# Summary of Assessment Reports and Management Plans for NPP

PT Umekah Saripratama

Ketapang Regency

West Kalimantan Province

Indonesia

October, 2022

# TABLE OF CONTENTS

**LIST OF TABLES** ..... **3**

**LIST OF FIGURES** ..... **4**

**1. OVERVIEW AND BACKGROUND** ..... **5**

1.1. General Information of the Management Unit ..... 5

1.2. Description of Location ..... 6

1.3. Area and Timeline for New Planting ..... 15

**2. ASSESSMENT PROCESS AND METHODS** ..... **17**

2.1. Social and Environmental Impact Assessment (SEIA) ..... 17

2.2. HCV-HCS Assessment ..... 20

2.3. Soil and Topography Assessment ..... 31

2.4. Carbon Stock and Green House Gas (GHG) Assessments ..... 32

2.5. Land Use Change Analysis (LUCA) ..... 33

2.6. FPIC Process ..... 33

**3. SUMMARY OF FINDINGS** ..... **36**

3.1. Social and Environmental Impact Assessment (SEIA) ..... 36

3.2. HCV-HCS Assessment ..... 37

3.3. Soil and Thopography Assessment ..... 88

3.4. Carbon Stock and Green House Gas (GHG) Assessments ..... 91

3.5. Land Use Change Analysis (LUCA) ..... 97

3.6. FPIC Process ..... 106

**4. SUMMARY OF MANAGEMENT PLAN** ..... **107**

4.1. Team Responsible for Developing Management Plans ..... 107

4.2. Mitigate Impact SEIA ..... 107

4.3. HCV-HCS Management Plan ..... 126

4.4. Soil Mangement Plan ..... 137

4.5. GHG Mitigate Management Plan ..... 137

**5. REFERENCES** ..... **140**

**6. INTERNAL RESPONSIBILITY** ..... **147**

# LIST OF TABLES

Table 1. Position and location of PT USP permit area ..... 6
Table 2. Approximate range of carbon stock values in HCS land cover classes ..... 14
Table 3. Planned of new planting in PT USP MU concession ..... 15
Table 4. Distribution of villages or locations of SIA assessment in HGU area PT. USP ..... 17
Table 5. List of SIA team personnel in PT. USP ..... 18
Table 6. SEIA assessors and their competences ..... 18
Table 7. Timeline for HCV-HCS assessment activities in the permitted area of PT. USP ..... 20
Table 8. Team leaders and GIS experts ..... 22
Table 9. Environmental and social experts in the study implementation team ..... 22
Table 10. Data and information source for social HCV assessment ..... 28
Table 11. Assessor and their credentials ..... 32
Table 12. Date of satellite image acquisition ..... 33
Table 13. Assessors and their credentials ..... 33
Table 14. Potential impact by the impacted component ..... 36
Table 15. Prerequisites that must be fulfilled by PT. USP ..... 38
Table 16. Summary of activity descriptions in the initial screening study ..... 40
Table 17. List of Stakeholder Consultations on Examination Study Activities in the Permitted Area .. 41
Table 18. Biodiversity key area in the permit area PT. USP ..... 47
Table 19. Results of HCV 3 identification using a precautionary approach within and around permit area PT. USP ..... 53
Table 20. Distribustion of social Sites within and arround of permit area PT USP ..... 61
Table 21. Summary of Results of Interviews and Discussions with Communities in the Villages ..... 62
Table 22. Summary of HCV-HCS values identified within and around permit area of PT PT. USP ..... 81
Table 23. Recapitulation of conservation and management area in the study location ..... 81
Table 24. Summary of Results of Interviews and Discussions with Communities in the Villages ..... 85
Table 25. The unit map of the land and its condition in the permit area of PT. USP ..... 88
Table 26. Area and percentage of slopes in and around the permit area of PT. USP ..... 89
Table 27. Landcover class in CSA based on RSPO GHG procedures ..... 91
Table 28. Total carbon stock in land cover class disturbed forest, shrubland and tree crop (Ton C) .. 92
Table 29. Total carbon stock in land cover class oil palm, food crops and grasslands (Ton C) ..... 92
Table 30. Average carbon stock in plots across different land cover classes (ton C/ha) ..... 92
Table 31. Summary of land cover area (ha) and above and below ground biomass estimates based on average carbon stock for PT USP area. ..... 93
Table 32. Scenario for new development in PT USP's oil palm plantation area ..... 93
Table 33. Pre-processed georeferenced satellite images for entire concession area for each time of clearance period and additional cut-off periods. ..... 98
Table 34. Land cover maps after image processing ..... 100
Table 35. Historical analysis of land use change at PT USP ..... 102
Table 36. Land use analys per period ..... 103
Table 37. Social management plans ..... 108
Table 38. Environment management plans ..... 123
Table 39. Threats to the HCV-HCSA Area in the HGU Area of PT. USP ..... 126
Table 40. Management and monitoring HCV-HCS in the permit area of PT USP ..... 130
Table 41. Plans for maintenance/improvement and monitoring of protected areas in the PT USP . 137
Table 42. GHG emission reduction strategy for PT USP oil palm plantation operations ..... 137
Table 43. GHG emission reduction strategy for PT USP palm oil mill ..... 138

# LIST OF FIGURES

Figure 1. Map of permit area of the PT. USP in Indonesia ..... 6
Figure 2. AoI boundary map Indicating sub-watershed permit area of PT. USP ..... 8
Figure 3. Sentinel-2 satellite imagery Used in and around the permitted area of PT. USP ..... 13
Figure 4. Map of final land cover classification in the permit area of PT. USP ..... 15
Figure 5. Map of the planned new planting locations ..... 16
Figure 6. Location of the SIA assessment ..... 17
Figure 7. HCS forest inventory sample design ..... 24
Figure 8. Map of location environmental data collection in the permit area PT USP ..... 27
Figure 9. Map of Distribution HCV 1 Area Within HGU Area of HGU PT USP ..... 50
Figure 10. Map of Distribution HCV 2 Area Within HGU Area of PT USP ..... 52
Figure 11. Map of Distribution HCV 3 Area Within HGU Area of PT USP ..... 54
Figure 12. Map of Distribution HCV 4 Area Within HGU Area of PT USP ..... 57
Figure 13. Map of Distribution HCV 5 Area Within HGU Area of PT USP ..... 60
Figure 14. Map of Distribution HCV 6 Area Within HGU Area of PT USP ..... 62
Figure 15. Step The Finalization ICLUP and HCS Area Step 13 ..... 84
Figure 16. Map of Distribution of HCV-SKT Area Within and Around HGU Area PT USP ..... 84
Figure 18. Topographic maps in and around the PT. USP ..... 90
Figure 19. Slope class map in and around the PT. USP ..... 90
Figure 20. PT USP's final land cover map ..... 91
Figure 21. Map of the average carbon stock in the PT USP area ..... 93
Figure 22. Summary of the calculation results of GHG emission projections (tCO2e) for new development plans in the PT USP area Scenario 1 (S1) ..... 94
Figure 23. Emission source calculation for Scenario 1 (S1) ..... 95
Figure 23. Summary of the calculation results of GHG emission projections (tCO2e) for new development plans in the PT USP area Scenario 2 (S2) ..... 95
Figure 25. Emission source calculation for Scenario 2 (S2) ..... 96
Figure 26. Comparison of projected GHG emissions (tCO2e) for the two scenarios of the new development plan in the PT USP area ..... 96
Figure 27. Chart of PT USP's organisational structure ..... 107

# 1. OVERVIEW AND BACKGROUND

## 1.1. General Information of the Management Unit

| | |
|---|---|
| Company Name | : PT Umekah Saripratama |
| Office Address | : APL Tower 28th Floor, Central Park, Podomoro City, Jl. Letjend S. Parman Kav. 28 Grogol Petamburan, Jakarta Barat. |
| Investment Status | : Foreign Investment (PMA) |
| Parent Company | : First Resources, Ltd. |
| RSPO Member ID | : 1-0047-08-000-00 |
| Date of Joining RSPO | : 10 March 2008 |
| Contact Person | : sustainability@first-resources.com |

PT. Umekah Saripratama (USP) concession area is located in an area of 16.517.50 ha (GIS data 16.497,09 ha), of which: an area of 9.494,50 ha is an existing oil palm plantation area and 453,98 ha is an infrastructure area, while the remaining area of 6.548,61 ha, consist of potential new planting and conservation area. The area status of the permit area of PT USP is most of the area with Business Use Rights (Hak Guna Usaha - HGU) with SK HGU No. 141/HGU/BPNRI/2009 covering an area 16.517,50 Ha. In addition, PT USP obtained a Plantation Business Permit (*Izin Usaha Perkebunan-IUP)* in 2005 with number 551.31/0906/DISBUN-C and Reference Letter No. 551.31/312/DISBUN-D 2009 from Ketapang Regent, covering an area of 16.517,50 Ha. Administratively, the location of the oil palm plantation development of PT. USP is located in 7 villages which are divided into two sub-districts in Ketapang Regency, West Kalimantan. The villages are Kelampai, Desa Pelempangan, Sengkuang Merabong and Pakit Selaba included in the administrative area of Manis Mata District and other villages are Biku Sarana, Semantun and Desa Asam Jelai villages included in the administrative area of Jelai Hulu District.

The remaining area of 6.548,61 ha, consist of potential new planting area of 6.115,30 ha which is potential new planting area, while 433,31 ha determined as conservation area based on HCV-HCS assessment. The GIS data received from the assessor states that the area to be protected is 433.31 ha, slightly different from the HCV-HCS area written in the HCV-HCS report (432.20 ha). PT. USP is committed to sustainably managing oil palm plantations and adhere to no development on community land. Plans for land conversion or land clearing in the HGU area of PT. USP planned to be carried out in 2023 and start production in 2025. The type of commodity that has been cultivated by the company is palm oil. In addition, a total area of 2.103,04 Ha has been identified an HCV-HCS management area, with six high conservation values and high carbon stocks area. Although the area legal function serves no direct important functions to protect and conserve area nearby, the area is dominated by HCV 2 of the landscape ecosystems as it contains biodiversity distribution area-particularly orangutan, hilly areas, riparian, high carbon stock forest and social life support. There is no peat found in the development area based on both regulation and soil assessment conducted by the assessor.

### 1.2. Description of Location

The integrated NPP assessment was carried out in the PT. USP covering an area of 16.517,50 Ha (GIS data 16.497,09 ha). HGU area of PT. USP is administratively located in Manis Mata District (Kelampai Village, Pelempangan Village, Sengkuang Merabong Village and Pakit Selaba Village) and Jelai Hulu District (Biku Sarana Village, Semantun Village and Asam Jelai Village), Ketapang Regency, West Kalimantan Province. Location of the HGU area of PT USP, geographical, government administration, and watershed distribution are presented in Table 1.

Table 1. Position and location of PT USP permit area

| Uraian | Keterangan |
|---|---|
| Geographyc | |
| • Permit Area | 2° 2' 10,805"- 2° 12' 15,701" SL<br>111° 1' 43,980" - 110° 58' 46,632" ES |
| • Landscape Border | 1° 59' 29,349" - 2° 14' 57,639" SL<br>111° 2' 0,241" - 110° 58' 25,507" ES |
| Altitude | 20 – 170 m asl (HGU area) and 20-350 m asl (Landsecap Boundary) |
| Government Administration | – Ketapang Regency (Manis Mata and Jelai Hulu districts) |
| | – West Kalimantan Province |
| Operational Administratively | – Plantation Services of Sanggau Regency<br>– Plantation Services of West Kalimantan Province |
| Watershed area | Jelai Watershed |

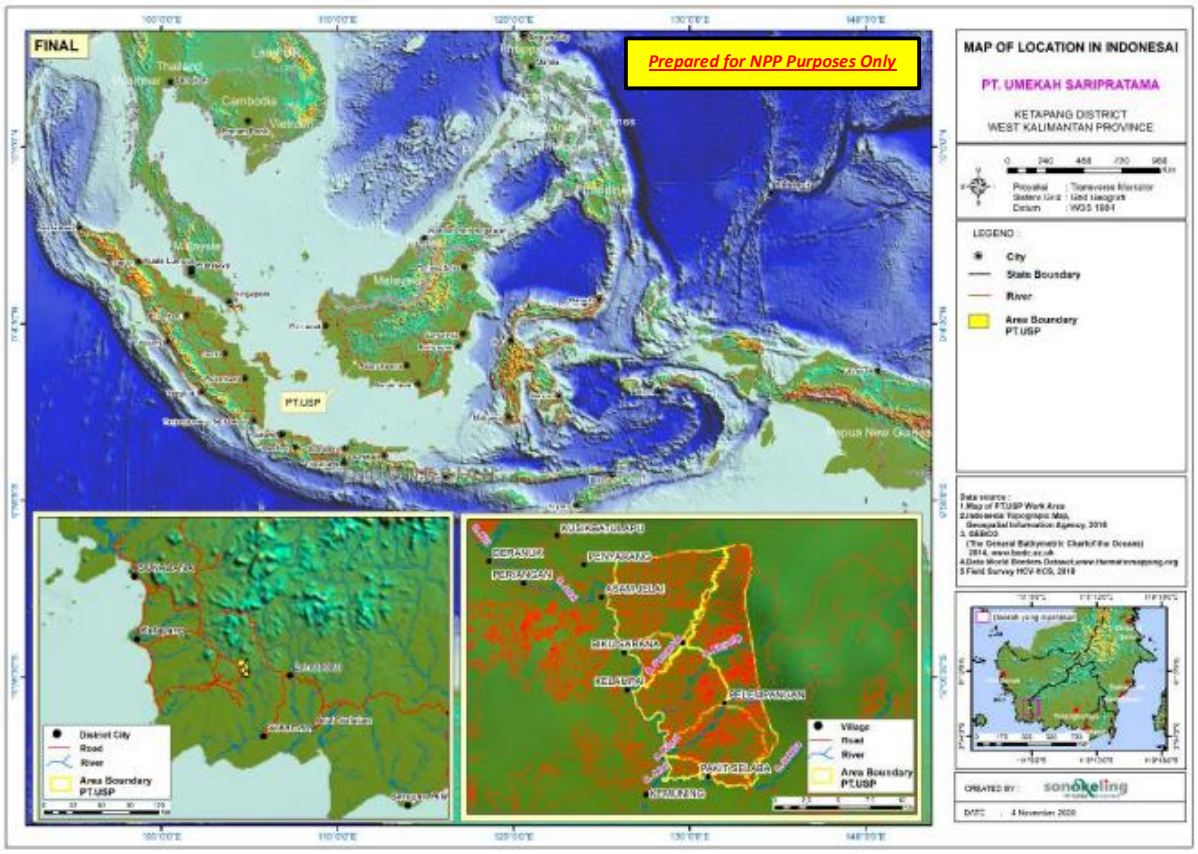



Figure 1. Map of permit area of the PT. USP in Indonesia

**National and Regional Contexts**

Based on the Decree of the Minister of Forestry Number: 733/Menhut-II/2014 concerning the Map of Forest Areas and Water Conservation of West Kalimantan Province, Scale 1: 250.000 (SK 733 of 2014), the HGU area of PT. USP covering an area of 16.517,50 ha (100.00%) including Other Use Areas (APL);

according to the 2016 Regional Regulation (PERDA) concerning the West Kalimantan Province Spatial Plan, the HGU area of PT. USP includes Cultivation Area of 16.517,50 ha (100.00%); Meanwhile, according to the Indicative Map of Postponement of Granting New Permits for Forest Utilization, Use of Forest Areas and Changes in Designation of Forest Areas and Other Use Areas Revision XV 2018, the HGU Area of PT. USP does not include the moratorium area.

PT. USP HGU area which is located on the island of Borneo, is part of the State of Indonesia. Judging from its zoogeography, the fauna in the Kalimantan region is of the oriental type (West Indonesia Region), where the typical wildlife include: Asian elephant (*Elephas maximus*), orangutan (*Pongo pygmaeus*), and proboscis monkey (*Nasalis larvatus*). In connection with the above, the island of Borneo in a regional context is one of the most important locations for the preservation of the endemic flora and fauna of the island of Borneo, the flora of Malesiana, and the fauna belonging to the oriental type (Asian elephants, orangutans, and proboscis monkeys). The preservation of flora and fauna on the island of Borneo will affect the sustainability of flora and fauna in Southeast Asia.

The preservation of flora and fauna on the island of Borneo will affect the sustainability of flora and fauna in Southeast Asia. However, the permit area of PT. USP did not find Ramsar sites, heritage areas, protected forests, conservation areas, species of global concern (Orangutans and Proboscis monkeys); presence of animal migration corridors in the landscape; Peat Hydrological Unit (KHG); IBA (Important Bird Area) and/or EBA (Endemic Bird Area) areas; but some of the area is an orangutan distribution area. In this regard, the permit area of PT. USP in the national context does not provide an important supporting function for protected forests and/or conservation areas in the vicinity or KHG.

**Area of Interest (boundaries)**

The landscape boundary of the NPP assessment in the PT. USP is determined based on the wider landscape, where the buffer created is 5 km from the boundary of the PT. USP. In this study, the AoI boundary is determined from a combination of watershed/sub-watershed landscape boundaries, biodiversity, and social. HGU area of PT. USP. The landscape area of this study covers a total size of ± 37.260,60 ha. In this study, the assessment landscape boundary was determined from a mix of biodiversity and social landscape boundaries. In the context of biodiversity, the presence of nearby natural vegetation land cover is included in the assessment landscape, namely forest fragments in the north west and northeast. The landscape area of this study covers a total size of ± 37.260,60 ha.

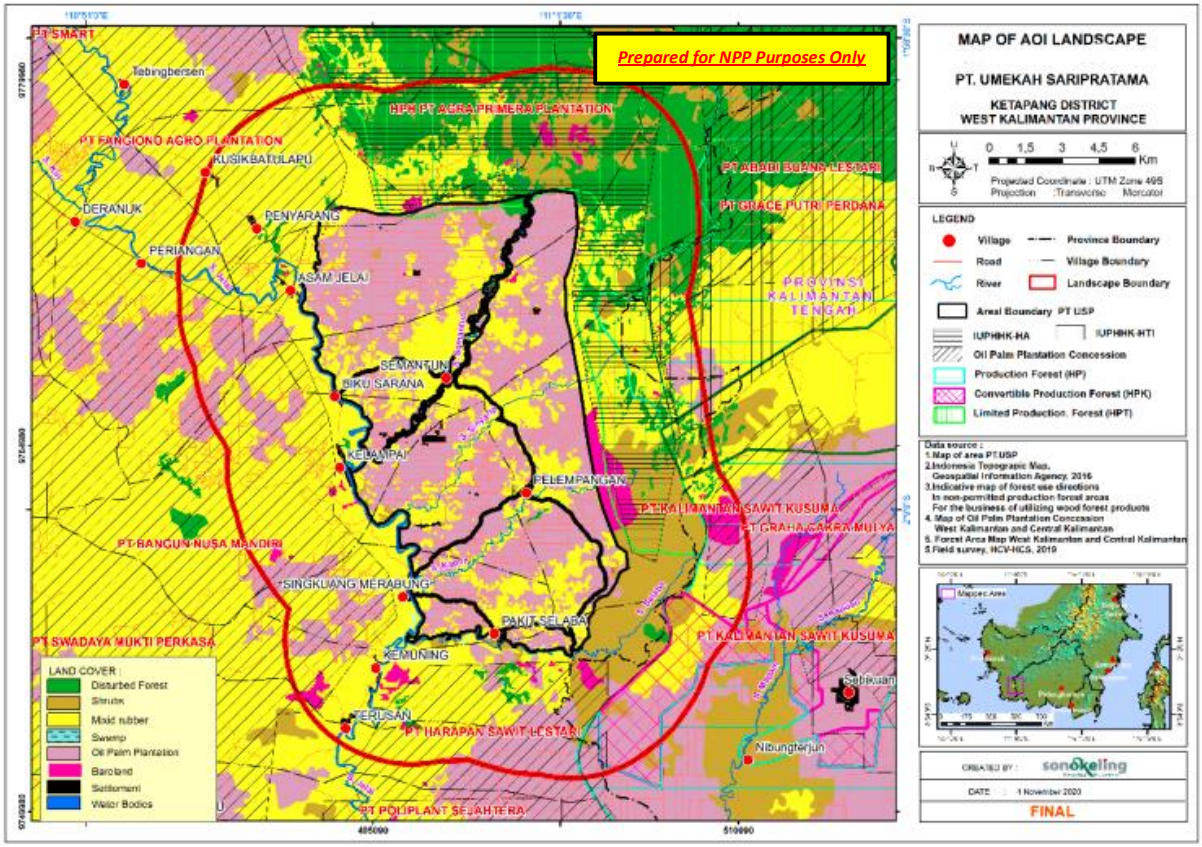



Figure 2. AoI boundary map Indicating sub-watershed permit area of PT. USP

**Physical Landscape**

In general, the climate in the permit area of PT. USP is based on rain data obtained from the Flood Control and Coastal Observation Project Station, Director General of Natural Resources, West Kalimantan in 2008 – 2010 and Supadio Climatology Station, Pontianak in 2011 - 2017, according to the Schmidt-Ferguson classification system (1951), including climate type A (very wet), with 12 months of wet months, no wet and dry months. Rainfall in the region for 10 years fluctuates. Annual rainfall in the concession area of PT. USP for 10 years ranges from 2.419 – 4.709 mm and the number of rainy days ranges from 98 - 257, with an annual average rainfall of about 3.348 mm and the number of rainy days around 182 days.

PT. USP is located at an altitude ranging from 20 – 170 m above sea level, while the surrounding area ranges from 20 – 350 m above sea level. Based on the slope class, the slope class in the HGU area of PT. USP ranges from flat to very steep (0 - 40%); while the surrounding area ranges from flat to very steep (0 - >40%).

Based on the land system map from RePPProT (1987) it can be seen that in the HGU area of PT. USP consists of 4 (four) land systems, namely: Honja, Pakulunai, Rangankau, and Teweh, around the HGU area of PT. USP consists of 9 (nine) land systems, namely Honja, Pakulunai, Rangankau, Teweh, Bawin, Beliti, Bukit Pandan, Juloj and Luhai.

Based on the land system map from RePPProT (1987), the geological formations in the HGU area of PT. USP consists of 3 (three) kinds of geological formations: the Karabai Volcano Rock, the Sukadana Granite, and the Kuayan Formation, meanwhile, around the HGU area of PT. USP consists of 4 (four) kinds of geological formations: Karabai Volcano Rock, Sukadana Granite and Kuayan Formation and Basalt Bunga.

Based on the land system map from RePPProT (1987), the soil types found in the HGU area of PT. USP can be divided into 2 (two) types of soil, namely Dystropepts and Tropudults, meanwhile, around the HGU area of PT. USP consists of 4 (four) soil types Dystropepts, Tropudults, Fluvaquents and Placaquods.

**Biodiversity Landscape**

Around the HGU area of PT. USP includes several rare, threatened, and/or endangered flora species found at the landscape level, including: Ribu-ribu (*Anisophyllea rhomboidea* Baill), Agatis (*Agathis borneensis* Warb.), Penyu Abo (*Anisoptera marginata* Korth.), Keruing (*Dipterocarpus geniculatus* Vesqu, *Dipterocarpus mundus* Sloot., *Dipterocarpus stellatus* Vesque and *Dipterocarpus tempehes* Sloot.), Keladan (*Dryobalanops aromatica* CFGaertn.), Pohon Kapur (*Dryobalanops fusca* Sloot.), Kapur Paya (*Dryobalanhorea acuminatiss* Beccitna.), Pakit (*Shorea acuminatissima* Dyer.), Meranti (*Shorea albida* Sym, *Shorea cordata* PS Ashton, *Shorea elliptica* Burck, *Shorea obovoidea* Sloot., *Shorea obscura* Meijer, *Shorea quadrinervis* Sloot., *Shorea richetia* Sym., *Shorea slooteni* Wood ex PS Ashton and *Shorea splendida* (de Vriese) PS Ashton), Lun Putih (*Shorea induplicata* Sloot.), Bangkirai (*Shorea laevis* Ridley), Meranti Putih (*Shorea lamellata* Foxw.), Pengerawan (*Shorea platycarpa* Heim), Terindak (*Shorea seminis* (de Vriese), Meranti batu (*Shorea uliginosa* King.), Resak (*Vatica congesta* P.S. Ashton), Ulin (*Eusideroxylon zwageri* Teijsm. & Binn.), Pekawai (*Durio kutejensis* (Hassk.) Beccari), Kumpang/Darah-darah (*Knema krusemaniana* WJ de Wilde, *Knema kunstleri* (King) Warb. *ssp. leptophylla* WJ de Wilde, *Knema kunstleri* (King) Warb. *ssp. leptophylla* WJ de Wilde, longepilose (WJ de Wilde) WJ de Wilde) and *Knema uliginosa* Sinclair), Bedaru (*Cantleya corniculata* (Becc.) RAHoward), Gaharu (*Aquilaria malaccensis* Lamk.), Ramin (*Gonystylus bancanus* (Miq., *Gonystylus augescenny* and Gos Ridl. *xylocarpus* Airy Shaw Kurz), Bunga Patma (*Rafflesia tuanmudae* Becc.), Ketupat semang (*Nepenthes gracilis* Korth.) and plants from the Orchidaceae family (Sidiyasa (2015), Ministry of Environment and Forestry (2016), Balai Besar Bukit Baka Bukit Raya National Park, (2019)).

