting on behalf of the company.<sup>xxi</sup>

### **C. Forest Loss and Remaining Forest Within Pulp and Paper, and Rubber Concessions**

The forestry and pulp companies responsible for the most deforestation and forest destruction inside their own pulp and paper concessions include:

- Royal Golden Eagle Group
- Sinar Mas Group
- Djarum
- Nusantara Energy

**Our analysis found Royal Golden Eagle has the largest footprint, with over 34,000 ha of forests cleared within its shadow company concessions in North and East Kalimantan between 2009 and 2019.**

The RGE Group has contributed to forest loss within the concessions of its shadow companies and third-party suppliers to APRIL's Pangkalan Kerinci pulp mill located in Riau Province. This mill is known to source from its own concessions and pulpwood from controversial third-party suppliers, including Djarum's concession PT. Fajar Surya Swadaya (FSS).<sup>xxii</sup> In 2020, APRIL and Royal Golden Eagle Group were once again at the center of controversy over the destruction of High Conservation Value areas and High Carbon Stock forests in the operations of its connected shadow company PT. Adindo Hutani Lestari.<sup>xxiii</sup> PT. Adindo Hutani Lestari also has around 23,000 ha of peatland within its concessions in North Kalimantan, approximately 60% of which has been drained and planted with pulpwood.<sup>xxiv</sup>

A significant area of forests has also been cleared inside concessions of the Nusantara Fiber Group, such as PT. Bakayan Jaya Abadi, PT. Mahakam Persada Sakti and PT. Permata Hijau Khatulistiwa. These are also alleged to be shadow companies of the RGE group. APRIL continues to refute the findings of civil society reports that these companies

are shadow companies of the RGE group and has failed to disclose evidence to substantiate its claims that there are no connections between its owner, and ultimate beneficiary, Sukanto Tanoto, and companies that have been named as RGE-connected companies in NGO reports.<sup>xxv</sup>

In North Kalimantan, pulp and paper and rubber producers were predominantly located in Bulungan (see **Table 29**). The total forest loss was 48,929.8 ha within pulp and paper and rubber plantation concessions, which represented 33% of forest cover in the concession areas in 2009. In 2019, 67% of the 2009 forest cover was still remaining. The biggest deforester among pulp and paper producers was APRIL from the Royal Golden Eagle Group (32,011.4 ha), followed by Nusantara Energi (10,575.8 ha) and Intaca Wood (6,342.3 ha).

**Table 29. Forest Loss and Remaining Forest Within Pulp and Paper, and Rubber Concessions in North Kalimantan**

Rubber and Pulp & Paper Company Group	Total Forest Loss (ha, 2009-2019)	Total Remaining Forest (ha, 2019)	District
APRIL	32,011.4	63,881.4	Bulungan, Malinau, Nunukan, Tana Tidung
Intraca Wood	6,342.3	18,674.9	Bulungan, Malinau, Tana Tidung
No Group/Group Not Found*	0.3	35.2	Bulungan, Nunukan, Tana Tidung
Nusantara Energi	10,575.8	16,723.2	Bulungan

\*Contains rubber plantations.

In East Kalimantan, there were 485,446.3 ha of forest cover within pulp and paper and rubber concessions in 2009 (see **Table 30**). From 2009 to 2019, 22.07% of the forest cover was lost, leaving 77.93% remaining within the concessions. Based on the forest loss data, the biggest deforester among pulp and paper producers was Djarum.

Djarum was responsible for the clearance of nearly 30,000 ha of forests in its operations in Paser and Penajam Paser Utara. Nusantara Energi and Sinar Mas Forestry were also responsible for significant areas of forest loss, with over 15,000 ha and 6,200 ha lost within their respective concessions. The Royal Golden Eagle groups APRIL also cleared nearly 2000 ha of forests in its APRIL concessions in Kutai Timur, Kutai Kartanegara and Penajam Paser Utara.

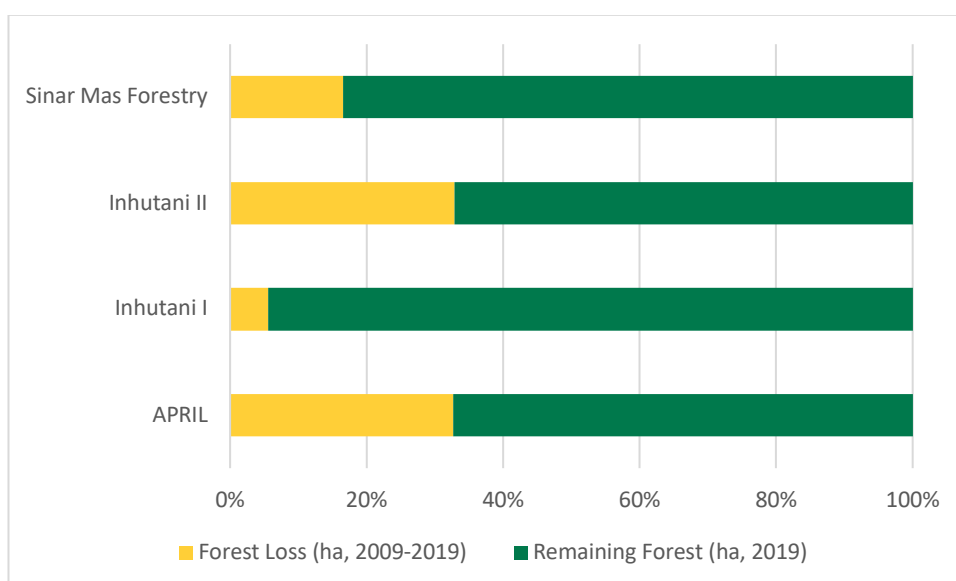
**Table 30. Forest Loss and Remaining Forest Within Pulp and Paper, and Rubber Concessions in East Kalimantan**

Rubber and Pulp & Paper Company Group	Total Forest Loss (ha, 2009-2019)	Total Remaining Forest (ha, 2019)	District
APRIL	1,954.3	6,104.1	Kutai Timur, Kutai Kartanegara, Penajam Paser Utara
Barito Pacific*	431.9	987.1	Kutai Timur

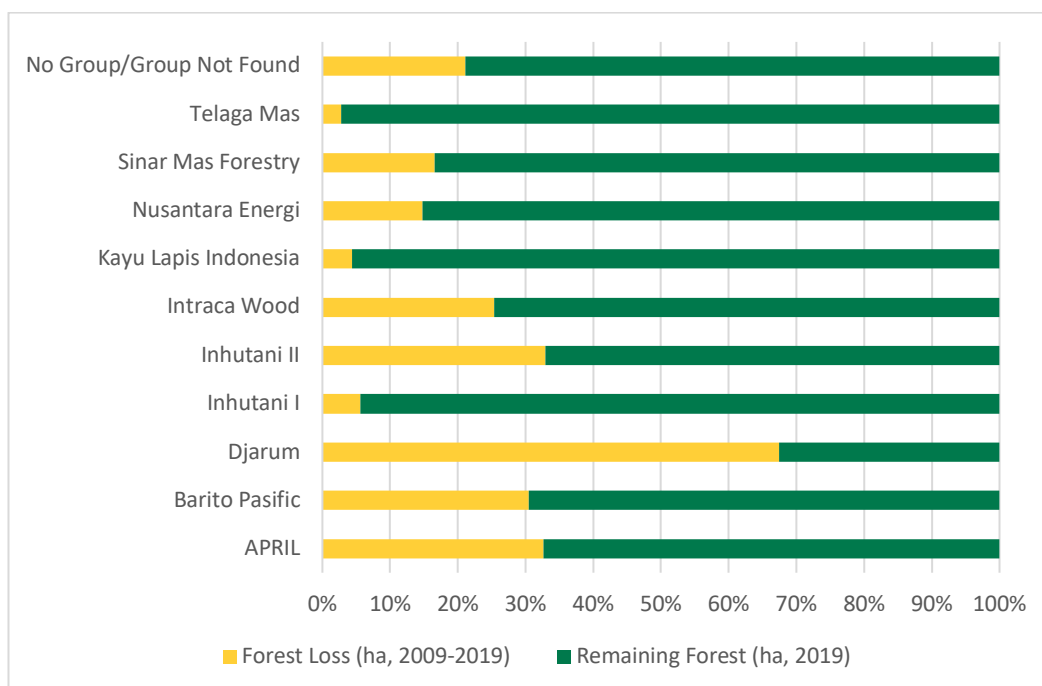
Djarum	29,595.4	14,262.4	Paser, Penajam Paser Utara
Inhutani I	111.3	1,877.2	Balikpapan, Kutai Kartanegara, Kutai Timur, Penajam Paser Utara
Inhutani II	1,485.6	3,030.3	Paser
Kayu Lapis Indonesia	81.3	1,777.2	Kutai Kartanegara
Nusantara Energi	15,068.0	87,094.0	Berau, Kutai Timur
Sinar Mas Forestry	6,204	22,363.66	Kutai Barat, Kutai Kartanegara, Kutai Timur
Telaga Mas	217.9	7,720.0	Paser
No Group/Group Not Found*	46,228.1	194,912.3	Berau, Kutai Barat, Kutai Kartanegara, Kutai Timur, Paser, Penajam Paser Utara

\*Contains rubber plantations.

The four biggest producer groups with operations across the two provinces were Sinar Mas Forestry and APRIL (including their pulp mill supply chains) and Inhutani I and Inhutani II, which are owned by-BUMN/State Owned Enterprise (see **Graphs 16** and **17**). Based on publicly available data, **Graph 17** shows 10 known producer groups with pulp and paper concessions, as well as unknown groups. It is not clear whether these concessions are part of the brands' paper and packaging supply chains. With the exception of Nestlé, none of the brands publish a list of their supplying pulp mills.<sup>xxvi</sup>



Graph 16: Forest loss (2009–2019) and remaining forest cover (2019) for four main pulp and paper producers, East and North Kalimantan



Graph 17: Forest loss (2009–2019) and remaining forest cover (2019) across major pulp and paper and rubber producers, East and North Kalimantan

#### d. Key Actors in Palm Oil Processing

Based on publicly available data, there are 45 producer groups with 135 palm oil concessions across both provinces. The oil palm fruit harvested from the palm oil plantations inside these concessions are processed in 120 nearby palm oil mills. The crude palm oil and palm kernel extracted in these mills are then refined at refineries located in East Kalimantan, South Kalimantan, other Indonesian islands and in the neighboring Malaysian state of Sabah. Refineries sourcing from the region include those controlled by:

- Royal Golden Eagle Group
- Louis Dreyfus Commodities
- Salim Group
- Sinar Mas Group
- Wilmar International
- Kuala Lumpur Kepong Berhad (KLK)

Most of those processing facilities are located in East Kalimantan (104 mills and three refineries). In North Kalimantan, there are 16 crude palm oil mills associated with 12 parent companies and no known refineries (see Table 31). Detailed information on the names and parent companies of the crude palm oil mills and refineries located in North Kalimantan and East Kalimantan are provided in Annex 4.

According to the published supplier lists of the major brands, many of the processing facilities listed in Annex 4 have supplied palm oil to their global palm oil supply chains.

**Table 31. Summary of Palm Oil Mill and Refinery Facilities in East and North Kalimantan**

	North Kalimantan	East Kalimantan
Total Mills	16	104
Total Parent Companies	12	49
Total Refineries	0	2

## Community and Customary Lands: Past Deforestation, Future Risk

This chapter presents publicly available information on the forest areas and peatlands remaining on community and customary lands in East Kalimantan and North Kalimantan (see Tables 32 and 33).

A forest footprint includes understanding a brand's impact on the rights of Indigenous Peoples and local communities when forest and peatland areas are on traditionally managed lands. Our analysis is based only on community lands officially recognized by the government and represented by available Social Forestry Scheme (*perhutanan sosial*) data.

Community lands include Forest Village (*Hutan Desa/HK*), Community Forest (*Hutan Kemasyarakatan/HKM*), Community Forest Plantation (*Hutan Tanaman Rakyat/HTR*), Customary Forest (*Hutan Adat/HA*), and Forestry Partnership (*Kemitraan Kehutanan*). Customary Lands (*Wilayah Adat*) are registered through the government Agency for Registration of Customary Territories (*Badan Registrasi Wilayah Adat — BRWA*), but most of them are not yet officially recognized and included in government planning.

**Table 32. Remaining Forest Cover and Peatland on Community and Customary Lands in North Kalimantan**

Province/Community Land	Total Area (ha)	Remaining Forest Cover 2019 (ha)	Remaining Forest Cover (%)	Deforestation 2009-2019 (ha)	Peatland (ha)
Hak Pengelolaan Hutan Desa	40,708	35,075	0.86	2,745	0
IUPHHK HKM	8,110	7,009	0.86	455	52
IUPHHK HKM/Hak Pengelolaan Hutan Desa	3	3	1.00	0	0
IUPHHK HTI/Hak Pengelolaan Hutan Desa	0		0.00	21	0
IUPHHK HTR	3,097	507	0.16	383	0
IUPHHK Hutan Alam/Hak Pengelolaan Hutan Desa	48	30	0.63	7	0
<b>Total Community Lands</b>	<b>51,966</b>	<b>42,625</b>	<b>0.82</b>	<b>3,611</b>	<b>52</b>
IUPHHK Hutan Alam/Hak Pengelolaan Hutan Desa/Wilayah Adat - BRWA 2018	0	0	1.00	0	0
IUPHHK HTI/Wilayah Adat - BRWA 2018	105	105	1.00	0	0
Hak Pengelolaan Hutan Desa/Wilayah Adat - BRWA 2018	12,303	12,204	0.99	81	0
IUPHHK Hutan Alam/Wilayah Adat - BRWA 2018	466,279	448,184	0.96	11,093	0

Wilayah Adat - BRWA 2018	1,296,916	1,254,714	0.97	5,221	0
<b>Total Customary Lands</b>	<b>1,775,604</b>	<b>1,715,206</b>	<b>0.97</b>	<b>16,395</b>	<b>0</b>
<b>Total Community and Customary Lands</b>	<b>1,827,570</b>	<b>1,757,831</b>	<b>0.96</b>	<b>20,005</b>	<b>52</b>

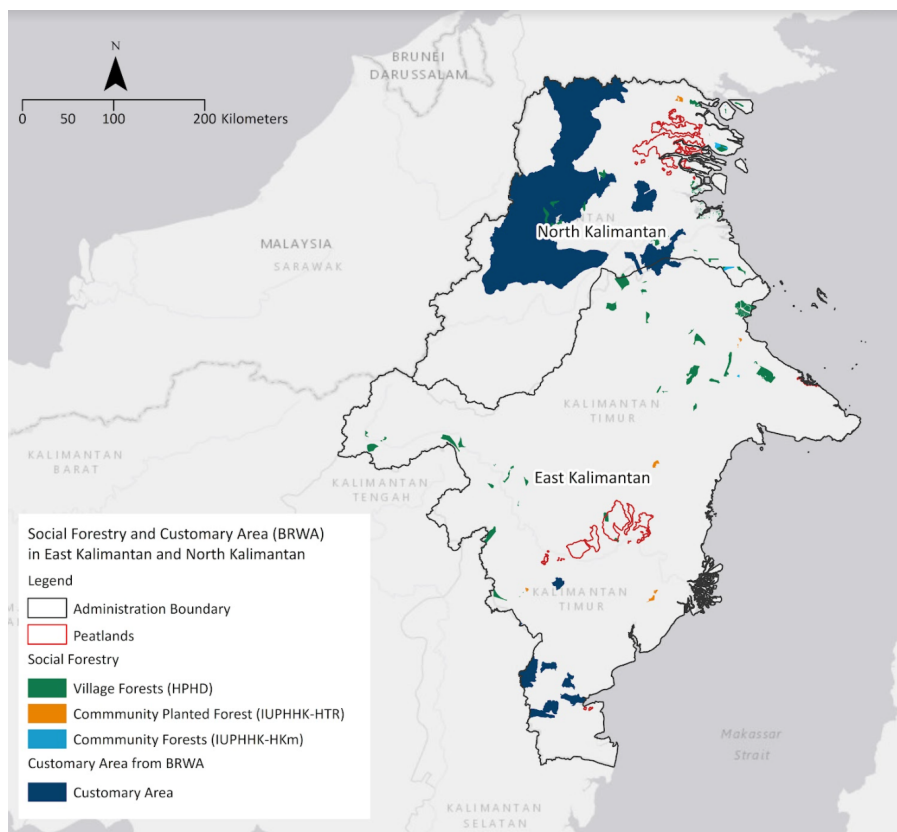
**Table 33. Remaining Forest Cover and Peatland on Community and Customary Lands in East Kalimantan**

Province/Community Land	Total Area (ha)	Remaining Forest Cover 2019 (ha)	Remaining Forest Cover (%)	Deforestation 2009-2019 (ha)	Peatlands (ha) within lands
Hak Pengelolaan Hutan Desa	156,284	141,245	0.90	3,995	3,909
IUPHHK HKM	692	670	0.97	121	0
IUPHHK HTI/Hak Pengelolaan Hutan Desa	158	2	0.02	0	0
IUPHHK HTR	7,861	2,997	0.38	336	0
IUPHHK Hutan Alam/Hak Pengelolaan Hutan Desa	6,323	4,414	0.70	45	0
<b>Total Community Lands</b>	<b>171,318</b>	<b>149,329</b>	<b>0.87</b>	<b>4,498</b>	<b>3,909</b>
IUPHHK HTI/Wilayah Adat - BRWA 2018	6,620	4,601	0.69	47	0
IUPHHK Hutan Alam/Wilayah Adat - BRWA 2018	27,666	27,501	0.99	1,393	0
Wilayah Adat - BRWA 2018	136,984	82,786	0.60	7,766	0
<b>Total Customary Lands</b>	<b>171,270</b>	<b>114,888</b>	<b>0.67</b>	<b>9,206</b>	<b>0</b>
<b>Total Community and Customary Lands</b>	<b>342,588</b>	<b>264,217</b>	<b>0.77</b>	<b>13,704</b>	<b>3,909</b>

#### a. Government Recognized Customary Lands

The provincial governments of East Kalimantan and North Kalimantan have issued regulations related to Indigenous People's rights. Four district governments in East Kalimantan and three in North Kalimantan have also issued similar regulations. However, so far this has only resulted in the official recognition of five Indigenous communities: four in North Kalimantan and one in East Kalimantan.<sup>xxvii</sup>

National and district governments across both provinces have not recognized most of the 2.4 million ha of customary lands mapped by BRWA — despite the importance of securing land tenure and supporting the communities who act as stewards of their forests.<sup>xxviii</sup> The official BRWA data is clear evidence of the immense discrepancy between the land areas that Indigenous People regard as their customary territories and the areas that gained official recognition (see **Map 8**).



Map 8: Recognized Social Forestry and Customary Territories in East and North Kalimantan. Source: BRWA.

In North Kalimantan, 2,167,979 ha of customary territories have been mapped and registered with BRWA. However, only five have been officially recognized with a decree from the regional governments.<sup>xxix</sup> For example, in the district of Malinau, three of the 11 communities living within Kayan Mentarang National Park have had their territories registered and recognized despite the fact that the remaining communities have been advocating for formal legal recognition of their territories since 2002. These three customary territories cover 1 million ha. Provincial and district government regulations and a decree by the Head of Regency recognized the territories in 2019 and 2020. There are several other mapped territories that are in the process of registration.

In the coastal border of Sabah, North Kalimantan, there has been very limited participatory mapping of Indigenous territories. Recent development of oil palm and timber plantations is mostly concentrated here due to the terrain's suitability and accessibility. There has been participatory mapping in East Kalimantan, but the scale was far smaller, often covering only one or a few villages. Data on community and Indigenous lands in East Kalimantan are less comprehensive than in North Kalimantan while pressure on land and forest is higher. In East Kalimantan, 312,529 ha of customary territories have been mapped but only 7,771 ha have been officially recognized.

Securing the legal recognition of customary territory rights is slow. This is mostly due to the time needed to secure legislation at district and provincial government levels and the limited resources of local governments and the agencies in charge of verifying the claims. At the national level, there are also delays in achieving the much-needed recognition of customary territories. After seven years of work, the national Ministry of Environment and Forestry has only recognized 57,000 ha as customary community forest, out of a total forest estate of more than 1 million ha.<sup>xxx</sup> AMAN has presented maps to the national government of more than 8 million ha of customary community forest. The Bill on the Recognition and Protection of the Rights of Indigenous Peoples, which would streamline processes for legal recognition of Indigenous Peoples' rights, has been languishing in the Parliament for over a decade.

The lack of official recognition of land rights is compounding the challenges facing communities. The threats to communities' customary lands are severe as their lands have been allocated to some of the largest forestry and agribusiness giants in Indonesia for logging, as well as pulp and paper, and palm oil production. Active disputes on land rights violations by forestry and palm oil companies —including First Resources,<sup>xxxii</sup> Triputra Group,<sup>xxxiii</sup> and the Roda Mas Group<sup>xxxiii</sup> — continue to be elevated by civil society organizations. Despite the elevation of cases to the grievance mechanisms of brands and certification systems, such as the Roundtable on Sustainable Palm Oil (RSPO) and the Forestry Stewardship Council (FSC), corporate commitments to uphold human rights are not being effectively enforced.