The types of fauna found at the landscape level include: (1) mammals, among others: Beruk (*Macaca nemestrina*), Proboscis monkey (*Nasalis larvatus*), White-headed langur (*Presbytis frontata*), Red langur / Classi (*Presbytis rubicunda*), Deer (*Muntiacus atherodes*), Muncak deer (*Muntiacus muntjak*), Borneo Bokol (*Lariscus hosei*), Napu (*Tragulus napu*), Sambar deer (*Cervus unicolor*), Clouded leopard (*Neofelis diardi*), Bornean orangutan (*Pongo pygmaeus*), White-bearded Gibbon (*Hylobates albibarbis*), Kalawat gibbon (*Hylobates muelleri*), Kukang Kalimantan (*Nycticebus menagensis*), Peusing pangolin (*Manis javanica*), bats (*Pteropus vampyrus*), Striped squirrel (*Tupaia dorsalis*), Long-tailed squirrel (*Tupaia longipes*), Musang luwak (*Paradoxurus hermaphroditus*), Bearded pig (*Sus barbatus*), Krabuku ingkat (*Tarsius bancanus*), Sun bear (*Helarctos malayanus*), Bintunrong (*Arctictis binturong*) (2) birds, including: Rat Eagle (*Elanus caeruleus*), Enggang klihingan (*Anorrhinus galeritus*), Kangkareng perut-putih (*Anthracoceros albirostris*), Rangkong badak (*Buceros rhinoceros*), Rangkong gading (*Rhinoplax vigil*), Cicadaun kecil (*Chloropsis cyanopogon*), Kipasan belang (*Chloropsis cyanopogon*), Tiong emas (*Gracula religiosa*), Serak bukit (*Phodilus badius*), Cucak rawa (*Pycnonotus zeylanicus*), (3) herpetofauna, including: Cobra (*Naja sumatrana*), House gecko (*Gekko gecko*), python (*Python reticulatus*), Labilabi (*Dogania suplana*), Asian water monitor lizard (*Varanus salvator*), Turtle bromo (*Caretta caretta*), Green turtle (*Chelonia mydas*), Hawksbill turtle (*Eretmochelys imbricata*), Hawksbill turtle (*Lepidochelys olivacea*), Siamese crocodile (*Crocodylus siamensis*), Estuary Crocodile (*Crocodylus porosus*) Leatherback turtle (*Dermochelys coriacea*), Tortoise thorns (*Heosemys spinosa*), Bajuku (*Orlitia borneensis*) and Kalimantan monitor lizards (*Lanthanotus borneensis*) and (4) fish, including: Siluk Kalimantan (*Scleropages formosus*) (Ministry of Environment and Forestry (2016), Bukit Baka Bukit Raya National Park, (2019).

Of some important species on Borneo Island, one type of wildlife with high conservation status is known to exist in the province of West Kalimantan, Ketapang in particular districts, namely Borneo Orangutan (*Pongo pygmaeus spp. pygmaeus*). Almost the entire HGU area of PT. USP is included in the distribution area of the Bornean Orangutan. Map of the distribution of the Bornean Orangutan in and around the PT. USP.

Within the HGU area of PT. USP did not find any Protected Forest (HL), conservation area, IBA area, EBA area and Peat Hydrological Unit (KHG); however, these five areas were found around the PT. USP. Protected Forests/Main Biodiversity Areas in the Landscape are:

1. Protected Forest (HL): Protected Forest (HL) around the PT. USP is HL. Gunung Raya (to the northwest). The HL is about 26 km from the HGU area of PT. USP.
2. Conservation Area: The conservation area around the HGU of PT. USP is the Muara Kendawangan Nature Reserve. The nature reserve is located in the southwest and is not adjacent to the HGU area of PT. USP and is about 57 km away.
3. EBA Area: The EBA area around the PT. USP is in the northeast of the EBA Bornean Mountains. The closest distance between the EBA area and the area is about 55 km.
4. IBA Area: The nearest IBA area around the PT. USP is in the southwest, namely IBA Muara Kendawangan. The closest distance between the IBA area and the area is about 60 km.
5. Peat Hydrological Unit (KHG): The nearest Peat Hydrological Unit (KHG) area is not directly adjacent to the HGU area of PT. USP and is in the southeast and is quite far away.

In this regard, the permit area of PT USP does not provide a supporting function for biodiversity areas in the landscape (conservation area, protected forest, EBA area, IBA area and Peat Hydrological Unit).

**Socio-Economic and Cultural Context**

Administratively and in the affected village area, there are only (seven) villages spread over 2 (two) sub-districts in Ketapang Regency, West Kalimantan Province. The two sub-districts include Manis Mata District and Jelai Hulu District.

The seven villages (based on the SIA report, FPIC study) and combined with PT USP's social programs such as the CSR program, as well as discussions through opening meetings in the initial inspection study are Kelampai Village, Pelempangan Village, Sengkuang Merabong Village, Pakit Selaba Village, Biku Sarana Village, Semantun Village, and Asam Jelai Village. Meanwhile, other villages located on the landscape boundary are Deranuk Village, Periangan Village, Penyerang Village, Kusik Batu Lapu Village, Kemuning Village, and Terusan Village.

Demographically, the population density of each village around the PT USP concession area, on average, from seven villages, is classified as not dense (8 people/mm²). This population density value is not dense because the area of these villages is still very large, while the increase in the number of residents and heads of families is still very low. The population in the study area reaches 5,744 people with the largest population being Semantun Village (1,099 people).

The majority of the livelihoods of the villagers around PT USP are farming (rice) and/or gardening (rubber and palm oil). Other livelihoods are working as civil servants, employees of private companies, small entrepreneurs, services, entrepreneurs and others. Based on the SEIA study, PT. USP in 2013 and updated PT USP's SIA report in 2019.

Farming and or gardening is a livelihood that has been carried out by residents of villages around PT USP for generations. This is done not only to meet the family's food needs, but also to expand land ownership. Agricultural activities carried out by rural communities are a type of agriculture with

shifting fields. However, the pattern of shifting cultivation has begun to change over time. In the past, they practiced shifting cultivation once a year. However, currently they use the existing land for up to 3 years, because the land has been reduced.

With the presence of oil palm plantation companies, such as PT. Umekah Saripratama, PT. Falcon Agri Persada, PT. Bangun Nusa Mandiri, PT. Harapan Sawit Lestari and several other companies have created many job opportunities for the community. In general, almost 70% of residents in each village currently work as company employees, both as permanent employees and casual daily workers. If before the entry of the company, the agricultural and plantation sectors were the main choices, now these two sectors have become additional livelihoods for those who work as employees. However, there are still quite a lot of residents who remain as farmers or planters and especially those who decide or are not accepted to work as employees in the company.

Infrastructure to villages in the PT USP concession area is already connected by road or by bridge or river crossing. In addition, not all connecting roads can be passed by four-wheeled vehicles, such as to get to Asam Jelai Village, Biku Sarana Village, Sengkuang Merabong Village, which must use two-wheeled vehicles because the connecting road is a suspension bridge that can be passed by two-wheeled vehicles. To get to Kelampai Village, you have to cross using a small boat, almost every day for activities to other villages, residents have to use a crossing boat.

In the villages surrounding the PT USP concession area, there are still limitations in the infrastructure network to meet the basic needs of rural communities, such as for meeting drinking water needs, the average villager obtains it from the nearest river even though clean water facilities are available from government programs through PNPM and PNPM. company assistance, but some residents still use river water for drinking water needs. Usually, to get clean water, residents use plastic pipes or small paralons that are distributed to villagers' homes.

The limited infrastructure for MCK causes residents to use river or swamp water for MCK. Rivers that are commonly used by residents are the Jelai River and the Semantun River. Although some residents have private latrines, the habits of MCK residents in the river cannot be eliminated in their daily lives.

The religion adopted by the majority community is Catholic Christianity, then Protestant Christianity, and Islam. In each village the facilities for worship are considered adequate, because each village has a house of worship. In their daily life, villagers respect each other and maintain tolerance in religious life. Tolerance between religious communities is going well, every believer can carry out their worship quietly without disturbance. Each religious community can carry out religious activities in different communities.

The health condition of a community will be influenced by several factors, one of which is the availability of health facilities and infrastructure in the community. Several health facilities are already available in the villages around the PT USP concession area, namely the auxiliary health center (PUSTU), village health post (Poskesdes), Integrated Service Post (Posyandu), and so on. In addition to health facilities, the presence of medical personnel is also considered important to support the health of villagers. The medical personnel in the villages surrounding the PT USP concession area include nurses, village midwives, village shamans/traditional birth attendants, and the village head of posyandu/nutrition cadres.

Several educational facilities in the villages surrounding the PT USP concession area are dominated by SDN (State Elementary School) facilities. For the SMPN (State Junior High School) level, facilities are only available in Kelampai Village and Biku Sarana Village. Meanwhile, for high school education, the

closest educational facilities are in the subdistricts of Manis Mata and Jelai Hulu, while residents who continue to higher education (college) are generally in Pontianak and Java.

The majority of the villagers around the PT USP concession area are the Jelai Dayak and Sekakai Dayaks. Other tribes that also exist in this area and are immigrant tribes include the Javanese, Sundanese, Batak and NTT, Bugis, Malay, Chinese and several other tribes are very small.

The traditional and cultural activities of the Dayak tribe in daily activities such as farming, marriage and death are still strong and carried out. At the hamlet level, there is a traditional institution known as the customary board, led by a traditional chairman, as well as at the village level there is a traditional institution, which is a traditional institution that contains the traditional administrators in the hamlet. Customary institutions function to resolve social problems among the community, including in determining customary fines. In the case of inter-hamlet problems or problems that cannot be resolved by the Dusun Customary Management, they will be resolved at the district level by the Dayak Customary Council (DAD) and the Regency Dayak Customary Council (DAD).

The extent of land ownership by communities around PT USP varies. These lands are recognized by adat although not yet certified. Differences in land area are the result of differences in the work of each community in clearing land (cultivating), so that people who are able to open more land will have wider land/land. Based on the results of interviews, it is known that the legality of land owned by the community is partially non-existent or does not yet have legality, only based on community recognition and the recognition of the adjacent land owner (Border Boundary Owner). The boundaries of land ownership between one person and another are largely unclear. Only in the form of trust and recognition from the nearest land owner. One of the proofs of land ownership includes evidence of growing crops or former fields. Based on the results of the interview, it is known that the community obtained land from generation to generation and bought it. Rice fields and rubber plantations in general can be traded with fellow members of the community at a mutually agreed price.

**Spatial Planning and Land Use History**

Based on SK No.6562/MENHUT-VII/KUH/2014 dated October 28, 2014 Map of Forest and Water Conservation Areas of West Kalimantan Province Scale 1: 250,000, HGU area of PT. USP is 16.517,50 ha (100,00%) mostly including Other Use Areas (APL). However, a small part of the HGU (to the north) has indications of overlapping with forest areas. Regarding the indications regarding the overlap, it can be explained that the data on Forest area used is 2014, where the Ministry of Forestry in this case will conduct an evaluation every five years. The Map of Forest Areas and Water Conservation of West Kalimantan Province is still an indicative map, so it is still necessary to delineate boundaries in the field by considering activities outside the forestry sector that have been encumbered with permits (HGU).

According to the Regional Regulation (PERDA) regarding the Regional Spatial Plan of West Kalimantan Province 2014 - 2034, the HGU area of PT. USP includes Other Use Areas (APL) with Plantation allotment covering an area of 16.517,50 ha (100%), while according to the Indicative Map of Postponement of Granting New Permits for Forest Utilization, Forest Area Use and Changes in Designation of Forest Areas and Other Use Areas Revision XV 2018 SK. 8599/MENLHK-PKTL/IPDSH/PLA.1/12/2018, the entire HGU area of PT. USP does not include moratorium area.

**Image Analysis and Land Cover Classification**

For land cover stratification analysis in the HGU area of PT. USP uses Sentinel-2A imagery obtained from the website https://sentinel.esa.int/web/sentinel/missions/sentinel-2. The image selection is based on the best atmospheric conditions with cloud cover conditions of less than 20%, especially in the AOI coverage. In addition, the Sentinel-2 image includes a high resolution image with a wide swath

and is a Multispectral Instrument (MSI) image which has 13 spectral bands of which 4 bands (Band 2, Band 3, Band 4, and Band 8) have a resolution of 10 m. Before being used to carry out land cover analysis, a pre-processing image is carried out, which consists of a compositing layer (3 bands combined). Layer compositing is done by combining band 11, band 8a and band 4 to get a pseudo-natural color on the Sentinel-2A image (Figure 3).

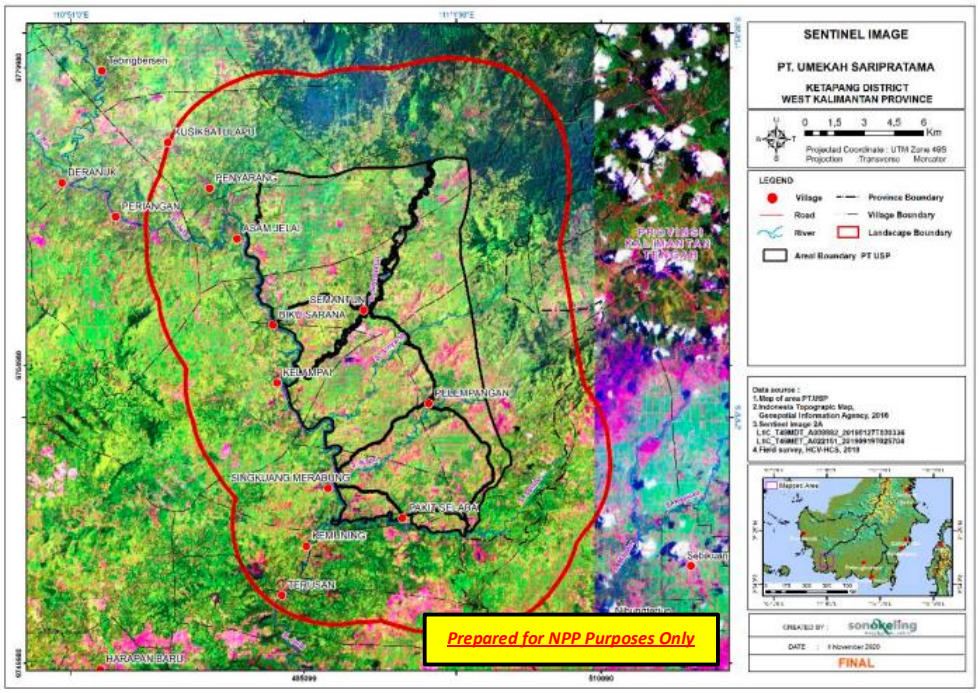



Figure 3. Sentinel-2 satellite imagery Used in and around the permitted area of PT. USP

The land cover classification used for the HCS Forest stratification analysis in the PT. USP is an object-based approach and then corrected using visual interpretation. The segmentation process into homogeneous image objects is processed using the Feature Extraction facility from ENVI 5.3 software with edge algorithm at scale level 50, Full Lambda Schedule algorithm at merger level 75, and Texture Kernel Size 5. Homogeneous image objects are then assigned to classes. HCS forest based on the decision rules (algorithm) spectral criteria through the NDVI (Normalized Difference Vegetation Index) transforming vegetation index approach and expert knowledge/consideration. Furthermore, the land cover classification resulting from the segmentation process is corrected or reclassified using visual interpretation based on expert knowledge/consideration and produces an initial land cover map.

Furthermore, the land cover classification resulting from the segmentation process is corrected or reclassified using visual interpretation using satellite imagery. The initial land cover classification was obtained from the results of correction or reclassification using visual interpretation based on samples from field checking/verification at the PreAssessment activity stage which was processed using ArcGIS 10.1 software.

Table 2. Approximate range of carbon stock values in HCS land cover classes

| Land Cover Class | Description |
|---|---|
| ***HCS Land Cover Category*** | |
| **Density Forest HK** | ***Density Forest: High Density Forest (HK1), Medium Density Forest (HK2), Medium Density Forest (HK3).*** |
| | Covered canopy natural forest varies from high to low density forest. Inventory data show the presence of trees> 30cm in diameter and |
| **Young Regeneration Forest (HRM)** | ***Young Regeneration Forest*** |
| | Old scrub or disturbed forest and in the regeneration stage to its original structure. The diameter distribution was dominated by trees with DBH 10-30 cm with a higher frequency of pioneer species compared to HK. In this land cover class there may be small areas in the form of agricultural areas (smallholder agricultural).<br>**Note:**<br>An abandoned plantation with a basal area of <50% consisting of tree crops may fall into this class category. Stand with basal area > 50% is not considered HCS forest, but rather as plantation land and should be classified separately. |
| B | Scrub |
| | Young scrub or land that used to be forest but has been cleared. Dominated by low scrub with limited canopy cover. Includes land with tall grass and ferns and scattered pioneer tree species. Some patches of old forest may also be encountered in this land category. |
| LT | Open Area |
| | The land that was recently cleared and mostly consists of grasses or crops. A little woody plant. This includes areas that are in the process of clearing land by the company. |
| ***Non-HCS Land Cover Category*** | |
| **HT** | ***Plantation Forest*** |
| | Large areas planted with trees (such as rubber, acacia) |
| **AGRI** | ***Plantation - Agricultural*** |
| | Smallholders agricultural with overlapping concession areas |
| **MINE** | ***Mining Area*** |
| | This area can be further differentiated between legal / licensed added areas from illegal / unlicensed mining areas. |
| **SH** | ***Plasma Farmers and Utilization of Plasma*** |
| | This area can be further distinguished as a smallholder agricultural in a heterogeneous mix which has a potential role as a wildlife corridor, a shifting cultivation system for subsistence food production etc. |
| **Others** | Water bodies such as rivers and lakes, construction areas, settlements, |

The overall accuracy value resulting from the initial land cover classification for the training sample points is 94,37% with a kappa accuracy value of 92,64%. This value is in accordance with the standard set by the HCSA toolkit for the initial land cover classification, which is more than 70%. The initial land cover is used as a reference for land cover verification and biomass carbon sampling.

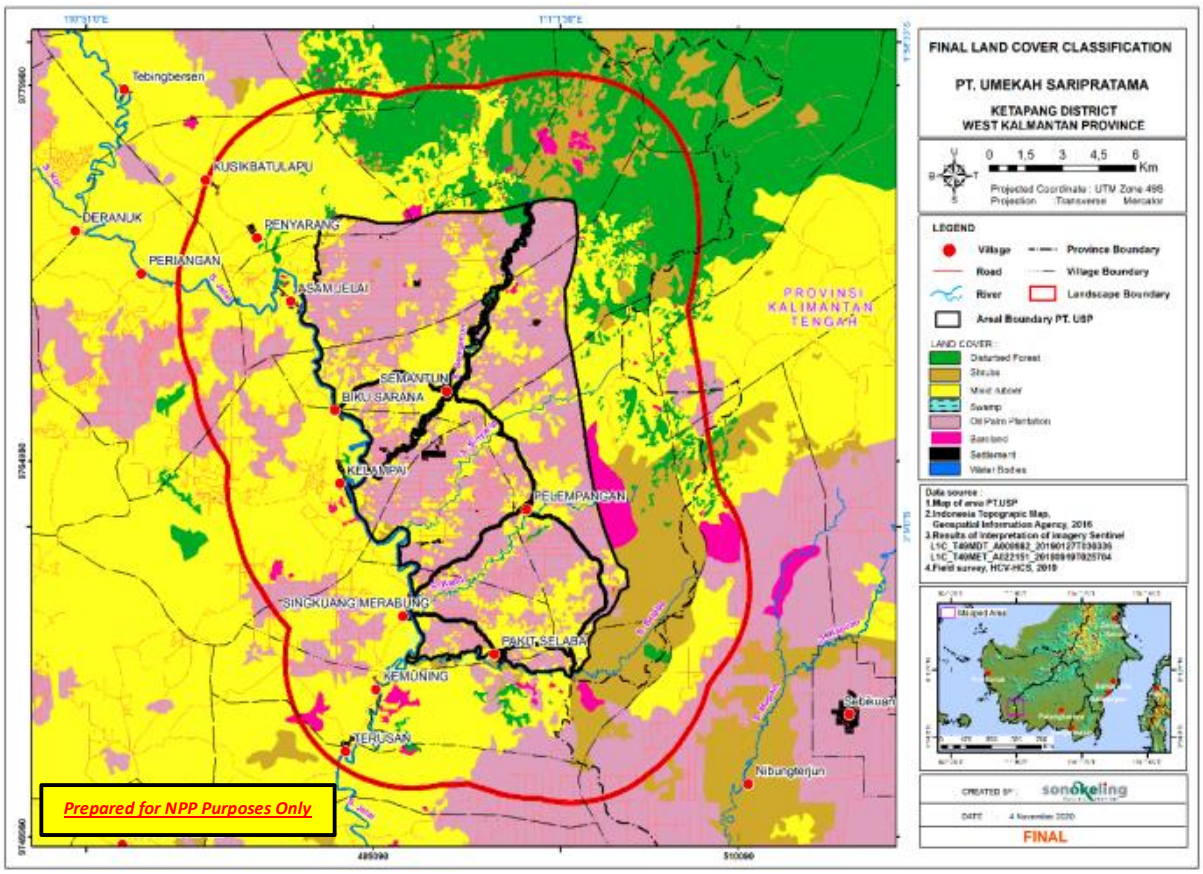



Figure 4. Map of final land cover classification in the permit area of PT. USP

### 1.3. Area and Timeline for New Planting

The total management area is 16.517,50 Ha (GIS data 16.497,09 ha), consisting of oil palm plantation 9.494,50 ha, infrastructure 453,98 ha, HCS and HCV 433,31 ha, and the rest is the proposed area for new planting. PT USP will immediately delineate and demarcate HCV and HCS areas. The initial steps that have been taken are limited to socializing the existence of HCV and HCS areas that must be protected, both to internal and external parties. New planting in an area of 6.115,30 ha will start in 2023 (Table 3 and Figure 5)

Table 3. Planned of new planting in PT USP MU concession

| Planting Year Plan | Area (Ha) |
|---|---|
| 2023 | 1.187,31 |
| 2024 | 1.154,08 |
| 2025 | 1.230,15 |
| 2026 | 1.239,44 |
| 2027 | 1.304,32 |
| **Sub Total** | **6.115,30** |

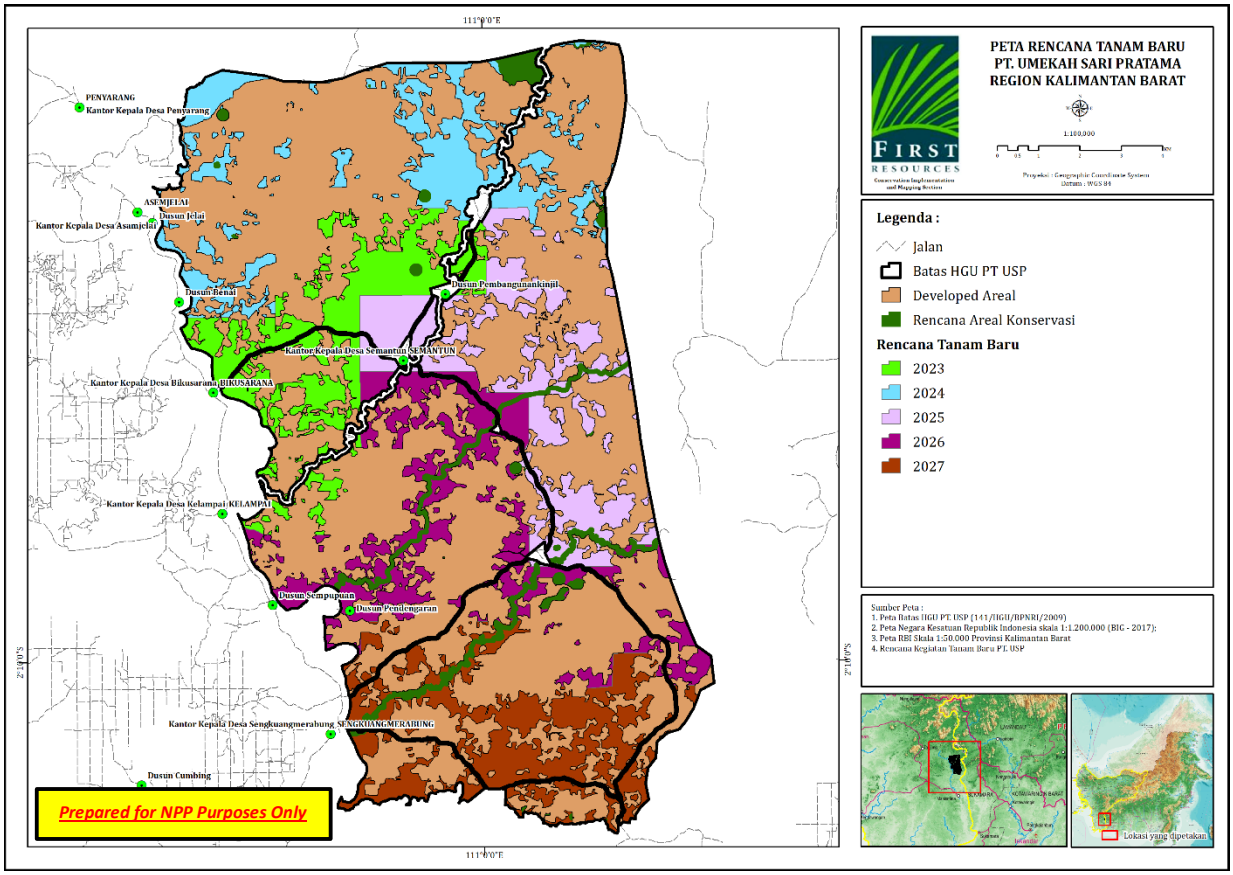



Figure 5. Map of the planned new planting locations

# 2. ASSESSMENT PROCESS AND METHODS

## 2.1. Social and Environmental Impact Assessment (SEIA)

**Dates of Activities**

The time for the SIA assessment in the field is 10 (ten) days from December 15 to 24, 2019; the SEIA (AMDAL) was issued in June 2007. The location of this SIA assessment was carried out in the oil palm plantation of PT. USP includes seven villages spread over 2 (two) sub-districts in Ketapang Regency. Complete information on the village or the location of the SIA assessment can be seen in Table 4 and Figure 6.

Table 4. Distribution of villages or locations of SIA assessment in HGU area PT. USP

| No. | Desa | Kecamatan |
|---|---|---|
| 1. | Biku Sarana | Jelai Hulu |
| 2. | Semantun | |
| 3. | Asam Jelai | |
| 4. | Kelampai | Manis Mata |
| 5. | Pelampangan | |
| 6. | Sengkuang Merabung | |
| 7. | Pakit Selaba | |

Source: Jelai Hulu District in 2019 Figures and Manis Mata District in 2019 Figures.

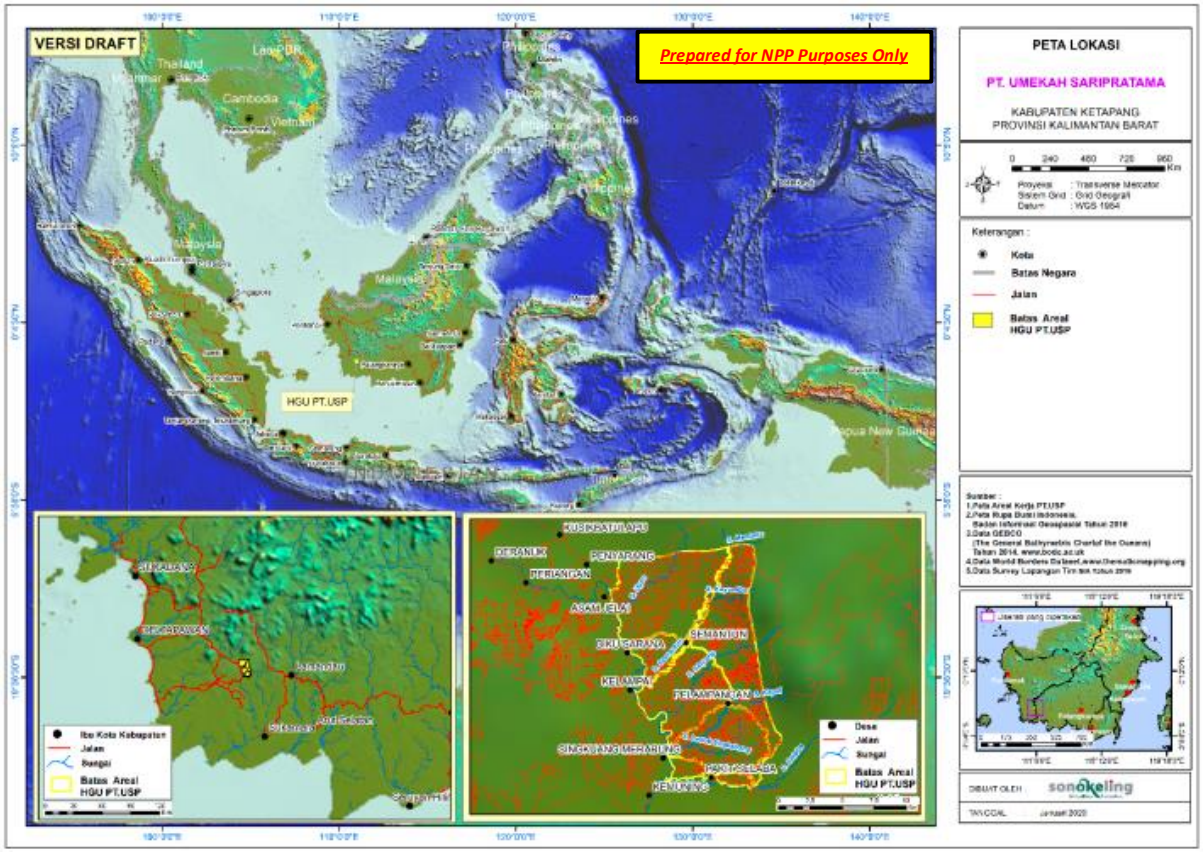



Figure 6. Location of the SIA assessment

**Assessors and Their Credentials**

SIA study in the HGU area of PT. USP is carried out by a team of consultants PT. SAN that has competence. List of personnel involved as in Table 5.

Table 5. List of SIA team personnel in PT. USP

| Name of Personnel | Competency |
|---|---|
| Sigit Pamungkas, SP, M.Si | • Agricultural and Rural Development Communication.<br>• Community social studies experts in Development Communications, Agriculture, Social Practitioners, HCV 5 -6 Assessors, HCV Assessor, SEAI, FPIC and senior social assessor |
| Yayan Saryani, S.KPm | • Communication and Community Development.<br>• Community social studies and technical facilitation of participatory mapping, SIA (Social Impact Assessment), Master plan CSR (Corporate Social Responsibility). |

Environmental Impact Statement (ANDAL) and Environmental Management and Monitoring Plan (RKL-RPL) are studied by consultant. The EIA team consists of eight members and one leader.

Table 6. SEIA assessors and their competences

| No | Assessor | Role in Team | Qualification |
|---|---|---|---|
| 1. | Stafan Agung Dhewandanu W, S.Si. | Team Leader | Biology |
| 2. | Sigit Sugiardi | Team Member | Agribussiness |
| 3. | Ir. Togar Fernando Manurung, M.P. | Team Member | Forestry |
| 4. | Erni Sulissiawati, SP., M.Si. | Team Member | Geophysical & Chemical |
| 5. | Indra Pardomuan, S.St.Pi. | Team Member | Socio-economic Culture |
| 6. | Achmad Mulyadi, S.Si., M.Si. | Team Member | Biology |
| 7. | Indah Soegiarsih, SE. | Team Member | Socio-economic Culture |
| 8. | Uray Lusiana, ST. | Team Member | Geophysical & Chemical |

**Assessment Methods**

**SIA**

The data needed in the research preparation include secondary and primary data. This data differentiation is based on the process of collecting or obtaining data. Data obtained by adapting or referring to data other parties have collected is secondary data. Data obtained through the direct collection process is referred to as primary data.

a. Secondary Data Collection

Secondary data is taken from various literature studies or literature by collecting and studying related documents. The materials used in this study include reports related to the study of social aspects (Environmental Impact Analysis Documents, RKL/RPL Documents, Ketapang Regency Documents in Figures, Manis Mata District Documents in Figures, Jelai Hulu District in Figures, various company documents regarding: Corporate Social Responsibility (CSR), Standard Operational Procedure (SOP) for Environment, Occupational Health and Safety, map of plantation location, a monograph of the study village, HCV/HCS and SIA documents that the company has prepared (if available) and others to identify various social components related to plantations contained in it and the question guide as well as the results of interviews with respondents. The study was conducted mainly to look at various social issues that have the potential to arise now and in the future. So that an understanding of the social and environmental context of the identification area will be obtained, this activity is carried out at the identification stage, early before going to the field, during, and at the analysis stage results.

b. Primary Data Collection

Primary data collection was carried out using field observations, in-depth interviews, questionnaires and Focus Group Discussions (FGD) on the basis of representation of socio-economic aspects, work areas and patterns of interaction with the company. Interviews and FGDs were conducted in villages around PT. USP is to find out basic demographic and socio-economic data for the local community, various strategic issues related to the impacts (both positive and negative) of the company's operations, hopes and desires of the community, stakeholders in each village and other data that supports the process of preparing the SIA document. In addition, triangulation methods and social-

learning cycles are also used to obtain accurate data and the validity can be justified. The following are some of the methods used to obtain data in the field:

1. Dialog; this method is used to identify the parties, explore the issues that become the impact, explore hopes, ideas and aspirations to get solutions to the issues that occur, are carried out through meetings both formal and non-formal and with specific topics (Focus Group Discussion/FGD).
2. Field observation; This method is used to directly understand the facts on the ground that are an indication of the occurrence of social issues and impacts.
3. In-depth interview; Interviews were conducted with key person interviews to find out more deeply a problem according to the area of expertise or authority of each key respondent in each village.
4. Triangulation; the above methods are carried out in an integrated manner to mutually verify the issues, opinions, and ideas that arise.
5. Social-Learning Cycle; Social Impact Assessment is not a one-time linear process, but a cyclical process that functions as social learning processes to respond to environmental changes that occur.

**EIA**

The data collection process was strongly associated with the type of data to be collected. In general, studies will be conducted based on primary data and secondary data. Primary data are obtained through observation, measurement and field interviews, and secondary data are obtained from the literature collected, either from the company, or directly from related institutions in the study of this area. The methods that were used to collect the data were adjusted with components that can be studied. The used data must be accurate and reliable so that it could be used to analyzed, measure and observe the environmental components which it predicted would be affected and components of action plan that would give significant impacts to the surroundings. The data were collected was as follow: - Physical – Chemical Components (Climate, Air Quality and Hydrology, and Soil). - Biological Components (Vegetation, Animals, and Water Biota). - Socio-Economic Cultural Components (Demography/ Population, Social, Economic, Social and Cultural). - Environmental Health and Public Health Components (Environmental sanitation, public health level, level of public health services).

<u>Methods of Significant Impact</u>

Estimation Determination of the significant impact to the environment caused by the development activities of the plantation is only intended as an attempt to estimate the large and important environmental quality changes that can be caused by the plantation development activities of PT USP. The method of significant impact estimation used is by differentiating the magnitude of impact and significance of impacts.

<u>Estimation on the Magnitude of Impact</u>

The magnitude of Impact is measured from the changes in the environmental quality. Formal and informal methods are used to estimate changes in environmental quality.

1. Formal Methods

Formal methods are used to estimate the impact of parameters which the system characteristics can be identified or estimated by using the approach of environmental threshold at national and regional levels.

2. Informal Methods

Informal method is a method that based on the professional judgment of experts, logical frame analysis and analogy. This method is used to estimate the environmental parameters which characteristics system finds difficult to identify or estimated by modeling approach such as socio-cultural systems

Determination of Important Impact Characteristics

Relation to the impact evaluation conducted by Important Impact scaling into two categories: important and less important. Characteristics Impact divided into two groups, negatives impact and positives impact. It will be regarded as negative if the changes/ impact estimated is get adverse towards the environmental, and it is positive if the changes/ impact estimated giving beneficial to the environment

Methods of Important Impact Evaluation

The Important Impact evaluation explore "holistic causative" against expected environmental components that is affected. For this purpose the supporting tools used is interactions matrix. Interactions matrix between activity components and environmental component contain magnitude of Impact and Importance of Impact. This Important Impact evaluation will be conducted careful and with thorough study to the primary impact (positive / negative) and secondary impacts (positive / negative), and also other derivative impacts on the environment component and activities component.

The study on the important source impact and hypothetical impact can identify the key issues that need to be managed. Results of the Important impact evaluation are also expected to assist the decision's making process in the selection of a viable alternative plan that takes into consideration of the environmental aspects of the proposed area.

### 2.2. HCV-HCS Assessment

**Dates of Activities**

Integrated HCV-HCSA assessment activities in the PT. USP is held for 13 (thirteen) months, from October 2019 to November 2020, as presented in Table 7.

Table 7. Timeline for HCV-HCS assessment activities in the permitted area of PT. USP

| No. | Activity | Time | Location |
|---|---|---|---|
| **MAIN ASSESSMENT** | | | |
| 1 | EIA | August 2007 | In the whole of HGU Area |
| 2 | Social Impact Assesment | October 2019 – February 2020 (in conjunction with HCV-HCS Study) | Kelampai, Pelampangan, Sengkuang Meraboh, Pakit Selaba, Biku Sarana, Semantun, and Asam Jelay villages |
| **INTEGRATED HCV-HCSA ASSESSMENT** | | | |
| **I.** | **Pre-assessment** | | |
| A | Information Exchange | 21 – 25 October 2019 | PT. Sonokeling Akreditas Nusantara office |
| B | Due Diligence | 28 October – 1 November 2019 | PT. Sonokeling Akreditas Nusantara office |
| **II.** | **Scoping Study** | | |
| A | Set the scope of the assessment | 4 - 8 November 2019 | PT. Sonokeling Akreditas Nusantara office |
| B | Information collection | 11 – 15 November 2019 | PT. Sonokeling Akreditas Nusantara office |
| C | Making initial land cover maps and plot analysis | 18 - 22 Novemberl 2019 | PT. Sonokeling Akreditas Nusantara office |
| **D** | **Field Visiy** | | |

| No. | Activity | Time | Location |
|---|---|---|---|
| 1 | Identification and Consultation with Stakeholders | 28 November – 4 December 2019 | Manis Mata and Jelai Hulu district, Spatial Planning and National Land Body office Ketapang Regency (Register Head Section), District Plantation and Livestock Service Ketapang Regency, (Kabidbun), District Public Work Services Ketapang Regency (Kabid TRP) |
| 2 | Visit a local sample | 28 November – 4 December 2019 | Kelampai, Pelampangan, Sengkuang Meraboh, Pakit Selaba, Biku Sarana, Semantun, and Asam Jelay village |
| 3 | Initial Verification of Land Cover Map with Reality on the Field | 28 November – 4 December 2019 | Secondary forest (9 location), Shrub (6 location), mic crop (10 location), and open land (4 location). |
| 4 | Identification of biophysical and ecological features | 28 November – 4 Desember 2019 | Sinyarip and Kapul rivers; Titi Ubar, Jandaberias, Tinjil water springs, Menjalak, Blanti and Blentaik Sentuai hills; Penantawangan swamp; Menyalaq hill; secondary forest, shrub, mix rubber garden, open land, water body and settlement. |
| E | **Preparation of Reports on Preliminary Examination Study Results** | 5 – 8 December 2019 | PT. Sonokeling Akreditas Nusantara office |
| **III.** | **Preparation for a Full Assessment** | | |
| A | Register to ALS | - | - |
| B | Assessment Team Preparation | 9 – 13 December 2019 | PT. Sonokeling Akreditas Nusantara office |
| C | Preparing the Method | 9 – 13 December 2019 | PT. Sonokeling Akreditas Nusantara office |
| **IV.** | **Full Assessment** | | |
| A | Field Work | | |
| 1 | Social Fieldwork | | |
| a | Participatory Mapping | 15 – 24 December 2019 | inyarip and S. Kapul; Water Spring (TitiUbar, Janda Berias, Tinjil, Bukit Menjalaq, Belanti, and Bukit Sentuai); Menyalaq Hill; Swamp (Penantangan and J09 swamp); Shared Garden; and sacred places/cultural sites (Sacred Keranji, Dukuh Ugan Tering Grave, Kelapu Grave, Lubuk Bayur Grave, Sacred Graves of Kalimantan Lalau, Tanah Merah Sacred, Meleket Sacred Forest, Tanjung Babuy Customary Land, and Abi Sacred Grave). |
| b | Social Study | 15 – 24 December 2019 | the Village Offices of Kelampai, Pelampangan, Sengkuang Meraboh, Pakit Selaba, Biku Sarana, Semantun, and Asam Jelay; and sacred places/cultural sites (Sacred Keranji, Dukuh Ugan Tering Grave, Kelapu Grave, Lubuk Bayur Grave, Kalimantan Lalau Sacred Grave, Tanah Merah Sacred, Meleket Sacred Forest, Tanjung Babuy Customary Land, and Abi Sacred Grave). |
| 2 | Environmental Study in the Field | | |
| a | HCS Forest Inventory | 15 – 24 December 2019 | High, Medium and Low Density Forest (HK) (47 plots), Young Regeneration Forest (HRM) (40 plots), Scrub (B) (16 plots), Open Land (LT) (6 plots), and Plantation-Agriculture (AGRI) ) (16 plots). |
| b | HCV Identification Efforts | | |
| | • Vegetation in non-forest ecosystems | 15 – 24 December 2019 | 13 observation transects (secondary dryland forest (4 observation transects), shrubs (3 |

| No. | Activity | Time | Location |
|---|---|---|---|
| | | | observation transects), mixed gardens (5 observation transects), and oil palm plantations (1 observation transect)). |
| | • Wildlife Study | 15 – 24 December 2019 | 13 observation transects (secondary dryland forest (4 observation transects), shrubs (3 observation transects), mixed gardens (5 observation transects), and oil palm plantations (1 observation transect)) and 2 rivers. |
| 3 | Biophysical Study | 15 – 24 December 2019 | S. Sinyarip and S. Kapul; Springs/MA (MA TitiUbar, MA Janda Berias, MA Tinjil, MA Bukit Jalalaq, MA Belanti, and MA Bukit Sentuai); Bukit Manyalaq; Swamp (Penantangan Swamp and Swamp J09); land cover of secondary dry land forest, shrubs, groves, swamp thickets, mixed rubber plantations, oil palm plantations, mixed dry land agriculture, open land, settlements, and water bodies. |
| B | Analysis and Interpretation | | |
| 1 | HCV Identification | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| 2 | Analysis of HCS forest plots | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| 3 | Local community land identification | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| 4 | Interpreting peat studies | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| 5 | Aligning several related data sets to develop a conservation map design | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| 6 | Drafting the draft management and monitoring recommendations | 25 December 2019 – 2 February 2020 | PT. Sonokeling Akreditas Nusantara office |
| C | Consultation with Stakeholders | 10 – 11 August 2020 | Rumah Saung Meeting Room PT. USP and Ruang Pawan 3 Hotel Aston, Ketapang |
| D | Report Improvements | 12 August–3 November 2020 | PT. Sonokeling Akreditas Nusantara office |
| E | Reporting and Quality Control | 4 November 2020 | PT. Sonokeling Akreditas Nusantara office |

**Assessors and Their Credentials**

The Integrated HCV-HCSA Study was carried out by PT Sonokeling Akreditas Nusantara with a total of 10 people. The composition of the assessment team is presented in Table 8 and Table 9.

Table 8. Team leaders and GIS experts

| Name | Role | Expertise | Experience |
|---|---|---|---|
| Kresno D. Santosa | Lead Assessor (ALS15009KS) | Ecological Landscape, Socio-Economy, carbon stock, land suitability, peat surveys, soil, and water conservation | Country: Indonesia Languages: Indonesian and English |
| Kasumawijaya | GIS and remote sensing expert | Remote sensing, GIS, spatial analysis, carbon stock, land cover change | Country: Indonesia Languages: Indonesian and English |

Table 9. Environmental and social experts in the study implementation team

| Name | Role | Expertise |
|---|---|---|
| Sigit Pamungkas, SP, M.Si | Social Expert | Social Forestry |
| Rahman Fero Balfas, A.Md. | Environmental Specialist | Hydrology, Soil and Water Conservation |
| Dera Syafrudin, S.Hut | Biodiversity Specialist | Tropical Flora Conservation, HCV 1 to HCV 3 and Flora Inventory |

| Name | Role | Expertise |
|---|---|---|
| Ahdi Muhtadin, S.Hut | GIS and Remote Sensing Specialist | GIS and Spatial Planning |
| Ainurrahman, A.Md. | Biodiversity Specialist | Wildlife Inventory |
| Yayan Suryani, SP | Social Expert | Social Forestry |
| Ahmad Sirojudin, S.Hut | Biodiversity Specialist | Tropical Flora Conservation, HCV 1 to HCV 3 and Flora Inventory |
| Ace Amirudin Mansur, S.Hut. | Biodiversity Specialist | Forest Inventory |

**Assessment Method**

This study uses the following guidelines: (i) Common Guidance for the Identification of High Conservation Values (Brown et al., 2017) to identify HCV 1, HCV 2, HCV 4, HCS 5, and HCV 6; (ii) Guidelines for Identification of High Conservation Value Areas in Indonesia (HCV Revised Consortium Indonesia Toolkit, 2008) to identify HCV 3; (iii) Common Guidance for Management and Monitoring of High Conservation Values (Brown et al., 2018); (iv) HCV-HCSA Assessment Manual (HCVRN, 2017); (v) Guidance for Using the HCV-HCSA Assessment Report Template (HCVRN, 2018); (vi) HCV-HCSA Assessment Report Public Summary Template with Guidance (HCVRN, 2018); and (vii) The HCS Approach Toolkit v2.0 (Rosoman et al., 2017) to identify areas of HCS.

**Pre-Assessment**

At this pre-assessment stage, the study implementation team conveys information to the Company regarding the next stage of the study, which includes a scoping study and a full assessment stage including public consultation. In addition to expressing approval of the process of activities in the HCV-HCSA assessment, the Company also agreed to the ALS procedures and requirements, including the time and cost of the review. The company also understands the consequences of the results of the study, which include recommendations for managing and monitoring conservation areas, especially conservation areas located in partnership lands (PSR). This pre-assessment stage concludes that the company is deemed eligible to proceed to the next stage in the implementation of the integrated HCV-HCSA assessment.

**Scoping Study**

Examination study in the permit area of PT. USP includes 7 main activities, namely 1) Determining the scope of the study, (2) Information gathering, (3) Preparation of initial land cover maps and plot analysis, (4) Field visits, (5) Visiting community samples, (6) Identification of stakeholders and initial consultation, and (7) Preparation of a report on the results of the initial examination study. The summary of the inspection study activities in the permit area of PT. USP

At this stage, several parties have been consulted to gather important issues related to the substance of the study. The selection of the parties as resource persons was motivated by the relevance of the activities and the main concerns of these parties to the study area, as well as the potential presence of HCV and HCSA elements.

**Method for Environmental HCVs (full assessment)**

Various relevant information was collected through literature searches, specifically the literature on the Sumatran elephant and Sumatran tiger received more attention due to the status of the two species. Then to assess HCVs 1-3, thematic maps on Sumatra's biodiversity and current important species information in global and national contexts, such as those published by IUCN, WWF, BirdLife International, Forina, CITES, UNESCO, Ramsar Forum, Intact Forest were compiled. Landscape (IFL), and the Ministry of Environment and Forestry (KLHK). In addition, secondary data and information were also obtained from experts through initial consultations. An analysis of land cover is required in the assessment of HCV 1 - 4. The main data used for land cover classification in the PT USP permit area is the history of land cover and current land cover in 2019.

The guidelines used in the HCV assessment are (1) Common Guidance for the Identification of High Conservation Values (HCV Resource Network, 2017a); (2) Common Guidance for the Management and Monitoring of High Conservation Values (HCV Resource Network, 2018a); (3) HCV Assessment Manual (HCV Resource Network, 2019a); (4) Guidance for using The HCV Assessment Report Template (HCV Resource Network, 2019b); and (5) HCV assessment Public Summary template with Guidance (HCV Resource Network, 2019c); while specifically for ecosystem type analysis (HCV 3) using a precautionary approach referring to the Guidelines for High Economic Value Areas in Indonesia (Consortium for Revision of HCV Toolkit Indonesia, 2008). The method applied to the environmental aspect study section is collecting secondary data and fieldwork to collect primary data.

Land cover analysis is required in the HCV 1 – 3 and HCS assessments. The main data used for land cover classification in the PT. USP is the history of land cover and current land cover in 2019. The satellite imagery data (satellite Imagery) used is the Sentinel-2A Image in 2019, then analyzed and verified with satellite images in previous years, then land cover classification is carried out by digitize on the screen at a scale of 1: 50,000. Land cover classification in the early stages of image interpretation activities uses the classification of Gunarso et al. (2013); National Standardization Agency (2010).

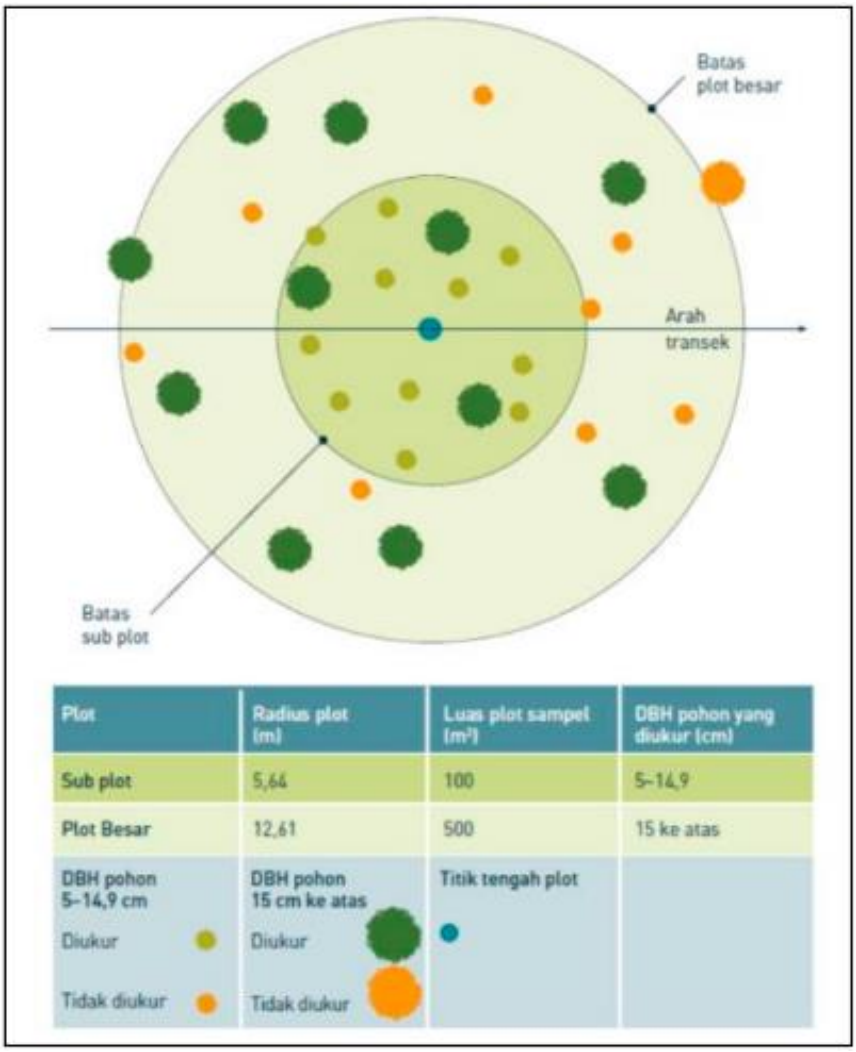



Figure 7. HCS forest inventory sample design

The sample plot design used in forest inventory activities in the PT. USP is two concentric circles from a central point in the form of a large plot with an area of 500 m2 or 0,05 ha and a sub-plot with an

area of 100 m2 or 0,01 ha. In large plots, the data measured are all trees > 15 cm in diameter; while in the sub-plot, the data measured were all trees with a diameter of 5 – 14,9 cm (Figure 7).

The HCS forest inventory activity was carried out in the PT. USP covers an area of 16.517,50 ha (GIS data 16.497,09 ha). The number of sample plots measured for carbon stock analysis was 164 sample plots spread over 5 (five) land cover classes, namely 53 sample plots in Density Forest (HK), 50 sample plots in Young Regeneration Forest (HRM), 21 sample plots in Scrub (B), 14 sample plots in open land (LT), and 26 sample plots in Plantation-Agriculture (AGRI).