Our analysis was constrained to a desktop assessment, so the brands need to further evaluate and identify the extent of existing concessions that overlap with the lands of Indigenous communities in East Kalimantan and North Kalimantan. Despite these limitations, we identified the following cases where customary lands overlap with concession areas and a number of the brands' suppliers are failing to respect communities' rights to withhold their free, prior and informed consent to existing or new plantation development on their customary territories. These overlaps include:

- the Indigenous Dayak community of Long Isun and First Resources and the Roda Mas Group in Mahakum Ulu, North Kalimantan.<sup>xxxiv</sup>
- five Indigenous Dayak Agabag communities — the villages of Tetaban, Bebanas, Melasu Baru, Lulu and Sujau — and FAP Agri (PT. Karangjuang Hijau Lestari)<sup>xxxv</sup>, PT. Bulungan Hijau Perkasa,<sup>xxxvi</sup> PT. Adindo Hutani Lestari,<sup>xxxvii</sup> PT. Inhutani Unit Kunyit<sup>xxxviii</sup> and PT. Nunukan Bara Sukses<sup>xxxix</sup> in Nunukan, North Kalimantan.<sup>xl</sup>
- Indigenous Dayak Modang Long Wai communities in Long Bentuq village and Triputra Group (PT. Subur Abadi Wana Agung) in East Kutai, East Kalimantan.<sup>xli</sup>

Brands must recognize the rights of these Indigenous communities and support efforts to secure legal recognition of their customary forests. Their engagement with rightsholders and local stakeholders will be critical to understand the extent of customary lands and land conflicts. It will also be critical for developing strategies to keep forests standing, peatlands intact, and uphold the rights of Indigenous Peoples and local communities across both provinces.

## 5. Data Sources

Dataset	Layer	Data Update	Data Sources
Admin	District Boundary	2019	Badan Informasi Geospasial
	IUPHHK Hutan Alam	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	IUPHHK Hutan Tanaman	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	IUPHHK Restorasi Ekosistem	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	IUPHHK Hutan Kemasyarkatan	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
Concessions	IUPHHK Hutan Tanaman Rakyat	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	Hak Pengelolaan Hutan Desa	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	Hutan Desa	2017	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	Oil Palm Concessions	2020	<a href="http://www.globalforestwatch.org">www.globalforestwatch.org</a>
	Wood Fiber Concessions	2019	<a href="http://www.globalforestwatch.org">www.globalforestwatch.org</a>
Customary Territory	Wilayah Adat	2018	<a href="https://brwa.or.id/sig/">https://brwa.or.id/sig/</a>
Global Forest Change	Tree Cover Loss 2000-2019	2020	Hansen/UMD/Google/USGS/NASA
	Tree Cover Canopy 2000	2020	Hansen/UMD/Google/USGS/NASA
	Tree Cover Canopy 2010	2020	Hansen/UMD/Google/USGS/NASA
	Tree Cover Gain 2000-2012	2020	Hansen/UMD/Google/USGS/NASA
Forest Estate	Kawasan Hutan	2019	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
Forest Moratorim	PIPIB X	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
Palm Oil	High Resolution Global Industrial and Smallholder Oil Palm Plantation, 2019	2020	Adria, et al 2020
Released Forest Area	Pelepasan Kawasan Hutan untuk Kehutanan	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
	Pelepasan Kawasan Hutan	2020	<a href="http://geoportal.menlhk.go.id/arcgis/rest/services">http://geoportal.menlhk.go.id/arcgis/rest/services</a>
Soil	Peatland	2012	<a href="http://www.globalforestwatch.org">www.globalforestwatch.org</a>
Spatial Plan	Pola Ruang Kalimantan Utara 2017-2037	2018	Provinsi Kalimantan Utara
	Pola Ruang Kalimantan Timur 2015-2035	2016	Provinsi Kalimantan Timur

## 6. Annexes

### Annex 1. Forest Loss and Remaining Forest Within Oil Palm Concessions (Organized by Group and Operation Company) in East and North Kalimantan (company name denotes an alleged connection)\*

No	Group	Operations Company	District	Province	Forest Loss (ha, 2009-2019)	Remaining Forest (ha, 2019)	Total Forest Baseline (ha, 2009)	%Forest Loss	%Remaining Forest
1	Aditya Agrindo (DTK Opportunity)*	PT KEMILAU INDAH NUSANTARA	Kutai Timur	East Kalimantan	15.00	2.15	17.15	87.48	12.52
2	Ancora Kapital	PT HAMPARAN SENTOSA	Kutai Kartanegara	East Kalimantan	850.00	46.54	896.54	94.81	5.19
3	Astra International	KPN AROMA	Kutai Timur	East Kalimantan	2619.67	5866.33	8486.00	30.87	69.13
4	Astra International	PT KARYA NUSA EKA DAYA	Kutai Timur	East Kalimantan	3392.98	4917.64	8310.62	40.83	59.17
5	Astra International	PT BORNEO INDAH MARJAYA	Paser	East Kalimantan	367.99	986.53	1354.52	27.17	72.83
6	Astra International	PT SUKSES TANI NUSA SUBUR	Penajam Paser Utara	East Kalimantan	507.29	1140.12	1647.41	30.79	69.21
7	Astra International	PT WARU KALTIM PLANTATION	Penajam Paser Utara	East Kalimantan	1017.82	1289.16	2306.98	44.12	55.88
8	Berca Group	PT CIPTA CAKRA MURDAYA	Bulungan	East Kalimantan	3984.57	2048.47	6033.04	66.05	33.95
9	Berca Group	PT CIPTA CAKRA MURDAYA	Kutai Timur	East Kalimantan	2276.81	3176.29	5453.11	41.75	58.25
10	Bima Palm	PT BIMA AGRI SAWIT	Kutai Timur	East Kalimantan	1682.36	520.62	2202.97	76.37	23.63

<b>11</b>	Bima Palm	PT BIMA PALMA NUGRAHA	Kutai Timur	East Kalimantan	261.10	64.50	325.60	80.19	19.81
<b>12</b>	Bima Palm	PT LINTAS KHATULISTIWA UTAMA	Kutai Timur	East Kalimantan	2279.34	613.67	2893.01	78.79	21.21
<b>13</b>	Citra Sawit Lestari	PT CITRA SAWIT LESTARI	Bulungan	North Kalimantan	563.75	588.04	1151.78	48.95	51.05
<b>14</b>	Cooperative	KOPERASI PERTANIAN MUKTI UTAMA	Nunukan	North Kalimantan	24.00	22.39	46.39	51.74	48.26
<b>15</b>	CT Agro	PT KUTAI AGRO LESTARI	Kutai Barat	East Kalimantan	394.60	60.72	455.32	86.66	13.34
<b>16</b>	Dharma Agung Wijaya	PT HANUSENTRA AGRO LESTARI	Kutai Timur	East Kalimantan	66.30	55.10	121.40	54.61	45.39
<b>17</b>	DSN Group	PT DEWATA SAWIT NUSANTARA	Kutai Timur	East Kalimantan	1.00	18.25	19.25	5.19	94.81
<b>18</b>	DSN Group	PT DHARMA AGROTAMA NUSANTARA	Kutai Timur	East Kalimantan	653.00	151.78	804.78	81.14	18.86
<b>19</b>	DSN Group	PT SWAKARSA SINAR SENTOSA	Kutai Timur	East Kalimantan	302.00	20.21	322.21	93.73	6.27
<b>20</b>	Fairco group	PT FAIRCO AGRO MANDIRI	Kutai Timur	East Kalimantan	1169.00	1396.30	2565.30	45.57	54.43
<b>21</b>	FELDA Global Venture	PT ANUGRAH KEMBANG SAWIT SEJAHTERA	Tana Tidung	North Kalimantan	258.92	3.64	262.55	98.62	1.38
<b>22</b>	Fima Corporation	PT NUNUKAN JAYA LESTARI	Nunukan	North Kalimantan	126.43	447.59	574.02	22.03	77.97
<b>23</b>	First Resource	PT BERAU PERKASA MANDIRI	Berau	East Kalimantan	4926.82	5769.29	10696.11	46.06	53.94
<b>24</b>	First Resource	PT BORNEO DAMAI LESTARI RAYA	Kutai Barat	East Kalimantan	1439.16	1150.37	2589.53	55.58	44.42

<b>25</b>	First Resource	PT BORNEO PERSADA ENERGY JAYA	Kutai Barat	East Kalimantan	293.20	199.80	493.00	59.47	40.53
<b>26</b>	First Resource	PT KETAPANG HIJAU LESTARI	Kutai Barat	East Kalimantan	565.24	376.36	941.61	60.03	39.97
<b>27</b>	First Resource	PT MARSAM CITRA ADI PERKASA	Kutai Barat	East Kalimantan	215.40	535.83	751.23	28.67	71.33
<b>28</b>	First Resource	PT MARSAM CITRA ADIPERKASA	Kutai Barat	East Kalimantan	250.03	554.75	804.79	31.07	68.93
<b>29</b>	First Resource	PT BORNEO BHAKTI SEJAHTERA	Mahakam Ulu	East Kalimantan	7158.20	8572.81	15731.01	45.50	54.50
<b>30</b>	First Resource	PT MARSAM CITRA ADIPERKASA	Mahakam Ulu	East Kalimantan	638.50	479.61	1118.11	57.11	42.89
<b>31</b>	First Resource	PT BHUMI SIMENGGARIS INDAH	Nunukan	North Kalimantan	6545.42	19073.68	25619.10	25.55	74.45
<b>32</b>	First Resource	PT BORNEO BHAKTI SEJAHTERA	Nunukan	North Kalimantan	15.57	2307.71	2323.28	0.67	99.33
<b>33</b>	First Resource	PT BULUNGAN AGROJAYA	Nunukan	North Kalimantan	28.69	1479.12	1507.81	1.90	98.10
<b>34</b>	First Resource	PT BULUNGAN HIJAU PERKASA	Nunukan	North Kalimantan	2177.23	1832.19	4009.42	54.30	45.70
<b>35</b>	First Resource	PT KALTIM BHAKTI SEJAHTERA	Nunukan	North Kalimantan	1322.29	8272.92	9595.21	13.78	86.22
<b>36</b>	First Resource	PT KARANGJOANG HIJAU LESTARI	Nunukan	North Kalimantan	11091.83	2924.01	14015.85	79.14	20.86
<b>37</b>	First Resource	PT MARSAM CITRA ADIPERKASA	Nunukan	North Kalimantan	9802.08	11806.96	21609.04	45.36	54.64
<b>38</b>	First Resource	PT REPENAS BHAKTI UTAMA	Nunukan	North Kalimantan	5233.33	10378.35	15611.68	33.52	66.48

<b>39</b>	First Resource	PT SEBUKU SAWIT PERKASA	Nunukan	North Kalimantan	925.85	3725.38	4651.23	19.91	80.09
<b>40</b>	First Resource	PT TIRTA MADU SAWIT JAYA	Nunukan	North Kalimantan	5264.72	2329.27	7593.99	69.33	30.67
<b>41</b>	First Resource (CAA)*	PT ANUGERAH ABADI MULTI USAHA	Paser	East Kalimantan	284.99	76.85	361.84	78.76	21.24
<b>42</b>	First Resource	PT PELITA MAKMUR NIAGA	Paser	East Kalimantan	36.61	41.03	77.64	47.15	52.85
<b>43</b>	First Resource	PT BORNEO BHAKTI SEJAHTERA	Tana Tidung	North Kalimantan	11218.64	2809.56	14028.20	79.97	20.03
<b>44</b>	First Resource	PT BULUNGAN AGROJAYA	Tana Tidung	North Kalimantan	8359.41	2815.67	11175.07	74.80	25.20
<b>45</b>	Glenealy Bhd	PT BERAU KARETINDO LESTARI	Berau	East Kalimantan	1.00	0.34	1.34	74.60	25.40
<b>46</b>	Goodhope	PT AGRO INDOMAS-EK	Penajam Paser Utara	East Kalimantan	48.92	884.77	933.69	5.24	94.76
<b>47</b>	Hanurata Co	PT HANURATA CO.LTD	Kutai Timur	East Kalimantan	985.59	1578.09	2563.67	38.44	61.56
<b>48</b>	IJM Corporation	PT PRIMA BAHAGIA PERMAI	Bulungan	North Kalimantan	392.26	901.81	1294.08	30.31	69.69
<b>49</b>	IJM Plantation	PT KARYA BAKTI SEJAHTERA AGROTAMA	Kutai Timur	East Kalimantan	201.05	22.36	223.41	89.99	10.01
<b>50</b>	Independent	PT BUANA WIRA SUBUR SAKTI	Paser	East Kalimantan	266.60	686.07	952.68	27.98	72.02
<b>51</b>	Indo Karya	PT BORNEO INDO SUBUR	Paser	East Kalimantan	608.64	5395.91	6004.55	10.14	89.86
<b>52</b>	Indo Karya	PT INDO KARYA SAKTI	Paser	East Kalimantan	883.94	2617.20	3501.14	25.25	74.75

<b>53</b>	Kaestindo Group	PT BAGUS SENTOSA GEMILANG	Kutai Timur	East Kalimantan	103.88	274.52	378.40	27.45	72.55
<b>54</b>	Kaestindo Group	PT BATUNA NEGARA	Kutai Timur	East Kalimantan	2805.06	2942.89	5747.96	48.80	51.20
<b>55</b>	Kaestindo Group	PT CARAKA EMBUN PERMAI	Kutai Timur	East Kalimantan	1823.44	339.23	2162.67	84.31	15.69
<b>56</b>	Kaestindo Group	PT DEWI ANTHIKA BAHARI	Kutai Timur	East Kalimantan	3792.30	2115.53	5907.83	64.19	35.81
<b>57</b>	Kalpataru Investama	PT KALPATARU SAWIT PLANTATION	Kutai Kartanegara	East Kalimantan	64.17	11.42	75.59	84.89	15.11
<b>58</b>	Kalpataru Investama	PT KUTAI INTI UTAMA	Kutai Kartanegara	East Kalimantan	8.03	32.87	40.89	19.63	80.37
<b>59</b>	Kalpataru Investama	PT MAHAKAM SAWIT PLANTATION	Kutai Kartanegara	East Kalimantan	319.99	67.69	387.69	82.54	17.46
<b>60</b>	Kalpataru Investama	PT SAWIT KHATULISTIWA PLANTATION	Kutai Kartanegara	East Kalimantan	332.22	341.08	673.31	49.34	50.66
<b>61</b>	Kencana Agri Group	PT AGRO SAWITMAS LESTARI	Berau	East Kalimantan	281.94	3.06	285.00	98.93	1.07
<b>62</b>	Kencana Agri Group	PT AGRO SAWITMAS LESTARI	Bulungan	North Kalimantan	1903.70	527.16	2430.86	78.31	21.69
<b>63</b>	Kencana Agri Group	PT AGRI EASTBORNEO KENCANA	Kutai Kartanegara	East Kalimantan	194.30	14.75	209.05	92.95	7.05
<b>64</b>	Kencana Agri Group	PT AGRO INTI KENCANAMAS	Paser	East Kalimantan	2.38	100.36	102.74	2.32	97.68
<b>65</b>	KLK	PT JABONTARA EKA KARSA	Berau	East Kalimantan	9059.98	34060.99	43120.97	21.01	78.99

<b>66</b>	KLK	PT MALINDOMAS PERKEBUNAN	Berau	East Kalimantan	1165.37	50.44	1215.82	95.85	4.15
<b>67</b>	KLK	PT SATU SEMBILAN DELAPAN	Berau	East Kalimantan	624.13	1226.46	1850.59	33.73	66.27
<b>68</b>	KLK	PT JABONTARA EKA KARSA	Bulungan	North Kalimantan	24.62	828.68	853.31	2.89	97.11
<b>69</b>	KLK	PT JABONTARA EKA KARSA	Kutai Timur	East Kalimantan	3243.63	6666.64	9910.27	32.73	67.27
<b>70</b>	Makin	PT SUBHANTARA RAWI SENTOSA	Kutai Timur	East Kalimantan	130.27	7.65	137.93	94.45	5.55
<b>71</b>	MP Evans	PT PRIMA MITRAJAYA MANDIRI	Kutai Kartanegara	East Kalimantan	28.44	14.15	42.60	66.77	33.23
<b>72</b>	No Group/Group Not Found	DITJEN PERIKANAN	Berau	East Kalimantan	19.86	338.87	358.73	5.54	94.46
<b>73</b>	No Group/Group Not Found	KOPERASI MAJU KARYA LESTARI	Berau	East Kalimantan	666.17	1030.01	1696.19	39.27	60.73
<b>74</b>	No Group/Group Not Found	KUD RESTU BERSAMA	Berau	East Kalimantan	1487.07	1716.90	3203.97	46.41	53.59
<b>75</b>	No Group/Group Not Found	KUD SEJAHTERA PERMAI	Berau	East Kalimantan	227.26	3311.71	3538.97	6.42	93.58
<b>76</b>	No Group/Group Not Found	PT AGRO CITY KALTIM	Berau	East Kalimantan	1408.51	6630.81	8039.31	17.52	82.48
<b>77</b>	No Group/Group Not Found	PT AGRO SAWIT SEJAHTERA	Berau	East Kalimantan	723.64	1097.60	1821.24	39.73	60.27

<b>78</b>	No Group/Group Not Found	PT AGROTIMUR KARYAGRAHA	Berau	East Kalimantan	3366.80	7312.51	10679.31	31.53	68.47
<b>79</b>	No Group/Group Not Found	PT BADIWATA PALMAINDO	Berau	East Kalimantan	1469.49	9631.94	11101.42	13.24	86.76
<b>80</b>	No Group/Group Not Found	PT BATU SEMPIT SAWIT INDONESIA	Berau	East Kalimantan	696.06	5493.28	6189.34	11.25	88.75
<b>81</b>	No Group/Group Not Found	PT BENOWEN SUMBER MAKMUR	Berau	East Kalimantan	1638.74	12698.07	14336.82	11.43	88.57
<b>82</b>	No Group/Group Not Found	PT BERAU BUKIT GEMILANG	Berau	East Kalimantan	258.27	11262.54	11520.80	2.24	97.76
<b>83</b>	No Group/Group Not Found	PT BHARATA KALTIM KENCANA	Berau	East Kalimantan	1384.47	5082.93	6467.40	21.41	78.59
<b>84</b>	No Group/Group Not Found	PT BORNEO AGRO SAWIT	Berau	East Kalimantan	3076.53	13433.97	16510.50	18.63	81.37
<b>85</b>	No Group/Group Not Found	PT KARTIKA INDOSINDONUSA	Berau	East Kalimantan	2227.62	490.66	2718.28	81.95	18.05
<b>86</b>	No Group/Group Not Found	PT KARTIKA PLANTANUSA KENCANA	Berau	East Kalimantan	2391.66	7869.51	10261.17	23.31	76.69
<b>87</b>	No Group/Group Not Found	PT KARTIKA PROPITAGANDA	Berau	East Kalimantan	230.08	2145.52	2375.61	9.69	90.31
<b>88</b>	No Group/Group Not Found	PT LONG BAWAN SUMBER REJEKI	Berau	East Kalimantan	6788.49	9897.25	16685.75	40.68	59.32

<b>89</b>	No Group/Group Not Found	PT MAUDY PESTHIKA	Berau	East Kalimantan	1827.74	682.76	2510.50	72.80	27.20
<b>90</b>	No Group/Group Not Found	PT MEGA BENUA UTAMA	Berau	East Kalimantan	1611.38	4983.20	6594.58	24.43	75.57
<b>91</b>	No Group/Group Not Found	PT PALMAKHARISMA SEKAWAN	Berau	East Kalimantan	12463.10	16458.45	28921.56	43.09	56.91
<b>92</b>	No Group/Group Not Found	PT REPINDO JAYA SAWIT SEJATI	Berau	East Kalimantan	2402.94	10825.48	13228.42	18.16	81.84
<b>93</b>	No Group/Group Not Found	PT SEBATIN	Berau	East Kalimantan	20.22	5760.10	5780.32	0.35	99.65
<b>94</b>	No Group/Group Not Found	PT SENTOSA KALIMANTAN JAYA	Berau	East Kalimantan	1247.62	583.41	1831.03	68.14	31.86
<b>95</b>	No Group/Group Not Found	PT SIGMA LUHUR INDAH	Berau	East Kalimantan	1741.71	10187.06	11928.76	14.60	85.40
<b>96</b>	No Group/Group Not Found	PT TERAS CAKRA PERDANA	Berau	East Kalimantan	8498.33	10535.68	19034.01	44.65	55.35
<b>97</b>	No Group/Group Not Found	PT UNI ANDALAN UTAMA	Berau	East Kalimantan	829.24	12088.74	12917.98	6.42	93.58
<b>98</b>	No Group/Group Not Found	PT WANA BUMI SANGGAM	Berau	East Kalimantan	3178.77	4085.00	7263.77	43.76	56.24
<b>99</b>	No Group/Group Not Found	PT WANAPURA AGRARAKSA	Berau	East Kalimantan	94.06	3034.32	3128.38	3.01	96.99

<b>100</b>	No Group/Group Not Found	PT AGRO SAWIT SEJAHTERA	Bulungan	North Kalimantan	3802.28	1829.22	5631.50	67.52	32.48
<b>101</b>	No Group/Group Not Found	PT ASTRI ADIKANTA	Bulungan	North Kalimantan	3729.88	4427.78	8157.66	45.72	54.28
<b>102</b>	No Group/Group Not Found	PT BAGONG PUTRA SERASI	Bulungan	North Kalimantan	1929.15	1131.51	3060.66	63.03	36.97
<b>103</b>	No Group/Group Not Found	PT KALTIM ANDALAN SENTOSA	Bulungan	North Kalimantan	1142.72	2839.39	3982.11	28.70	71.30
<b>104</b>	No Group/Group Not Found	PT KAYAN RIVER TIMBER PRODUCTS	Bulungan	North Kalimantan	651.78	3504.06	4155.84	15.68	84.32
<b>105</b>	No Group/Group Not Found	PT KEBUN SAWIT SUKSES	Bulungan	North Kalimantan	3959.32	5366.43	9325.76	42.46	57.54
<b>106</b>	No Group/Group Not Found	PT MALINAU AGRO SEJAHTERA	Bulungan	North Kalimantan	364.33	5744.69	6109.03	5.96	94.04
<b>107</b>	No Group/Group Not Found	PT MEGA BENUA UTAMA	Bulungan	North Kalimantan	647.55	95.79	743.34	87.11	12.89
<b>108</b>	No Group/Group Not Found	PT RAMBAY PANJI BERSAMA JAYA	Bulungan	North Kalimantan	2727.83	3627.87	6355.69	42.92	57.08
<b>109</b>	No Group/Group Not Found	PT REPENAS ANDALAN KALTIM	Bulungan	North Kalimantan	5833.92	17779.26	23613.18	24.71	75.29
<b>110</b>	No Group/Group Not Found	PT TIRTA KENCANA KREASIMAS	Bulungan	North Kalimantan	4718.52	3380.54	8099.05	58.26	41.74

<b>111</b>	No Group/Group Not Found	PT WANABAYA NITYANTARA	Bulungan	North Kalimantan	1782.18	27542.28	29324.45	6.08	93.92
<b>112</b>	No Group/Group Not Found	PT WANAPURA AGRARAKSA	Bulungan	North Kalimantan	1874.87	31619.62	33494.49	5.60	94.40
<b>113</b>	No Group/Group Not Found	PT KALTIM BANGUN JAYA	Kota Balikpapan	East Kalimantan	100.01	204.11	304.12	32.89	67.11
<b>114</b>	No Group/Group Not Found	KUD MAHAKAM JAYA	Kutai Barat	East Kalimantan	70.43	786.04	856.48	8.22	91.78
<b>115</b>	No Group/Group Not Found	PT ALFA INDO MULIA MANDIRI	Kutai Barat	East Kalimantan	10442.87	3033.48	13476.36	77.49	22.51
<b>116</b>	No Group/Group Not Found	PT ANEKAREKSA INTERNATIONAL CORP.	Kutai Barat	East Kalimantan	6151.17	6375.82	12526.99	49.10	50.90
<b>117</b>	No Group/Group Not Found	PT GUNUNG PUTIH INDAH	Kutai Barat	East Kalimantan	1962.54	3196.19	5158.73	38.04	61.96
<b>118</b>	No Group/Group Not Found	PT JAGATAMA RINGGIT	Kutai Barat	East Kalimantan	723.75	1826.61	2550.36	28.38	71.62
<b>119</b>	No Group/Group Not Found	PT JATITRIN CO. LTD	Kutai Barat	East Kalimantan	8234.86	2391.81	10626.67	77.49	22.51
<b>120</b>	No Group/Group Not Found	PT KALTIM MUARA BHAKTI	Kutai Barat	East Kalimantan	1856.69	7011.59	8868.27	20.94	79.06
<b>121</b>	No Group/Group Not Found	PT MUARA AGRO LESTARI	Kutai Barat	East Kalimantan	6601.46	2970.89	9572.34	68.96	31.04

<b>122</b>	No Group/Group Not Found	PT PERKEBUNAN MELAK AGRO MANDIRI	Kutai Barat	East Kalimantan	872.87	2702.92	3575.79	24.41	75.59
<b>123</b>	No Group/Group Not Found	PT TRIWIRA ASTA BRATA	Kutai Barat	East Kalimantan	226.76	893.48	1120.24	20.24	79.76
<b>124</b>	No Group/Group Not Found	KOPERASI TELAGA MANDIRI	Kutai Timur	East Kalimantan	402.05	645.06	1047.10	38.40	61.60
<b>125</b>	No Group/Group Not Found	PT AGRO CITY KALTIM	Kutai Timur	East Kalimantan	508.02	208.89	716.91	70.86	29.14
<b>126</b>	No Group/Group Not Found	PT ANDHIKA SAWIT SEJAHTERA	Kutai Timur	East Kalimantan	42.36	151.42	193.79	21.86	78.14
<b>127</b>	No Group/Group Not Found	PT BADIWATA PALMAINDO	Kutai Timur	East Kalimantan	163.86	1379.75	1543.61	10.62	89.38
<b>128</b>	No Group/Group Not Found	PT BASUIMEX	Kutai Timur	East Kalimantan	3104.57	3517.21	6621.78	46.88	53.12
<b>129</b>	No Group/Group Not Found	PT BATU SEMPIT SAWIT INDONESIA	Kutai Timur	East Kalimantan	53.99	2365.63	2419.62	2.23	97.77
<b>130</b>	No Group/Group Not Found	PT BHARATA KALTIM KENCANA	Kutai Timur	East Kalimantan	537.92	3706.04	4243.96	12.67	87.33
<b>131</b>	No Group/Group Not Found	PT HUTAN BERSAMA	Kutai Timur	East Kalimantan	182.46	1297.28	1479.74	12.33	87.67
<b>132</b>	No Group/Group Not Found	PT KALTIM AGRO JAYA	Kutai Timur	East Kalimantan	512.11	1114.06	1626.16	31.49	68.51

<b>133</b>	No Group/Group Not Found	PT KARTIKA INDOSINDONUSA	Kutai Timur	East Kalimantan	93.96	34.05	128.01	73.40	26.60
<b>134</b>	No Group/Group Not Found	PT MANGGALA BHAKTI NUSA	Kutai Timur	East Kalimantan	120.15	1517.44	1637.59	7.34	92.66
<b>135</b>	No Group/Group Not Found	PT PALMA SUBUR LESTARI MAKMUR	Kutai Timur	East Kalimantan	7585.39	1871.96	9457.35	80.21	19.79
<b>136</b>	No Group/Group Not Found	PT PALMAKHARISMA SEKAWAN	Kutai Timur	East Kalimantan	4790.39	7498.06	12288.45	38.98	61.02
<b>137</b>	No Group/Group Not Found	PT PALMANUSA ADI KENCANA	Kutai Timur	East Kalimantan	422.62	942.10	1364.73	30.97	69.03
<b>138</b>	No Group/Group Not Found	PT PALMASARIE AGRODANA	Kutai Timur	East Kalimantan	2308.05	1118.64	3426.69	67.36	32.64
<b>139</b>	No Group/Group Not Found	PT PERKASA GUNUNG SERASI	Kutai Timur	East Kalimantan	126.79	5111.62	5238.41	2.42	97.58
<b>140</b>	No Group/Group Not Found	PT SIMA AGUNG	Kutai Timur	East Kalimantan	17.35	582.94	600.29	2.89	97.11
<b>141</b>	No Group/Group Not Found	YAYASAN AGRIWANATAMA BHAKTINUSA	Kutai Timur	East Kalimantan	1906.15	734.82	2640.96	72.18	27.82
<b>142</b>	No Group/Group Not Found	KOPERASI SENTRA KAWULA BANGUN INSAN	Kutai Kartanegara	East Kalimantan	28.59	6.70	35.29	81.01	18.99
<b>143</b>	No Group/Group Not Found	PT ANDHIKA SAWIT SEJAHTERA	Kutai Kartanegara	East Kalimantan	711.20	1862.51	2573.71	27.63	72.37

<b>144</b>	No Group/Group Not Found	PT CAHAYA INDO KENCANA	Kutai Kartanegara	East Kalimantan	40.71	169.98	210.69	19.32	80.68
<b>145</b>	No Group/Group Not Found	PT CIPTA EKA IMPERINDO	Kutai Kartanegara	East Kalimantan	191.69	117.62	309.31	61.97	38.03
<b>146</b>	No Group/Group Not Found	PT IMPERINDO HASTA EKA	Kutai Kartanegara	East Kalimantan	474.74	202.71	677.45	70.08	29.92
<b>147</b>	No Group/Group Not Found	PT KALTIM BANGUN JAYA	Kutai Kartanegara	East Kalimantan	4.22	13.45	17.67	23.89	76.11
<b>148</b>	No Group/Group Not Found	PT USAKA INDAH	Kutai Kartanegara	East Kalimantan	688.36	1980.99	2669.35	25.79	74.21
<b>149</b>	No Group/Group Not Found	PT WARA NUSANTARA	Kutai Kartanegara	East Kalimantan	4.23	493.94	498.17	0.85	99.15
<b>150</b>	No Group/Group Not Found	KSU DAYA KALTIM ABADI	Mahakam Ulu	East Kalimantan	1474.53	7443.63	8918.16	16.53	83.47
<b>151</b>	No Group/Group Not Found	PT INDONESIA AGRO SILVASANA	Mahakam Ulu	East Kalimantan	385.63	1195.25	1580.88	24.39	75.61
<b>152</b>	No Group/Group Not Found	PT MANDU PALMA LESTARI	Mahakam Ulu	East Kalimantan	56.13	7318.01	7374.14	0.76	99.24
<b>153</b>	No Group/Group Not Found	PT PRATAMA SELARAS PERKASA	Mahakam Ulu	East Kalimantan	20.67	245.74	266.41	7.76	92.24
<b>154</b>	No Group/Group Not Found	PT SAWIT MAS KUTAI PERDANA	Mahakam Ulu	East Kalimantan	2435.39	18727.22	21162.61	11.51	88.49

<b>155</b>	No Group/Group Not Found	PT TERAS NUSANTARA	Mahakam Ulu	East Kalimantan	1499.70	4297.49	5797.19	25.87	74.13
<b>156</b>	No Group/Group Not Found	PT BULUNGAN AGRO PERKASA	Malinau	North Kalimantan	778.98	5976.99	6755.97	11.53	88.47
<b>157</b>	No Group/Group Not Found	PT DHARMA BHAKTI UTAMA	Malinau	North Kalimantan	1.09	64.19	65.28	1.67	98.33
<b>158</b>	No Group/Group Not Found	PT INDONA SAWIT PERMAI	Malinau	North Kalimantan	834.96	11877.36	12712.32	6.57	93.43
<b>159</b>	No Group/Group Not Found (Sinar Mas)*	PT KELAWIT WANA LESTARI	Malinau	North Kalimantan	215.17	1526.20	1741.37	12.36	87.64
<b>160</b>	No Group/Group Not Found	PT WITKALTIMDO PRIMA	Malinau	North Kalimantan	865.97	25475.93	26341.90	3.29	96.71
<b>161</b>	No Group/Group Not Found	KELOMPOK TANI HIKMAH	Nunukan	North Kalimantan	0.75	3.40	4.15	18.13	81.87
<b>162</b>	No Group/Group Not Found	PT BERAU PERKASA UTAMA	Nunukan	North Kalimantan	734.19	7074.57	7808.76	9.40	90.60
<b>163</b>	No Group/Group Not Found	PT BUMI SAWIT SEJAHTERA	Nunukan	North Kalimantan	2518.80	14054.95	16573.75	15.20	84.80
<b>164</b>	No Group/Group Not Found	PT INTIBULUNGAN PLANTATION	Nunukan	North Kalimantan	414.38	2159.80	2574.18	16.10	83.90

<b>165</b>	No Group/Group Not Found	PT KELAWIT WANA LESTARI	Nunukan	North Kalimantan	29.27	931.85	961.12	3.05	96.95
<b>166</b>	No Group/Group Not Found	PT NADIA HUMAIRA	Nunukan	North Kalimantan	92.86	17362.03	17454.88	0.53	99.47
<b>167</b>	No Group/Group Not Found	PT NAZLA AMANDA	Nunukan	North Kalimantan	143.40	19147.72	19291.12	0.74	99.26
<b>168</b>	No Group/Group Not Found	PT NUSA BANGUN SEJAHTERA	Nunukan	North Kalimantan	222.06	1394.42	1616.47	13.74	86.26
<b>169</b>	No Group/Group Not Found	PT SEBUKU MANDIRI PERKASA	Nunukan	North Kalimantan	1324.05	6893.92	8217.97	16.11	83.89
<b>170</b>	No Group/Group Not Found	KOPERASI PERKEBUNAN SAWIT SWADAYA	Paser	East Kalimantan	1250.38	3491.98	4742.36	26.37	73.63
<b>171</b>	No Group/Group Not Found	PT BERJAYAGUNA AGRIJANTERA	Paser	East Kalimantan	5265.31	3154.07	8419.38	62.54	37.46
<b>172</b>	No Group/Group Not Found	PT BINA PRAKARSA MAKMUR BERSAMA	Paser	East Kalimantan	1299.05	3020.29	4319.34	30.08	69.92
<b>173</b>	No Group/Group Not Found	PT BORNEO JAYA LESTARI	Paser	East Kalimantan	2231.17	2197.97	4429.15	50.37	49.63
<b>174</b>	No Group/Group Not Found	PT HARI BAIK PERKEBUNAN	Paser	East Kalimantan	6557.59	3896.33	10453.92	62.73	37.27

<b>175</b>	No Group/Group Not Found	PT KARYA PERTAMA MUDA JAYA	Paser	East Kalimantan	41.01	6.15	47.16	86.96	13.04
<b>176</b>	No Group/Group Not Found	PT MAKMUR JAGAD ABADI	Paser	East Kalimantan	1191.86	5701.77	6893.63	17.29	82.71
<b>177</b>	No Group/Group Not Found	PT MANGGALA DHARMA PUTRA	Paser	East Kalimantan	440.14	1310.98	1751.12	25.13	74.87
<b>178</b>	No Group/Group Not Found	PT PERKEBUNAN KALIMANTAN SUKSES MAKMUR	Paser	East Kalimantan	1512.94	4558.90	6071.85	24.92	75.08
<b>179</b>	No Group/Group Not Found	PT SEBATIN	Paser	East Kalimantan	191.84	1065.08	1256.92	15.26	84.74
<b>180</b>	No Group/Group Not Found	PT SETIUFARM	Paser	East Kalimantan	152.58	677.84	830.43	18.37	81.63
<b>181</b>	No Group/Group Not Found	PT TONDO MURNI PRATAMA	Paser	East Kalimantan	2065.89	10921.78	12987.67	15.91	84.09
<b>182</b>	No Group/Group Not Found	PT WANA KALTIM KENCANA	Paser	East Kalimantan	8333.58	4702.78	13036.36	63.93	36.07
<b>183</b>	No Group/Group Not Found	PT AOTANI RIMBARAYA PLANTATION	Penajam Paser Utara	East Kalimantan	6987.20	2540.76	9527.96	73.33	26.67
<b>184</b>	No Group/Group Not Found	PT BORNEO AGRO SUBUR	Penajam Paser Utara	East Kalimantan	143.54	195.88	339.42	42.29	57.71
<b>185</b>	No Group/Group Not Found	PT BORNEO JAYA LESTARI	Penajam Paser Utara	East Kalimantan	3080.74	1961.00	5041.74	61.10	38.90

<b>186</b>	No Group/Group Not Found	PT DWIMEKAR PERSADA	Penajam Paser Utara	East Kalimantan	155.12	905.47	1060.59	14.63	85.37
<b>187</b>	No Group/Group Not Found	PT ENGGANG KENCANA SAKTI	Penajam Paser Utara	East Kalimantan	49.95	844.14	894.09	5.59	94.41
<b>188</b>	No Group/Group Not Found	PT KARYA PERTAMA MUDA JAYA	Penajam Paser Utara	East Kalimantan	1437.44	2506.73	3944.17	36.44	63.56
<b>189</b>	No Group/Group Not Found	PT TRITEKNIK KALIMANTAN ABADI	Penajam Paser Utara	East Kalimantan	52.43	846.92	899.35	5.83	94.17
<b>190</b>	No Group/Group Not Found	PT ASTRI ADIKANTA	Tana Tidung	North Kalimantan	1590.25	1877.84	3468.09	45.85	54.15
<b>191</b>	No Group/Group Not Found	PT BERAU PERKASA UTAMA	Tana Tidung	North Kalimantan	28.02	1159.92	1187.94	2.36	97.64
<b>192</b>	No Group/Group Not Found	PT BINTANG JAYA INTER CAKRAWALA	Tana Tidung	North Kalimantan	3.99	274.83	278.83	1.43	98.57
<b>193</b>	No Group/Group Not Found	PT BUMI SAWIT SEJAHTERA	Tana Tidung	North Kalimantan	1.45	254.78	256.23	0.57	99.43
<b>194</b>	No Group/Group Not Found	PT DHARMA BHAKTI UTAMA	Tana Tidung	North Kalimantan	1689.42	3855.37	5544.80	30.47	69.53
<b>195</b>	No Group/Group Not Found	PT INDOSERASI PRIMA	Tana Tidung	North Kalimantan	2343.96	10876.90	13220.86	17.73	82.27
<b>196</b>	No Group/Group Not Found	PT KEBUN SAWIT SUKSES	Tana Tidung	North Kalimantan	601.41	214.72	816.13	73.69	26.31

<b>197</b>	No Group/Group Not Found	PT KELAWIT WANA LESTARI	Tana Tidung	North Kalimantan	8863.74	5241.23	14104.97	62.84	37.16
<b>198</b>	No Group/Group Not Found	PT TUNAS MUDA BHUMI SAKTI	Tana Tidung	North Kalimantan	736.09	3368.04	4104.13	17.94	82.06
<b>199</b>	No Group/Group Not Found	ANUGRAH SURYA MANDIRI	Berau	East Kalimantan	21.31	2023.20	2044.51	1.04	98.96
<b>200</b>	No Group/Group Not Found (Salim)*	BERAU SAWIT SEJAHTERA	Berau	East Kalimantan	115.85	39.44	155.29	74.60	25.40
<b>201</b>	No Group/Group Not Found (Salim)*	PT LONG BANGUN PRIMA SAWIT	Berau	East Kalimantan	1883.90	628.89	2512.79	74.97	25.03
<b>202</b>	No Group/Group Not Found	PT SENTOSA KALIMANTAN JAYA	Berau	East Kalimantan	986.80	491.37	1478.17	66.76	33.24
<b>203</b>	No Group/Group Not Found	PT TUNAS ALAM NUSANTARA	Berau	East Kalimantan	488.45	1492.59	1981.05	24.66	75.34
<b>204</b>	No Group/Group Not Found	PT YUDHA WAHANA ABADI	Berau	East Kalimantan	2202.26	216.63	2418.89	91.04	8.96
<b>205</b>	No Group/Group Not Found	IVARINA VICTORYA KAMALUDDIN	Kutai Barat	East Kalimantan	58.34	904.18	962.52	6.06	93.94
<b>206</b>	No Group/Group Not Found	PT BORNEO DAMAI LESTARI	Kutai Barat	East Kalimantan	112.14	178.88	291.02	38.53	61.47

<b>207</b>	No Group/Group Not Found	BUMI MAS AGRO	Kutai Timur	East Kalimantan	717.48	41.63	759.11	94.52	5.48
<b>208</b>	No Group/Group Not Found	PT LONG BANGUN PRIMA SAWIT	Kutai Timur	East Kalimantan	449.10	187.89	637.00	70.50	29.50
<b>209</b>	No Group/Group Not Found	PT SINERGI ARGO INDUSTRI	Kutai Timur	East Kalimantan	141.01	29.18	170.19	82.85	17.15
<b>210</b>	No Group/Group Not Found	PT SWAKARSA SINARSENTOSA	Kutai Timur	East Kalimantan	8.69	1.54	10.23	84.95	15.05
<b>211</b>	No Group/Group Not Found	PT TUNAS ALAM NUSANTARA	Kutai Timur	East Kalimantan	0.62	384.92	385.54	0.16	99.84
<b>212</b>	No Group/Group Not Found	AGROJAYA TIRTA KECANA	Kutai Kartanegara	East Kalimantan	778.45	106.30	884.75	87.99	12.01
<b>213</b>	No Group/Group Not Found	JAYA MANDIRI SUKSES	Kutai Kartanegara	East Kalimantan	14.19	4.74	18.93	74.96	25.04
<b>214</b>	No Group/Group Not Found (First Resources)*	PT BHUMI SIMANGGARIS INDAH	Nunukan	North Kalimantan	1341.18	323.73	1664.90	80.56	19.44
<b>215</b>	No Group/Group Not Found (First Resources)*	PT KARANGJUANG HIJAULESTARI	Nunukan	North Kalimantan	1025.98	693.59	1719.58	59.66	40.34