Based on Toolkit Module 4 (Forest and Vegetation Stratification) 2018, the general guideline is that at least 50 samples are collected for each land cover class (Congalton and Green 1999). For larger areas (more than 400.000 ha) it is recommended that at least 75 samples be collected for each land cover class (Congalton and Green 1999). The number of sample plots for HK is 53 plots and HRM is 50 plots, so the number of plots is in accordance with the general guidelines that apply.

Inventory measurements were only carried out on large plant species, which had a diameter at breast (dbh) of more than 5 cm. In the large plot (500 $m^2$), the data measured were all trees with a diameter of > 15 cm, while in the sub-plot (100 $m^2$), the data measured were all trees with a diameter of 5 – 14,9 cm. The trees that have been identified and their trunk diameters measured are then recorded on a tally sheet and marked with flagging tape.

The methodology used in carbon calculation is non destructive sampling method or carbon analysis method without harvesting. In practice, carbon measurement is carried out by measuring the diameter of the tree trunk (diameter of breast high/DBH). After the DBH data is obtained along with the amount of vegetation in each plot, the next step is to calculate the stem value per hectare. The equation used is as follows:

**Stems per hectare = (number of trees in a plot)/(plot size in hectares).**

All DBH information from the measured vegetation is then used to calculate the carbon stock value for each vegetation. Furthermore, the carbon stock value of each vegetation is added up in one plot. The approach used to calculate the carbon stock value of each vegetation uses an allometric equation to estimate its biomass. Calculation of biomass in the assessment of Carbon stock in the permit area of PT USP uses the Ketterings et al (2001) equation, namely:

$$\mathbf{TDW = 0{,}11 \times \rho \times (DBH)^{2.62}}$$

Note:
TDW = biomassa (kg); ρ = wood specific weight (gr/cm3), DBH = diameter breast hight (cm)

The consideration in using this formula is its suitability for use in secondary forest types in the tropics. Several studies have compared this formula with other general allometric equations. The results of the ICRAFT study stated that the Katterings, Chave, Brown and Basuki formulas provided a carbon storage value that was not significantly different up to a diameter of 100 cm. Some things to consider when using allometric equations are the specific gravity of the wood. The value of the specific gravity of wood in this study was obtained from the wood hardness database issued by the World Agroforestry Center (WAC) at http://db.worldagroforestry.org/wd.

After knowing the biomass value, then the carbon stock value is calculated in tons C/ha. The general equation used in calculating the carbon stock of aboveground biomass is:

**Carbon Mass (ton) = Biomass x (Carbon Conversion Factor)**

The carbon conversion factor estimates the carbon component of vegetation biomass. This factor can be generated for certain forest types or using the IPCC standard value of 0,47 (IPCC, 2006)[1] (IPCC. 2006. Guidelines for National Greenhouse Gas Inventories. UNFCCC.).

Calculation of total tree carbon stock (tonnes C / ha) in each plot uses the following equation:

**Total Carbon (ton C / ha) = ∑ ([Tree Carbon]) / [Plot size in hectares]**

Flora Survey

The method used in the observation of flora/plants is the encounter method which is carried out by checking and recording the types of flora found along the observation transect, where each transect is 200-1.000 meters long with a width of 25 m (left of the transect) and 25 meters wide (left of the transect). m (right of the transect). Determination of plant observation path length refers to Bismark (2011) and Kartono (2008). The parameters observed were the presence of flora species in the sample unit and the quality of their habitat. Flora status was obtained from the IUCN (2019) and CITES (2019) websites as well as from Indonesian government policy documents (Ministry of Environment and Forestry Regulation Number P.106 of 2018).

Fauna Survey

The method used in observing fauna/wildlife is the encounter method by means of a checklist and recording the types of fauna found along the observation transect, where each transect is 200-1.000 meters long and 100 m wide. Determination of plant observation path length refers to Bismark (2011) and Kartono (2008). For amphibian observations focused on river areas.

Observations of wildlife (mammals, birds, and herpetofauna) were carried out using a rapid assessment technique, combining 4 methods, namely (1) Interviews with the community, especially hunters (5 villages) and company staff; (2) Checklist list of wildlife species (mammals, birds, and herpetofauna, (3) Encounters either directly (visually) or indirectly (mammals: traces, sounds, scratch marks, and droppings; birds: sounds, fallen body parts, and feces, and herpetofauna: sound), and (4) Observation of the quality of wildlife habitat (mammals, birds, and herpetofauna) is carried out in collaboration with the flora team. Recording of wildlife species (mammals, birds and herpetofauna) is carried out at each observation location, where at each observation point of 200-1,000 meters. The determination of the length of the path for observing wildlife refers to Bismark (2011) and Kartono (2008). Observations of mammals, birds and reptiles are carried out at 07.30 – 17.00 and at night, while for amphibians it is carried out at night day.

Interviews with the community, especially hunters and company staff, to determine the presence of wildlife species at each observation location were carried out by asking for the name of the wildlife species found and when they were found, with reference to the pictures of wildlife contained in the field guide book. The field guidebooks used as material for interviews with the community, especially hunters and company staff, were sourced from: Mammals (Payne, et al. (2000); Agustinus et al. (1998)); Birds (MacKinnon et al. (1992); MacKinnon et al. (2000); Sukmantoro et al. (2007); Sukmantoro (2013)); and Herpetofauna (Cox et al. (1998); Kusrini et al. (2017); Mistar et al. (2017)). The fauna status was obtained from the IUCN (2019) and CITES (2019) websites as well as from Indonesian government policy documents (Ministry of Environment and Forestry No. P.106 of 2018).

Aquatic Survey

Fish data collection was carried out in several rivers using a rapid assessment technique, combining 3 methods, namely (1) Interviews with the community, especially anglers and company staff; (2) Checklist of fish species list obtained from various sources, (3) Direct encounter (visual), and (4) Observation of fish habitat quality is carried out in collaboration with the environmental services

team. Interviews with communities to ask about the types of fish found and the quality of their habitats were conducted in 5 villages. Fish observations were carried out in several rivers at 07.30 – 17.00, but night observations were also carried out. The field guidebooks used as material for interviews with the community, especially hunters and company staff, were sourced from Sukmono and Margaretha (2017).

The status of the fish was obtained from the IUCN (2019) and CITES (2019) websites as well as from the Indonesian government's policy documents (Ministry of Environment and Forestry Regulation No. P.106 of 2018). Sources to determine whether fish species are endemic or not are Sukmono and Margareta (2017).

High Conservation Value 2

The method used to identify HCV 2 areas is a combination of spatial analysis with qualitative observations. Spatial analysis using GIS and remote sensing techniques is carried out to determine the position of the study area against the IFL area or conservation area or natural ecosystem area within the study area and in the AOI. Observations were made on several indicators that focused on: i) the existence of natural ecosystems, ii) verification of natural ecosystems in the context of a landscape (AOI), and iii) verification of the connectivity of potential areas as links for two or more large landscapes. Where there is a smaller area of natural ecosystem that provides key functions for the landscape such as connectivity and buffering, then the area is considered an HCV 2 area.

High Conservation Value 3

In conducting the HCV 3 assessment, mapping of the ecosystem in a bio-physiographical unit where the PT USP permit area is located uses a proxy for the RePProT classification in Kalimantan. The ecosystem map in one bio-physiographic unit is then overlaid with the 2018 land cover map and further analysis is carried out to determine whether the ecosystem is rare or threatened.

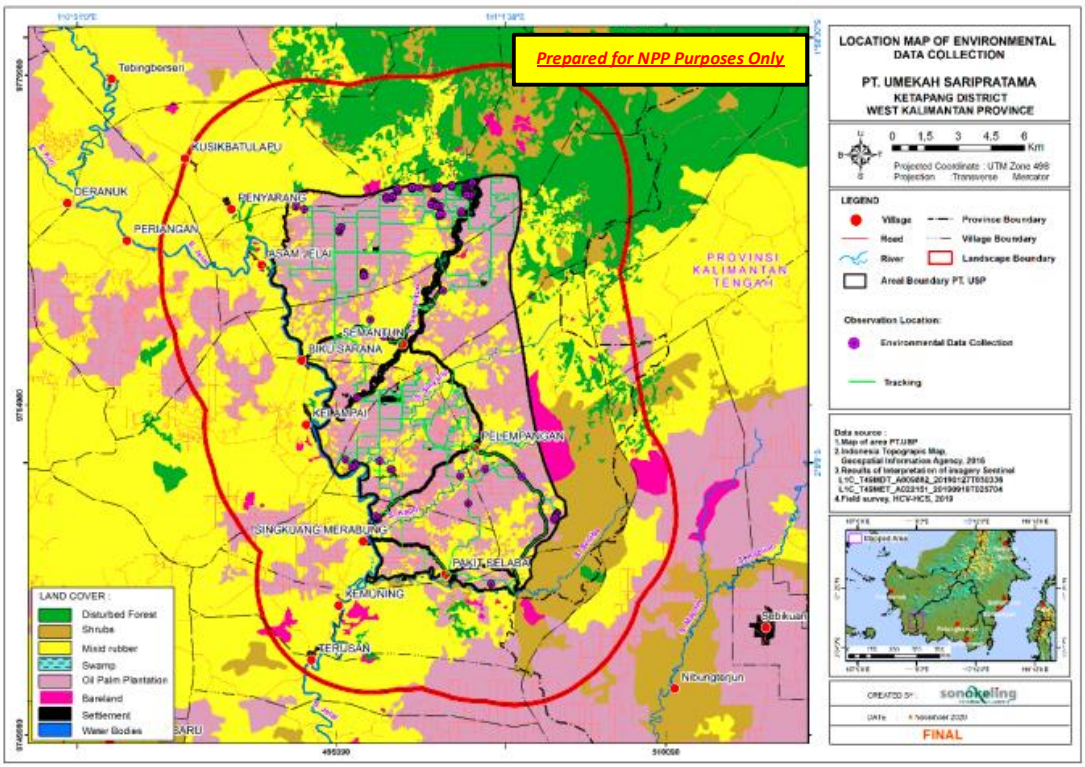



Figure 8. Map of location environmental data collection in the permit area PT USP

**Social HCV Assessment Method (full assessment)**

The method of collecting data and secondary information is carried out through literature studies obtained from the PT USP, documents from related agencies/stakeholders, and various websites on the internet. The literature review / references and guidelines used as a reference in carrying out the HCV - HCS assessment are as follows:

a) HCV-HCSA Assessment Guidelines Used during the Integrated HCV-HCSA Assessment. Document ID: ALS_02_N Date November 08, 2017.
b) Common Guidance for the Identification of High Conservation Values: A good practice guide for identifying HCVs across different ecosystems and production systems. 2013.
c) Free, Prior and Informed Consent Guide for RSPO Members, RSPO Human Rights Working Group 2015. Endorsed by the RSPO Board of Governors meeting on 20 November 2015 in Kuala Lumpur.
d) The HCS Approach Toolkit Module 2 version 2.0 May 2017 on social requirements.
e) United Nations Declaration on the Rights of Indigenous Peoples, with regard to FPIC (art. 32), Lands and Territories (art. 20 and article 26), Immovability and the right to restitution and correction (art. 10, art. 28), Representatives (art. 18, art. 19), Agreement based on custom (article 3, article 4, article 5, article 33, and article 34).
f) International Law Conventions, which include:
   - International Convention on Civil and Political Rights.
   - International Convention on Economic, Social and Cultural Rights.
   - Convention on the Elimination of All Forms of Ethnic Discrimination.
   - ILO Convention No. 169 concerning Indigenous and Tribal Peoples.
   - Convention on Biological Diversity.
g) Secondary data in the form of documents or library sources needed (documentation) in the study such as:
   - Village location
   - Stakeholders Mapping
   - Demography
   - Etnography
   - Land acqusition data
   - Land cadasteral
   - Language background
   - Cultural background
   - Etno-botani study
   - Socio-economic study and development need
   - Administrative boundary
h) Data and information from PT USP management and other information data

Table 10. Data and information source for social HCV assessment

| No. | Main Data Resources and Information |
|---|---|
| **A.** | **Documents and study** |
| 1 | Main Report of EIA (PT. USP, 2017) |
| 2 | Social Impact Assessment (PT. USP, 2013) and *Update* or *Reassessment* SIA Year 2019 |
| 3 | FPIC *in the* HCS PT.USP Report 2017. |
| 4 | Determination land for agricultural (Anonimous, 1960) |
| 5 | Ketapang Regency in Figures 2019 |
| 6 | Manis Mata District ini Figures 2019 |
| 7 | Jelai Hulu Dstrict in Figures 2019 |
| 8 | Profile/Village Monography (Kelampai, Pelempangan, Sengkuang Merabong, Pakit Selaba Biku Sarana, Semantun, and Asam Jelai). |
| 9 | Partnership Agreement Plasm Program between PT USP with Kopbun Mitra Karya Perkasa & Kopbun Bumi Sentosa Jaya |
| 10 | UNESCO World Heritage sites (www.whc.unesco.org) |
| **B.** | **Information** |
| 1 | Villages Administrative Boundaries (Kelampai, Pelempangan, Sengkuang Merabong, Pakit Selaba Biku Sarana, Semantun, dan Asam Jelai). |
| 2 | Demography (Number and Density, and Sex Ratio) |
| 3 | Social Economic (livelihood, Income Sources) |
| 4 | Social Cultural (Etnich, tradition and history of the area study, Etnography, Language background, cultural) |

| No. | Main Data Resources and Information |
|---|---|
| 5 | Use or Utilization of Natural Resources (Water/Rivers/Springs, Forested Areas, Land Tenure Data) |
| **C.** | **Geospatial Data:** |
| 1 | Map of HGU PT. USP |
| 2 | Map of Watershed West Kalimantan Province (BP DAS Kalimantan Barat, 2019). |
| 3 | Map of River Network (Badan Informasi Geospatial, 2019) |
| 4 | Map of Land cover |
| 5 | Map of villages distribution surrounding HGU Area of PT USP |
| 7 | Map of Status of Forest West Kalimantan (KLHK, 2016) |
| 8 | Map of Distribution of Etnich Kalimantan Island (http://www.ethnologue.com/) |

The collection of secondary data and information was carried out through a literature study obtained from the company PT. USP, documents from relevant agencies/agencies and various websites on the internet. After secondary data and information have been collected, the next step is to verify and analyze the data (including initial mapping). Verification is carried out to test the truth and validity of the data and information obtained, while data analysis is carried out to obtain a general description of the study area and the potential for high conservation value areas tentatively which can then be used as a basis for determining data collection methods in the field.

The method used to review and use secondary sources is the secondary data analysis method (secondary research method). According to Prastowo (2012), the secondary data analysis method consists of 4 stages of activities, namely:

1. Data reduction
   Data reduction is a process of selecting, focusing on simplifying, abstracting, and transforming the initial data that emerges from secondary data and information. This data reduction takes place continuously during the qualitative study. During the data reduction process, the next step is to categorize the data and interpret the data.
2. Data presentation
   At this stage, the HCV-HCSA assessment team develops a structured information description for drawing conclusions and taking action. The presentation of the data used in this study is in the form of narrative text.
3. Drawing conclusions
   The HCV-HCSA assessment team tries to draw conclusions and conduct verification by looking for the meaning of each symptom obtained from the field, noting the regularities and configurations that may exist, the causality of the phenomena and their proportions. At this stage, the HCV-HCSA assessment team draws conclusions from the data that has been concluded previously, then matches the notes and observations made by the HCV-HCSA assessment team during the study.
4. Triangulation

   Triangulation is a technique of examining data for checking purposes or as a comparison to the data that has been obtained. The triangulation technique used in this study is source training. Triangulation with sources is a data checking technique that is done by checking the data that has been obtained through several sources (community and company). The data that has been obtained are described, categorized, which views are the same, which are different, and which are specific from the three data sources. The data that has been analyzed will produce a conclusion and then an agreement is asked from the source of the data obtained.

Social impact assessment in PT. The USP is carried out at the same time as the integrated HCV-HCSA assessment. The method used to review and use secondary sources (social impact assessment) is the secondary data analysis method (secondary research method), where the stages of activity are as described previously. The results of the desk study are then used to prepare a field data collection plan. This preparation includes determining the number of teams that will go to the field, travel preparation, logistics, accommodation, transportation, and assistants in the field. In addition, at this stage the determination of the location of field data collection and the work method and sampling intensity that will be used in data collection in the field. The final stage of the study preparation is the determination and development of primary data collection methods in the field, such as data collection methods for environmental services, social research methods, and verification methods for initial mapping results.

The method used in the assessment uses a rapid assessment through a qualitative approach to selected informants. This was done due to the nature of the study and the short duration of the study, so that information on HCVs is specific information on a specific subject and is only known by certain people. The social assessment method was chosen so that the nature of the study was participatory and representative of social groups and in accordance with the principles of FPIC as suggested in the Guidelines. In the pre-assessment stage, preliminary examination studies and complete assessments, in-depth interviews with company management at the head office and at AOI locations as well as to local resource persons were conducted using an interview guide. Literature review is carried out for AOI-relevant literature and maps from the library or from sources on the internet and company documents.

The selection of resource persons at all stages of the assessment was carried out using a purposive sampling method selected based on key stakeholders or social groups and representing administrative areas in the AOI. In this case, it represents the interests of social groups in the studied village. Furthermore, from these sources, snowball sampling was carried out which was equipped with a triangulation method to reduce bias. The participatory mapping method was used to obtain spatial information from the company management and local resource persons. The focus group discussion method was also used during the field study. Each information is also checked in the field through direct observation or ground truthing. The criteria for resource persons are people who have information about the village area, village land use, the history of land use in the village, the culture of the local community, areas of important value to the community and the existence of forest areas. So the speakers were the Village Head, Village Secretary, Village Consultative Body/BPD), traditional leaders, community leaders, religious leaders, youth representatives, women representatives, representatives of land authorities, representatives of members of marginalized communities, and other community representatives. By including every representative of these stakeholders, it is hoped that every representative of the residents affected by the company's operations can be represented.

In the Common Guide to Identification of HCVs, HCVRNs, in relation to the determination of social HCVs, use a precautionary approach, such as if there is a threat of severe or irreversible damage to the environment or a threat to human well-being, it is necessary to take explicit and effective steps to prevent damage and risks. even when scientific information is incomplete or unfinished, and when the vulnerability and sensitivity of the associated values are uncertain. In the context of land conversion for plantations, the threat is likely to be more severe than a development scenario limited to habitat disturbance/degradation. When the risk of habitat loss or displacement of the use of local people's resources is greater, the use of the precautionary approach becomes even more important in relation to the determination of social HCVs.

The social methods used and the stakeholders involved in collecting socio-economic and cultural data are presented in table below:

| *Stakeholders* | Number (person) | Method |
|---|---|---|
| Department of Human Settlements and Spatial Planning of Ketapang Regency | 1 | Interview |
| Plantation and Livestock Service Office of Sanggau Regency | 1 | Interview |
| Manis Mata District | 2 | Discussion |
| Jelai Hulu District | 1 | Interview |
| Dayak Customary Council Manis Mata District | 1 | Interview |
| DItrict Sector Police | 2 | FGD and interview |
| Plasm Cooperative Mita Karya Perkasa | 4 | FGD |
| Head of village | 7 | FGD and interview |
| Village Secretary | 2 | FGD and interview |
| Village Representative Body (chairman and member) | 8 | FGD and interview |
| Village apparatus (RW, RT, kepala seksi, kepala urusan, babinsa, dan linmas) | 15 | FGD dan Wawancara, participatory mapping |
| Head of Sub Village | 8 | FGD dan Wawancara, participatory mapping |
| Customary Leder (Leader, Deputy, Members, Administrator) | 8 | FGD dan Wawancara, participatory mapping |
| Religion Leader | 3 | FGD dan Wawancara |
| Community Leader | 13 | FGD dan Wawancara, pemetaan partisipatif |
| Woman Leader (PKK, Posyandu, Bidan) | 12 | FGD and interview |
| Community representatives (famer, fisherman, trader, etc) | 10 | FGD dan Wawancara, participatory mapping |
| Youth Leader | 7 | FGD dan Wawancara, participatory mapping |
| Company | 3 | FGD dan Wawancara, participatory mapping |
| **Total** | **108** | |

### 2.3. Soil and Topography Assessment

Activities that will be carried out in this semi-detailed land survey include the following:

a. Secondary data collection includes maps supporting climate data, and agricultural socio-economic data. Climate data was taken from the nearest Climatology station, while secondary data on agricultural economics was taken from the local BPS and information from villages around the prospective plantation area.
b. Preparation of preparation/interpretation maps for working maps set from base maps and satellite imagery.
c. Temporary land unit delineation for work maps is based on a landform approach or land unit mapping with a delineation path carried out by overlapping Landsat images, topographic maps, geological maps, land maps and land use maps.
d. Field checks and improvements to the delineation of soil map units, then continue field/soil observations on:
    - ✓ Soil observation points (drilling, minipit and soil profile) that have been determined to represent each land unit or according to land variability are carried out with a certain intensity.

Drilling is carried out to a depth of 0 - 100 cm or up to the parent rock layer. During the drilling, the soil's physiographic and physical and chemical properties were observed.

- ✓ From these points, a soil morphology observation point (profile) is determined, which represents the soil map unit. Soil profiles are made at observation points considered representative of each soil unit by excavating soil measuring 1m x 1m x 1.5 m. The soil profile was observed based on the USDA Key Soil Taxonomy standard in 2014. After observing the morphological characteristics of the profile, then taking soil samples per layer to analyze the physical and chemical properties of the soil in determining soil classification. The intensity of soil sampling is adjusted to the soil map unit and soil samples are taken at a depth of 0-20 cm; 20-40 cm; 40-60 cm; 60-80 cm; 80-100 cm.

e. Data processing results from the field. The determination of soil classification followed the Soil Taxonomy system (USDA 2014) which was matched with the PPT classification (1983). Analysis of land suitability evaluation refers to the FAO method (1976) which is adapted to the land evaluation procedure of the Center for Soil and Agroclimate Research (2003). The results of data processing are contained in report texts and digital maps (GIS).

The scope of the semi-detail level ground survey work includes:

- Observing and drilling soil as deep as 100 cm
- Making a cross section/profile of the soil
- Soil samples were taken as much as two layers of top soil (0-20 cm) and soil at the bottom (20-40 cm)
- Land suitability assessment and its limiting factors.

### 2.4. Carbon Stock and Green House Gas (GHG) Assessments

**Dates of Activities**

Carbon Stock and GHG Assessment in PT USP's Oil Palm Plantation Area were carried out in December 2019 – Agustus 2020

**Assessors and Their Credentials**

Carbon Stock and GHG Assessment in the Oil Palm Plantation Area of PT Umekah Saripratama (PT USP) located in Ketapang Regency, West Kalimantan Province, were carried out by consultants PT Sonokeling Akreditas Nusantara (PT. SAN) with team identities as follows:

Table 11. Assessor and their credentials

| Name | Qualification | Role |
|---|---|---|
| Ir. Kresno Dwi Santosa, MSi | Registered HCS Approach Practitioners | Team Leader |
| Ir. Siswoyo, MSi | Registered HCS Approach Practitioners / Carbon Specialist | Team member |
| Rahman Fero Balfas, A.Md. | Biodiversity Specialist | Team member |
| Ainurrahman, A.Md | Biodiversity Specialist | Team member |
| Ahdi Muhtadin, S.Hut | GIS Specialist | Team member |

**Assessment Methods**

The carbon stock and GHG assessment activities in the PT USP Oil Palm Area follow the RSPO GHG assessment procedure guidelines for new plantings. The RSPO GHG assessment procedure for new plantings has four key stages, namely (1) Carbon Stock Assessment, (2) GHG Emissions Assessment for new plantings, (3) GHG Emissions Management and Mitigation Plan and (4) GHG Assessment Reporting for New Plantings.

The carbon stock assessment methodology has a step-by-step process consisting of two key steps. The first step is preparing land cover maps from satellite imagery and the second is estimating the existing

carbon stock in the new development area. Carbon stock estimation using these two key steps can then be used to estimate RSPO GHG emissions resulting from land use change for new development areas.

The required carbon stock estimate must include carbon stored in: (1) Above-ground biomass, (2) Below-ground biomass (roots) and (3) Peat soil – if any. The total amount of carbon stock at the assessment site is the sum of the carbon stock in the estimated above and below ground biomass with the estimated peat soil carbon stock.

### 2.5. Land Use Change Analysis (LUCA)

**Dates of Activities**

The Land Use Change Analysis (LUCA) was conducted on March 2020. The LUC analysis was covered the proposed new development HGU area of PT USP. The analysis period used included: a) between November 2005 - November 2007, b) between November 2007 - December 2009, c) between January 2010 - May 2014 d) after May 2014.

**Assessment Methods**

**LUCA**

LUCA is conducted following RSPO Remediation and Compensation Procedure (2015), including relevant cut-off dates to identify land clearance before HCV assessment and the NPP completion. LUCA for PT USP HGU concession has five cut-off dates (Table 12). In addition, one cut-off (7 December 2021) has been added to the analysis to describe the current land cover (validity <1 year).

Table 12. Date of satellite image acquisition

| Period | Date of Acquisition | Cloud Cover (%) |
|---|---|---|
| Before November 1, 2005 (baseline) | February 13, 2005 | < 5 % |
| November 1, 2005 – November 31, 2007 | June 5, 2007 | < 5 % |
| December 1, 2007 – December 31, 2009 | March 9, 2009 | < 5 % |
| January 1, 2010 – May 9, 2014 | February 3, 2014 | < 5 % |
| May 9, 2014 – November 15, 2018 | August 30, 2018 | < 5 % |
| After HCV areas re-identified & ground truthing | September 19, 2019 | < 5 % |
| After becoming RSPO member (if relevant) | Not relevant | - |
| After the management unit acquired (if relevant) | Not relevant | - |
| Latest satellite image used for ground truthing | December 7, 2021 | < 5 % |

**Social Liability**

Social liability assessment applies Guidance on Identifying Social Liability for the Loss of HCVs 4, 5 and 6 (RSPO Biodiversity & High Conservation Values Working Group [BHCVWG], 2016). Data is collected by combining the following methods: (1) Desktop study, (2) Participatory mapping, (3) In-depth interview, (4) Field observation.