<b>216</b>	No Group/Group Not Found	PT PREDIKSI GUNATAMA	Paser	East Kalimantan	23.98	269.44	293.42	8.17	91.83
<b>217</b>	No Group/Group Not Found	PT SENABANGUN ANEKAPERTIWI	Paser	East Kalimantan	14.52	35.02	49.55	29.31	70.69
<b>218</b>	No Group/Group Not Found	SUNARTOMO. IR	Paser	East Kalimantan	272.47	22.51	294.98	92.37	7.63
<b>219</b>	No Group/Group Not Found	PT TRITEKNIK KALIMANTAN ABADI	Penajam Paser Utara	East Kalimantan	1.20	81.07	82.27	1.46	98.54
<b>220</b>	NPC Resources	PT NALA PALMA CADUDASA	Kutai Timur	East Kalimantan	1532.66	143.92	1676.58	91.42	8.58
<b>221</b>	NPC Resources	PT SUMBER ALAM SELARAS	Kutai Timur	East Kalimantan	3739.76	3764.58	7504.34	49.83	50.17
<b>222</b>	NPC Resources	PT NALA PALMA CADUDASA	Kutai Kartanegara	East Kalimantan	4.29	173.50	177.79	2.41	97.59
<b>223</b>	Palma Serasih	PT ANUGERAH ENERGITAMA	Berau	East Kalimantan	947.06	2887.83	3834.90	24.70	75.30
<b>224</b>	Palma Serasih	PT ANUGERAH ENERGITAMA	Bulungan	North Kalimantan	10.33	4.72	15.05	68.61	31.39
<b>225</b>	Palma Serasih	PT KALTIM BHUMI PALMA	Kutai Barat	East Kalimantan	629.57	538.35	1167.93	53.91	46.09
<b>226</b>	Palma Serasih	PT ANUGERAH ENERGITAMA	Kutai Timur	East Kalimantan	2318.66	1354.06	3672.73	63.13	36.87
<b>227</b>	Perkebunan Nusantara	PTPN XIII	Paser	East Kalimantan	2976.39	3165.85	6142.24	48.46	51.54
<b>228</b>	Perkebunan Nusantara	PTPN XIII	Penajam Paser Utara	East Kalimantan	337.62	211.50	549.12	61.48	38.52
<b>229</b>	Pradiksi	PT PRADIKSI GUNATAMA	Paser	East Kalimantan	827.89	2511.81	3339.70	24.79	75.21

<b>230</b>	Pradiksi	PT SENA BANGUN ANEKA PERTIWI	Paser	East Kalimantan	688.00	2603.92	3291.92	20.90	79.10
<b>231</b>	Pucuk Jaya	PT Pucuk Jaya	Paser	East Kalimantan	1.97	6.58	8.54	23.01	76.99
<b>232</b>	Pupuk Kaltim	PT KALIMANTAN AGRO NUSANTARA	Kutai Timur	East Kalimantan	2277.39	513.55	2790.94	81.60	18.40
<b>233</b>	REA Holding	PT KUTAI MITRA SEJAHTERA	Berau	East Kalimantan	664.45	311.28	975.73	68.10	31.90
<b>234</b>	REA Holding	PT PUTRA BONGAN JAYA	Kutai Barat	East Kalimantan	171.13	335.87	507.00	33.75	66.25
<b>235</b>	REA Holding	PT CIPTA DAVIA MANDIRI	Kutai Timur	East Kalimantan	429.38	163.29	592.67	72.45	27.55
<b>236</b>	REA Holding	PT KUTAI MITRA SEJAHTERA	Kutai Timur	East Kalimantan	6.26	64.35	70.61	8.86	91.14
<b>237</b>	REA Holding	PT PRASETIA UTAMA	Kutai Kartanegara	East Kalimantan	436.08	1541.46	1977.54	22.05	77.95
<b>238</b>	REA Holding	PT REA KALTIM PLANTATION	Kutai Kartanegara	East Kalimantan	1.03	65.78	66.81	1.54	98.46
<b>239</b>	REA Holding	PT SASANA YUDHA BHAKTI	Tana Tidung	North Kalimantan	1394.31	8661.80	10056.11	13.87	86.13
<b>240</b>	Rugao Shuangma	PT PALEM SEGAR LESTARI	Nunukan	North Kalimantan	6449.57	2101.72	8551.29	75.42	24.58
<b>241</b>	Rugao Shuangma	PT SEBAUNG SAWIT PLANTATIONS	Nunukan	North Kalimantan	341.20	546.76	887.96	38.42	61.58
<b>242</b>	Salim Group	PT ANEKAREKSA INTERNATIONAL	Kutai Barat	East Kalimantan	25.60	88.53	114.13	22.43	77.57
<b>243</b>	Salim Group	PT LONDON SUMATERA INTERNASIONAL TBK	Kutai Barat	East Kalimantan	3747.43	1183.24	4930.67	76.00	24.00

<b>244</b>	Salim Group	PT PP LONDON SUMATERA INDONESIA TBK	Kutai Barat	East Kalimantan	0.88	0.04	0.92	95.97	4.03
<b>245</b>	Salim Group	PT GUNTA SAMBA	Kutai Timur	East Kalimantan	494.89	664.00	1158.89	42.70	57.30
<b>246</b>	Salim Group	PT GUNTA SAMBA JAYA	Kutai Timur	East Kalimantan	1179.26	1256.93	2436.19	48.41	51.59
<b>247</b>	Salim Group	PT KEBUN GANDA PRIMA	Kutai Timur	East Kalimantan	217.10	1343.93	1561.03	13.91	86.09
<b>248</b>	Salim Group	PT MULTI PACIFIC INTERNATIONAL	Kutai Timur	East Kalimantan	84.54	4.82	89.36	94.60	5.40
<b>249</b>	Salim Group	PT MAJAPAHIT AGRO INDUSTRI	Penajam Paser Utara	East Kalimantan	9.61	58.69	68.29	14.07	85.93
<b>250</b>	Samling Group	PT TUNAS BORNEO PLANTATIONS	Berau	East Kalimantan	27.18	4.34	31.53	86.22	13.78
<b>251</b>	Samling Group	PT ABDI BORNEO PLANTATIONS	Bulungan	North Kalimantan	393.20	55.66	448.86	87.60	12.40
<b>252</b>	Samling Group	PT TUNAS BORNEO PLANTATIONS	Bulungan	North Kalimantan	1670.54	143.86	1814.39	92.07	7.93
<b>253</b>	Sime Darby	PT LAGUNA MANDIRI	Paser	East Kalimantan	1004.63	8558.85	9563.48	10.50	89.50
<b>254</b>	Sime Darby	PT LANGGENG MUARA MAKMUR	Paser	East Kalimantan	0.10	2.92	3.03	3.42	96.58
<b>255</b>	Sinar Mas	PT BULUNGAN SARANA UTAMA	Kutai Timur	East Kalimantan	2.87	18.64	21.50	13.34	86.66
<b>256</b>	Sinar Mas	PT MATRA SAWIT SARANA SEJAHTERA	Kutai Timur	East Kalimantan	16.04	163.87	179.91	8.91	91.09
<b>257</b>	Sinar Mas	PT SANGATA ANDALAN UTAMA	Kutai Timur	East Kalimantan	29.67	227.07	256.74	11.56	88.44
<b>258</b>	Sinar Mas	PT TAPIAN NADENGGAN	Kutai Timur	East Kalimantan	370.53	681.47	1052.00	35.22	64.78

<b>259</b>	Sinar Mas	PT NUNUKAN SARANA JAYA	Kutai Kartanegara	East Kalimantan	6.05	199.63	205.69	2.94	97.06
<b>260</b>	Sinar Mas	PT SANGATA ANDALAN UTAMA	Kutai Kartanegara	East Kalimantan	737.44	1762.92	2500.35	29.49	70.51
<b>261</b>	Teladan Prima	PT INTI ENERGI KALTIM	Berau	East Kalimantan	17.52	365.36	382.88	4.58	95.42
<b>262</b>	Teladan Prima	PT TANJUNG BUYU PERKASA PLANTATION	Berau	East Kalimantan	131.35	330.37	461.72	28.45	71.55
<b>263</b>	Teladan Prima	PT SAWIT PRIMA NUSANTARA	Kutai Timur	East Kalimantan	448.92	2256.45	2705.36	16.59	83.41
<b>264</b>	Teladan Prima	PT TELEN	Kutai Timur	East Kalimantan	622.32	1036.88	1659.20	37.51	62.49
<b>265</b>	Teladan Prima	PT MULTI JAYANTARA ABADI	Paser	East Kalimantan	48.22	327.35	375.57	12.84	87.16
<b>266</b>	TH Plantations	PT PERSADA KENCANA PRIMA	Tana Tidung	North Kalimantan	27.00	1.34	28.34	95.29	4.71
<b>267</b>	Triputra Agro Persada	PT ANUGERAH AGUNG PRIMA ABADI	Berau	East Kalimantan	682.20	58.58	740.78	92.09	7.91
<b>268</b>	Triputra Agro Persada	PT DWIWIRA LESTARI JAYA	Berau	East Kalimantan	4986.31	2817.45	7803.76	63.90	36.10
<b>269</b>	Triputra Agro Persada	PT ETAM BERSAMA LESTARI	Berau	East Kalimantan	349.41	78.15	427.56	81.72	18.28
<b>270</b>	Triputra Agro Persada	PT NATURA PASIFIC NUSANTARA	Berau	East Kalimantan	562.97	30.54	593.50	94.85	5.15
<b>271</b>	Triputra Agro Persada	PT KEDAP SAYAAQ DUA	Kutai Barat	East Kalimantan	201.00	364.48	565.48	35.55	64.45
<b>272</b>	Triputra Agro Persada	PT ETAM BERSAMA LESTARI	Kutai Timur	East Kalimantan	456.09	390.52	846.61	53.87	46.13
<b>273</b>	Triputra Agro Persada	PT BUANA HIJAU ABADI	Mahakam Ulu	East Kalimantan	13.38	2340.44	2353.82	0.57	99.43

<b>274</b>	Tsani Hutani Abadi (Now Sinar Mas Group)	PT HARAPAN RIMBA RAYA	Kutai Barat	East Kalimantan	251.59	40.56	292.14	86.12	13.88
<b>275</b>	Tsani Hutani Abadi (Now Sinar Mas Group)	PT KRUING LESTARI JAYA	Kutai Barat	East Kalimantan	1860.54	246.96	2107.50	88.28	11.72
<b>276</b>	TSH Resources	PT BULUNGAN CITRA AGRO PERSADA	Bulungan	North Kalimantan	2625.02	1464.89	4089.91	64.18	35.82
<b>277</b>	TSH Resources	PT MUNTE WANIQ JAYA PERKASA	Kutai Barat	East Kalimantan	659.64	2321.76	2981.40	22.13	77.87
<b>278</b>	TSH Resources	PT TEGUH SWAKARSA SEJAHTERA	Kutai Barat	East Kalimantan	91.23	225.46	316.69	28.81	71.19
<b>279</b>	Wanamaja Adhitama	PT COMISMAR WANAMAJA AGRO	Malinau	North Kalimantan	313.17	6356.65	6669.82	4.70	95.30
<b>280</b>	Wanamaja Adhitama	PT COMISMAR WANAMAJA AGRO	Nunukan	North Kalimantan	1581.77	11149.03	12730.80	12.42	87.58
<b>281</b>	Wings	PT SENTOSA SUKSES UTAMA	Bulungan	North Kalimantan	115.83	307.00	422.84	27.39	72.61
<b>282</b>	Wings	PT GAWI MAKMUR KALIMANTAN	Penajam Paser Utara	East Kalimantan	0.26	7.71	7.96	3.21	96.79
<b>283</b>	Wings	PT GAWI MAKMUR KALIMANTAN	Paser	East Kalimantan	0.20	0.20	0.40	49.77	50.23

**Annex 2. Forest Loss and Remaining Forest of Pulp and Paper / Rubber Producers (Organized by Group and Operating Company) in East and North Kalimantan** (company name denotes an alleged connection)\*

No	Group	Operations Company	District	Province	Forest Loss (ha, 2009-2019)	Remaining Forest (ha, 2019)	Total Forest Baseline (2009, ha)	%Forest Loss	%Remaining Forest
1	RGE *	PT ADINDO HUTANI LESTARI	Bulungan	North Kalimantan	1967.41	6259.63	8227.05	23.91	76.09
2	RGE *	PT PERMATA BORNEO ABADI	Kutai Timur	East Kalimantan	2.49	2313.04	2315.53	0.11	99.89
3	RGE *	PT SANTAN BORNEO ABADI	Kutai Timur	East Kalimantan	1754.94	2239.55	3994.49	43.93	56.07
4	RGE *	PT ITCI HUTANI MANUNGGAL	Kutai Kartanegara	East Kalimantan	120.32	56.46	176.79	68.06	31.94
5	RGE *	PT ADINDO HUTANI LESTARI	Malinau	North Kalimantan	816.94	14798.17	15615.11	5.23	94.77
6	RGE *	PT ADINDO HUTANI LESTARI	Nunukan	North Kalimantan	14117.05	26265.23	40382.27	34.96	65.04
7	RGE *	PT ITCI HUTANI MANUNGGAL	Penajam Paser Utara	East Kalimantan	76.52	1495.04	1571.56	4.87	95.13
8	RGE *	PT ADINDO HUTANI LESTARI	Tana Tidung	North Kalimantan	15110.00	16558.37	31668.38	47.71	52.29
9	Barito Pasific	PT MULTI KUSUMA CEMERLANG (DH. PT BARITO PACIFIC)	Kutai Timur	East Kalimantan	431.95	987.09	1419.04	30.44	69.56
10	Djarum	PT FAJAR SURYA SWADAYA	Paser	East Kalimantan	14556.61	10016.46	24573.07	59.24	40.76
11	Djarum	PT FAJAR SURYA SWADAYA	Penajam Paser Utara	East Kalimantan	15038.79	4245.93	19284.72	77.98	22.02

<b>12</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Kota Balikpapan	East Kalimantan	0.26	57.41	57.66	0.45	99.55
<b>13</b>	Inhutani I	PT INHUTANI I LONG NAH	Kutai Timur	East Kalimantan	97.39	688.76	786.16	12.39	87.61
<b>14</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Kutai Kartanegara	East Kalimantan	2.92	2.54	5.45	53.47	46.53
<b>15</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Penajam Paser Utara	East Kalimantan	10.77	1128.52	1139.29	0.95	99.05
<b>16</b>	Inhutani II	PT INHUTANI II TANAH GROGOT	Paser	East Kalimantan	1485.60	3030.28	4515.88	32.90	67.10
<b>17</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Bulungan	North Kalimantan	3548.13	7215.53	10763.66	32.96	67.04
<b>18</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Malinau	North Kalimantan	277.70	1336.05	1613.75	17.21	82.79
<b>19</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Tana Tidung	North Kalimantan	2516.50	10123.31	12639.81	19.91	80.09
<b>20</b>	Kayu Lapis Indonesia	PT HUTAN KUSUMA	Kutai Kartanegara	East Kalimantan	81.34	1777.19	1858.53	4.38	95.62
<b>21</b>	Nusantara Energi	PT BELANTARA PERSADA	Berau	East Kalimantan	574.35	346.57	920.93	62.37	37.63
<b>22</b>	Nusantara Energi	PT TANJUNG REDEB HUTANI	Berau	East Kalimantan	13296.58	76770.97	90067.55	14.76	85.24
<b>23</b>	Nusantara Energi	PT TANJUNG REDEB HUTANI	Bulungan	North Kalimantan	0.27	35.20	35.47	0.76	99.24
<b>24</b>	Nusantara Energi	PT BELANTARA PERSADA	Kutai Timur	East Kalimantan	1197.07	9976.44	11173.50	10.71	89.29
<b>25</b>	Salim Group	PT SUMALINDO ALAM LESTARI I (DH.SUMALINDO LJI)	Berau	East Kalimantan	4235.66	17194.39	21430.05	19.77	80.23

<b>26</b>	Sinar Mas Forestry	PT ACASIA ANDALAN UTAMA (SK 87)	Kutai Barat	East Kalimantan	35.09	1.84	36.93	95.01	4.99
<b>27</b>	Sinar Mas Forestry	PT KELAWIT HUTANI LESTARI	Kutai Barat	East Kalimantan	219.87	2958.31	3178.17	6.92	93.08
<b>28</b>	Sinar Mas Forestry*	PT KELAWIT WANA LESTARI I	Kutai Barat	East Kalimantan	3334.90	8276.62	11611.52	28.72	71.28
<b>29</b>	Sinar Mas Forestry*	PT KELAWIT WANA LESTARI	Kutai Timur	East Kalimantan	788.68	3945.14	4733.82	16.66	83.34
<b>30</b>	Salim Group	PT SUMALINDO ALAM LESTARI I (DH.SUMALINDO LJ I)	Kutai Timur	East Kalimantan	105.09	102.56	207.66	50.61	49.39
<b>31</b>	Salim Group	PT SUMALINDO ALAM LESTARI II (DH.SUMALINDO LJ II)	Kutai Timur	East Kalimantan	1438.51	20859.16	22297.68	6.45	93.55
<b>32</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA I	Kutai Timur	East Kalimantan	108.69	75.82	184.50	58.91	41.09
<b>33</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA II	Kutai Timur	East Kalimantan	0.24	6.75	6.99	3.40	96.60
<b>34</b>	Sinar Mas Forestry	PT SURYA HUTANI JAYA	Kutai Timur	East Kalimantan	79.05	990.67	1069.73	7.39	92.61
<b>35</b>	Sinar Mas Forestry	PT ACASIA ANDALAN UTAMA (SK 87)	Kutai Kartanegara	East Kalimantan	128.75	800.04	928.79	13.86	86.14
<b>36</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA II	Kutai Kartanegara	East Kalimantan	392.00	1989.74	2381.74	16.46	83.54
<b>37</b>	Sinar Mas Forestry	PT SURYA HUTANI JAYA	Kutai Kartanegara	East Kalimantan	1121.50	3318.73	4440.23	25.26	74.74
<b>38</b>	Telaga Mas	PT TAMAN DAULAT WANANUSA	Paser	East Kalimantan	217.93	7720.02	7937.95	2.75	97.25
<b>39</b>	No Group/Group Unknown	PT BELANTARA PUSAKA	Berau	East Kalimantan	66.47	6284.31	6350.79	1.05	98.95

<b>40</b>	No Group/Group Unknown	PT HANUJAYA HUTANINDO	Berau	East Kalimantan	2241.29	2698.01	4939.30	45.38	54.62
<b>41</b>	No Group/Group Unknown	PT HUTAN BERAU LESTARI	Berau	East Kalimantan	864.19	10030.67	10894.86	7.93	92.07
<b>42</b>	No Group/Group Unknown	PT INDOSUBUR SUKSES MAKMUR	Berau	East Kalimantan	27.65	803.25	830.90	3.33	96.67
<b>43</b>	No Group/Group Unknown	PT SWADAYA PERKASA	Berau	East Kalimantan	2256.52	13166.14	15422.65	14.63	85.37
<b>44</b>	No Group/Group Unknown	PT WANA KALTIM LESTARI	Berau	East Kalimantan	689.58	14083.70	14773.28	4.67	95.33
<b>45</b>	No Group/Group Unknown	KTH PEMUDA BERKARYA	Bulungan	North Kalimantan	377.63	2250.47	2628.10	14.37	85.63
<b>46</b>	No Group/Group Unknown	PT KAYAN MAKMUR SEJAHTERA	Bulungan	North Kalimantan	7300.10	5052.69	12352.79	59.10	40.90
<b>47</b>	No Group/Group Unknown	PT LENTERA SAWIT MAKMUR	Bulungan	North Kalimantan	560.51	2007.37	2567.88	21.83	78.17
<b>48</b>	No Group/Group Unknown	KTH BERMAONG RUKO	Kutai Barat	East Kalimantan	0.68	35.49	36.18	1.89	98.11
<b>49</b>	No Group/Group Unknown	KTH JENGAN SIMPUNG TUHA	Kutai Barat	East Kalimantan	31.86	78.35	110.21	28.91	71.09
<b>50</b>	No Group/Group Unknown	KTH PUTRA LAWA	Kutai Barat	East Kalimantan	72.94	110.07	183.00	39.85	60.15