### 2.6. FPIC Process

**Dates of Activities**

The FPIC assessment was conducted on 4 - 25 October 2019

**Assessors and Their Credentials**

Table 13. Assessors and their credentials

| No | Name | Role | Qualification |
|---|---|---|---|
| **1.** | Sigit Pamungkas | Team Leader | - Communication and Community Development (KPM)<br>- Agricultural and Rural Development Communication<br>- FPIC, SEIA and participatory mapping<br>- General K3 Expert<br>- HCV Criteria 5 and 6 |

| | | | |
|---|---|---|---|
| **2.** | Panji Mulya | Team Member | Agriculture, community social studies and participatory mapping facilitation techniques, SEIA |
| **3.** | Rudi Riana | Team Member | Forestry, Forest Inventory, Community social studies and participatory mapping facilitation techniques, SEIA |
| **4.** | Sholehudin Sholeh | Team Member | Forestry, Biodiversity, HCV Study, HCS Study, forest inventory, SEIA |
| **5.** | Abdul Manan | Team Member | Forestry, HCS study, SEIA |
| **6.** | Cahya Wiratama | Team Member | Forestry, HCS study, SEIA |

**Assessment Methods**

The methods used in the FPIC study consist of:

1) Secondary Data Collection by collecting the required documents (documentation) taken from the villages around the study area and the landscape area, village profiles, Village Medium-Term Development Plans (RPJMDes), Districts or Districts in Figures based on statistical data and documents or reports from the management unit (UM).
2) Primary Data Collection, by:
   - Structured interviews and in-depth interviews with community members. The selection of community members who were interviewed used a purposive sampling method in which the community members were considered to know information and represent various interest groups as informants (village heads, PJ Kades, BPD, RT heads, Mantir Adat, land owners, and representatives of other community leaders).
   - Focused discussions with community groups (Focus Group Discussion) and (Rapid Rural Appraisal). The FGD and RRA participants consisted of village officials (village heads and village staff), the Village Secretary, BPD, RT heads, Linmas, traditional leaders, youth leaders, women leaders, land owners, village residents and representatives of other community leaders.
   - Observation of physical environmental conditions, social environment, social relations, matching the initial land cover map with the reality on the ground, local community habits such as land use patterns and Natural Resources or Forest Resources.
3) Triangulation of data, integrated methods to verify each other on emerging issues, opinions, and ideas such as the potential for the emergence of new norms and rules regarding land use, natural resource management, and natural resource management prevailing in local communities.

The FPIC assessment is carried out in 4 stages, namely: the preparation phase, field activity phase, analysis and interpration phase, and reporting phase.

**A. Preparation Phase** is carried out through a desk study. Desk study activities are intended to collect basic information and due diligence.
   a) Basic information data such as digging up secondary data information in the form of:
      - Studies and documents in the form of: basic social studies, SIA/SEIA reports, RPJMDes, Districts in Figures, GRTT data, and etc.
      - Land tenure status (initial information on who controls/owns/uses the land),
      - Information in the form of: location of communities in or around the Area of Interest (AOI), stakeholder mapping, demography, ethnography, land tenure data, language background, cultural background, ethno-botanical studies, socio-economic status, socio-economic status culture, and village development needs.
   b) Rapid due diligence, conducting rapid due diligence to understand the FPIC process is carried out with full disclosure of the company's proposed concession areas by communities and potentially affected stakeholders, and processes for future negotiations and approvals, and

proposed conservation plans with designated community representatives. through a fair process.

**B. Field Activities Phase**, including activities;

1) Opening Meeting, This activity is intended to convey the objectives of FPIC activities, the scope of activities, arrange a field work team, and agree on a schedule of activities.
2) Field visits, to collect data through the FPIC process, namely;
   - Stage 1 : Identify interested parties. At this stage it is necessary to map out stakeholders, who are the parties involved and relevant to the study, as well as representatives from these institutions.
   - Stage 2 : Preparation of communication and interviews with identified parties
   - Stage 3 : Mapping community rights, related to the use of natural resources/forests, important lands to be protected, historic sites, ancestral heritage, and other important areas that will be affected by the company's development.
   - Stage 4 : Inform the relevant indigenous peoples and stakeholders about the information in stage 3.
   - Stage 5 : The process of discussion by the community and let them determine the result for themselves, whether they agree to carry out the development of the company or not.
   - Stage 6 : Summarizing all the results from stage 1 – stage 5, verifying consent from the community, reconfirming the agreed results
3) Closing Meeting, aims to convey provisional results in the form of brief information on social portraits, social issues and social conflicts so that the company management gets the main substance from the temporary identification results and can follow up on matters important or urgent to do, do not have to wait until the FPIC result report is finished.

**C. Analysis and Interpretation Phase**, carried out several activities which include identification of local community lands/ulayat lands, and current social issues or conflicts as well as the drafting of draft recommendations for management and monitoring of conservation areas with the community.

**D. Reporting Phase**, the report writing stage, consists of:

1) Writing Draft Reports. The report is prepared in an accountable format and systematic, but also coherent and simple, accompanied by a visual presentation, so that it is easy to read and understand by the company's management unit. The output of this stage is the Draft Report.
2) Final Report Writing. This activity is focused on incorporating relevant suggestions or input from the company and from other parties deemed important to be included as part of the Final Report.

# 3. SUMMARY OF FINDINGS

## 3.1. Social and Environmental Impact Assessment (SEIA)

**Sosial and Environmental Impacts**

See Table 14 for summary of link between the affected components/parameters, along with the impact sources.

Table 14. Potential impact by the impacted component

| NO | ACTIVITY | IMPACT |
|---|---|---|
| **I** | **PRE-CONSTRUCTION PHASE** | |
| 1. | Project socialization | Public attitudes and perceptions |
| 2. | Making boundaries and land acquisition | • Public attitudes and perceptions<br>• Social jealousy |
| **II** | **CONSTRUCTION PHASE** | |
| 1. | Labor recruitment | • Employment and entrepreneurship opportunities<br>• Increasing people's income<br>• Public attitudes and perceptions<br>• Social processes (associative, dissociative)<br>• Social jealousy |
| 2. | Mobilization of equipment and materials | • Air quality and noise<br>• Transportation (road and bridge damage)<br>• Decrease in public health status |
| 3. | Land clearing and maturation | • Microclimate (changes in temperature and humidity)<br>• Air quality and noise<br>• Forest and land fires<br>• Surface water quality<br>• Erosion and sedimentation<br>• Diversity of terrestrial flora and fauna<br>• Employment and entrepreneurship opportunities<br>• Public attitudes and perceptions<br>• Community income<br>• Decrease in public health status |
| 4. | Development of facilities and infrastructure | • Air quality and noise<br>• Employment and entrepreneurship opportunities<br>• Community income<br>• Public attitudes and perceptions<br>• Decrease in public health status |
| 5. | Soil and water conservation | • Surface water quality<br>• Soil fertility<br>• Public attitudes and perceptions |
| 6. | Oil palm plantation development | • Public attitudes and perceptions<br>• Social jealousy |
| 7. | Maintenance of immature plants | • Surface water quality<br>• Soil fertility<br>• Decreased diversity of aquatic biota<br>• Public attitudes and perceptions<br>• Environmental sanitation and disease patterns<br>• Decrease in public health status |
| 8. | Construction of palm oil mills and supporting facilities | • Transportation (road and bridge damage)<br>• Employment and entrepreneurship opportunities<br>• Community income<br>• Public attitudes and perceptions |
| **III** | **OPERATION PHASE** | |
| 1. | Labor recruitment | • Employment and entrepreneurship opportunities<br>• Community income<br>• Social processes (associative, dissociative)<br>• Public attitudes and perceptions<br>• Social jealousy |

| NO | ACTIVITY | IMPACT |
|---|---|---|
| 2. | Oil palm plantation operations | • Air quality and noise<br>• Surface water quality<br>• Soil fertility<br>• Transportation (road and bridge damage)<br>• Decreased diversity of aquatic biota<br>• Employment and entrepreneurship opportunities<br>• Community income<br>• Illegal logging<br>• Public attitudes and perceptions<br>• Decrease in public health status |
| 3. | Palm oil mill operations and waste management | • Air quality and noise<br>• Surface water quality<br>• Decreased diversity of aquatic biota<br>• Employment and entrepreneurship opportunities<br>• Social processes (associative, dissociative)<br>• Changes in the social strata of society<br>• Public attitudes and perceptions<br>• Decrease in public health status |
| 4. | Distribution of palm oil production | • Air quality and noise<br>• Transportation (road and bridge damage)<br>• Public attitudes and perceptions |
| **IV** | **POST OPERATION PHASE** | |
| 1. | Work termination | • Employment and entrepreneurship opportunities<br>• Community income<br>• Public attitudes and perceptions |
| 2. | Dismantling of facilities and demobilization of equipment | • Air quality and noise<br>• Public attitudes and perceptions |
| 3. | Reforestation/revegetation | • Air quality and noise<br>• Public attitudes and perceptions |
| 4. | Asset disposal | • Public attitudes and perceptions<br>• Social jealousy |

**Socio-Economic Impacts on the State, Regional and Local Communities**

Indonesia is one of the largest producers of palm oil in the world and its industry has become the most valuable agricultural export sector in the last decade. The palm oil industry is a significant contributor to production in Indonesia. The social impact caused by the presence of PT USP and oil palm companies in general is to provide foreign exchange to the state, even higher than the contribution of oil and gas. In addition, palm oil production also supports the government's energy security program by replacing imported diesel with domestic-produced biodiesel.

The palm oil industry is a labor-intensive industry that can absorb a lot of labor. The absorption of this workforce contributes to increasing the income and welfare of the local community. Improvement in income and welfare of local community will improve purchasing power and stimulate spending that leads to improvement on the overall welfare of the region. The construction of infrastructure and the opening of access can stimulate regional and local economic growth. Corporate CSR programs, including the development of Village Cash can also improve the welfare of local communities.

### 3.2. HCV-HCS Assessment

**Preassessment**

A due diligence is conducted to assess the eligibility of the main prerequisites that must be met by PT. USP. The results of the due diligence of the main prerequisites that must be met by PT. USP is presented in Table 15.

Table 15. Prerequisites that must be fulfilled by PT. USP

| **1. Commitment to environmental and social protection** |
|---|
| Commitment to environmental and social safeguards is the preparation of the Organization's policies and/or statements explaining the Organization's operational commitment to the core values embedded in the HCV, HCS, and FPIC processes, namely the Policy that has been drawn up is the Sustainable Palm Oil Policy, dated 1 July 2015. This policy statement applies to all FR operations, including all subsidiaries (PT USP) and partners, as well as third party suppliers. These policy statements include commitments to environmental and social management, namely:<br>1. Environmental Management<br>a) Do not develop forests containing High Carbon Stock (HCS) forest.<br>b) Do not develop forests containing High Conservation Value/HCV areas.<br>c) Do not develop peat areas, regardless of depth. We will apply best management practices for existing plantations on peat areas. And in areas that, based on the assessment, are not suitable for re-understanding, then we will explore options for restoration or alternative uses that are environmentally beneficial.<br>d) Continuously focus on increasing yields on our plantations.<br>e) Develop plans to progressively reduce greenhouse gas emissions in our operations.<br>f) Adopt agronomic best practices to minimize environmental impacts, including soil, waste and pest management.<br>g) Trictly maintain a no-burn policy in the land clearing process<br>2. Social (Community development and involvement)<br>a) Respect the rights of indigenous and local communities to give or withhold their free, prior and informed consent for the use of land to which they have legal or customary rights.<br>b) Resolve conflicts with local communities in an open, transparent and consultative manner.<br>c) Drive positive socioeconomic impacts on people and the communities in which we operate through job creation and investment in plasma projects and community empowerment programs, focused on education, health services and infrastructure.<br>Based on the commitments written in the Sustainable Palm Oil policy, the prerequisites related to the commitment to environmental and social protection have been fulfilled. |
| **2. A moratorium on any land clearing or land preparation until the proposed Integrated Conservation and Land Use Plan (ICLUP) is completed** |
| ✓ Availability of a declaration document from the Organization regarding the commitment not to clear land for any purpose, before the Integrated Land Use and Conservation Plan (ICLUP) has been completed or has been finalized. The company's policy states a commitment not to develop forests containing High Carbon Value (High Carbon Stock (HCS) forest, does not develop in areas with High Conservation Value (HCV) areas, and does not develop in peat areas, regardless of depth. In addition, PT USP is also committed to involving the community in the context of using land where they have legal or customary rights.<br>✓ The latest land cover map or analysis of land use change for oil palm plantations by PT USP has not been started before the integrated HCV-HCSA document has been compiled. This land cover map is already available in the form of a shp file.<br>✓ Availability of historical maps (land use dynamics) or analysis used with Rupa Bumi Indonesia (RBI) as well as quick analysis of land use history from Google Earth. - With this explanation, the prerequisites related to a moratorium on land clearing or land preparation in areas with PT USP's non-oil palm land cover have been fulfilled. |
| **3. Demonstrate legal rights to or permission to explore the Area of Interest** |
| • Land tenure assessment has been carried out by PT USP. From the previously prepared SEIA report (in 2013) information was obtained that a land tenure assessment (tenurial) has been carried out and there has been land acquisition or compensation for planting and growing (GRTT).<br>• Certificates, leases, planning permits, concession agreements, exploration permits, permits from current land owners that have been fulfilled by PT USP, such as:<br>a) The company PT USP obtained a location permit from the Regent of Ketapang with a copy of the Decree of the Regent of Ketapang No. 126 of 2005 dated 13 May 2005 concerning the Granting of a Location Permit for the Purpose of Development of an Oil Palm Plantation on behalf of PT Umekah Sari Pratama with an area of ± 19,000 Ha located in a village/hamlet Karangan, Kelapai, Kemuning, Pering Turmeric and Surrounding Areas, Districts of Jelai Hulu and Manis Mata.<br>b) Then in 2009, the company obtained a Cultivation Right (HGU) in accordance with the Decree of the Head of the National Land Agency of the Republic of Indonesia Number 141/HGU/BPN RI/2009 dated October 15, 2009 concerning the Granting of Cultivation Rights on behalf of PT Umekah Sari Pratama, on land in the Regency of Ketapang, West Kalimantan Province with an area of ± 16.517,50 hectares located in Biku Sarana Village, Asam |

| |
|---|
| Jelai, Semantun (Jelai Hulu District), and Pakit Selaba Village, Kemuning, Kelampai, Sengkuang Merabong, Palempangan (Manis Mata District).<br>• An agreement or MOU between PT USP and the village community has been made. To obtain an agreement, the residents were given an explanation through socialization related to the plan to develop nucleus and plasma plantations.<br>From some of the explanations mentioned above, information is obtained that the prerequisites related to legal rights to or permission to carry out assessments in the area have been fulfilled. |
| **4. The FPIC process has started with full disclosure of the proposed project with all potentially affected communities and stakeholders, and a process for negotiation and forward consent has been agreed, with representatives appointed through an equitable process** |
| • The timeframe for the FPIC process has been implemented by PT USP with PT. SAN, through the Implementation of the HCS Study in 2017. The FPIC Study is listed in the 2017 HCS report Chapter 5. In the FPIC process, the socialization and study of FPIC/FPIC activities related to community occupation and use of land within the PT USP concession area were the focus The main study of HCS/HCS covers 2 (two) villages, namely; Semantun Village and Asam Jelai Village<br>• From the FPIC document, data or information from each village was obtained by conducting focus group discussions (FGD), in-depth interviews, direct observation and verification in the field. The method used is participatory mapping, by actively involving the community consisting of village heads, traditional leaders, village secretaries, BPD, hamlet heads, RT heads, other community leaders and also involving UP staff. The implementation of participatory mapping begins by looking at the sketch map of the location permit of PT. USP. With the participatory mapping survey method, information is obtained on areas that are a source of livelihood for residents and areas that are estimated to be indicated as mitigation areas or areas that are the focus of FPIC activities.<br>• From the FPIC process in 2017 it was concluded that village heads, traditional leaders, village secretaries, BPD, hamlet heads, RT heads, other community leaders agreed with the HCS/SKT activities carried out by consultants. They just hope that the areas that are the source of meeting basic needs, social/cultural needs, and still green areas with types of fruit should not be made into HCS/SKT areas because they still belong to the residents. However, it depends on the owner of the area (according to negotiations).<br>• In its development, the FPIC document that has been carried out by PT USP needs to be updated with data/information related to the number of affected villages which includes 7 villages, social issues, social impacts, community land tenure and use, social risks, stakeholders, and negotiation processes. Therefore, in the future it is very necessary and very important to make a separate document in the form of a report updating the Free Prior and Informed Consent (FPIC) Document report, Participatory Mapping (PM), and Land Tenure Study (LTS). For this reason, in the future PT USP will develop or plan a time frame for the FPIC process in the PT. USP is in accordance with PT USP's Statement of Commitment to complete the FPIC process. The FPIC process that will be carried out by PT. The USP consists of 6 stages, namely (1) Scooping and identification of representatives, (2) Public Consultation 1, (3) Participatory Mapping, (4) Social Impact Assessment, (5) Land Tenure Study, and (6) Public Consultation 2 (End).<br>• Based on the description above, it can be concluded that the framework for the FPIC process that is planned to be implemented is already in place; however, the implementation of the FPIC process has not yet been implemented in the HGU area of PT. USP |

At this pre-assessment stage, the study implementation team conveys information to the Company regarding the next stage of the study, which includes a scoping study and a full assessment stage including public consultation. In addition to expressing approval of the process of activities in the HCV-HCSA assessment, the Company also agreed to the ALS procedures and requirements, including the time and cost of the review. The company also understands the consequences of the results of the study, which include recommendations for managing and monitoring conservation areas, especially conservation areas located in partnership lands. This pre-assessment stage concludes that the company is deemed eligible to proceed to the next stage in the implementation of the integrated HCV-HCSA assessment.

**Scoping Study**

Examination study in the permit area of PT. USP includes 7 main activities, namely 1) Determining the scope of the study, (2) Information gathering, (3) Preparation of initial land cover maps and plot analysis, (4) Field visits, (5) Visiting community samples, (6) Identification of stakeholders and initial consultation, and (7) Preparation of a report on the results of the initial examination study. The summary of the inspection study activities in the permit area of PT. USP (Table 16).

Table 16. Summary of activity descriptions in the initial screening study

| Activities | Discription | Timing |
|---|---|---|
| Information / data collection | Information gathering begins with an opening meeting and discussions with the management of PT USP. The information obtained is related to incomplete documents to complete the preassessment stage. These data include:<br>1. Studies and documents in the form of: Environmental Impact Analysis Main Report (ANDAL), GRPL (Land Acquisition Compensation) Documents, NDPE Policy Documents, CSR Reports, shp maps of land cover files, maps that support integrated HCV-HCSA studies (maps) initial land cover, forest maps, land system maps, etc.).<br>2. Other information in the form of: village boundaries and administration, identification of stakeholders, MOU/Agreement on cooperation with cooperatives, socio-economic and socio-cultural conditions of the community, information related to strategic issues, impacts and potential social conflicts. | 11 – 15 November 2019 |
| Filed Visit | **The Social Team**<br>Prior to the field visit / observation, begins with a FGD / Discussion / Interview with several community leaders (Head of Village, Village Secretary, BPD, Chairman/Traditional Leaders, Youth Leaders, Youth Leaders, Educational Leaders, Farmers / Planchers in the PT USP concession, and other community leaders.After obtaining consent, observations were made in each village with a focus on checking village administrative boundaries, sensitive locations according to villagers, social, economic and cultural activities of villagers as well as interaction of villagers with the concession area of PT USP includes information related to land tenure and use as well as information on influential stakeholders in the village to be included in future integrated HCV-HCSA full assessment activities.<br><br>**The Environmental Team**<br>In the inspection study, carried out land checks, land cover (types of flora and fauna, presence of rivers or springs in the concession area of PT USP | 28 November – 4 December 2019 |
| Visiting community samples | • Visited each village (Semantun Village, Palempangan Village, Asam Jelai Village, Biku Sarana Village, Kelampai Village, Sengkuang Merabong Village, and Pakit Selaba Village) as affected villages for an overview of the HCV-HCSA study village, visited settlements and concession locations used by residents (hamlets).<br>• During the visit to the sample community, indepth interviews were also conducted with residents who were doing their activities (harvesting durian) in the concession, the head of the Mitra Perkasa Kopbun, land owners in the concession, and other affected residents. | 28 November – 4 December 2019 |
| Field Check for initial land cover map | Conducting preliminary matching of the land cover map with the reality on the ground. The results of field matching and Land Cover Map Observations, consist of 11 types, namely: Secondary Forest, Scrub, Swamp Scrub, Swamp, Mixed Garden, Mixed Rubber Garden, Mixed Dry Land Agriculture, Employee Settlement/Housing, Open Land, Oil Palm Plantation, and Water bodies located in the area of PT USP | 28 November – 4 December 2019 |
| Stakeholder identification and initial consultation | Conducted through FGDs and discussions with village government, community leaders and competent informants. From the FGDs / discussions / interviews several stakeholders were identified, including:<br>a) Affected communities<br>✓ Representatives from village government (Kades / PJ Kades, Sekdes, Head of Dusun).<br>✓ Representatives from Village Institutions (BPD, LPM, PKK, Youth Groups, Women's Leaders).<br>✓ Representatives of Traditional Institutions in the Village (Chairman and Deputy Chief of Customs).<br>✓ Dayak Customary Council (DAD), Malay Cultural Indigenous Community (MABM), Kendawangan Raya Barley Indigenous Community Alliance (AMAJKR).<br>b) National and local government<br>✓ Representative of Muspika (Secretary of Camat, Sub-District Staff). | 28 November – 4 December 2019 |

| | | |
|---|---|---|
| | ✓ Representative Office (Kasi ATR/BPN Arrangement, Kabidbun, Head of TRP Department of Public Works).<br>c) NGOs (Fauna and Flora International/FFI, Tropenbos Indonesia, K3 NGOs)<br>d) Development Project Leader.<br>e) Interested private sector actors (Kopbun Mitra Karya Perkasa & Kopbun Bumi Sentosa Jaya, and BUMDes)<br>It is planned that these stakeholders will be involved in FGDs / Discussions / Interviews during the full assessment later. | |

At this stage, several parties have been consulted to gather important issues related to the substance of the study. The selection of the parties as resource persons was motivated by the relevance of the activities and the main concerns of these parties to the study area, as well as the potential presence of HCV and HCSA elements.

Table 17. List of Stakeholder Consultations on Examination Study Activities in the Permitted Area

| 1. Summary of Interview Results and Discussions with Communities Kelampai village |
|---|
| Interaction type : *Focus Group Discution* (FGD) and indepth interview<br>1. Yusransyah (Head of sub-village)<br>2. Sukransyah Head of Plasm Cooperation PT. USP)<br>3. M. Yani (Community leader)<br>4. Sholihudin (Sustainability FR)<br>5. Abror (Sustainability PT. USP)<br>6. Dika (Sustainability PT. USP)<br>Facilitator : Sigit Pamungkas (PT. SAN)<br>Results of interviews and discussions with the community in Kelampai Village<br><u>Discussion Result :</u><br>• The community of Kelampai village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.<br>• The main livelihood of the community at this time is employees in the company, farming/garden, traders, honorarium and others.<br>• The majority religion in this village is Islam (99%) while the rest is Christianity.<br>• Only about 0.2% of the people cultivate in PT USP and about 10% of the people still own the land.<br>• There should be a village satlak team as a partner of the company, the Satlak consisting of the village head, community leaders, traditional leaders, village heads, religious leaders, and youth.Pernah ada sosialisasi tim TP3K dari Kabupaten (Bupati, Disbun, Kapolres, Dandim), dan Satgas Kecamatan yang terdiri dari Camat, Kapolsek, dan Koramil (Muspika).<br>• Community expectations include:<br>– It is hoped that the residents will soon be given clarity about the plasma which has been running for ten years since the start of land clearing. Considering that the oil palm in the plasma has been harvested for a long time.<br>– Residents are given convenience in obtaining work in the company with wages that follow the wages in general. |
| 2. Summary of Interview Results and Discussions with Communities Pelampangan village |
| Interaction type : *Focus Group Discution* (FGD) and indepth interview<br>Participants:<br>1. Rianto (Kadus Pendengaran)<br>2. Andi (Sekdes Pelampangan)<br>3. Sholihudin (Sustainability FR)<br>4. Abror (Sustainability PT. USP)<br>Faciiitator : Sigit Pamungkas (PT. SAN)<br>Results of interviews and discussions with the community in Pelampangan village<br>• Pelampangan villagers basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.<br>• The main livelihood of the community at this time is employees in the company PT. USP (75%) in farming (20%) the rest are traders, honorary and others.<br>• The majority religion in this village is Christian Catholic (95%) while the rest are Protestant and Islamic. |

- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (30%).
- Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.
- The types of animals that are hunted include pigs, deer, deer, mouse deer, porcupines, crickets, field snakes, frogs, tadung, labi-labi, rats, squirrels, kelebiau, ruai and so on.
- Hunting and fishing activities are carried out only as hobbies.
- The original tribe of this village is the Dayak Jelay with four Sekakay sub-tribes. Other tribes in this village are the Malay, Javanese and Batak tribes.
- Culture in land management by residents in this area that is still being carried out is traditional ceremonies in the effort to use land, especially fields. There are 5 traditional rituals in one year including:
  - Begendang ceremony is the initial ceremony before land clearing where in this ceremony besides praying for blessings and success in land use, the ceremony is also accompanied by dance and drum beats. This ceremony is held on the 5th month of each year.
  - Belabur or belebur or tampung taur is a ceremony before the land clearing process where in this ceremony offerings are provided and prayers ask for blessings. Tuak is also provided to celebrate and part of the culture that is carried out. This ceremony is held around the 7th month of the year.
  - Land clearing or plowing is an activity of praying before the start of land clearing. This land clearing activity is usually carried out before the rainy season, namely in the 7th or 8th month of the year.
  - Planting sitting mambanih is a ceremony to plant rice and other seeds which is usually done when the rainy season arrives. This activity is generally carried out in the 10th to 11th months of the year or when the rainy season starts.
- Buang kuay is a harvest ceremony where young rice is pounded and made food as a form of thanksgiving for the success of the community's efforts in planting. Usually done in the 1st to 2nd month of each year.
- Sacred places in this village include:
  - The sacred grave is thick.
  - The Sacred Grave of Lalau Kalimantan.
  - The sacred grave of appeal.
  - The sacred grave of tamarind.
  - Red earth sacred grave.
  - Sticky sacred (there is an orchard).

- In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel.
- Community expectations include:
  - It is hoped that the residents will soon be given clarity about the plasma which has been running for ten years since the start of land clearing. Considering that the oil palm in the plasma has been harvested for a long time.
  - Residents are given the convenience of getting a job in the company.
  - There is an effort or assistance from the company in buying the residents' palm oil crops, for example through cooperatives or farmer groups so that residents can easily sell their harvests.
- Increased CSR assistance by companies. Currently, what is available is assistance for honorary teachers (1 person) in the amount of Rp. 700,000,-.

3. Summary of Interview Results and Discussions with Communities Sengkuang Merabung and Pakit Selaba villages

Interaction type : *Focus Group Discution* (FGD) and indepth interview

Participants:

1. Mardius (Kadus II Sengkuang Merabung)
2. Turus (Tokoh adat Pakit Selaba)
3. Masianus Feel (Ketua BPD Sengkuang Merabung)
4. K. Umdal (GA Sei Semantun)
5. Taut (Kepala Adat Sengkuang Merabung)
6. Alfominus Aful (Tokoh Masyarakat Sengkuang Merabung)
7. Atek (Guru Desa Sengkuang Merabung)
8. Musoi (Sustainability PT. USP)
9. Sholihudin (Sustainability FR)
10. Abror (Sustainability PT. USP)

Facilitator : Sigit Pamungkas (PT. SAN)

Results of interviews and discussions with the community Sengkuang Merabung and Pakit Selaba villages

- The communities of Sengkuang Merabung and Pakit Selaba villages basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.
- Owns land but it has been handed over and received GRTT from the company.

- Regarding conservation land, how will the residents open it for agriculture and gardening purposes? Then there are several PRONA programs that have entered villages including Sengkuang Merabong Village. What about people's land that is enclaved by the company, can it be certified?
- There are villages under concession. And I personally still can't accept if the PT US company plans to carry out GRTT on my land which has been planted with upland rice, mixed rubber, etc.
- Can customary or sacred lands be certified?
- Apart from river water, residents usually use rain water for drinking water.
- These rivers are also used as fishing grounds for residents.
- There are still people who like to hunt. Types of game animals obtained include deer, wild boars, deer and others.

Main Recommendations :

- There is good cooperation and communication between PT. USP with the community in terms of maintaining and preserving the environment, especially in maintaining residents' water sources so that they are not polluted.
- The absorption of labor from surrounding villages is further enhanced.

4. Summary of Interview Results and Discussions with Communities Biku Sarana village

Interaction type : *Focus Group Discution* (FGD) and indepth interview

Participants:

- Silun Rasius (Ketua BPD)
- M. Minsil (Tokoh Masyarakat)
- K. Undat (Humas PT. USP)
- Sholihudin (Sustainability FR)
- Abror (Sustainability PT. USP)

Facilitator : Sigit Pamungkas (PT. SAN)

- The community of Biku Sarana village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.
- Confused between HCV and HCS areas because there used to be a Sacred Forest but the company eventually evicted them.
- The impact felt was that in the last 2 months there were a lot of flies which were suspected to be due to the PT USP palm oil mill.
- The company has been operating for 9 years, but this is the first time there has been an HCV & HCS study.
- There are some residents who claim their land, because the one who gave up his sister's land and the one who demands the land is now his brother, not even a few people are claiming it back so that there is a GRTT (Conflict Resolution Fund).
- The issue that occurred during the GRTT was that land was sold to the company, but the villagers did not know who was selling it, resulting in many claims among the villagers.
- It is hoped that the company's PR people should come from local villagers, so that they understand who owns the land in the village.
- It is recommended that the village team to be formed in the future consists of the BPD, LPM, Village Head, Traditional Leaders, and land owners.
- There are about 25 -30% of the community's land in the concession that is not yet clear and clean. Some even have villagers who have very large lands of up to a dozen hectares, such as Pa Sudin, Pa Kabul, and Pa Sudui.
- The majority 99% of the people make a living from farming/cultivating crops.
- Agree with the consultant team who will conduct an HCV & HCS assessment in the future (2 weeks later).

5. Summary of Interview Results and Discussions with Communities Semantun village

Interaction type : *Focus Group Discution* (FGD) and indepth interview

Participants:

1. Jartop (Kepala Desa)
2. Rony (Tokoh Masyarakat)
3. Mahadir (Tokoh Masyarakat)
4. Sumardi (Tokoh Masyarakat)
5. Sholihudin (Sustainability FR)
6. Abror (Sustainability PT. USP)

Facilitator : Sigit Pamungkas (PT. SAN)

- The community of Semantun village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.
- The main livelihood of the community at this time is employees in the company PT. USP (70%). Other livelihoods are field and garden farmers, construction workers, traders, teachers, temporary workers and so on.

- In meeting basic needs, the community is not only supplied with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market, namely in Pangkalan Bun and Kota Waringin Barat with a 4 hour drive.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields (65%) and buying (35%).
- The majority of the Sekakai Dayak tribes still rely on clearing fields with a burning system. Burning usually takes place in August - Nugal in September / October - Harvest in January / February.
- If there is a pulai (honey poh) do not cut it down.
- There are parents' graves, but there is no ritual, but they are used as sacred graves because of the graves of their parents or village ancestors. The village rule is that if you want to open a grave garden, it must be at least 50 meters from the grave area.
- Customs that are still firmly carried out by residents are Gawai Adat
- People's interest in rice fields is lacking, because the majority of residents cultivate field rice, besides that the existing farmer group (Semantun Betuah) is no longer active due to the lack of active PPL from the agriculture office.
- Part of this village area is included in the HGU area of PT. USP.

6. Summary of Interview Results and Discussions with Communities Asam Jelai village

Interaction type : *Focus Group Discution* (FGD) and indepth interview

Participant:

1. Tono (Ketua BPD)
2. Arsius (Sekdes)
3. Adup (Tokoh Masyarakat)
4. M. Ijai (Kepala Adat)
5. Sholihudin (Sustainability FR)
6. Abror (Sustainability PT. USP)
7. K. Undat (Humas PT. USP)
8. Pemilu (Korpam PT. USP)

Facilitator : Sigit Pamungkas (PT. SAN)

- The community of Asam Jelai village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community. this is followed by a document of approval or permission for the assessment team to carry out the next stage (complete assessment) in the integrated HCV-HCSA assessment in the PT. USP.
- Here there are problems related to conservation forest or sacred forest, for example the waqf land/my parents' grave which has been enclaved by the company, but was still cleared during the LC.
- The community's activities towards the PT USP concession are farming/tugal on dry land/natai, gardening oil palm and planting vegetables.
- Approximately 75% of the villagers work for PT USP.
- Residents are still looking for ironwood in the USP, which is in the form of scraps that have been buried in the ground. Usually the keyu ulin obtained is between 1 - 2 meters. Besides ironwood, there is also clay.
- People fish in S Ugan, S Barley. The types of fish are catfish, baung, toman, etc. In looking for fish, residents use bubui, nets (fish traps), cages, nets, nets and fishing rods. In addition, there are also those who use tuba roots to poison fish.
- Regarding the Keranji Tomb covering an area of 0.069 Ha which was evicted by the company, the company has informed the Dayak Customary Council (DAD), but nothing has been done yet. The hope is that there is a GRTT.
- There is an Enclaved Customary Forest. there is also mixed rubber, enclaved community waqf land, but the community does not understand this and the goals with conservation and HCS. Usually on waqf land / graves there are also types of fruit trees.
- Graves should not be evicted, if they are evicted or there is felling of trees around the graves, it can bring disaster.
- The term hamlet is the same as the term tembawang.
- There are 5 hamlets that cannot be evicted by the company, namely Keranji Hamlet, Pasiran Hamlet, Bedari Hamlet, Ugan Taring Hamlet, and Kayu Langit Hamlet which are located in block F 75/76.
- There is forest within the PT USP concession in the form of Duren Gelanggang/Durian Fall Piring.
- For green areas that are enclaved and have HCS, can it be certified for the village?.
- In the past there was already a red enclave sign in the form of a 1.29 ha durian tree, but it was evicted and turned into an oil palm plantation.
- There are waqf lands whose location is not clear whether inside PT USP or outside, but every waqf land/cemetery must be enclaved by the company.
- PT USP's conservation area includes a river border.
- For mixed/mixed rubber planting land, waqf land is still problematic, because waqf land has been enclaved but at the time of LC it was actually opened.
- In 1 year there are 3 times of adat, namely, fruiting, eating fruit, and returning fruit.
- There are still many hamlets within PT USP.

7. Summary of Interview Results and Discussions with Jelai Hulu District

Interaction type: Indepth discussion
Responden : Arel (District Secretary)
Summary Result:

- Government programs related to crops can communicate with the Department of Social Affairs (procurement of livestock seeds) and the plantation office.
- There are several community lands that are problematic, especially those adjacent to or adjacent to the HGU. Therefore, the company must put up a nameplate.
- The village is identical with the cemetery, therefore it must still be used as a conservation area. So that it doesn't become a problem in the future.
- In the past, there was socialization if the HGU boundary was at least ±3 km from the village boundary.
- For the rice field printing program, you can communicate with the agriculture office.
- The boundaries between villages are not yet clear and clean, but due to customary rules there has never been a conflict related to administrative boundaries between these villages. However, the problem is the village boundary with the company.
- Villagers' lands that do not have SKT are usually only subject to customary recognition (Surat Confession of Custom).
- Regarding the GRTT process, it is sufficient for Satlak to come from the village, make an agreement or agreement with the village, PT USP and the land owner.
- Regarding the burning of land for farming, residents only have a small amount of between 1-2 ha and residents should ask the company for security and a Fire Care Society (MPA) must be formed.
- Several Community Organizations in Jelai Hulu District, AMAJKR, DAD, NGOs in Tangerang Village.

8. Summary of Interview Results and Discussions with Plantation Services Ketapang Regency,

Interaction type: Indepth discussion
Responden : Fardya (Plantation Division Head)
Result :

- Regent Regulation no 7 of 2013, food security program in which companies must provide 300 hectares for food security. And for food security programs can be placed in low-lying areas.
- For CSR programs, it must be from the company and not from the government. There is no establishment field rice program in Manis Mata and Jelai Hulu sub-districts.
- For KEE, it can be communicated at Bappeda or in spatial planning or the Provincial Forestry Service.
- West Kalimantan Regional Regulation No. 6 of 2018, The conservation area is at least 7% (seven percent) of the business license area
- NGOs that can be involved with OSH NGOs.

9. Summary of Interview Results and Discussions with Public Works, Settlement and Spatial Planning Services Ketapang Regency,

Interaction type: Indepth discussion
Responden : Yudhi (Head of Spatial Planning Division)
Result :

- Related to social problems, namely land compensation which is still often heard and complained about by some residents.

10. Summary of Interview Results and Discussions with Employees (Public Relations) PT. USP

Interaction type: Indepth discussion
Respondens :

- Haris Abror (Plantation Assisstant)
- Kalessius Undat (General Assisstant)

Result :

- There is an expansion of Kelampai Village.
- Some communities want the PT USP concession area to be outside the village administrative boundaries, because several villages have complained about these boundaries.
- Even the residents do not know anything about the boundaries of the company's HGU, so not a few residents continue to cultivate or farm for their daily needs.

11. Summary of Results of Interviews and Discussions with the Management of the Plasma Cooperative PT. USP

Interaction type: Indepth discussion
Responden :

- Sukransyah (Head of Plasm Cooperation “Mitra Karya Perkasa”)

Result

- The majority 80 - 90 % of the villagers work in plantations (PT USP) and plantation companies around Kelampai Village.
- We as the chairman of the cooperative strongly agree with the HCV-HCSA activities that will be carried out in the next 2 weeks.

**Summary on Conservation Area**

**HCV 1: Biodiversity Concentration**

| HCV 1 | Finding |
|---|---|
| Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels. | **Present** |

In the Common Guide for HCV Identification (HCVRN, 2013), it is explained that HCV 1 is the presence of rare, threatened or endangered species (RTE); the presence of nationally and internationally recognized biodiversity priority areas; natural habitat with good conditions; protected areas for biodiversity concentration; and species concentration spatially and temporally.

**1. Presence of Endangered, Threatened or Endangered Species (RTE)**

**a. Rare Species**

**1). Flora/Vegetation**

The richness of plant species found in the concession area of PT. USP as many as 327 species which can be grouped into 90 families. Based on the protection status, in the permit area of PT. USP did not find any protected plant species according to the Regulation of the Minister of Environment and Forestry (Permen LHK) No. P.106 in 2018).

**2). Fauna/Wildlife**

The richness of wildlife species found in the concession area of PT. USP as many as 113 species of wildlife which can be grouped into 63 families, with details: mammals as many as 15 species and 12 families, birds as many as 64 species and 30 families, and herpetofauna as many as 17 species and 12 families, and fish as many as 17 species and 9 families. Based on their protection status, the types of wildlife found in the PT. USP protected under Permen LHK No. P.106 In 2018 there are 17 species (7 species of mammals and 10 species of birds).

**b. Threatened or Endangered Species (RTE)**

**1). Flora/Vegetation**

The number of plant species in the HGU area of PT. USP are 5 species included in the CITES Appendix II list; and there are 5 plant species that are included in the VU/Vulnerable (vulnerable) category, 1 plant species which is included in the EN/Endangered (endangered) category, and 3 plant species which are included in the CR/Critically Endangered (critical) category.

**2). Fauna/Wildlife**

In the HGU area of PT. USP found 18 species of wildlife included in the CITES list, including 2 species of Appendix I (mammals) and 16 species of Appendix II (5 species of mammals, 6 species of birds, and 5 species of herpetofauna); while the wild animals included in the VU/Vulnerable category were 5 species (3 species of mammals, 1 species of birds and 1 species of herpetofauna); including EN/Endangered category (threatened) as much as 1 species (Mammal); and is included in the CR/Critically Endangered category (endangered/critically) with 1 species (mammal). Wildlife which is included in the CR category (pangolin) in the HGU area of PT USP was found based on the results of interviews with the surrounding community. Referring to the distribution map of Pangolin (Manis javanica), the HGU area of PT. USP belongs to the Pangolin distribution area (CR/critical), so with the precautionary principle this species is found in the study area.

**c. Endemic Species**

In the HGU area of PT. USP found 6 species of plants which were endemic and found 2 types of wildlife which were endemic, namely the red langur/kelasi (Presbytis rubicunda) and gibbon kelempiau (Hylobates muelleri).

In the assessment landscape area, based on secondary data searches, potentially protected plant species according to the Minister of Environment and Forestry No. P.106 as many as 8 types; including endemic as many as 2 types; including the list of CITES Appendix II as many as 12 species; including VU/Vulnerable categories as many as 4 species, EN/Endangered as many as 1 species, and CR/Critically Endangered (critical) according to IUCN as many as 8 species.

For fauna, at the landscape boundary based on secondary data tracing, it is potential to find 29 species of protected wildlife according to Permen LHK no. P.106 (mammals as many as 14 species and birds as many as 15 species); 2 types of wildlife including endemic (mammals); one type of migratory wildlife (bird); including the CITES Appendix I list of 3 species (mammals) and Appendix II of 23 species (8 species of mammals, 11 species of birds and 4 species of herpetofauna); and included in the VU/Vulnerable category as many as 7 species (6 species of mammals and 1 species of birds), EN/Endangered as many as 5 species (mammals), and CR/Critically Endangered (critical) according to the IUCN as many as 1 species (mammals).

In the HGU area of PT. USP did not find habitats that became the concentration of species spatially and temporally. However, around the landscape of the PT. USP found habitats that became the spatial concentration of species. The area of species concentration spatially can be seen from the distribution area of key species on the island of Kalimantan, especially the province of West Kalimantan using IUCN data such as the Bornean Orangutan. Part of the HGU area of PT USP in the north is in the distribution area of the Bornean Orangutan.

Most of the fauna species found are resident species in the study area, except for the Layang Layang Asia (Hirundo rustica) which uses its habitat temporally. Referring to IUCN data and Sukmantoro et. al. (2013), the Layang Layang Asia is a type of migratory bird that is quite common in Indonesia. Based on observations, the Layang Layang Asia was found while perched on a power line around the PKS reservoir in the HGU area of PT. USP. This bird usually uses electrical wiring in residential areas as a place to perch and spend the night and use agricultural land and plantations as a place to find food. In the HGU area of PT. USP did not find any habitat that became a temporary stopover such as mudflats, floodplains or large bodies of water which are generally the main destinations for migratory waterbird species that migrate on a large scale (large groups). So based on the consideration of the analysis, in the HGU area of PT. USP did not find any species that use the habitat temporarily that use part of the area in the PT. USP and its surroundings as a large-scale movement of migratory birds.

**2. Biodiversity Concentration**

Key areas of biodiversity are nationally identified areas of global significance. Several international organizations have identified key areas for biodiversity with their own criteria. Several internationally recognized key areas of biodiversity around the HGU area of PT. USP is presented in Table 18.

Table 18. Biodiversity key area in the permit area PT. USP

| Key Biodiversity Areas | Description |
|---|---|
| Ramsar Site | In Kalimantan there are 2 Ramsar sites, namely Tanjung Puting National Park in Seruyan Regency, Central Kalimantan Province (± 106 km to the southeast of the study area) and Danau Sentarum National Park, Kapuas Hulu Regency, West Kalimantan Province (± 300 km to the northeast of the study area). |
| Conservation Area | In the HGU area of PT. USP found no conservation area. The nearest conservation area is located at CA Muara Kendawangan, ± 56 km (southwest direction) |

| Key Biodiversity Areas | Description |
|---|---|
| Protected Forest | In the HGU area of PT. USP found no protected forest. The nearest protected forest is located in the northwest, a distance of about ± 26 km, namely HL. Gunung Raya |
| Endemic Bird Area (EBA) | In the HGU area of PT. USP does not exist or is in the coverage area of the EBA. The nearest EBA area is located in the northeast and is ± 55 km |
| Important Bird Area (IBA) | In the HGU area of PT. USP does not exist or is in the IBA area coverage. The nearest IBA area is located southwest of the PT. USP and distance of ± 60 km |
| Orangutan Distribution | In the HGU area of PT. USP exists or is in the distribution area of the Bornean Orangutan |

Based on Table 18, it can be seen that in the HGU area of PT. USP not found Ramsar Sites, Heritage Areas, conservation areas, protected forests, EBA areas, and IBA areas. However, based on the overlay with the distribution map of the Kalimantan Orangutan, a small part of in the northern area of the HGU area PT. USP. Based on observations, there were no found of orangutans, either footprints or sleeping trees. The results of interviews with local communities also stated that they had never found any orangutans in the forest area of PT. USP. However, based on considerations and the precautionary principle, the Bornean Orangutan is declared to be present in the area. In connection with this, the HGU area of PT USP in the national and/or regional context is stated to provide an important supporting function for key areas of biodiversity in the vicinity. In the assessment landscape area, there were no conservation areas, protected forests, EBA areas, IBA areas, but the distribution areas of the Bornean Orangutans were found.

**3. Protected Areas for Concentration of Biodiversity**

The area contained within the HGU area of PT USP is planned as a protected area because it includes an HCV area of 1.884,35 ha, including: rivers and their borders covering an area of 280,31 ha, an area around springs covering an area of 35,31 ha, a swamp covering an area of 2,49 ha, a forested area of 83,01 ha. ha, communal gardens covering an area of 1,09 ha, orangutan distribution covering an area of 1.471,43 ha, and sacred places/cultural sites covering an area of 10,47 ha. In this regard, in the HGU area of PT. USP found no protected areas for concentrations of biodiversity. In the landscape assessment area, the protected area around the HGU area of PT USP (within landscape boundaries) is 15.778,09 ha, covering: forest area of 4.327.56 ha, river and its border area of 1.575,38 ha, swamp area of 14,96 ha, heavy TBE area of 94,48 ha, Distribution of People Orangutan 9.763,08 ha, and sacred places/cultural sites covering an area of 2,63 ha. In this regard, in the vicinity of the HGU area of PT. USP (within landscape boundaries) no protected areas are found for concentrations of biodiversity.

In the HGU area of PT. USP there are 2 rivers or tributaries and their borders, namely S. Sinyarip and S. Kapul. Land cover in the river border area in the HGU area of PT. USP can be divided into 6 (six) types, namely secondary dryland forest, shrubs, mixed rubber plantations, swamps, oil palm plantations, and settlements. Around the HGU area of PT. USP (within landscape boundary) found as many as 5 rivers. Land cover in the river border area around the HGU area of PT. USP can be divided into 9 types, namely secondary dryland forest, shrubs, mixed rubber plantations, oil palm plantations, dry land agriculture, swamps, open land, settlements and rice fields. Referring to Presidential Decree No. 32 of 1990, the river border is a local protected area designed to protect its ecological function, so that the river border in and around the HGU area of PT. USP is designated as HCV 1 area.

**4. Natural Habitat with Good Condition**

In and around the landscape of the PT. USP found forested areas in the form of secondary dryland forest. Therefore, in the HGU area of PT. USP is found in areas that have or provide a function to support species diversity, both flora and fauna.

**5. Freshwater Swamp Area**

In and around the HGU area of PT. USP found as many as 3 freshwater swamp areas that have or provide a function to support species diversity, both flora and fauna, including the Penantangan Swamp, Block J9 Swamp, and Block I9 Swamp.

**6. Wildlife Corridor**

In and at the landscape level around the PT. USP found no Ramsar sites, Heritage Areas, conservation areas, protected forests, IBA areas, EBA areas, and distribution areas of the Bornean Orangutan. In this regard, in and around the HGU area of PT. USP did not find a wildlife corridor while in the vicinity there was found a wildlife corridor. Of the 32 species of wildlife which are classified as rare, threatened and endangered found in the HGU area of PT. USP, 7 species of which were also found at the landscape level, namely Long-tailed monkeys (*Macaca fascicularis*), macaque monkeys (*Macaca nemestrina*), gray langur (*Trachypithecus cristatus*), Rusa sambar (Cervus unicolor), cobra snake (*Naja sumatrana*), monitor lizard (*Varanus salvator*) and the python (*Python reticulatus*). Therefore, with efforts to protect the 7 species in the HGU area of PT. USP, it can support MVP (Minimum Viable Population) at the landscape level, namely as a temporary stopover or foraging for food and as a local animal movement path (corridor). These locations are the 7 river boundaries in the area, especially those with land cover in the form of secondary dryland forest and shrubs.

**7. Minimum Viable Population (MVP)**

The term 'minimum' viable population (MVP) is a term commonly used in conservation biology (Soule 1987). MVP is the smallest population size that will ensure long-term survival (Shaffer 1981). Ewens et al. (1987) stated that in general there are two concepts of determining the minimum viable population. The first concept is the determination of MVP based on genetics which emphasizes the rate of genetic loss from a population including fitness decline and genetic drift. The second concept is the determination of MVP based on demographics which emphasizes the possibility of population extinction due to demographic pressures. The two concepts above, the determination of the MVP value depends on two assumptions, the first is the criteria chosen to define the MVP term. Lemkhul (1984) was the first to state the argument for the use of genetics as the basis for determining the minimum viable population. Furthermore, Franklin (1980) stated that at least 50-500 individuals are needed to maintain genetic diversity. This figure was obtained from Franklin's practical experience in breeding domesticated animals and in researching mutation rates in fruit flies. The minimum amount is estimated to be effective enough to avoid cross stress in the short term and effective enough to maintain genetic variation in the population. Based on the results of observations of wildlife on a transect length of 200 - 1,000 meters and a line width of 100 meters, and assuming that at each observation location one individual is found, the estimated abundance of protected/rare and/or threatened wildlife species found in the PT HGU area is estimated. USP ranges from 1-2 individuals/ha. Referring to Franklin (1980), the abundance of wildlife which is classified as endemic (limited distribution), protected, and/or threatened does not meet the minimum sustainable population size; in addition, at the landscape level it does not meet the minimum viable population.

In connection with the above, it can be concluded that in and around the HGU area of PT. USP found HCV 1 covering an area of 8.098,34 ha. The total area of HCV 1 within the HGU area of PT USP area is 365,81 ha, while the total area of HCV 1 around the HGU area of PT. USP of 7.732,53 ha.