<b>51</b>	No Group/Group Unknown	KTH SAMAN TAKAQ	Kutai Barat	East Kalimantan	11.51	64.59	76.10	15.12	84.88
<b>52</b>	RGE Group*	PT BAKAYAN JAYA ABADI	Kutai Barat	East Kalimantan	571.87	2855.94	3427.82	16.68	83.32
<b>53</b>	No Group/Group Unknown	PT BORNEO KUTAI LESTARI	Kutai Barat	East Kalimantan	2214.69	9162.37	11377.06	19.47	80.53
<b>54</b>	No Group/Group Unknown	PT HUTAN MAHLIGAI	Kutai Barat	East Kalimantan	697.30	9126.66	9823.95	7.10	92.90
<b>55</b>	No Group/Group Unknown	PT RIMBA RAYA LESTARI	Kutai Barat	East Kalimantan	2068.24	14086.96	16155.21	12.80	87.20
<b>56</b>	No Group/Group Unknown	PT SENDAWAR ADHI KARYA	Kutai Barat	East Kalimantan	4440.29	7879.04	12319.33	36.04	63.96
<b>57</b>	No Group/Group Unknown	PT SILVA RIMBA LESTARI	Kutai Barat	East Kalimantan	41.95	1893.07	1935.02	2.17	97.83
<b>58</b>	No Group/Group Unknown	PT TIRTA MAHAKAM RESOURCES	Kutai Barat	East Kalimantan	1009.68	10352.08	11361.76	8.89	91.11
<b>59</b>	No Group/Group Unknown	KOPERASI PRODUKSI BERSAMA TIMBAU MENAMBANG	Kutai Timur	East Kalimantan	220.02	2412.08	2632.10	8.36	91.64
<b>60</b>	No Group/Group Unknown	KT BATU NUMOQ	Kutai Timur	East Kalimantan	120.52	467.11	587.63	20.51	79.49
<b>61</b>	No Group/Group Unknown (Sinar Mas)*	PT ACACIA ANDALAN UTAMA (SK 620)	Kutai Timur	East Kalimantan	730.24	5531.15	6261.39	11.66	88.34

<b>62</b>	No Group/Group Unknown	PT BUANA INTI ENERGI	Kutai Timur	East Kalimantan	1127.67	910.46	2038.13	55.33	44.67
<b>63</b>	No Group/Group Unknown	PT CAHAYA MITRA WIRATAMA	Kutai Timur	East Kalimantan	6094.99	2734.70	8829.69	69.03	30.97
<b>64</b>	No Group/Group Unknown	PT DIVA PERDANA PESONA	Kutai Timur	East Kalimantan	1290.50	15224.29	16514.79	7.81	92.19
<b>65</b>	No Group/Group Unknown	PT HANUJAYA HUTANINDO	Kutai Timur	East Kalimantan	1397.15	4397.98	5795.13	24.11	75.89
<b>66</b>	No Group/Group Unknown	PT INDOSUBUR SUKSES MAKMUR	Kutai Timur	East Kalimantan	580.29	15157.77	15738.06	3.69	96.31
<b>67</b>	No Group/Group Unknown	PT SWADAYA PERKASA	Kutai Timur	East Kalimantan	707.21	628.75	1335.95	52.94	47.06
<b>68</b>	No Group/Group Unknown	PT SYLVADUTA CORPORATION	Kutai Timur	East Kalimantan	69.46	1103.12	1172.58	5.92	94.08
<b>69</b>	No Group/Group Unknown	KTH DELTA MAHAKAM	Kutai Kartanegara	East Kalimantan	0.23	65.99	66.22	0.35	99.65
<b>70</b>	No Group/Group Unknown	PT DHARMA HUTANI MAKMUR	Kutai Kartanegara	East Kalimantan	52.69	917.15	969.84	5.43	94.57
<b>71</b>	No Group/Group Unknown	PT SENDAWAR ADHI KARYA	Kutai Kartanegara	East Kalimantan	393.76	1150.01	1543.77	25.51	74.49
<b>72</b>	No Group/Group Unknown	PT SILVA RIMBA LESTARI	Kutai Kartanegara	East Kalimantan	10242.0 2	27148.49	37390.51	27.39	72.61

<b>73</b>	No Group/Group Unknown	PT SYLVADUTA CORPORATION	Kutai Kartanegara	East Kalimantan	712.02	1280.80	1992.82	35.73	64.27
<b>74</b>	No Group/Group Unknown	GAPOKTANHUT EMPELINIT	Nunukan	North Kalimantan	5.99	258.53	264.52	2.26	97.74
<b>75</b>	No Group/Group Unknown	KOPERASI SERBA USAHA SEKIKILAN JAYA	Nunukan	North Kalimantan	2.28	2.65	4.93	46.22	53.78
<b>76</b>	No Group/Group Unknown	KOPERASI UNIT DESA MERTASARI	Nunukan	North Kalimantan	69.62	35.32	104.94	66.35	33.65
<b>77</b>	No Group/Group Unknown	KUD MERTA SARI II	Nunukan	North Kalimantan	310.77	87.74	398.51	77.98	22.02
<b>78</b>	No Group/Group Unknown	PT BORNEO UTARA LESTARI	Nunukan	North Kalimantan	1877.33	2960.38	4837.71	38.81	61.19
<b>79</b>	No Group/Group Unknown	PT HUTAN RINDANG BANUA	Paser	East Kalimantan	0.97	15.28	16.25	5.96	94.04
<b>80</b>	No Group/Group Unknown	PT MITRA MULIA MAHAKAM	Paser	East Kalimantan	130.20	6945.06	7075.26	1.84	98.16
<b>81</b>	No Group/Group Unknown	PT BELANTARA SUBUR	Penajam Paser Utara	East Kalimantan	4130.14	3770.35	7900.48	52.28	47.72
<b>82</b>	No Group/Group Unknown	PT MITRA MULIA MAHAKAM	Penajam Paser Utara	East Kalimantan	921.34	2341.03	3262.37	28.24	71.76
<b>83</b>	No Group/Group Unknown	KSU LEMBAGA PEMBERDAYAAN MASYARAKAT DESA	Tana Tidung	North Kalimantan	23.60	3715.52	3739.13	0.63	99.37

<b>84</b>	No Group/Group Unknown	KTH PEMUDA TANI	Tana Tidung	North Kalimantan	30.31	270.02	300.33	10.09	89.91
<b>85</b>	No Group/Group Unknown	KTH RIMBA TAKAU	Tana Tidung	North Kalimantan	8.86	30.66	39.51	22.42	77.58
<b>86</b>	No Group/Group Unknown	KTH TIRAN LESTARI	Tana Tidung	North Kalimantan	8.86	51.82	60.68	14.60	85.40

**Annex 3. Forest Loss and Remaining Forest Within Timber Plantations (Organized by Groups and Operating Company) in East and North Kalimantan** (company name denotes an alleged connection)\*

No	Group	Operations Company	District	Province	Forest Loss (ha, 2009-2019)	Remaining Forest (ha, 2019)	Total Forest Baseline (2009, ha)	%Forest Loss	%Remaining Forest
1	RGE*	PT ITCI KAYAN HUTANI	Berau	East Kalimantan	13.09	5368.45	5381.53	0.24	99.76
2	RGE*	PT ADINDO HUTANI LESTARI	Bulungan	North Kalimantan	1967.41	6259.63	8227.05	23.91	76.09
3	RGE*	PT ITCI KAYAN HUTANI	Bulungan	North Kalimantan	12061.00	184589.46	196650.47	6.13	93.87
4	RGE*	PT ITCI KARTIKA UTAMA	Kutai Barat	East Kalimantan	234.17	43722.34	43956.51	0.53	99.47
5	RGE*	PT PERMATA BORNEO ABADI	Kutai Timur	East Kalimantan	2.49	2313.04	2315.53	0.11	99.89
6	RGE*	PT SANTAN BORNEO ABADI	Kutai Timur	East Kalimantan	1754.94	2239.55	3994.49	43.93	56.07
7	RGE*	PT ITCI HUTANI MANUNGGAL	Kutai Kartanegara	East Kalimantan	120.32	56.46	176.79	68.06	31.94
8	RGE*	PT ITCI KARTIKA UTAMA	Kutai Kartanegara	East Kalimantan	212.11	5469.83	5681.93	3.73	96.27
9	RGE*	PT ADINDO HUTANI LESTARI	Malinau	North Kalimantan	816.94	14798.17	15615.11	5.23	94.77
10	RGE*	PT ITCI KAYAN HUTANI	Malinau	North Kalimantan	0.29	699.84	700.13	0.04	99.96
11	RGE*	PT PERMATA BORNEO ABADI	Malinau	North Kalimantan	189.57	32825.11	33014.68	0.57	99.43
12	RGE*	PT ADINDO HUTANI LESTARI	Nunukan	North Kalimantan	14117.05	26265.23	40382.27	34.96	65.04

<b>13</b>	RGE*	PT ITCI KARTIKA UTAMA	Paser	East Kalimantan	0.62	319.01	319.63	0.19	99.81
<b>14</b>	RGE*	PT ITCI HUTANI MANUNGGAL	Penajam Paser Utara	East Kalimantan	76.52	1495.04	1571.56	4.87	95.13
<b>15</b>	RGE*	PT ITCI KARTIKA UTAMA	Penajam Paser Utara	East Kalimantan	62.50	9098.32	9160.82	0.68	99.32
<b>16</b>	RGE*	PT ADINDO HUTANI LESTARI	Tana Tidung	North Kalimantan	15110.00	16558.37	31668.38	47.71	52.29
<b>17</b>	Alas Kesuma	PT BELAYAN RIVER TIMBER	Kutai Timur	East Kalimantan	43.87	15584.01	15627.88	0.28	99.72
<b>18</b>	Alas Kesuma	PT NARKATA RIMBA	Kutai Timur	East Kalimantan	694.67	47588.77	48283.45	1.44	98.56
<b>19</b>	Alas Kesuma	PT BELAYAN RIVER TIMBER	Kutai Kartanegara	East Kalimantan	2795.10	81249.75	84044.85	3.33	96.67
<b>20</b>	Alas Kesuma	PT BELAYAN RIVER TIMBER	Mahakam Ulu	East Kalimantan	221.62	12405.60	12627.23	1.76	98.24
<b>21</b>	Amindo	PT AMINDO WANA PERSADA	Berau	East Kalimantan	704.99	41952.43	42657.42	1.65	98.35
<b>22</b>	Barito Pasific	PT MULTI KUSUMA CEMERLANG (DH. PTBARITO PACIFIC)	Kutai Timur	East Kalimantan	431.95	987.09	1419.04	30.44	69.56
<b>23</b>	Barito Pasific	PT BARITO NUSANTARA INDAH	Kutai Kartanegara	East Kalimantan	1415.75	95784.86	97200.61	1.46	98.54
<b>24</b>	Djarum	PT FAJAR SURYA SWADAYA	Paser	East Kalimantan	14556.61	10016.46	24573.07	59.24	40.76
<b>25</b>	Djarum	PT FAJAR SURYA SWADAYA	Penajam Paser Utara	East Kalimantan	15038.79	4245.93	19284.72	77.98	22.02
<b>26</b>	Hanurata	PT HANURATA	Berau	East Kalimantan	3.84	906.49	910.33	0.42	99.58
<b>27</b>	Hanurata	PT HANURATA	Kutai Timur	East Kalimantan	2397.65	64172.22	66569.87	3.60	96.40

<b>28</b>	Hutanindo Lestari	PT TRIWIRAASTA BARATA	Kutai Barat	East Kalimantan	2405.49	19970.47	22375.97	10.75	89.25
<b>29</b>	Hutanindo Lestari	PT TRIWIRAASTA BARATA	Kutai Kartanegara	East Kalimantan	8.57	124.48	133.05	6.44	93.56
<b>30</b>	Indo Plywood/Kalamur	PT MELAPI TIMBER	Kutai Timur	East Kalimantan	6.84	6995.81	7002.65	0.10	99.90
<b>31</b>	Indo Plywood/Kalamur	PT MELAPI TIMBER	Kutai Kartanegara	East Kalimantan	13.08	6879.42	6892.50	0.19	99.81
<b>32</b>	Inhutani I	PT INHUTANI I (UNIT LABANAN)	Berau	East Kalimantan	27845.79	98645.85	126491.63	22.01	77.99
<b>33</b>	Inhutani I	PT INHUTANI I UNIT MERAANG	Berau	East Kalimantan	3736.26	59528.74	63264.99	5.91	94.09
<b>34</b>	Inhutani I	PT INHUTANI I UNIT SAMBARATA	Berau	East Kalimantan	5417.66	95134.40	100552.06	5.39	94.61
<b>35</b>	Inhutani I	PT INHUTANI I UNIT SEGAH HULU	Berau	East Kalimantan	1537.37	31520.12	33057.49	4.65	95.35
<b>36</b>	Inhutani I	PT INHUTANI I UNIT PIMPING	Bulungan	North Kalimantan	1842.63	35137.88	36980.51	4.98	95.02
<b>37</b>	Inhutani I	PT INHUTANI I UNIT SAMBARATA	Bulungan	North Kalimantan	1146.61	7649.35	8795.96	13.04	86.96
<b>38</b>	Inhutani I	PT INHUTANI I UNIT SEGAH HULU	Bulungan	North Kalimantan	648.22	19716.47	20364.69	3.18	96.82
<b>39</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Kota Balikpapan	East Kalimantan	0.26	57.41	57.66	0.45	99.55
<b>40</b>	Inhutani I	PT INHUTANI I LONG NAH	Kutai Timur	East Kalimantan	97.39	688.76	786.16	12.39	87.61
<b>41</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Kutai Kartanegara	East Kalimantan	2.92	2.54	5.45	53.47	46.53

<b>42</b>	Inhutani I	PT INHUTANI I UNIT KUNYIT- SIMENDURUT	Malinau	North Kalimantan	803.95	19322.00	20125.95	3.99	96.01
<b>43</b>	Inhutani I	PT INHUTANI I UNIT KUNYIT- SIMENDURUT	Nunukan	North Kalimantan	5853.75	91036.68	96890.44	6.04	93.96
<b>44</b>	Inhutani I	PT INHUTANI I BATUAMPAR - MENTAWIR	Penajam Paser Utara	East Kalimantan	10.77	1128.52	1139.29	0.95	99.05
<b>45</b>	Inhutani II	PT INHUTANI I UNIT PANGEAN	Berau	East Kalimantan	1.63	1544.55	1546.18	0.11	99.89
<b>46</b>	Inhutani II	PT INHUTANI I UNIT PANGEAN	Bulungan	North Kalimantan	1849.42	46300.49	48149.91	3.84	96.16
<b>47</b>	Inhutani II	PT INHUTANI II UNIT MALINAU	Malinau	North Kalimantan	3614.18	36448.14	40062.32	9.02	90.98
<b>48</b>	Inhutani II	PT INHUTANI II UNIT SEI SEMAMU	Malinau	North Kalimantan	2136.65	67063.39	69200.04	3.09	96.91
<b>49</b>	Inhutani II	PT INHUTANI II UNIT SEI TUBU	Malinau	North Kalimantan	1655.97	87458.01	89113.98	1.86	98.14
<b>50</b>	Inhutani II	PT INHUTANI II TANAH GROGOT	Paser	East Kalimantan	1485.60	3030.28	4515.88	32.90	67.10
<b>51</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Bulungan	North Kalimantan	3548.13	7215.53	10763.66	32.96	67.04
<b>52</b>	Intraca Wood	PT INTRACAWOOD MANUFACTURING	Bulungan	North Kalimantan	2947.09	106997.67	109944.76	2.68	97.32
<b>53</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Malinau	North Kalimantan	277.70	1336.05	1613.75	17.21	82.79
<b>54</b>	Intraca Wood	PT INTRACAWOOD MANUFACTURING	Malinau	North Kalimantan	1126.08	47889.57	49015.65	2.30	97.70

<b>55</b>	Intraca Wood	PT INTRACAWOOD MANUFACTURING	Nunukan	North Kalimantan	7.67	11633.88	11641.56	0.07	99.93
<b>56</b>	Intraca Wood	PT INTRACA HUTANI LESTARI	Tana Tidung	North Kalimantan	2516.50	10123.31	12639.81	19.91	80.09
<b>57</b>	Intraca Wood	PT INTRACAWOOD MANUFACTURING	Tana Tidung	North Kalimantan	3363.03	26922.32	30285.35	11.10	88.90
<b>58</b>	Kayu Lapis Indonesia	PT HUTAN KUSUMA	Kutai Kartanegara	East Kalimantan	81.34	1777.19	1858.53	4.38	95.62
<b>59</b>	Nusantara Energi	PT BELANTARA PERSADA	Berau	East Kalimantan	574.35	346.57	920.93	62.37	37.63
<b>60</b>	Nusantara Energi	PT TANJUNG REDEB HUTANI	Berau	East Kalimantan	13296.58	76770.97	90067.55	14.76	85.24
<b>61</b>	Nusantara Energi	PT TANJUNG REDEB HUTANI	Bulungan	North Kalimantan	0.27	35.20	35.47	0.76	99.24
<b>62</b>	Nusantara Energi	PT BELANTARA PERSADA	Kutai Timur	East Kalimantan	1197.07	9976.44	11173.50	10.71	89.29
<b>63</b>	Nusantara Energi	PT KIANI LESTARI	Kutai Timur	East Kalimantan	5316.94	16036.52	21353.46	24.90	75.10
<b>64</b>	OTP	PT OCEANIS TIMBER PRODUCT	Kutai Timur	East Kalimantan	224.59	26473.53	26698.12	0.84	99.16
<b>65</b>	Rangga Kesuma	PT CIVIKA WANA LESTARI	Bulungan	North Kalimantan	8.39	6957.12	6965.51	0.12	99.88
<b>66</b>	Rangga Kesuma	PT CIVIKA WANA LESTARI	Malinau	North Kalimantan	649.00	63713.25	64362.25	1.01	98.99
<b>67</b>	Rangga Kesuma	PT SARANA TRISARA BHAKTI	Malinau	North Kalimantan	501.55	30729.43	31230.98	1.61	98.39
<b>68</b>	RKR	PT RIMBA KARYA RAYATAMA (SK 384-MALINAU)	Mahakam Ulu	East Kalimantan	1186.89	48728.13	49915.02	2.38	97.62

<b>69</b>	RKR	PT RIMBA KARYA RAYATAMA (SK 384-MALINAU)	Malinau	North Kalimantan	37.90	90523.47	90561.38	0.04	99.96
<b>70</b>	Roda Mas	PT RATAH TIMBER	Kutai Barat	East Kalimantan	25.79	684.98	710.77	3.63	96.37
<b>71</b>	Roda Mas	PT KEMAKMURAN BERKAH TIMBER	Mahakam Ulu	East Kalimantan	2199.08	83544.78	85743.86	2.56	97.44
<b>72</b>	Roda Mas	PT RATAH TIMBER	Mahakam Ulu	East Kalimantan	3050.21	81671.01	84721.22	3.60	96.40
<b>73</b>	Roda Mas	PT RODAMAS TBR KALIMANTAN	Mahakam Ulu	East Kalimantan	2021.66	66821.61	68843.27	2.94	97.06
<b>74</b>	Segara Timber	PT KEDUNG MADU TROPICAL WOOD	Berau	East Kalimantan	281.02	11950.88	12231.90	2.30	97.70
<b>75</b>	Segara Timber	PT SEGARA INDOCHEM	Berau	East Kalimantan	314.96	12713.60	13028.55	2.42	97.58
<b>76</b>	Segara Timber	PT KEDUNG MADU TROPICAL WOOD	Kutai Timur	East Kalimantan	1696.02	45423.33	47119.35	3.60	96.40
<b>77</b>	Segara Timber	PT SEGARA INDOCHEM	Kutai Timur	East Kalimantan	2063.94	34793.23	36857.17	5.60	94.40
<b>78</b>	Salim Group	PT SUMALINDO ALAM LESTARI I (DH.SUMALINDO LJ I)	Berau	East Kalimantan	4235.66	17194.39	21430.05	19.77	80.23
<b>79</b>	PT. Sumalindo Lestari Jaya	PT SUMALINDO LESTARI JAYA IV	Berau	East Kalimantan	1500.42	64398.65	65899.06	2.28	97.72
<b>80</b>	Sinar Mas Forestry	PT ACASIA ANDALAN UTAMA (SK 87)	Kutai Barat	East Kalimantan	35.09	1.84	36.93	95.01	4.99
<b>81</b>	Sinar Mas Forestry	PT KELAWIT HUTANI LESTARI	Kutai Barat	East Kalimantan	219.87	2958.31	3178.17	6.92	93.08

<b>82</b>	Sinar Mas Forestry*	PT KELAWIT WANA LESTARI I	Kutai Barat	East Kalimantan	3334.90	8276.62	11611.52	28.72	71.28
<b>83</b>	Sinar Mas Forestry*	PT KELAWIT WANA LESTARI	Kutai Timur	East Kalimantan	788.68	3945.14	4733.82	16.66	83.34
<b>84</b>	Salim Group	PT SUMALINDO ALAM LESTARI I (DH.SUMALINDO LJ I)	Kutai Timur	East Kalimantan	105.09	102.56	207.66	50.61	49.39
<b>85</b>	Salim Group	PT SUMALINDO ALAM LESTARI II (DH.SUMALINDO LJ II)	Kutai Timur	East Kalimantan	1438.51	20859.16	22297.68	6.45	93.55
<b>86</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA I	Kutai Timur	East Kalimantan	108.69	75.82	184.50	58.91	41.09
<b>87</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA II	Kutai Timur	East Kalimantan	0.24	6.75	6.99	3.40	96.60
<b>88</b>	Sinar Mas Forestry	PT SURYA HUTANI JAYA	Kutai Timur	East Kalimantan	79.05	990.67	1069.73	7.39	92.61
<b>89</b>	Sinar Mas Forestry	PT ACASIA ANDALAN UTAMA (SK 87)	Kutai Kartanegara	East Kalimantan	128.75	800.04	928.79	13.86	86.14
<b>90</b>	Sinar Mas Forestry	PT SUMALINDO HUTANI JAYA II	Kutai Kartanegara	East Kalimantan	392.00	1989.74	2381.74	16.46	83.54
<b>91</b>	Sinar Mas Forestry	PT SURYA HUTANI JAYA	Kutai Kartanegara	East Kalimantan	1121.50	3318.73	4440.23	25.26	74.74
<b>92</b>	PT. Sumalindo Lestari Jaya	PT KARYA WIJAYA SUKSES	Mahakam Ulu	East Kalimantan	50.65	20003.03	20053.68	0.25	99.75
<b>93</b>	PT. Sumalindo Lestari Jaya	PT SUMALINDO LESTARI JAYA II	Mahakam Ulu	East Kalimantan	1524.04	58996.18	60520.22	2.52	97.48
<b>94</b>	PT. Sumalindo Lestari Jaya	PT SUMALINDO LESTARI JAYA V	Mahakam Ulu	East Kalimantan	1050.58	55222.30	56272.87	1.87	98.13

<b>95</b>	PT. Sumalindo Lestari Jaya	PT SUMALINDO LESTARI JAYA (EKS PT GIRI)	Malinau	North Kalimantan	36.75	69700.04	69736.79	0.05	99.95
<b>96</b>	PT. Sumalindo Lestari Jaya	PT SUMALINDO LESTARI JAYA II	Malinau	North Kalimantan	2054.71	185777.83	187832.54	1.09	98.91
<b>97</b>	Sumber Mas	PT MERANTI SAKTI INDONESIA	Bulungan	North Kalimantan	0.01	6.14	6.15	0.14	99.86
<b>98</b>	Sumber Mas	PT MERANTI SAKTI INDONESIA	Malinau	North Kalimantan	1828.03	38573.00	40401.03	4.52	95.48
<b>99</b>	Telaga Mas	PT TAMAN DAULAT WANANUSA	Paser	East Kalimantan	217.93	7720.02	7937.95	2.75	97.25
<b>100</b>	Wana Rimba Kencana	PT MUTIARA KALJA PERMAI (SK.506)	Kutai Timur	East Kalimantan	9.12	12571.02	12580.13	0.07	99.93
<b>101</b>	Wana Rimba Kencana	PT MUTIARA KALJA PERMAI (SK.506)	Kutai Kartanegara	East Kalimantan	453.72	51984.25	52437.98	0.87	99.13
<b>102</b>	Wana Rimba Kencana	PT MUTIARA KALJA PERMAI (SK.553)	Kutai Kartanegara	East Kalimantan	1236.38	68465.33	69701.72	1.77	98.23
<b>103</b>	No Group/Group Not Found	PT ADITYA KIRANA MANDIRI	Berau	East Kalimantan	640.73	38307.95	38948.68	1.65	98.35
<b>104</b>	No Group/Group Not Found	PT AQUILA SILVA	Berau	East Kalimantan	401.83	55413.11	55814.94	0.72	99.28
<b>105</b>	No Group/Group Not Found	PT BELANTARA PUSAKA	Berau	East Kalimantan	66.47	6284.31	6350.79	1.05	98.95
<b>106</b>	No Group/Group Not Found	PT DAISY TIMBER	Berau	East Kalimantan	670.11	25241.65	25911.75	2.59	97.41
<b>107</b>	No Group/Group Not Found	PT GUNUNG GAJAH ABADI	Berau	East Kalimantan	98.64	2161.60	2260.24	4.36	95.64

<b>108</b>	No Group/Group Not Found	PT HANUJAYA HUTANINDO	Berau	East Kalimantan	2241.29	2698.01	4939.30	45.38	54.62
<b>109</b>	No Group/Group Not Found	PT HUTAN BERAU LESTARI	Berau	East Kalimantan	864.19	10030.67	10894.86	7.93	92.07
<b>110</b>	No Group/Group Not Found	PT INDOSUBUR SUKSES MAKMUR	Berau	East Kalimantan	27.65	803.25	830.90	3.33	96.67
<b>111</b>	No Group/Group Not Found	PT KARYA LESTARI	Berau	East Kalimantan	593.82	35814.54	36408.36	1.63	98.37
<b>112</b>	No Group/Group Not Found	PT MARDHIKA INSAN MULIA (UNIT LABANAN)	Berau	East Kalimantan	3588.02	49931.27	53519.29	6.70	93.30
<b>113</b>	No Group/Group Not Found	PT MARDHIKA INSAN MULIA TABALAR	Berau	East Kalimantan	635.62	24083.29	24718.91	2.57	97.43
<b>114</b>	No Group/Group Not Found	PT NADILA INDODAYA	Berau	East Kalimantan	169.05	20.11	189.16	89.37	10.63
<b>115</b>	No Group/Group Not Found	PT PUJI SEMPURNA RAHARJA	Berau	East Kalimantan	1236.45	12922.72	14159.17	8.73	91.27
<b>116</b>	No Group/Group Not Found	PT RIZKI KACIDA REANA (SK 60)	Berau	East Kalimantan	1353.88	26853.93	28207.81	4.80	95.20
<b>117</b>	No Group/Group Not Found	PT SWADAYA PERKASA	Berau	East Kalimantan	2256.52	13166.14	15422.65	14.63	85.37
<b>118</b>	No Group/Group Not Found	PT UTAMA DAMAI INDAH TIMBER	Berau	East Kalimantan	1270.52	41775.90	43046.42	2.95	97.05
<b>119</b>	No Group/Group Not Found (Salim)*	PT WANA BHAKTI PERSADA UTAMA	Berau	East Kalimantan	941.16	45519.16	46460.32	2.03	97.97
<b>120</b>	No Group/Group Not Found	PT WANA KALTIM LESTARI	Berau	East Kalimantan	689.58	14083.70	14773.28	4.67	95.33

(Salim)*									
<b>121</b>	No Group/Group Not Found	PT WIDYA ARTHA PERDANA	Berau	East Kalimantan	390.18	8684.25	9074.43	4.30	95.70
<b>122</b>	No Group/Group Not Found	KTH PEMUDA BERKARYA	Bulungan	North Kalimantan	377.63	2250.47	2628.10	14.37	85.63
<b>123</b>	No Group/Group Not Found	PT HUTANI KALIMANTAN ABADI PERMAI	Bulungan	North Kalimantan	1519.07	33859.97	35379.04	4.29	95.71
<b>124</b>	No Group/Group Not Found	PT KAYAN MAKMUR SEJAHTERA	Bulungan	North Kalimantan	7300.10	5052.69	12352.79	59.10	40.90
<b>125</b>	No Group/Group Not Found	PT LENTERA SAWIT MAKMUR	Bulungan	North Kalimantan	560.51	2007.37	2567.88	21.83	78.17
<b>126</b>	No Group/Group Not Found	PT RIZKI KACIDA REANA (SK 60)	Bulungan	North Kalimantan	1781.33	17027.18	18808.51	9.47	90.53
<b>127</b>	No Group/Group Not Found	PT WIDYA ARTHA PERDANA	Bulungan	North Kalimantan	598.32	3182.16	3780.47	15.83	84.17
<b>128</b>	No Group/Group Not Found	KOP. PONDOK PESANTREN DARUSSALAM	Kutai Barat	East Kalimantan	418.15	8144.44	8562.59	4.88	95.12
<b>129</b>	No Group/Group Not Found	KTH BERMAONG RUKO	Kutai Barat	East Kalimantan	0.68	35.49	36.18	1.89	98.11
<b>130</b>	No Group/Group Not Found	KTH JENGAN SIMPUNG TUHA	Kutai Barat	East Kalimantan	31.86	78.35	110.21	28.91	71.09
<b>131</b>	No Group/Group Not Found	KTH PUTRA LAWA	Kutai Barat	East Kalimantan	72.94	110.07	183.00	39.85	60.15
<b>132</b>	No Group/Group Not Found	KTH SAMAN TAKAQ	Kutai Barat	East Kalimantan	11.51	64.59	76.10	15.12	84.88

<b>133</b>	No Group/Group Not Found	PT AUSTRAL BYNA	Kutai Barat	East Kalimantan	127.60	3551.62	3679.22	3.47	96.53
<b>134</b>	No Group/Group Not Found	PT BAKAYAN JAYA ABADI	Kutai Barat	East Kalimantan	571.87	2855.94	3427.82	16.68	83.32
<b>135</b>	Korindo Group	PT BALIKPAPAN WANA LESTARI (DH. BALIKPAPAN F. I.)	Kutai Barat	East Kalimantan	5367.76	57684.42	63052.18	8.51	91.49
<b>136</b>	No Group/Group Not Found	PT BARITO PUTERA	Kutai Barat	East Kalimantan	474.39	7067.13	7541.52	6.29	93.71
<b>137</b>	No Group/Group Not Found	PT BORNEO KUTAI LESTARI	Kutai Barat	East Kalimantan	2214.69	9162.37	11377.06	19.47	80.53
<b>138</b>	No Group/Group Not Found	PT DAYA MAJU LESTARI (DH.PTMARIMUN TIMBER IDS)	Kutai Barat	East Kalimantan	1100.59	2529.28	3629.87	30.32	69.68
<b>139</b>	No Group/Group Not Found	PT HARAPAN KALTIM LESTARI	Kutai Barat	East Kalimantan	6435.24	36236.17	42671.41	15.08	84.92
<b>140</b>	No Group/Group Not Found	PT HUTAN MAHLIGAI	Kutai Barat	East Kalimantan	697.30	9126.66	9823.95	7.10	92.90
<b>141</b>	No Group/Group Not Found	PT JAYA TIMBER TRADING INDUSTRI	Kutai Barat	East Kalimantan	82.23	2063.40	2145.63	3.83	96.17
<b>142</b>	No Group/Group Not Found	PT KEDAP SAYAAQ	Kutai Barat	East Kalimantan	1419.82	12587.51	14007.33	10.14	89.86
<b>143</b>	No Group/Group Not Found	PT RIMBA KARYA RAYATAMA	Kutai Barat	East Kalimantan	3940.33	31158.63	35098.96	11.23	88.77
<b>144</b>	No Group/Group Not Found	PT RIMBA RAYA LESTARI	Kutai Barat	East Kalimantan	2068.24	14086.96	16155.21	12.80	87.20

<b>145</b>	No Group/Group Not Found	PT SENDAWAR ADHI KARYA	Kutai Barat	East Kalimantan	4440.29	7879.04	12319.33	36.04	63.96
<b>146</b>	No Group/Group Not Found	PT SILVA RIMBA LESTARI	Kutai Barat	East Kalimantan	41.95	1893.07	1935.02	2.17	97.83
<b>147</b>	No Group/Group Not Found	PT TIMBER DANA	Kutai Barat	East Kalimantan	8024.29	45596.13	53620.43	14.96	85.04
<b>148</b>	No Group/Group Not Found (Roda Mas Group)*	PT TIRTA MAHAKAM RESOURCES	Kutai Barat	East Kalimantan	1009.68	10352.08	11361.76	8.89	91.11
<b>149</b>	No Group/Group Not Found	PT WANA INTI KAHURIPAN INTIGA	Kutai Barat	East Kalimantan	83.45	1659.04	1742.49	4.79	95.21
<b>150</b>	No Group/Group Not Found	KOPERASI PRODUKSI BERSAMA TIMBAU MENAMBANG	Kutai Timur	East Kalimantan	220.02	2412.08	2632.10	8.36	91.64
<b>151</b>	No Group/Group Not Found	KT BATU NUMOQ	Kutai Timur	East Kalimantan	120.52	467.11	587.63	20.51	79.49
<b>152</b>	No Group/Group Not Found	PT ACACIA ANDALAN UTAMA (SK 620)	Kutai Timur	East Kalimantan	730.24	5531.15	6261.39	11.66	88.34
<b>153</b>	No Group/Group Not Found	PT BORNEO KARYA INDAH MANDIRI	Kutai Timur	East Kalimantan	939.92	26053.44	26993.35	3.48	96.52
<b>154</b>	No Group/Group Not Found	PT BUANA INTI ENERGI	Kutai Timur	East Kalimantan	1127.67	910.46	2038.13	55.33	44.67
<b>155</b>	No Group/Group Not Found	PT CAHAYA MITRA WIRATAMA	Kutai Timur	East Kalimantan	6094.99	2734.70	8829.69	69.03	30.97

<b>156</b>	No Group/Group Not Found	PT DAISY TIMBER	Kutai Timur	East Kalimantan	184.70	4277.59	4462.29	4.14	95.86
<b>157</b>	No Group/Group Not Found	PT DIVA PERDANA PESONA	Kutai Timur	East Kalimantan	1290.50	15224.29	16514.79	7.81	92.19
<b>158</b>	No Group/Group Not Found	PT GUNUNG GAJAH ABADI	Kutai Timur	East Kalimantan	1456.68	60721.31	62177.99	2.34	97.66
<b>159</b>	No Group/Group Not Found	PT HANUJAYA HUTANINDO	Kutai Timur	East Kalimantan	1397.15	4397.98	5795.13	24.11	75.89
<b>160</b>	No Group/Group Not Found	PT INDOSUBUR SUKSES MAKMUR	Kutai Timur	East Kalimantan	580.29	15157.77	15738.06	3.69	96.31
<b>161</b>	No Group/Group Not Found	PT INTERTROPIC ADITAMA	Kutai Timur	East Kalimantan	752.66	28167.90	28920.56	2.60	97.40
<b>162</b>	No Group/Group Not Found	PT KARYA LESTARI	Kutai Timur	East Kalimantan	356.18	11234.34	11590.52	3.07	96.93
<b>163</b>	No Group/Group Not Found	PT MARDHIKA INSAN MULIA TABALAR	Kutai Timur	East Kalimantan	86.39	1377.44	1463.84	5.90	94.10
<b>164</b>	No Group/Group Not Found	PT NADILA INDODAYA	Kutai Timur	East Kalimantan	1876.29	15719.62	17595.91	10.66	89.34
<b>165</b>	No Group/Group Not Found	PT PANAMBANGAN	Kutai Timur	East Kalimantan	2168.62	24500.69	26669.31	8.13	91.87
<b>166</b>	No Group/Group Not Found	PT RESTORASI HABITAT ORANG HUTAN INDONESIA	Kutai Timur	East Kalimantan	63.15	85196.81	85259.96	0.07	99.93
<b>167</b>	No Group/Group Not Found	PT SWADAYA PERKASA	Kutai Timur	East Kalimantan	707.21	628.75	1335.95	52.94	47.06
<b>168</b>	No Group/Group Not Found	PT SYLVADUTA CORPORATION	Kutai Timur	East Kalimantan	69.46	1103.12	1172.58	5.92	94.08

<b>169</b>	No Group/Group Not Found	PT UTAMA DAMAI INDAH TIMBER	Kutai Timur	East Kalimantan	4.42	1958.22	1962.65	0.23	99.77
<b>170</b>	No Group/Group Not Found	KTH DELTA MAHAKAM	Kutai Kartanegara	East Kalimantan	0.23	65.99	66.22	0.35	99.65
<b>171</b>	No Group/Group Not Found	KUD BERINGIN MULYA	Kutai Kartanegara	East Kalimantan	402.51	20964.50	21367.01	1.88	98.12
<b>172</b>	No Group/Group Not Found	PT DAYA MAJU LESTARI (DH.PTMARIMUN TIMBER IDS)	Kutai Kartanegara	East Kalimantan	309.66	3368.27	3677.94	8.42	91.58
<b>173</b>	No Group/Group Not Found	PT DEWATA WANATAMA LESTARI (DH.PT DHARMA PUTERA)	Kutai Kartanegara	East Kalimantan	53.34	27504.42	27557.76	0.19	99.81
<b>174</b>	No Group/Group Not Found	PT DHARMA HUTANI MAK MUR	Kutai Kartanegara	East Kalimantan	52.69	917.15	969.84	5.43	94.57
<b>175</b>	No Group/Group Not Found	PT JAYA TIMBER TRADING INDUSTRI	Kutai Kartanegara	East Kalimantan	382.08	31416.55	31798.62	1.20	98.80
<b>176</b>	No Group/Group Not Found	PT RESTORASI HABITAT ORANG HUTAN INDONESIA	Kutai Kartanegara	East Kalimantan	1.01	583.45	584.46	0.17	99.83
<b>177</b>	No Group/Group Not Found	PT SENDAWAR ADHI KARYA	Kutai Kartanegara	East Kalimantan	393.76	1150.01	1543.77	25.51	74.49
<b>178</b>	No Group/Group Not Found	PT SILVA RIMBA LESTARI	Kutai Kartanegara	East Kalimantan	10242.02	27148.49	37390.51	27.39	72.61
<b>179</b>	No Group/Group Not Found	PT SYLVADUTA CORPORATION	Kutai Kartanegara	East Kalimantan	712.02	1280.80	1992.82	35.73	64.27

<b>180</b>	No Group/Group Not Found	CV PARI JAYA MAKMUR	Mahakam Ulu	East Kalimantan	487.91	11741.23	12229.14	3.99	96.01
<b>181</b>	No Group/Group Not Found	KOP. PONDOK PESANTREN DARUSSALAM	Mahakam Ulu	East Kalimantan	380.16	8548.59	8928.75	4.26	95.74
<b>182</b>	No Group/Group Not Found	KSU. MAYANG PUTRI PRIMA	Mahakam Ulu	East Kalimantan	101.61	12990.94	13092.55	0.78	99.22
<b>183</b>	No Group/Group Not Found	PT ACK RIMBA LESTARI (DH.PTAGRO CITY KALTIM)	Mahakam Ulu	East Kalimantan	117.26	16122.77	16240.03	0.72	99.28
<b>184</b>	No Group/Group Not Found	PT DAYA MAJU LESTARI (DH.PTMARIMUN TIMBER IDS)	Mahakam Ulu	East Kalimantan	202.84	35349.26	35552.10	0.57	99.43
<b>185</b>	No Group/Group Not Found	PT DEWATA WANATAMA LESTARI (DH.PT DHARMA PUTERA)	Mahakam Ulu	East Kalimantan	273.67	22661.91	22935.58	1.19	98.81
<b>186</b>	No Group/Group Not Found	PT JAYA TIMBER TRADING INDUSTRI	Mahakam Ulu	East Kalimantan	345.03	11805.42	12150.45	2.84	97.16
<b>187</b>	No Group/Group Not Found	PT KEDAP SAYAAQ	Mahakam Ulu	East Kalimantan	128.15	1009.81	1137.96	11.26	88.74
<b>188</b>	No Group/Group Not Found	PT SAMUDERA REJEKI PERKASA	Mahakam Ulu	East Kalimantan	38.19	5430.36	5468.55	0.70	99.30
<b>189</b>	No Group/Group Not Found	PT SEROJA UNIVERSUM NARWASTU	Mahakam Ulu	East Kalimantan	697.34	33968.50	34665.84	2.01	97.99
<b>190</b>	No Group/Group Not Found	PT WANGSA KARYA LESTARI	Mahakam Ulu	East Kalimantan	97.89	40727.98	40825.86	0.24	99.76

<b>191</b>	No Group/Group Not Found	PT BATU KARANG SAKTI	Malinau	North Kalimantan	327.65	44352.80	44680.45	0.73	99.27
<b>192</b>	No Group/Group Not Found	PT DEWATA WANATAMA LESTARI (DH.PT DHARMA PUTERA)	Malinau	North Kalimantan	4.49	10253.84	10258.33	0.04	99.96
<b>193</b>	No Group/Group Not Found (Sumalindo Lestari Jaya)	PT ESSAM TIMBER	Malinau	North Kalimantan	333.56	329271.62	329605.18	0.10	99.90
<b>194</b>	No Group/Group Not Found	PT GUNUNG SIDI SUKSES MAKMUR	Malinau	North Kalimantan	812.36	32981.95	33794.31	2.40	97.60
<b>195</b>	No Group/Group Not Found	PT RIMBA MAKMUR SENTOSA	Malinau	North Kalimantan	1355.06	40563.01	41918.07	3.23	96.77
<b>196</b>	No Group/Group Not Found	PT WANA ADIPRIMA MANDIRI	Malinau	North Kalimantan	1790.14	33102.59	34892.73	5.13	94.87
<b>197</b>	No Group/Group Not Found	GAPOKTANHUT EMPELINIT	Nunukan	North Kalimantan	5.99	258.53	264.52	2.26	97.74
<b>198</b>	No Group/Group Not Found	KOPERASI SERBA USAHA SEKIKILAN JAYA	Nunukan	North Kalimantan	2.28	2.65	4.93	46.22	53.78
<b>199</b>	No Group/Group Not Found	KOPERASI UNIT DESA MERTASARI	Nunukan	North Kalimantan	69.62	35.32	104.94	66.35	33.65
<b>200</b>	No Group/Group Not Found	KSU. MERANTI TUMBUH INDAH	Nunukan	North Kalimantan	463.15	12279.55	12742.70	3.63	96.37
<b>201</b>	No Group/Group Not Found	KUD MERTA SARI II	Nunukan	North Kalimantan	310.77	87.74	398.51	77.98	22.02