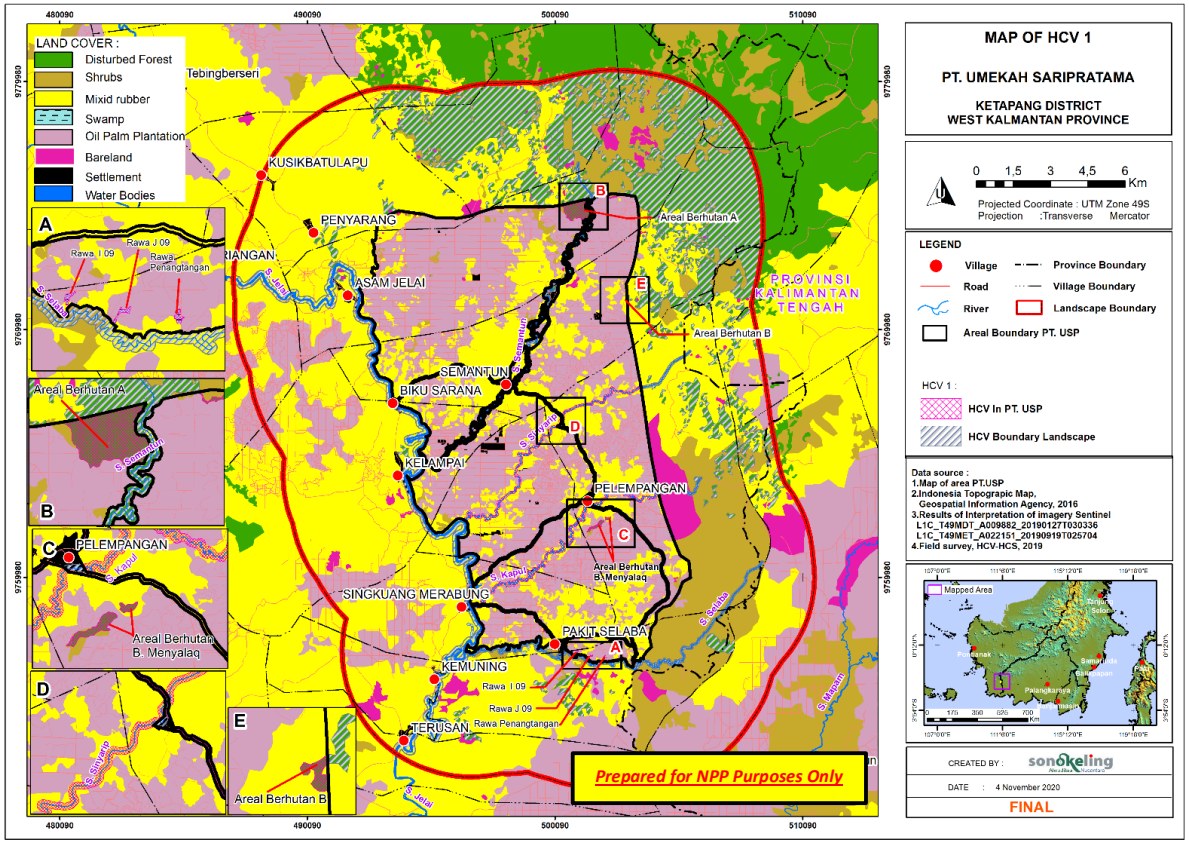



Figure 9. Map of Distribution HCV 1 Area Within HGU Area of HGU PT USP

**HCV 2: Wider Landscape**

| HCV 2 | Finding |
|---|---|
| Wider landscape level ecosystems, mosaic of ecosystems and Intact Forest Landscape significant at the global, regional or national level. | **Present** |

In the Common Guide for HCV Identification (HCVRN, 2013), it is explained that HCV 2 is the presence of ecosystems at the level of broad landscapes, ecosystem mosaics, and intact forest landscapes; a decent population of most native species; and natural distribution and quantity patterns.

**1. Ecosystems at the Wider Landscape Level, Ecosystem Mosaics, and Intact Forest Landscape**

The location of the HGU area of PT USP is not adjacent to an intact forest landscape. The intact forest landscape is located in the northeast of the study area and the closest is ± 118 km (www.intactforests.org). Besides, in the HGU area of PT. USP does not exist and is not part of the core area, but around the HGU area of PT USP is the core area. The core area located around the HGU area of PT. USPs include:

1. The nearest conservation area is located southwest of the HGU area of PT. USP, namely CA Muara Kendawangan is ± 56 km away;
2. The nearest protected forest is located to the northwest of the HGU area of PT. USP (HL Gunung Raya) and is ± 26 km away;
3. The nearest EBA area is located to the northeast of the PT. USP and is ± 55 km away;
4. The nearest IBA area is located southwest of the PT. USP and is ± 60 km away; and
5. The nearest Peat Hydrology Unit (KHG) is located to the northeast of the HGU area of PT. USP and is ± 84.90 km away;

In this regard, in the HGU area of PT. USP's not found area containing HCV 2. There were also no conservation areas, protected forests, EBA areas, IBA areas and KHG areas found in the boundary area of the assessment landscape. In this regard, in the vicinity of the HGU area of PT. USP not found area containing HCV 2.

**2. Decent Population of Most Natural Species**

In the HGU area of PT. USP found a viable population distribution area of most natural species. The proper population distribution area of some of the natural species in question is the distribution area of the Bornean Orangutan, part of which is located to the north of the HGU area of PT. USP. Although based on observations and interviews, neither the presence nor traces of orangutans were found, but based on the precautionary principle and consideration, orangutans are considered to be present in the HGU area of PT. USP. In connection with this information, HCV 2 was found in the HGU area of PT. USP. In the boundary area of the assessment landscape, the distribution area of the Bornean Orangutan is found. In this regard, in the vicinity of the HGU area of PT. USP found areas containing HCV 2.

**3. Distribution Patterns and Natural Amounts**

HGU area of PT USP was originally a secondary dryland forest, shrubland, mixed rubber plantation and open land. HGU area of PT USP has suffered serious damage caused by illegal logging activities and encroachment of the area. Judging from the land cover, the land cover in the HGU area of PT USP consists of 9 (nine) types, namely secondary dryland forest, shrubs, mixed rubber plantations, oil palm plantations, fields, shrubs and water bodies. Although there are still natural ecosystems in the area in the form of secondary dryland forest, in the study area, exotic and invasive plant species were found. In connection with this information, HCV 2 was not found in the HGU area of PT. USP. Based on the results of field observations, exotic and invasive plants were found in the HGU area of PT. USP as many as 44 types.

In the landscape area, seen from the land cover, it consists of 10 (ten) types, namely plantation forests, shrubs, mixed rubber gardens, oil palm plantations, dry land agriculture, mining, open land, settlements, rice fields and water bodies. In connection with this information, HCV 2 was not found around the HGU area of PT. USP.

In connection with the above, it can be concluded that in and around the HGU area of PT. USP found HCV 2 covering an area of 17.447,93 ha. The total area of HCV 2 within the HGU area of PT USP area is 1.543,50 ha, while the total area of HCV 2 around the HGU area of PT. USP covering an area of 15.905,08 ha.

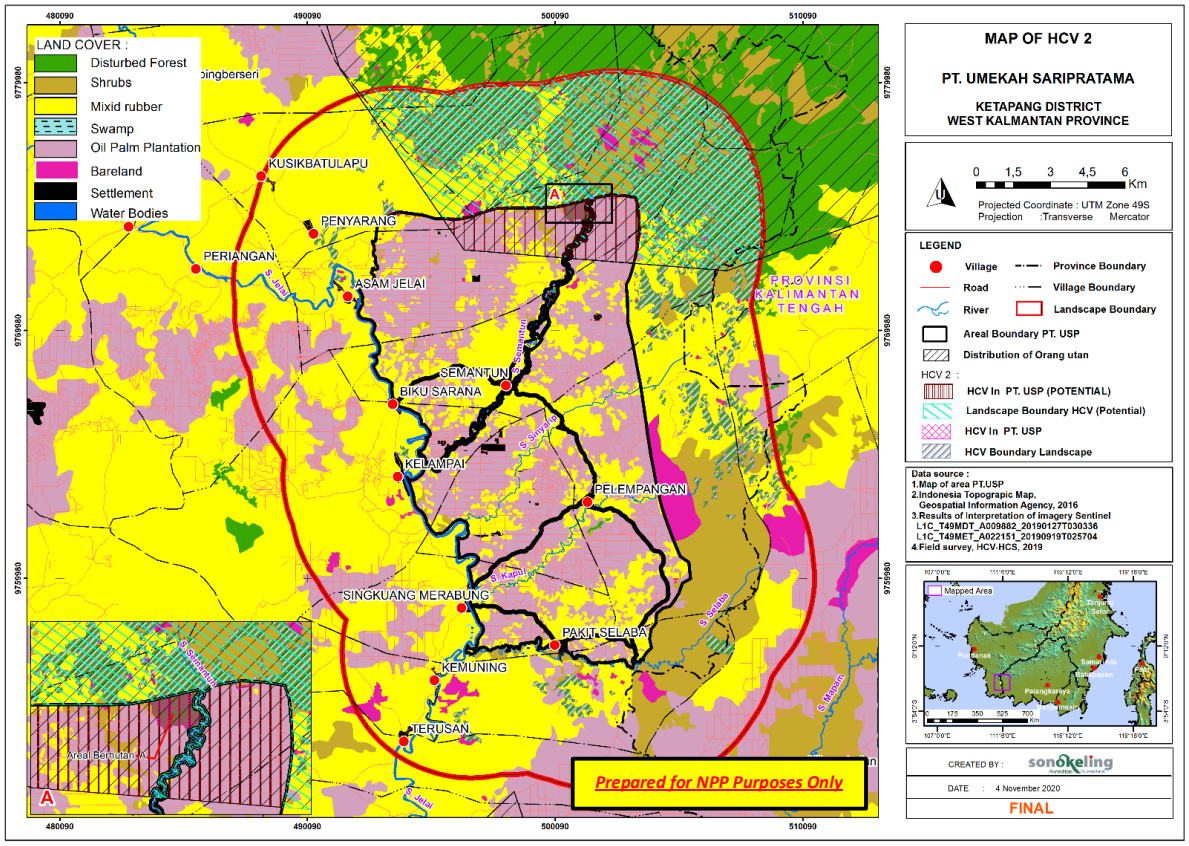



Figure 10. Map of Distribution HCV 2 Area Within HGU Area of PT USP

**HCV 3: Rare Ecosystems**

| HCV 3 | Finding |
|---|---|
| Rare, threatened, or endangered ecosystems, habitats, or sanctuaries. | **Present** |

Within the HGU area of PT. In the past USP (before conversion) three types of ecosystems were found, namely mixed dipterocarp forest on igneous rock (granite), mixed dipterocarp forest on metamorphic rock, and lowland forest on sandstone, while around the HGU area of PT. USP (within the landscape boundary) found as many as 4 kinds of ecosystems, namely mixed dipterocarp forest on igneous rock (granite), mixed dipterocarp forest on metamorphic rock, lowland forest on sandstone, and riparian forest.

At present, judging from the land cover, the three ecosystem types can be divided into 8 types, namely secondary dryland forest, shrubs, mixed rubber plantations, swamps, oil palm plantations, open land, settlements, and water bodies. In the three types of ecosystems in the HGU area of PT. USP currently still found areas that have land cover in the form of forested areas in the form of secondary dry land forest, namely mixed dipterocarp forest on metamorphic rocks covering an area of 83.01 ha.

Around the HGU area of PT. USP (within the landscape boundary), the land cover of the two types of ecosystems found in the area can be divided into 9 types, namely secondary dryland forest, shrubs, mixed rubber plantations, swamps, oil palm plantations, dry land agriculture, open land, settlements, and water body. In the four ecosystems around the HGU area of PT. USP still found areas that have land cover in the form of forested areas in the form of secondary dry land forest, namely mixed dipterocarp forest on metamorphic rocks covering an area of 4.327,56 ha. In clarifying threatened and/or rare ecosystems in and around the HGU area of PT. USP uses a precautionary approach. The results of the identification of HCV 3 using the precautionary approach are presented in Table 19.

Table 19. Results of HCV 3 identification using a precautionary approach within and around permit area PT. USP

| No. | Question | Answer | Instructions | Justifiction |
|---|---|---|---|---|
| 3.1 | Are one or more ecosystems categorized as threatened or rare located (i) inside the MU, or (ii) outside the MU area but are likely to be affected by the MU's planned use? | Yes | Possible HCV 3 in the MU or nearby; go to 3.2 | Mixed dipterocarp forest ecosystem on igneous rock (granite), mixed dipterocarp forest on metamorphic rock, and lowland forest on sandstone in and around the HGU area of PT. USP, as well as riparian forest around the HGU area of PT. USP including threatened |
| 3.2 | Is this ecosystem a vegetation on peat land? | No | Continue to 3.4 | Mixed dipterocarp forest ecosystem on igneous rock (granite), mixed dipterocarp forest on metamorphic rock, and lowland forest on sandstone in and around the HGU area of PT. USP, as well as riparian forest around the HGU area of PT. USP including threatened. |
| 3.4 | Has the ecosystem undergone drastic land cover changes so that it meets the criteria for "unproductive land" based on the Minister of Forestry Decree No. 21 / Kpts-II / 2001. | Yes | It is possible that HCV 3 is not present but needs to continue to 3.5 | Within the permit area of PT. USP:<br>Mixed dipterocarp forest ecosystem on igneous rock (granite) covering an area of 1,493.76 ha, mixed dipterocarp forest on metamorphic rock covering an area of 14,935.76 ha, and lowland forest on sandstone covering an area of 14.03 ha within the HGU area of PT. USP has a total woody natural vegetation biomass of less than 5 $m^3$ per ha.<br><br>Around the permit area of PT. USP:<br>Ecosystem of mixed dipterocarp forest on igneous rock (granite) covering an area of 12.692,18 ha, mixed dipterocarp forest on metamorphic rock covering an area of 17.291,05 ha, lowland forest on sandstone covering an area of 2.913,81 ha, and riparian forest covering an area of 36,00 ha in around the HGU area of PT. USP has a total woody natural vegetation biomass of less than 5 $m^3$ per ha. |
| | | No | HCV 3 is in the area around the MU | Within the permit area of PT. USP:<br>mixed dipterocarp forest in metamorphic rocks covering an area of 83,05 ha within the HGU area of PT. USP has a total woody natural vegetation biomass of more than 5 $m^3$ per ha.<br><br>Around the permit area PT. USP:<br>Mixed dipterocarp forest ecosystem in metamorphic rock covering an area of 4.327,56 ha around the HGU area of PT. USP has a total woody natural vegetation biomass of less than 5 $m^3$ per ha. |
| 3.5 | Is it still possible that the ecosystem can be restored through natural processes if it is not converted by considering the following factors: (i) the ecological attributes or characteristics of the related ecosystem, (ii) the condition and status of the surrounding land, (iii) the prevailing spatial | No | Absent of HCV 3 | Mixed dipterocarp forest ecosystem on igneous rock (granite) covering an area of 1.493,76 ha, mixed dipterocarp forest on metamorphic rock covering an area of 14.935,76 ha, and lowland forest on sandstone covering an area of 14,03 ha within the HGU area of PT. USP, and mixed dipterocarp forest ecosystem on igneous rock (granite) covering an area of 12.692,18 ha, mixed dipterocarp forest on |

| No. | Question | Answer | Instructions | Justifiction |
|---|---|---|---|---|
| | planning, and (iv) regional development planning? | | | metamorphic rock covering an area of 17.291,05 ha, lowland forest on sandstone covering an area of 2.913,81 ha, and riparian forest covering an area of 36,00 ha around the HGU area of PT. USP has been severely degraded and (i) grows on sandy and infertile soils, (ii) is adjacent to farmers' areas and other PT plantation areas, and (iii) is located on other plantation areas and areas with a dense population. |

Based on the description above, it can be concluded that in and around the HGU area of PT. USP found HCV 3 covering an area of 6.225,20 ha. The total area of HCV 3 within the HGU area of PT USP area is 83,01 ha, while the total area of HCV 3 around the HGU area of PT. USP of 6.142,19 ha.

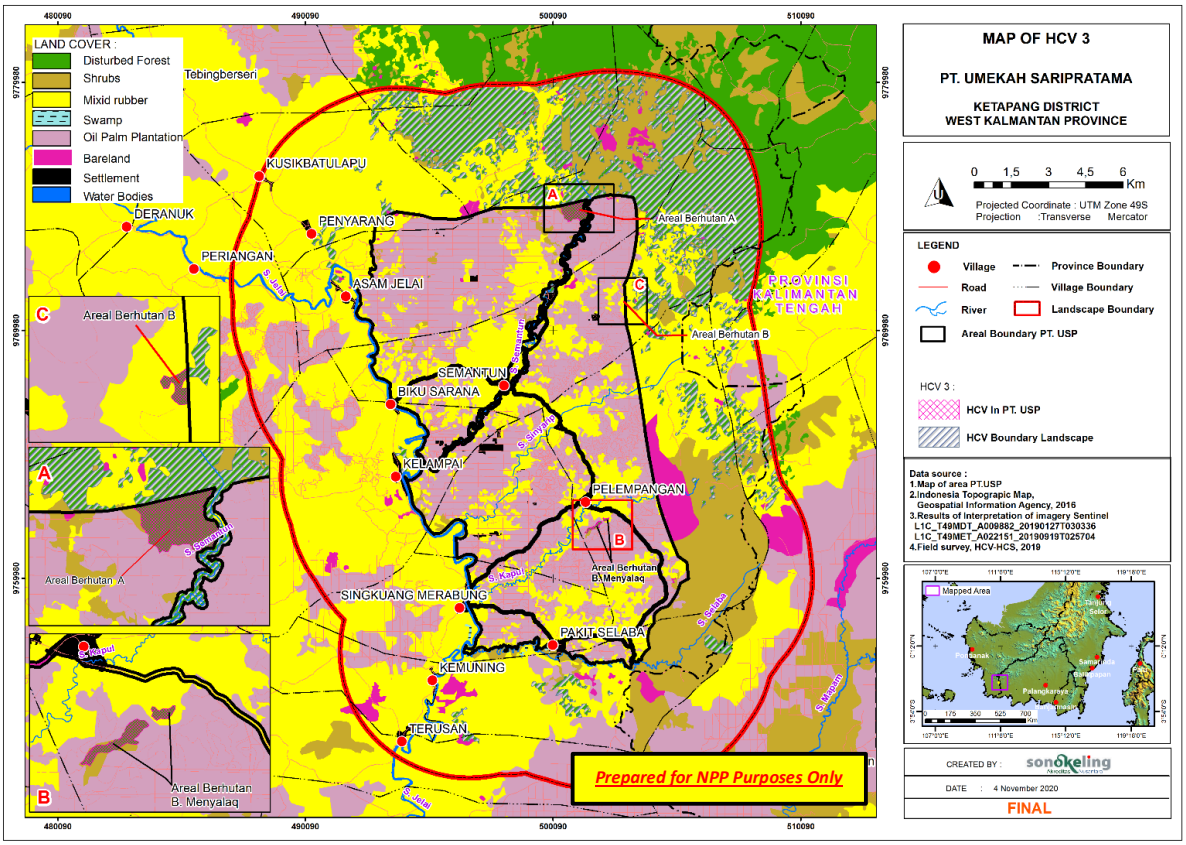



Figure 11. Map of Distribution HCV 3 Area Within HGU Area of PT USP

**HCV 4: Ecosystem Services in Critical Situations**

| HCV 4 | Finding |
|---|---|
| Essential ecosystem services in critical situations include the protection of watersheds and the erosion of vulnerable soils and slopes. | **Present** |

**1. Management of extreme water flow events, including vegetated buffer zones or intact floodplains**

This situation is found in water bodies in rivers and their borders. Based on the results of the initial inspection study and a complete assessment, in the HGU area of PT. USP found as many as 7 rivers and their borders, as well as 6 springs and their borders; and 3 swamps, while in the vicinity based on

secondary data search there are 11 rivers and their borders. In the HGU area of PT. USP there are 2 (two) rivers that originate outside the permit area and flow through the study area. In addition, around the HGU area of PT. USP found as many as 12 rivers. The width of the river body in the HGU area of PT. USP varies from 2 to 15 m. Referring to the Decree of the President of the Republic of Indonesia Number 32 of 1990 concerning Management of Protected Areas (Anonymous. 1990), rivers with a river body width of 30 m are set to have a minimum border of 100 m, while rivers with a river body width of less than 30 m are set to have a minimum border of 50 m.

The rivers that are inside the HGU area of PT. USP has never experienced a drought, in rainy season conditions it often overflows, but recedes quickly so it does not cause flooding. The river is used as a place to find fish, toilets, and water transportation. Most of the river observation points show that the water is cloudy, except for some upstream rivers where the water is relatively clear. The river border has various conditions, ranging from secondary forest, shrubs, mixed rubber plantations, oil palm plantations, mining, open land, settlements, and rice fields. Therefore in and around the PT. USP found HCV 4.

**2. Maintenance of downstream river flow regime**

HGU area of PT USP and its surroundings (within the landscape boundary) are located in the northern part of the Ketungau and Sekayam Sub-watersheds, so that all water bodies in this area still have the function of maintaining the downstream river flow regime, including river flow. The existence of rivers will naturally accommodate surface runoff, both runoff from upstream and from surrounding land. Changes in the shape and natural flow of the river will cause the concentration of flow to be shorter, resulting in an increase in water accumulation in the main river or increasing the risk of flooding downstream. The location of settlements located in the north or downstream also strengthens the importance of the existence of rivers as flood control areas. Therefore in and around the PT. USP found HCV 4.

**3. Maintenance of water quality characteristics**

This situation is found in all river borders which still have land cover in the form of secondary forest and shrubs. The presence of natural vegetation remaining on some of the river's borders serves as a filter for pollutants, both from land erosion and from residues of agrochemicals carried by surface runoff. Based on field observations during the initial inspection study and complete assessment, the physical quality of river water varies from clear to cloudy.

River borders naturally function as water quality maintainers; but in the HGU area of PT. USP found riverbanks that have been converted into oil palm plantations and mixed plantations. Nevertheless, river border areas that have been degraded or have already been converted into cultivated land still need to be managed, even enhanced in order to support and maintain river water quality. Therefore, all riverbanks that have been degraded still have potential as HCV areas. Furthermore, river border management is also related to the obligations of the PT. USP to safeguard and protect rivers, particularly with regard to environmental impact management.

In connection with the description above, it shows that in the HGU area of PT. USP still found riverbanks that have land cover in the form of secondary dryland forest, so that HCV 4 exists; while riverbanks that have land cover in the form of oil palm plantations still have the potential as a buffer zone for water bodies, so that HCV 4 is potential.

**4. Prevention and protection against land fires**

Based on information from hotspot data for the period 2016, 2017, 2018 and 2019 (Source: http://firms.modaps.eosdis.nasa.gov), it is known that in and around the HGU area of PT. USP found a hot spot. Hotspots in the HGU area of PT. USPs emerged from 2016 to 2019 and most occurred in 2018. However, land and forest fires still need to be watched out for, especially during extreme

summers, as has happened in recent years. In and around the HGU area of PT. USP found a forested area that functions as a firebreak, but the condition is no longer possible as a natural barrier/natural firebreak. Around the HGU area of PT. USP there is one river that has potential as a natural firebreak, namely the Kelapai River which is located within the landscape boundary. There is no exact data on the width of the river that can act as a natural firebreak. At least a river that has a width exceeding the height of a tree is expected to act as a natural firebreak, and is supported by river border conditions with dense vegetation. Thus, there is a river that has the potential as a natural firebreak, namely the Jelai River (100-150 m), so it is designated as HCV 4.

**5. Protection of soil or aquifer**

In and around the HGU area of PT. USP did not find locations that naturally had low soil fertility, namely peat soils; and no sandy soil was found, where land clearing, soil draining, use of heavy equipment or other forms of intensive land use could affect soil structure and fertility. As previously explained, in and around the HGU area of PT. USP found 3 fresh water swamps (Penantangan Swamp, Block I Swamp 09 and Block J Swamp 09). According to Cassel (1997), wetlands (freshwater swamps and peat swamps) are important components of various ecosystems because they function to store flood water and improve water quality.

**6. Provision of clean water, and vulnerable fisheries**

As previously described, in the HGU area of PT. USP found as many as 2 rivers. The community uses S. Sinyarip and S. Kapul for bathing, washing toilets (MCK) and looking for fish.

**7. Natural ecosystems that play an important role in stabilizing steep slopes**

In and around the HGU area of PT USP did not find any arid or dry areas that tend to be prone to erosion and desertification. The height of the PT USP and its surroundings range from 20 – >170 m above sea level, so there are areas with very steep slopes in the area. Soil type associations in the area consist of 2 types, namely Dystropepts and Tropudults which are sensitive to erosion. The annual rainfall for 10 years in the area is 3,348 mm and the annual rainy day is 182 days, so that the rainfall intensity in the area is 18,40 (low). In and around the HGU area of PT. USP did not find any areas that had an Erosion Hazard Level (TBE) including heavy.

**8. Protection against wind, and regulation of humidity, precipitation and other climatic elements**

In the HGU area of PT. USP found 2 locations of forested areas, with a total area of 79,82 ha; while in the vicinity found 8 locations of forested areas, with a total area of 4.327,56 ha. The forested area in and around the HGU area of PT. USP can function as a climate regulator (protection against wind, and regulation of humidity, rainfall and other climatic elements).

**9. Pollination services, for example exclusive pollination for subsistence food crops**

One of the wildlife that functions as a provider of pollination services is birds. Birds that serve as natural pollinators come from the family Nectariniidae (honeybird species). According to (Sukmantoro et al., 2007), there are 24 species of honeybirds in Indonesia. In the HGU area of PT. USP found 4 species of birds including pollinators, namely the thicket honeybird *(Chalcoparia singalensis)*, coconut honey bird *(Anthreptes malacensis)*, Sriganti honeybird *(Cinnyris jugularis)* and small pijantung *(Arachnothera longirostra)*. The four bird species were found in secondary dryland forest, scrub and mixed rubber plantations.

In connection with the above, it can be concluded that in and around the HGU area of PT. USP found HCV 4 covering an area of 10.016,90 ha. The total area of HCV 4 within the HGU area of PT USP area is 620,01 ha, while the total area of HCV 4 around it is 9.396,89 ha.