<b>202</b>	No Group/Group Not Found	PT ADIMITRA LESTARI	Nunukan	North Kalimantan	3849.36	46692.45	50541.81	7.62	92.38
<b>203</b>	No Group/Group Not Found	PT BORNEO UTARA LESTARI	Nunukan	North Kalimantan	1877.33	2960.38	4837.71	38.81	61.19
<b>204</b>	No Group/Group Not Found	PT KARYA JAYA PARAKAWAN	Nunukan	North Kalimantan	9142.72	20399.09	29541.81	30.95	69.05
<b>205</b>	No Group/Group Not Found	PT BALIKPAPAN WANA LESTARI (DH. BALIKPAPAN F. I.)	Paser	East Kalimantan	857.89	34365.00	35222.89	2.44	97.56
<b>206</b>	No Group/Group Not Found	PT ELBANA ABADI JAYA	Paser	East Kalimantan	1.27	593.39	594.66	0.21	99.79
<b>207</b>	No Group/Group Not Found	PT GREATY SUKSES ABADI	Paser	East Kalimantan	698.65	15958.23	16656.88	4.19	95.81
<b>208</b>	No Group/Group Not Found	PT GREATY SUKSES ABADI UNIT SUNGAI TELAKAI	Paser	East Kalimantan	2226.97	33690.08	35917.05	6.20	93.80
<b>209</b>	No Group/Group Not Found	PT HUTAN RINDANG BANUA	Paser	East Kalimantan	0.97	15.28	16.25	5.96	94.04
<b>210</b>	No Group/Group Not Found	PT MITRA MULIA MAHAKAM	Paser	East Kalimantan	130.20	6945.06	7075.26	1.84	98.16
<b>211</b>	No Group/Group Not Found	PT TIMBER DANA	Paser	East Kalimantan	67.84	5038.36	5106.20	1.33	98.67
<b>212</b>	Korindo Group	PT BALIKPAPAN WANA LESTARI (DH. BALIKPAPAN F. I.)	Penajam Paser Utara	East Kalimantan	3118.87	16165.83	19284.70	16.17	83.83
<b>213</b>	No Group/Group Not Found	PT BELANTARA SUBUR	Penajam Paser Utara	East Kalimantan	4130.14	3770.35	7900.48	52.28	47.72

<b>214</b>	No Group/Group Not Found	PT MITRA MULIA MAHAKAM	Penajam Paser Utara	East Kalimantan	921.34	2341.03	3262.37	28.24	71.76
<b>215</b>	No Group/Group Not Found	KSU LEMBAGA PEMBERDAYAAN MASYARAKAT DESA	Tana Tidung	North Kalimantan	23.60	24556.42	24580.02	0.10	99.90
<b>216</b>	No Group/Group Not Found	KTH PEMUDA TANI	Tana Tidung	North Kalimantan	30.31	3715.52	3745.83	0.81	99.19
<b>217</b>	No Group/Group Not Found	KTH RIMBA TAKAU	Tana Tidung	North Kalimantan	8.86	270.02	278.88	3.18	96.82
<b>218</b>	No Group/Group Not Found	KTH TIRAN LESTARI	Tana Tidung	North Kalimantan	8.86	30.66	39.52	22.42	77.58

#### Annex 4. Palm Oil Mill and Refinery Facilities Linked in East and North Kalimantan

Alpha Parent	Parent	Facility	Latitude	Longitude	Province
<b>Harapan Sawit Sejahtera</b>	Harapan Sawit Sejahtera	Harapan Sawit Sejahtera	- 1.752722	116.12089	East Kalimantan
<b>Indofood Agri</b>	PP London Sumatera Indonesia TBK (Lonsum)	Pahu Makmur	- 0.598324	116.13977	East Kalimantan
<b>MP Evans</b>	Prima Mitrajaya Mandiri	Benua Puhun	- 0.297249	116.76413	East Kalimantan
<b>Metro Kajang Holdings (MKH Berhad)</b>	Maju Kalimantan Hadapan	Seguntung	0.015232	116.97139	East Kalimantan
<b>Astra Agro Lestari</b>	Karyanusa Eka Daya	Karyanusa Eka Daya 1	0.991852	116.75369	East Kalimantan
<b>Astra Agro Lestari</b>	Sumber Kharisma Persada	Sumber Kharisma Persada	1.012578	118.05024	East Kalimantan
<b>Palma Serasih</b>	Anugerah Energitama	Anugerah Energitama - Tepian Langsat	0.791853	117.28267	East Kalimantan
<b>Indofood Agri</b>	Multi Pacific International	Cipta Graha	1.000123	117.7672	East Kalimantan
<b>Union Sampoerna Agro Triputra Persada</b>	Etam Bersama Lestari	Etam Bersama Lestari	1.2239	117.87864	East Kalimantan
<b>Astra Agro Lestari</b>	Borneo Indah Marjaya	Borneo Indah Marjaya	-2.03167	116.40092	East Kalimantan
<b>QL Resources</b>	Pipit Mutiara Indah	Pipit Mutiara Indah	3.325267	117.17423	North Kalimantan
<b>Nunukan Sawit Mas</b>	Nunukan Sawit Mas	Nunukan Sawit Mas	3.830504	116.76129	North Kalimantan
<b>Fangiono Agro Plantation</b>	Bhumi Simanggaris Indah	Bhumi Simanggaris Indah	4.237778	117.36411	North Kalimantan
<b>Fangiono Agro Plantation</b>	Karangjuang Hijau Lestari	Karangjuang Hijau Lestari	4.035111	116.92753	North Kalimantan
<b>Astra Agro Lestari</b>	Waru Kaltim Plantations	Waru Kaltim Plantations	- 1.328042	116.54407	East Kalimantan

<b>Indofood Agri</b>	Kebun Mandiri Sejahtera	Mariango	- 1.280064	116.63801	East Kalimantan
<b>R.E.A Holdings PLC</b>	Rea Kaltim Plantations	Cakra	0.265333	116.26642	East Kalimantan
<b>Matahari Kahuripan Indonesia (Makin)</b>	Sanggam Kahuripan Indonesia	Sanggam Kahuripan Indonesia (Salim Batu)	3.1155	117.2663	North Kalimantan
<b>Astra Agro Lestari</b>	Subur Abadi Plantation	Karyanusa Eka Daya 2	0.913226	116.73525	East Kalimantan
<b>Goodhope Holdings</b>	Agro Indomas	Bumi Jaya	-1.01435	116.68968	East Kalimantan
<b>Alam Permai Makmur Raya</b>	Alam Permai Makmur Raya	Alam Permai Makmur Raya	- 1.099353	116.612	East Kalimantan
<b>Mega Hijau Lestari</b>	Mega Hijau Lestari	Mega Hijau Lestari	- 1.240108	116.64479	East Kalimantan
<b>Astra Agro Lestari</b>	Astra Agro Lestari	Sukses Tani Nusasubur (STN)	-1.38075	116.47316	East Kalimantan
<b>Triputra Agro Persada</b>	Triputra Agro Persada	Muaratoyu Subur Lestari	- 1.352047	116.38199	East Kalimantan
<b>PTPN</b>	PTPN VIII	Long Kali	- 1.421878	116.24903	East Kalimantan
<b>Sahabat Sawit Sejahtera</b>	Sahabat Sawit Sejahtera	Sahabat Sawit Sejahtera	- 1.485297	116.31699	East Kalimantan
<b>Superventure</b>	Sumber Bunga Sawit Lestari (SBSL)	Babulu	- 1.490469	116.44403	East Kalimantan
<b>Cisadane Raya Chemicals</b>	Buana Wirasubur Sakti (BWS)	Buana Wirasubur Sakti (BWS)	- 1.886417	116.06075	East Kalimantan
<b>PTPN</b>	PTPN VIII	Long Pinang	- 1.927792	116.12419	East Kalimantan
<b>Padasa Enam Utama</b>	Multi Makmur Mitra Alam	Pasers	- 2.149903	116.08443	East Kalimantan
<b>Kuala Lumpur Kepong Berhad (KLK)</b>	Satu Sembilan Delapan (SSD)	Satu Sembilan Delapan - Segah	2.142837	117.29828	East Kalimantan
<b>Indofood Agri</b>	Ampenas	Ampenas	1.214172	117.80887	East Kalimantan

<b>Dharma Satya Nusantara (DSN)</b>	Dharma Satya Nusantara (DSN)	Dharma Satya Nusantara PKS-6	1.281329	116.78353	East Kalimantan
<b>Dharma Satya Nusantara (DSN)</b>	Dharma Satya Nusantara (DSN)	Dharma Satya Nusantara PKS-2	1.250186	116.72846	East Kalimantan
<b>Golden Agri-Resources</b>	Kresna Duta Agroindo	Gunung Kombeng	1.11132	117.02156	East Kalimantan
<b>Golden Agri-Resources</b>	Kresna Duta Agroindo	Muara Wahau	1.10964	117.02152	East Kalimantan
<b>Bima Palma Nugraha</b>	Bima Palma Nugraha	Tepian Langsung	0.752007	117.40547	East Kalimantan
<b>Fima Corporation</b>	Nunukan Jaya Lestari	Nunukan Jaya Lestari (Kempas)	4.203886	117.25239	North Kalimantan
<b>Berca / Cipta Cakra Murdaya</b>	Berca / Cipta Cakra Murdaya	Sebakis Inti Lestari	4.005167	117.2545	North Kalimantan
<b>Rajawali Corporation</b>	Jaya Mandiri Sukses	Bangkirai	- 0.563333	116.3739	East Kalimantan
<b>Kencana Agri Limited</b>	Sawit Kaltim Lestari	Sawit Kaltim Lestari	- 0.065995	116.83066	East Kalimantan
<b>Golden Agri-Resources</b>	Tapian Nadenggan	Jak Luay	0.950833	116.915	East Kalimantan
<b>Fairco Agro Mandiri</b>	Fairco Agro Mandiri	Fam Lendak Estate (Kaubun)	0.966702	117.7919	East Kalimantan
<b>Chellam Plantations</b>	Chellam Plantations	Pucuk Jaya	- 2.232983	116.04888	East Kalimantan
<b>Kaltim CT Agro</b>	Kaltim CT Agro	Kutai Agro Lestari	- 0.642833	115.7388	East Kalimantan
<b>IJM Corporation</b>	Indonesia Plantations Synergy	Indonesia Plantations Synergy	0.78326	117.99172	East Kalimantan
<b>Superventure</b>	Cahaya Bintang Sawit Sejati (CBS)	Cahaya Bintang Sawit Sejati (CBS) - Kuaro	- 1.842808	116.0681	East Kalimantan
<b>Saraswanti Sawit Makmur</b>	Saraswanti Sawit Makmur	Saraswanti Sawit Makmur	- 2.266944	116.015	East Kalimantan
<b>Trurich Resources</b>	Teknik Utama Mandiri Kristal	Kristal	3.613508	117.03258	North Kalimantan

<b>TSH Resources</b>	TSH Resources	Farinda Bersaudara	-0.6954	116.2655	East Kalimantan
<b>Teladan Prima</b>	Teladan Prima	Telen - Pengadan Baay	1.247783	117.69348	East Kalimantan
<b>Teladan Prima</b>	Teladan Prima	Telen Prima Sawit	0.5096	116.78208	East Kalimantan
<b>Teladan Prima</b>	Tanjung Buyu Perkasa Plantation	Tanjung Buyu Perkasa Plantation	1.514967	118.26678	East Kalimantan
<b>Ganda (GAMA)</b>	Tritunggal Sentra Buana	Tritunggal Sentra Buana	-0.417583	117.3645	East Kalimantan
<b>MP Evans</b>	MP Evans	Prima Mitrajaya Mandiri	-0.341944	116.8042	East Kalimantan
<b>Dharma Satya Nusantara (DSN)</b>	Swakarsa Sinar Sentosa	Dharma Satya Nusantara PKS-1	1.123701	116.8518	East Kalimantan
<b>Indofood Agri</b>	Gunta Samba Jaya	Gunta Samba Jaya	1.3745	117.14447	East Kalimantan
<b>Karya Teknik Plantation</b>	Karya Teknik Plantation	Karya Teknik Plantation	-0.15434	117.01007	East Kalimantan
<b>Rajawali Corporation</b>	Sawit Sukses Sejahtera (SSS)	Sawit Sukses Sejahtera	0.41975	116.49028	East Kalimantan
<b>Triputra Agro Persada</b>	Yudha Wahana Abadi	Yudha Wahana Abadi	1.44075	117.2127	East Kalimantan
<b>Bima Palma Nugraha</b>	Bima Agri Sawit	Muara Bulan	1.263417	117.60256	East Kalimantan
<b>Indofood Agri</b>	Wira Inova Nusantara	Wira Inova Nusantara	0.965731	118.19459	East Kalimantan
<b>Cahaya Tiara Plantation</b>	Cahaya Anugerah Plantation	Feliza	-0.091583	117.02864	East Kalimantan
<b>Kencana Agri Limited</b>	Agri East Borneo Kencana	Agri East Borneo Kencana	0.134167	116.9161	East Kalimantan
<b>Teladan Prima</b>	Gemilang Sejahtera Abadi	Gemilang Sejahtera Abadi	0.602778	116.73167	East Kalimantan
<b>Royal Golden Eagle (RGE)</b>	Kemilau Indah Nusantara	Sungai Bengalon	0.72294	117.65753	East Kalimantan

<b>Dharma Satya Nusantara (DSN)</b>	Dharma Satya Nusantara (DSN)	Dharma Satya Nusantara PKS-3	1.255633	116.8772	East Kalimantan
<b>Dharma Satya Nusantara (DSN)</b>	Dharma Satya Nusantara (DSN)	Dharma Satya Nusantara PKS-4	1.151402	116.7464	East Kalimantan
<b>R.E.A Holdings PLC</b>	Rea Kaltim Plantations	Perdana	0.258682	116.14921	East Kalimantan
<b>Wings Agro</b>	Gawi Makmur Kalimantan	Penajam	- 1.439757	116.39769	East Kalimantan
<b>Indofood Agri</b>	PP London Sumatera Indonesia TBK (Lonsum)	Pahu Makmur	-0.45975	115.98351	East Kalimantan
<b>Kuala Lumpur Kepong Berhad (KLK)</b>	Hutan Hijau Mas	Hutan Hijau Mas	2.2114	117.1659	East Kalimantan
<b>Kencana Agri Limited</b>	Agro Inti Kencana Mas	Agro Inti Kencana Mas	- 2.222431	116.35605	East Kalimantan
<b>Triputra Agro Persada</b>	Dwiwira Lestari Jaya	Dwiwira Lestari Jaya	1.606406	118.04383	East Kalimantan
<b>Kuala Lumpur Kepong Berhad (KLK)</b>	Jabontara Eka Karsa	Jabontara Eka Karsa	1.24313	118.33864	East Kalimantan
<b>R.E.A Holdings PLC</b>	Sasana Yudha Bakti	Satria	0.423896	116.14991	East Kalimantan
<b>Chellam Plantations</b>	Kutai Balian Nauli	Kutai Balian Nauli	0.746171	117.3491	East Kalimantan
<b>Golden Agri-Resources</b>	Kresna Duta Agroindo	Rantau Panjang	0.97045	116.8281	East Kalimantan
<b>Kruing Lestari Jaya</b>	Kruing Lestari Jaya	Sungai Perak	-0.66144	115.5897	East Kalimantan
<b>Long Bagun Prima Sawit</b>	Long Bagun Prima Sawit	Batu Lepoq	1.419676	117.8551	East Kalimantan
<b>Teladan Prima</b>	Teladan Prima	Sawit Prima Nusantara	1.102	117.808	East Kalimantan
<b>Teladan Prima</b>	Teladan Prima	Sima Agung Prima Sawit	0.825349	118.754	East Kalimantan
<b>Fangiono Agro Plantation</b>	Fangiono Agro Plantation	Tirta Madu Sawit Jaya	4.112449	117.04273	North Kalimantan

<b>IJM Corporation</b>	Sinergi Agro Industri	Sinergi Agro Industri	0.901413	118.42666	East Kalimantan
<b>Kalpataru Investama</b>	Karsima Utamakarya	Mahakam Sawit	- 0.338668	116.88074	East Kalimantan
<b>Teladan Prima</b>	Sawit Prima Nusantara	Bukit Permata	1.08243	117.7224	East Kalimantan
<b>Low-Yat</b>	Tunas Prima Sejahtera	Tunas Prima Sejahtera	0.056091	116.37999	East Kalimantan
<b>Sentosa Kalimantan Jaya</b>	Sentosa Kalimantan Jaya	Sentosa Kalimantan Jaya	2.34085	118.06188	East Kalimantan
<b>Perkebunan Kaltim Utama 1</b>	Perkebunan Kaltim Utama 1	Perkebunan Kaltim Utama 1	- 0.728455	117.18548	East Kalimantan
<b>Triputra Agro Persada</b>	Hampanan Perkasa Mandiri	Hampanan Perkasa Mandiri	0.776847	116.6114	East Kalimantan
<b>Citra Sawit Lestari</b>	Citra Sawit Lestari	Citra Sawit Lestari	2.922089	117.26464	North Kalimantan
<b>Superventure</b>	Cahaya Bintang Sawit Sejati (CBS)	Cahaya Bintang Sawit Sejati 2 (Petangis)	-2.09302	116.122	East Kalimantan
<b>Permata Nusa Sejati</b>	Permata Nusa Sejati	Sebatik	4.16214	117.70137	North Kalimantan
<b>First Resources Limited</b>	Ketapang Agro Lestari	Ketapang Agro Lestari	-0.87578	115.89141	East Kalimantan
<b>PTPN</b>	PTPN XIII	Samuntai	- 1.673433	116.12436	East Kalimantan
<b>JC Chemicals</b>	JC Chemicals	Niagamas Gemilang	-0.59233	116.8225	East Kalimantan
<b>NPC Resources Bhd</b>	NPC Resources Bhd	Nala Palma Cadudasa	0.278889	116.8444	East Kalimantan
<b>Teladan Prima</b>	Teladan Prima	Multi Jayantara Abadi	- 2.380249	116.5297	East Kalimantan
<b>Permata Nusa Sejati</b>	Permata Nusa Sejati	Permata Nusa Sejati - Nunukan	4.1738	117.444	North Kalimantan
<b>Bukit Borneo Sejahtera</b>	Bukit Borneo Sejahtera	Bukit Borneo Sejahtera	3.464588	116.60577	North Kalimantan

<b>NPC Resources Bhd</b>	NPC Resources Bhd	Borneo Indo Subur	- 1.482183	116.14971	East Kalimantan
<b>Jhonlin</b>	Pradiksi Gunatama	Pradiksi Gunatama	- 2.180506	116.20928	East Kalimantan
<b>Ganda (GAMA)</b>	Sawit Unggul Agro Niaga	Sawit Unggul Agro Niaga	-0.35114	117.39362	East Kalimantan
<b>Bumi Sawita Jaya</b>	Hanusentra Agro Lestari	Hanusentra Agro Lestari	1.176726	117.90199	East Kalimantan
<b>Fangiono Agro Plantation</b>	Fangiono Agro Plantation	Borneo Bhakti Sejahtera	0.494167	115.36639	East Kalimantan
<b>Wings Agro</b>	Gawi Makmur Kalimantan	Inti Selaras Perkasa - Bulungan	2.736994	117.2072	North Kalimantan
<b>PTPN</b>	PTPN XIII	Lembah Batu	-1.6308	116.1403	East Kalimantan
<b>Kalimantan Agro Nusantara</b>	Kalimantan Agro Nusantara	Kalinusa Rantau Pulung	0.676288	117.22731	East Kalimantan
<b>IJM Corporation</b>	Prima Bahagia Permai	Prima	2.672174	117.7458	North Kalimantan
<b>Dharma Satya Nusantara (DSN)</b>	Dharma Satya Nusantara (DSN)	Dharma Satya Nusantara PKS-7	1.28225	116.91562	East Kalimantan
<b>First Resources Limited</b>	PT Citra Agro Kencana	Citra Agro Kencana Mill	- 0.472249	115.59339	East Kalimantan
<b>Fangiono Agro Plantation</b>	Bulungan Hijau Perkasa	Bulungan Hijau Perkasa	3.928996	116.8164	North Kalimantan
<b>Triputra Agro Persada</b>	Natura Pacific Nusantara	Natura Pasific Nusantara	2.24749	116.985	East Kalimantan
<b>Alam Jaya Persada</b>	Alam Jaya Persada	Alam Jaya Persada	-0.93135	117.15	East Kalimantan
<b>MP Evans</b>	Teguh Jaya Prima Abadi	Rahayu	- 0.201972	116.7724	East Kalimantan
<b>Royal Golden Eagle (RGE)*</b>	Kutai Refinery Nusantara	Kutai Refinery Nusantara	- 1.179099	116.78827	East Kalimantan
<b>Louis Dreyfus Commodities Indonesia*</b>	LDC East Indonesia	LDC East Indonesia	- 1.108458	116.73546	East Kalimantan

<b>Wilmar/KPN Bulking Station</b>	Wilmar Nabati Indonesia	Wilmar Nabati Indonesia- Balikpapan	- 1.136110	116.7720	East Kalimantan
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\* Refinery

## 7. Summary of Company Responses to Indicative Forest Footprint Evaluation

**Responses from Brands and Forestry and Agribusiness Companies named in the Indicative Forest Footprint Evaluation.**

### Responses from the Ten Brands

Rainforest Action Network (RAN) provided the opportunity for the brands named in the forest footprint report to respond to its key finding that the ten multinational brands have been complicit in the destruction of over 700,000 hectares of tropical rainforests in the Indonesian provinces of North and East Kalimantan due to their sourcing from palm oil, pulp and forestry companies operating in the regions. A summary of the responses received are below:

PepsiCo and Nissin Foods did not issue a formal response to RAN's request for a response to the key findings in our forest footprint evaluation.

**Nestlé** responded and shared that it has undertaken an indicative forest footprint evaluation in its pulp and palm oil supply chain in North and East Kalimantan and intends to publish the results of its evaluation in early 2022. Nestlé was the first brand to [publish its indicative forest footprint](#) for Aceh in November 2020 and has committed to carrying out a global forest footprint for key forest-risk areas in and around its supply chains by the end of 2023. Nestlé states the approach will help identify areas of future risk to forests, peatlands and customary land rights near its supply chains and take proactive action.

Nestlé has engaged various experts on the results of these analyses and has initiated engagement with suppliers in East Kalimantan around the conservation of forest, respect of local and customary rights and peatland protection, inside and outside concessions. This engagement includes Tier 1 suppliers, palm oil mill and plantation companies, as well as other consumer goods companies, to better understand the dynamics of the forest risks and identify opportunities for collective action. Nestlé also shared some high-level lessons learnt from these new forest footprint exercises.

Unilever and Colgate-Palmolive both responded citing their efforts to undertake forest footprint evaluations in other Indonesian provinces affected by their palm oil supply chains.

**Unilever** committed to 'take the steps necessary to better understand our forest footprint and risks within our supply chain.' In October 2021, it published its [first forest footprint report](#) summarizing the method and outputs of its pilot forest footprint evaluation for its palm oil supply chain in Aceh. The report says that its pilot illustrates a blueprint that could be applied to the sourcing of all of Unilever's forest-risk commodities globally, but it did not confirm if it would undertake a forest footprint for North and East Kalimantan. Unilever referred to jurisdictional approaches it is supporting in Aceh and Central Kalimantan

but did not refer to its engagement in collaborative landscape initiatives in North and East Kalimantan. Unilever encouraged the industry to go even further than understanding their forest footprint to building consensus on the data ecosystem and tools that can be used to keep forests standing.

**Colgate-Palmolive's** response stated that it is finalizing plans for its North Sumatra footprint in the fourth quarter of 2020 and is still learning and understanding the opportunities and challenges of the footprint assessment. Its [first forest footprint report was published](#) in August 2021. Colgate-Palmolive confirmed that it does source from 'a small number of mills in these two provinces which ultimately represent less than 10% of sourcing mills in Indonesia'. The company stated it was committed to collective industry action and is a member of the Consumer Goods Forum – Forest Positive Coalition and engaged in the Coalition's Landscapes Working Group. The response did not confirm if it would undertake a forest footprint for North and East Kalimantan or engage in collaborative landscape initiatives in the regions. It referred to decisions it had made to prioritize landscape projects in Aceh and Riau along with its North Sumatra footprint assessment.

**Kao** responded by updating its [website](#) to state that it is discussing the introduction of forest footprint evaluations within the company. The company has not confirmed if it would undertake a forest footprint for North and East Kalimantan if it decides to move forward with implementation of the approach and has no current engagement in collaborative landscape initiatives in the region.

**Ferrero** responded with a refusal to undertake a forest footprint evaluation of its impacts in North and East Kalimantan. Ferrero stated that it recognized the urgent need of concerted action to address the issues our evaluation identified in North and East Kalimantan but did not agree to undertaking Forest Footprint analysis as doing so would not constitute in itself 'real action'.

**Mars** responded but did not confirm if it would undertake a forest footprint evaluation for North and East Kalimantan or engage in collaborative landscape initiatives in the regions. Its response did not refer to the forest footprint methodology in any way. Therefore, it is assumed that Mars continues to refuse to undertake a forest footprint evaluation of its impacts, including in North and East Kalimantan. Mars states it will be increasing its work on land rights and communities in the coming months and year.

**Mondelēz** responded but did not confirm if it would undertake a forest footprint for North and East Kalimantan or engage in collaborative landscape initiatives in the regions. Mondelēz stated that it was aware of the forest footprint methodology and would consider how it might add value to its future plans to address deforestation, peatland exploitation and human rights violations.

**Procter & Gamble** responded but did not confirm if it would undertake a forest footprint for North and East Kalimantan or engage in collaborative landscape initiatives in the regions. The company's response said it would reflect with interest on the findings of the report and referred to its policies, environmental compliance monitoring and landscape conservation projects in Malaysia. Procter & Gamble failed to commit to disclosing its forest footprint in its recent Forest Practices Supplementary Report that it issued to investors. The report was [criticized by RAN](#) as the company had claimed to have a small footprint in both its palm oil and pulp supply chains.

Procter & Gamble claims that it does not source wood pulp from tropical rainforests anywhere across the globe, including in North and East Kalimantan. However, its public disclosure on its pulp suppliers is limited which means its claims cannot be verified by reviewing its list of supplying pulp mills for all pulp sources, including for paper and packaging materials.

### **Responses from the Forestry and Agribusiness Companies**

Rainforest Action Network provided the opportunity for the forestry and agribusiness companies named in the report to respond to its key finding that they had contributed to the destruction of over 700,000 hectares of tropical rainforests in the Indonesian provinces of North and East Kalimantan due to the clearance of rainforests within their concession areas or those of their suppliers during the 2009-2019 period. The companies that have concessions within the regions were presented with the analysis outlined in the Annexes above that show the extent of their corporate groups' operations, forest loss during 2009-2019 and remaining forests as of 2019 within each concession. A summary of the responses received are below:

First Resources Group, Jardine Matheson Holdings, Triputra Group and Rajawali Corpora did not issue a formal response to RAN's request for a response to the key findings in our forest footprint evaluation and the data provided on their extent of concessions in the regions.

**Royal Golden Eagle Group.** Responses were received from two RGE subsidiaries -- APRIL and APICAL -- but not from the RGE Group or its ultimate beneficiary Sukanto Tanoto. The RGE Group did not respond to the following companies being RGE-connected companies: PT. Permata Borneo Abadi, PT. Santan Borneo Abadi, PT. Itci Hutani Manunggal and the palm oil company Anugerah Superventure. APRIL stated that PT. Permata Borneo Abadi, PT. Santan Borneo Abadi, PT. Itci Hutani Manunggal companies were not suppliers to its pulp mill. RAN has not alleged that these companies are suppliers to APRIL; we have stated that they are alleged to be RGE-connected companies. It is common practice for major conglomerates to hide their true ownership or connections with companies that continue to expand and engage in controversial practices through opaque ownership structures and offshore holdings known as 'shadow companies'.

APICAL -- RGE Group's palm oil division that controls a refinery in East Kalimantan -- response did not respond to our findings that its refinery had a strong reliance on sourcing from third-party suppliers in North and East Kalimantan with a track record of deforestation during 2009-2019 and rights violations, including problematic suppliers Jardine Matheson Holdings (ASTRA), Triputra Group, Rajawali Group (Eagle High), DSN Group, and MP Evans. The company also did not respond regarding APICAL's lack of disclosure of the deforestation status of its suppliers in the regions. APICAL asked for more specific details on the alleged act of deforestation by palm oil suppliers so it could investigate and address potential breaches immediately and collectively.

APRIL -- RGE Group's timber and pulp plantation division that controls a pulp mill that sources from the regions and has concessions in both provinces -- responded claiming that its pulp mill has been running on 100% plantation fiber since December 2015 and there has been no new plantation development and no deforestation in APRIL's concessions since then. This claim continues to be refuted by civil society organizations. APRIL did not comment on its contribution to deforestation between 2009 - 2015 or its contribution to forest degradation during the period of our evaluation 2009 - 2019. APRIL did not provide evidence to refute the findings RAN had shared on the extent of forest loss and remaining forests within each RGE-connected concession in the regions -- which was over 32,000 hectares of forests cleared within its concessions in North Kalimantan and nearly 2000 hectares within East Kalimantan between 2009 and 2019.

APRIL stated that it controls concessions covering 1,047,182 hectares (ha), which includes 448,632 ha of plantations, 364,996 ha of conservation and restoration areas, 31,867 of livelihood plantations, with the remainder for communities and other uses. APRIL did not present data to refute the findings RAN had shared on the area of each individual concession in North and East Kalimantan.

APRIL did not disclose evidence to substantiate its claims that there are no connections between its owner, and ultimate beneficiary, Sukanto Tanoto, and companies that have been named as RGE-connected companies in the forest footprint evaluation and previous NGO reports. APRIL refuted that PT. Adindo Hutani Lestari (PT. AHL) is connected to the APRIL group and stated that no shareholding in PT. AHL has been held by the shareholders of APRIL or RGE. APRIL did not disclose evidence to substantiate its claims that there are no closely interlinked connections with shareholders of the companies via former employees and directors of RGE companies as detailed in the report titled “Sustaining deforestation: APRIL’s links with PT. Adindo Hutani Lestari Undercut “no deforestation” Pledge”. The report presented substantial evidence of commissioners, directors, and shareholders in PT. Adindo’s current ownership structure (Mr. Protasius Daritan, Mr. Hartanto Wisastra, Mr. Dedy Sutanto and Mr. Ferdinand Flores) holding positions with RGE, APRIL and/or RGE-related companies. For example, Mr. Protasius Daritan is listed as one of the ‘senior leaders of RGE Indonesia’ in the Tanoto Foundation’s 2015 Annual Report. Further, according to the Offshore Leaks Database, Protasius Daritan has been connected to other offshore RGE companies and Sukanto Tanoto.

APRIL did not respond regarding the Trase.Earth data that shows PT. AHL also has around 23,000 hectares of peatland within its concessions in North Kalimantan, approximately 60% of which has been drained and planted with pulpwood. The company did however state that PT. AHL’s gross plantation area is 191,472 ha, with 56,747 ha of planted area, 91,258 ha of conservation land, and 17,767 ha of livelihood plantation, amongst other uses.

APRIL confirmed that its Pangkalan Kerinci pulp mill located in Riau Province sourced plantation wood from Djarum’s concession PT. Fajar Surya Swadaya (FSS) in 2017.

APRIL did not provide evidence on the extent of conservation and restoration inside each of its concessions, or those of its suppliers, in North and East Kalimantan. APRIL stated that much of the plantation development in Indonesia in recent years has taken place on degraded, non-HCV (High Conservation Value) areas, in line with the HCV tools and guidelines which have been available and adopted by APRIL since 2005. This response did not address the impact of plantation development that has occurred during the entire period of the study or on secondary High Carbon Stock forests.

APRIL did not present evidence to refute our finding that its plans to expand their pulp mill in Riau, would not increase the demand for wood fiber by 55%, which will likely put increasing pressure on the forests of North and East Kalimantan. APRIL stated it would not expand its operations but would meet its fiber supply needs for the increase in its production capacity entirely from plantation fiber sourced from APRIL’s current concessions and long-term supply partners, as well as open market suppliers. It stated it would ensure that all fiber originating from external sources comes from sustainably managed forest plantations and complies with relevant national and international regulations and standards -- this statement does not rule out sourcing from suppliers in North and East Kalimantan that have been shown in the forest footprint evaluation to have degraded or deforested forests during 2009 - 2019.

**Sinar Mas Group.** Asia Pulp and Paper (APP) -- Sinar Mas Group’s timber and pulp plantation division that controls a pulp mill sourcing from the region and concessions in East Kalimantan -- responded claiming that since 2013, no material resulting from deforestation or natural forest conversion has entered

the APP supply chain. This claim continues to be refuted by civil society organizations. APP did not comment on its contribution to deforestation between 2009 - 2013 or its contribution to forest degradation during the period of our evaluation 2009 - 2019.

APP stated that 10 or the 19 companies listed as affiliates of the Sinar Mas Group are not under APP or the Sinar Mas Forestry Division. The list of companies it states are not affiliated can be reviewed in its letter of response to the report. One of the companies is PT. Kelawit Wana Lestari which has been referred to by APP as an 'independent supplier, but it's clearly a shadow company as detailed in a report titled 'Removing the Corporate Mask'. On the basis of this response RAN has confirmed that some of the nine companies we had attributed to APP were subsidiaries of the Salim Group and PT. Sumalindo Lestari Jaya.

APP did not provide evidence to refute the findings RAN had shared on the extent of forest loss and remaining forests within each concession RAN alleged were associated with the Sinar Mas Group, or the nine concessions that it confirmed were controlled by APP -- this was a total of over 12,000 hectares of forests cleared in East Kalimantan during the period of 2009 - 2019. The companies that APP confirmed in its response are subsidiaries are shown in Annex II and Annex III to have caused over 7200 hectares of forest loss between 2009 - 2019.

APP claimed to have conserved and protected about 600,000 ha of natural forests within APP and its suppliers' concession in Indonesia but did not provide evidence on the extent of conservation and restoration inside each of its concessions, or those of its suppliers, in North and East Kalimantan.

Golden Agri Resources (GAR) is Sinar Mas Group's palm oil division that controls a refinery sourcing from the regions and concessions in Kalimantan. GAR confirmed the following subsidiaries are in East Kalimantan -- PT. Tapian Nadenggan, PT. Harapan Rimba Raya and PT. Kruning Lestari Jaya -- with the latter two being acquired in 2020. It also confirmed that PT. Bulungan Sarana Utama and PT. Matra Sawit Sarana Sejahtera were acquired and became GAR subsidiaries in 2004 and 2005. GAR stated that the concessions of PT. Sangata Andalan Utama and PT. Nunukan Sarana Jaya have been liquidated as GAR found them unsuitable for land development. GAR stated that all other concessions detailed as part of the Sinar Mas Group were not related to GAR -- which includes the palm oil company PT. Kelawit Wana Lestari.

GAR did not present any evidence to refute the finding that over 1,163 hectares of forests have been cleared inside GAR controlled concessions since 2009 - 2019. Instead, GAR criticized the selection of the period of the evaluation as it included the peak period of deforestation in the regions which it states was 2009 - 2021. GAR did not present any evidence to refute the findings that 2,112 hectares were cleared in concessions of PT. Tsani Hutani Abadi's concession called PT. Harapan Rimba Raya. GAR stated that it acquired this concession after the forest clearance had occurred.

GAR stated it is conserving 78,000 Ha of forest areas, while also supporting our suppliers to conserve more than 100,000 hectares but did not disclose the details of any conservation areas within its concessions in North and East Kalimantan.

GAP rejected RAN's allegation that it is part of the Sinar Mas Group. GAR stated it is not a subsidiary of any other company; it is an independently managed, SGX listed enterprise with subsidiaries in and outside Indonesia. The company said that while it recognizes a common shareholder with some companies mentioned in the report, there is no shared management relationship between GAR and Asia Pulp and Paper, Sinar Mas forestry businesses.

**Wilmar International.** Wilmar's response confirmed that the companies RAN listed as suppliers to Wilmar that control concessions in the region are indeed suppliers to Wilmar. However, Wilmar claims that it is not sourcing from First Resources mills in North Kalimantan. However, its list of supplying mills to its Gresik and Bitung refineries show that Wilmar has been supplied with palm oil from First Resources and Fangiono Agro Plantation Agri's mills in the past. Wilmar's grievance list only states that Setia Agrindo Lestari (SAL) an affiliate\* of First Resources Ltd has been suspended since 2015 and Agrindo Green Lestari and Citra Agro Abadi, subsidiaries of Ciliandry Anky Abadi (CAA) Group since 2018.

Wilmar did not comment on the alleged loss of 700,000 hectares of rainforest within concessions of Wilmar's suppliers in North and East Kalimantan from 2009 - 2019 and requested additional information including the name of the companies, year the alleged deforestation occurred, and the location of alleged deforestation. Wilmar encouraged RAN to raise a grievance to enable Wilmar to investigate and take further action if verified.

Wilmar confirmed that it does not have a refinery in Balikpapan, but does have a bulking station in Balikpapan, and refineries in Gresik and Bitung that are shown to source from the mills in the region.

Wilmar stated that as of December 2020, 97.7 percent of crude palm oil (CPO) and palm kernel oil (PKO) equivalent, which translates to about 23.9 million tonnes, is traceable to mills across its global operations. The company did not confirm the current status of its traceability to the plantation level globally, or in its supply chains in North and East Kalimantan regions.

**Salim Group.** Indofood Agri Resources Limited of the Salim Group refused to respond to our request for comment on the key findings of our report. The company stated it objected to our publication and reserved the right to take legal action against Rainforest Action Network.

**Genting Group** responded stating that its involvement as a processor in the palm oil sector began in 2017 -- through its Genting Musim Mas Refinery in Sabah, Malaysia -- and it had sourced less than 2% of its palm oil from suppliers in Kalimantan during 2017 - 2019. Genting stated that it ended sourcing from third party suppliers located in Kalimantan in 2020 and believes it is incorrect to allege that the Genting Group contributed to massive deforestation in North and East Kalimantan from 2009 - 2019. The company referred to its published supplier list and confirmed that it has not yet achieved 100% traceability to the plantation or farm level for all sources of palm oil across its operations. Genting reiterated that it is committed to the No Deforestation, No Peatland and No Exploitation principles and has conducted HCV-HCS Assessments inside all its concessions since 2015. Genting's published supplier lists shows that it continues its business relationships with Kuala Lumpur Kepong (KLK) and other producers that are highlighted in the report as producers of palm oil that are responsible for deforestation within their concessions such as Felda (FGV).

**Korindo Group** responded and confirmed that its concessions in East Kalimantan cover an area of 157,400 hectares. The company did not present evidence to refute the statement that it had contributed to forest loss within the concessions of suppliers to its mill in East Kalimantan. However, it stated that its plywood division sources timber from third-party suppliers that are monitored via the Timber Legality Verification System (SVLK). The SVLK system provides assurances that the companies are operating with a legal permit. It does not ensure no degradation of forests or peatlands. Korindo Group claimed to have afforested and reforested 70,000 hectares of deforested and degraded lands but referred to these areas being managed as a Eucalypt plantation, not as a naturally regenerating native forests that was not subject to logging activities. Afforestation and Reforestation refers to restoring native vegetation on lands -- not

establishing monoculture plantations that will later be harvested to manufacture wood products. Plantations are not defined as native forests, including in the High Carbon Stock Approach which is the methodology and tool used to define viable forests that must be set aside from conversion or logging.

To review the full responses received from the companies named in this report, please visit: [www.ran/Borneo\\_forest\\_footprint](http://www.ran/Borneo_forest_footprint)

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<sup>i</sup> Forest footprint methodologies can be accessed at <https://www.ran.org/the-understory/forest-footprint-disclosure-a-game-changer-for-preventing-deforestation/>

<sup>ii</sup> IUCN, IUCN Policy Statement on Primary Forests Including Intact Forest Landscapes, January 2020, [https://www.iucn.org/sites/dev/files/content/documents/iucn\\_pfi\\_policy\\_2020\\_approved\\_version.pdf](https://www.iucn.org/sites/dev/files/content/documents/iucn_pfi_policy_2020_approved_version.pdf)

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<sup>iii</sup> Colgate Palmolive, Palm Oil Supplier Mill list, [https://www.colgatepalmolive.com/content/dam/cp-sites/corporate/corporate/en\\_us/corp/locale-assets/pdf/colgate-palmolive-company-h2-2020-mill-list-suppliers.pdf](https://www.colgatepalmolive.com/content/dam/cp-sites/corporate/corporate/en_us/corp/locale-assets/pdf/colgate-palmolive-company-h2-2020-mill-list-suppliers.pdf)

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<sup>v</sup> As described in the methodology, the timber concessions category includes pulp and paper plantations (these can be used also for rubber plantations) as well as timber logging concessions and ecosystem restoration concessions.

<sup>vi</sup> Total forest cover area (2009) converted to oil palm and timber plantations (2019), which significantly differs from the total area of forest loss for any land use type.

<sup>vii</sup> Categorization of soil type on peatlands and non-peatlands (mineral soil) is based on data and categorization by the Ministry of Agriculture

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- <sup>viii</sup> It is important to note that under the category of degraded forest defined by the Indonesian Ministry of Environment and Forestry (MoEF) only selectively logged forests would be included. This includes potentially very good-quality secondary forests, such as High Carbon Stock Forests, as defined by the High Carbon Stock Approach. These have to be protected from conversion and degradation under No Deforestation, No Peatland and No Exploitation (NDPE) procured policies adopted by most of the 10 brands.
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- <sup>xi</sup> First Resources is majority owned by a trust benefitting the children of Martias and his first wife Irawaty, consisting of First Resources CEO Ciliandra Fangiono, deputy CEO Cik Sigih Fangiono, FAP Agri majority owner Wirastuty Fangiono, and their siblings Wirashery, Wirasneny and Ciliandrew. Martias' second wife Silvia Caroline and their two children Ciliandry and Wiras Anky Fangiono are the beneficial owners of CAA holding company PT Ciliandry Anky Abadi.
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