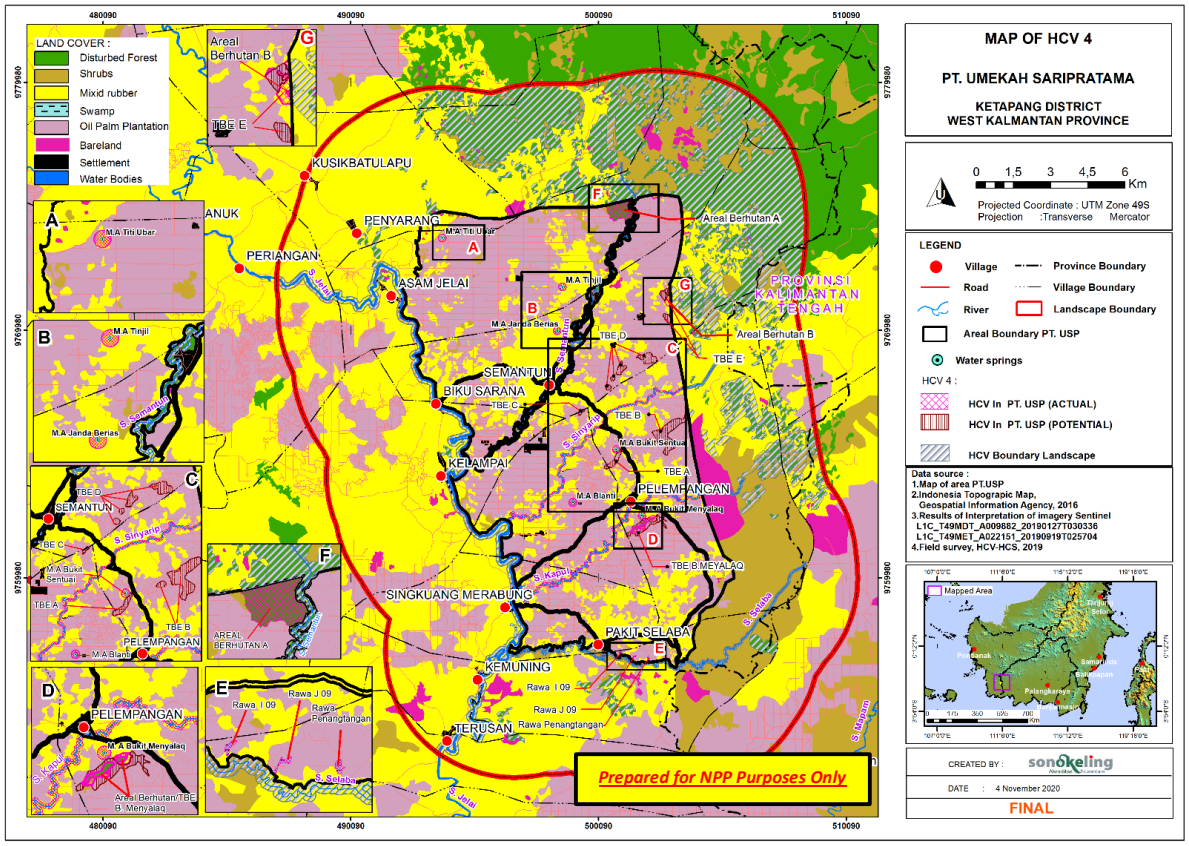



Figure 12. Map of Distribution HCV 4 Area Within HGU Area of PT USP

**HCV 5: Basic Needs of Local Communities**

| HCV 5 | Findings |
|---|---|
| Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples | **Present** |

In the HCV Identification Common Guide (HCVRN, 2013), a situation that indicates the possibility of HCV 5 is indicated is an area with difficult access to health centers or hospitals; most houses and household appliances are made from traditional / locally sourced materials; limited / lack of water and electricity infrastructure; the community has a low capacity to accumulate wealth (living to meet daily needs); agriculture and animal husbandry are carried out on a small or subsistence scale; the presence of indigenous people who hunt and gather; the presence of permanent or nomadic shepherds; hunting and/or fishing are essential sources of protein and income; and food obtained from the wild constitutes a large part of the diet, either throughout the year or only in critical seasons.

**1. Hunting and trapping land**

Hunting and trapping activities carried out by the community have several purposes, namely to fulfill the main needs of life and only as a leisure activity. For people who do not work in plantations or companies, the use of natural resources such as rivers and forested areas for hunting activities is part of their daily activities to fulfill their daily needs. The hunted or caught products are sold or consumed by themselves for family members. People who still hunt intensively are the Jelai and Sekakai Dayak tribes, especially in the Asli villages (Semantun Village, Pelempangan Village, Asam Jelai Village, Biku Sarana Village, Pakit Selaba Village, Sengkuang Merabong Village). But nowadays hunting activities are very difficult to do because the forested area as a habitat for hunting animals is getting smaller so it is

necessary to visit a forested area which is quite far away (in the Penopa area). The results can be used for the consumption of family members or sold. Therefore, it can be determined that in the PT USP concession area there is no HCV 5 that is related to meeting the basic needs of animal protein (land hunting and trapping).

**2. NTFPs (Non Timber Forest Products)**

It was found that there were residents who used the concession area as a location to fulfill PHBK. For protein needs, such as vegetables, mushrooms and so on, residents are very easy to obtain by buying either at the stall or at the market. Likewise, the presence of rattan is rarely found in concession areas. In addition, the community around PT USP has no difficulty in reaching the health center or hospital. Each village has health facilities such as Poskesdes, Posyandu and some of them are Pustu. Although there are already poskesdes, posyandu in every village, some residents still use village medicine/traditional medicine. In particular in Asam Jelai Village, the village medicine is obtained by residents from village shamans or obtained directly from nature which is located in the PT USP concession area. The location for searching for medicinal ingredients is in Block C62. Residents know block C62 as the "Share Garden".

**3. Fuels**

The use of fuel for household needs, most of the people already use LPG gas, measuring 3 or 12 kg, but there are also families who still use firewood, especially for people who are far from shops or stalls selling gas cylinders. Firewood becomes a reserve for each family if the gas supply to the village experiences problems. However, residents use firewood as an alternative for cooking (alternating between using LPG and firewood). The community uses wood from the yards around their houses and other forested areas located around the PT USP concession area. The type of wood used for cooking fuel is generally from any type of wood, but from the results of interviews and discussions, residents admitted that they mostly use firewood from the type of rubber wood in their yards or yards. Based on this, there was no place or area or type of wood specifically for cooking fuel sources, thus in the PT USP concession area there was no HCV 5 related to the source of meeting fuel needs for household activities such as cooking, lighting, and warming.

**4. Fish (as the main source of protein) and other freshwater species used by local communities**

The source of basic fulfillment of fish protein for the communities in the study villages is generally obtained from buying at traditional markets, nearby food stalls or traveling traders. In addition to buying, the fulfillment of fish is obtained from fishing in rivers, such as the Kapul River, Sinyarip River, and Rawa Penantangan. The presence of fish in rivers in general has a small population. The activity of catching fish, some villagers claim that it is only to fill their spare time and hobby. The results from fishing are used for consumption by family members and sometimes sold to neighbors if the fish yields are excessive. Based on the foregoing, it can be concluded that in the PT USP concession area, HCV 5 was found related to meeting the community's basic needs for fish protein (as the main protein source) and other freshwater species used by local communities.

**5. Building Materials (Pole, Straw and Wood)**

The houses of the residents of the study villages in general have used cement for the walls and floors, while the roofs are made of tile, zinc or asbestos, with a roof frame made of wood and some have used mild steel. Frames, doors and windows are still made of wood. Sources of wood are generally met from buying in building material shops around the village and sometimes even having to make purchases to the sub-district center or city center in Jambi, buying from local residents and taking wood from the yard around the house. Based on the foregoing, it can be concluded that in the study villages there was no HCV 5 related to meeting the basic needs of wood for building materials.

**6. Seasonal Animal Feed and Herding**

There are no permanent or nomadic herders in the communities surrounding the PT USP concession area. People tend to keep livestock in cages and release them using ties in the yard and garden areas that are not far from their homes. Based on the discussion/FGD that some residents are still herding their livestock into the PT USP concession area, especially with villages that have overlapping village administrative boundaries with PT USP, the grazing area is quite intense considering the availability of grass feed in the concession is more and more secure than the area. around residential areas. Based on the foregoing, it can be concluded that in the PT USP concession area, HCV 5 was found related to meeting the needs of animal feed and seasonal grazing.

**7. Important Water Sources for Drinking and Sanitation**

The other main sources of community needs are water sources for drinking water and toilet needs which are generally met from river sources that flow around village residents' settlements and springs that flow into residential areas. Another alternative source is from buying refill water and water from the rain. In their daily life, the majority of residents still depend on their needs for clean water from rivers that flow through residential areas/villages and from springs which are channeled using pipes to people's homes. The following are the names of rivers that are used by residents to fulfill clean water and sanitation, namely the Sinyarip River and the Kapul River (Figure 13). The supply of clean water is also obtained from springs in the PT USP concession, such as the Blanti Spring, Bukit Menalaq Spring, Bukit Sentuai Spring, Janda Berias Spring, Kinjil Spring, and Titi Ubar Spring.

Almost every day residents use the rivers and springs to fulfill their clean water needs (drinking, cooking, and sanitation/MCK). Usually residents take advantage of this water source by taking it directly or by using a jet pump and flowing it through small pipes to their homes. Based on the foregoing, it can be concluded that in the PT USP concession area, HCV 5 was found related to meeting basic water needs as an important water source for drinking water and sanitation

**8. Goods that are interchangeable with other essential goods, or sold cash was used to purchase essential goods such as medicines or clothes, or to pay school fees**

Part of the cash income of the residents is obtained from working as laborers/employees/staff at PT USP and income from the plasma plantation program of PT USP. Becoming a worker (labor/employee/staff) and owning a plasma plantation from the plantation partnership and with PT USP brings a very positive impact for the community in improving the village community's economy. From the results of the discussion/FGD, the majority of the community owns land that is used for other basic needs fulfillment activities. Usually the land they own is planted with rubber, oil palm, vegetables and fruits. Not a few harvests from the land are able to meet the needs of the family and become a source of income for residents every day or every month. Sources of income for residents obtained from the PT USP concession area are fruit orchards (Kebun Bersama or Communal Gardens), such as in Block C62, Asam Jelai Village. During the fruit season, residents rely on fruit harvests as a livelihood (cash) which can be exchanged for other goods and services. In addition, other sources of income for residents are from trading business units, entrepreneurs, civil servants, and services. Thus, it can be concluded that in the concession area of PT USP found areas containing HCV 5 related to goods exchanged for other essential goods.

In connection with the above, it can be concluded that in and around the HGU area of PT. USP found HCV 5 covering an area of 1.375,65 ha. The total area of HCV 5 within the HGU area of PT USP area is 317,83 ha, while the total area of HCV 5 around it is 1.057,82 ha.

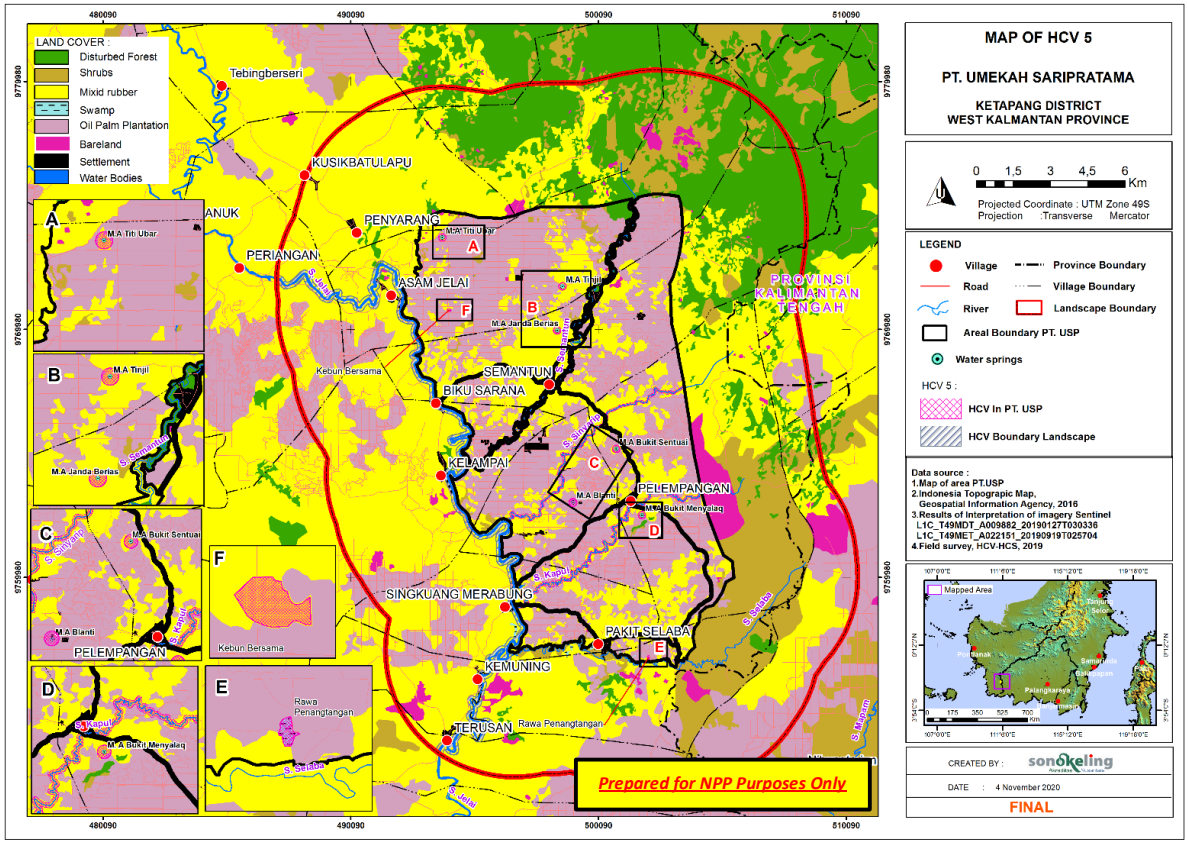



Figure 13. Map of Distribution HCV 5 Area Within HGU Area of PT USP

**HCV 6: Cultural Values**

| HCV 6 | Findings |
|---|---|
| Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples. | **Present** |

In the HCV Identification Common Guide (HCVRN, 2013), it is explained that HCV 6 is a site, resource, habitat, and landscape that has cultural, archaeological or historical significance at the global or national level and/or which has cultural, ecological, economic or religious interests / sacred which is critical for the traditional culture of the local community or indigenous people, which is identified through interaction/engagement with the relevant local community or indigenous people.

Village communities around the concession area of PT. The USP of the majority is the Dayak Jelai and Dayak Sekakai. These two sub-tribes are found in almost every village located or close to the Jelai river. In contrast to the other 6 villages, according to residents during the FGD, the majority of the population in Kelampai village were Malays.

The traditional and cultural activities of the Dayak tribe in daily activities such as farming, marriage and death are still strong and carried out. Traditions are also very closely carried out in agricultural activities (cultivating cultivation), namely the closing device for the year of rice farming after harvesting which aims to bless rice equipment and seeds, which is usually carried out in June. Another custom that is still being carried out by the residents of each village, especially the village of Pelampangan is the culture in land management by residents in this area which is still carried out by traditional ceremonies in the effort to use land, especially fields. Based on the results of interviews

and FGDs with several villagers, especially Semantun and Pelampangan villages, that in the offering ceremony or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai, entanjat wood, umpar, scratching, turmeric, paring and betel.

At the hamlet level, there is a traditional institution known as the customary board, led by a traditional chairman, as well as at the village level there is a traditional institution, which is a traditional institution that contains the traditional administrators in the hamlet. Customary institutions function to resolve social problems among the community, including in determining customary fines. In the case of inter-hamlet problems or problems that cannot be resolved by the Dusun Customary Management, they will be resolved at the district level by the Dayak Customary Council (DAD) and the Regency Dayak Customary Council (DAD).

Based on the results of the desktop, FGD and interviews with the community, stakeholders in the study villages, and field observations in the PT. USP found religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples. The distribution of cultural sites and sacred places in and around the HGU area of PT. USP. The distribution of cultural sites and sacred places in and around the HGU area of PT. USP as presented in Table 20.

Table 20. Distribustion of social Sites within and arround of permit area PT USP

| No. | Sites Group | Name of Sites | Location | Within Permit Area of PT. USP | Around Permit Area of PT USP |
|---|---|---|---|---|---|
| 1 | Sites that are recognized by national policy and legislation have high cultural value. | Absent | Absent | Absent | Absent |
| 2 | Sites that have official designations from national governments and/or international institutions such as UNESCO | Absent | Absent | Absent | Absent |
| 3 | Sites with significant historical and cultural values that are recognized, even if not protected by legislation | Hutan Keramat Meleket | Pelempamgan | J 33 / J 34 | Absent |
| | | Makam Dukuh Ugan Tering | Asam Jelai | F 76 | Absent |
| 4 | Religious or sacred sites, burial sites or traditional ceremonial sites that have an essential role for local or adat communities | Hutan Keramat Meleket | Pelempamgan | J 33 / J 34 | Absent |
| | | Keramat Tanah Merah | Pelempamgan | L 34 | Absent |
| | | Makam Abi | Pakit Selaba | L 08 | Absent |
| | | Makam Dukuh Ugan Tering | Asam Jelai | F 76 | Absent |
| | | Makam Kelapu | Semantun | G 45 | Absent |
| | | Kuburan Keramat Kalimantan lalau | Pelempamgan | G 36 | Absent |
| | | Keramat Keranji | Asam Jelai | C 69 | Absent |
| | | Kuburan Lubuk Bayur | Semantun | I 73 | Absent |
| | | Tanah Adat Tanjung Babuy | Biku Sarana | D 48 | Absent |
| 5 | Plant or animal resources with totemic value or used in traditional ceremonies | Absent | Absent | Absent | Absent |

Source : Primary Data Analysis Social Team, PT SAN 2019.

In this regard, it can be concluded that in and around the PT USP HGU area, 13,10 ha of HCV 6 was found. The total area of HCV 6 within PT USP's HGU area is 10,47 ha, while around PT USP's HGU area of 2,63 ha.

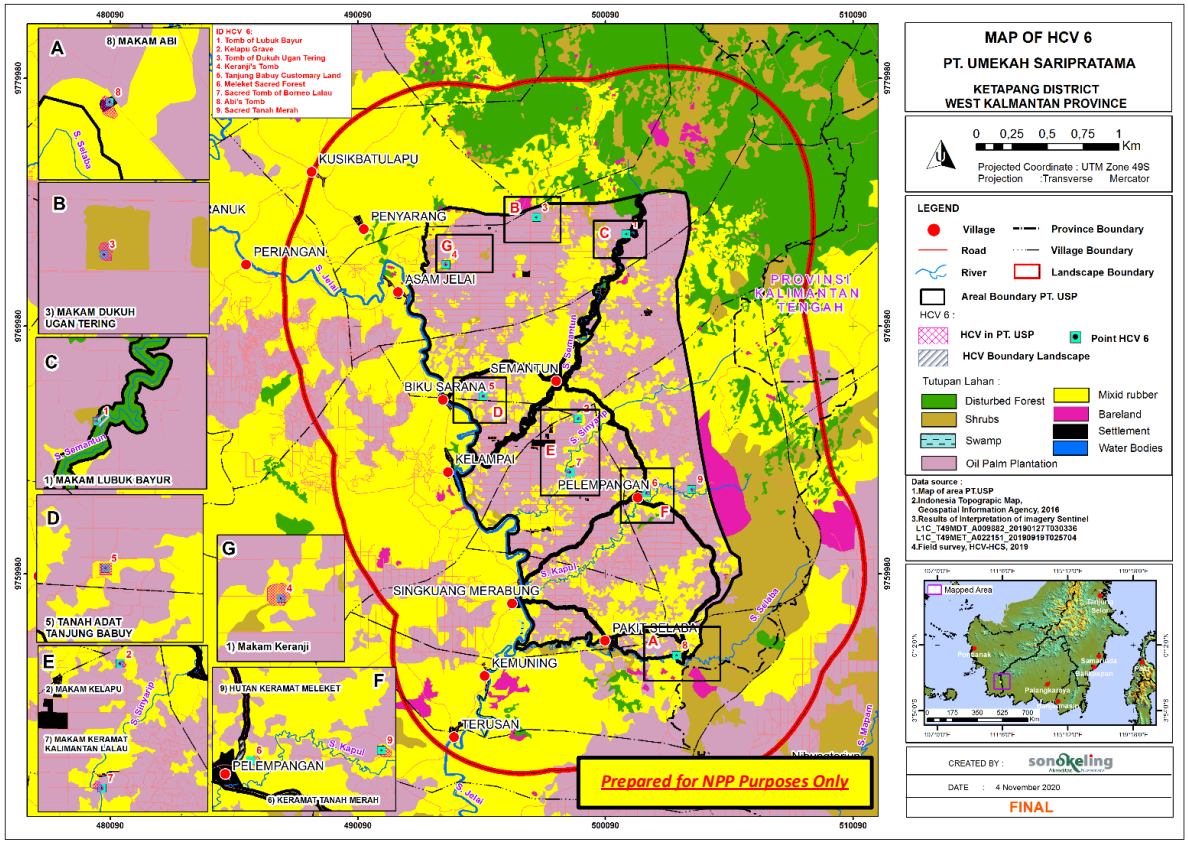



Figure 14. Map of Distribution HCV 6 Area Within HGU Area of PT USP

Stakeholder consultation is an important step in conducting the assessment. This consultation can take the form of interviews/FGDs with community representatives in the study villages, as well as interviews/discussions with relevant offices/agencies at the sub-district, district and provincial levels. This consultation was carried out in addition to the company, both during the opening and closing meetings, but also with the local district office and villages in the study area. When the consultation was carried out, basically every stakeholder at the district and village levels welcomed and supported this activity. Even when there was a difference of understanding during the FGD, the consultant participatively invited them to formulate conflict resolution that should be done. The trick is to bridge every desire of the community, the government and the company. This is because when the FGD was conducted, the consultant was accompanied by the company's public relations officer. The results of this discussion with the community were then conveyed to the company during the closing meeting to clarify and convey the temporary findings during the study. A summary of the results of interviews and discussions at the village level and related offices/agencies is presented in Table 21.

Table 21. Summary of Results of Interviews and Discussions with Communities in the Villages

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| **Semantun Village** | | | |
| Customary Leader | Makadir | FGD | • The community of Semantun village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN because this activity is also considered very beneficial for the community. |
| Head of BPD | Sumardi | | |
| Head of RT | Pendi Amir | | |
| Head of Sub Village Semantun | Suwandi | | |
| Village Staff Kaur Pelayanan | Binota Melsi | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| Community Leader/ Kepala dusun Kinjil | Yusta H | | • The main livelihood of the community at this time is employees in the company PT. USP (70%). Other livelihoods are field and garden farmers, construction workers, traders, teachers, temporary workers and so on.<br>• In meeting basic needs, the community is not only supplied with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market, namely in Pangkalan Bun and Kota Waringin Barat with a 4 hour drive.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields (65%) and buying (35%).<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. This is because in addition to residents who usually have fruit trees in their family and private gardens, they are also accustomed to growing various types of vegetables to meet the basic needs of their families, which are intercropped with rice plants in the fields. Some residents are looking for forest vegetables and mushrooms both inside and outside the PT. USP. However, according to residents, there is no dependence to meet the two commodities, considering that the fulfillment of the needs for vegetables and mushrooms can also be obtained from gardens or fields, and can also be obtained by buying from vegetable traders or from the market.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (30%).<br>• Places where residents fish include the Semantun river, the Sinyarip river and several other rivers.<br>• If the fish catch is abundant, it will be sold in part at a price per kilo generally Rp. 35.000,- up to Rp. 50.000,-.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• For the types of animals that are hunted, such as monkeys, kelampiau, wild boars, rats and so on.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the residents of Semantun village usually suffice it by using dug wells around their |
| Village Secretary | Elysabeth | | |
| Women Leader Head of dusun Janda Berias | Y. Birce | | |
| GA PT USP | Haris Abror | | |
| Head of Village Semantun | Jartop | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | houses and when the dry season arrives, they use water from the Penjeranangan river, the Kayu Abang River, the springs of the widow of Berias Hamlet, the springs of the Pakit River and Mata water Tinjil which is near the village of Kinjil Development.<br>• As for MCK, apart from using water from wells, they also use the river that flows through the village, namely the Semantun River.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• Most of the wood needed for building houses and making household appliances is obtained by buying.<br>• The price of local/mixed wood species is around Rp. 1,500,000 to Rp. 2.000.000,-/m3. The better the quality of the wood, the more expensive the price usually reaches Rp. 4,000,000,-/m3.<br>• Fulfillment of the need for wood for people's houses and other needs such as household furniture and others is generally obtained by buying and others from remaining forests or their own fields/gardens.<br>• The use of wood for building materials is still needed by the community and is quite important. However, there is no dependence from residents in meeting the need for wood for building materials or other needs from within the PT. USP.<br>• Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (40%), where this firewood is obtained from around houses and in community gardens or fields. The use of firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• The residents of Semantun village still use herbal medicines as an alternative to chemical medicines, where because the residents' access to chemical medicines is quite difficult, many of them still use herbal medicines obtained from inside and outside the HGU P T. USP (both planted in the yard as well as in fields and gardens). The types of medicinal plants commonly used include ghost starfruit, kumpang, madang, kabai-kabai, mali-mali, manjing, bamboo, earth pegs, hook roots and others. However, taking herbal medicines from within the PT. The USP is very low (only about 2%) and generally those who take these herbal medicines are company employees who |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | accidentally find them while working in the plantations of PT. USP. This means that there is no dependence from residents in meeting the needs of herbal medicines from within the PT. USP. This was also stated by the FGD participants when the FGD was conducted with community representatives in the village.<br>• There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. USP (70% to 80%) . precisely around the Sinyarip river.<br>• To meet the need for cash obtained from nature, residents obtain it by working to find rattan or honey where currently there are limited workers in that field. Residents are more interested in working as company employees (70% work as employees at PT. USP).<br>• Sacred places in this village include:<br>- Sacred Lubuk Buluti which is close to the Semantun river where according to local stories there is a dagger that can shine and is believed to be a lucky place.<br>- The next sacred is the sacred grave of the kinjil where in this cemetery there are jars and ancient relics that are buried in it such as gongs and others.<br>- The river kelapu cemetery is a sacred place in the form of the graves of the ancestors of the founding community of Semantun village, which is believed to have a watchman who is believed to be able to grant requests for those who ask for blessings in that place and become a place to carry out traditional ritual activities. Residents believe that the place should not be disturbed, let alone destroyed if you do not want to get into misfortune. However, currently, the sacred place is having problems with land acquisition. This is because the area is right or close to the area that will be used as employee settlements by the company PT. USP.<br>- Lubuk Bayur Grave is one of the sacred places in Semantun village and is located in the permit area of PT. USP. The Lubuk Bayur tomb is one of the sacred tombs which is believed by residents that there are guards who guard the burial area. Residents also believe that if there are traditional ceremonies such as offering ceremonies and others to ask for blessings, then all their requests will be granted. In this sacred place, you can find jars or jars made of earth (pottery) which are used as grave markers or traditional tribal rituals in the past.<br>• Other places that are also considered important by residents and have cultural values include:<br>- New daas grave.<br>- Graveyard of milling forest<br>- Dadung's grave. |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | • In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |
| **Pelampangan Village** | | | |
| Community Leader | Haliman | FGD | • The community of Pelampangan village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in the company PT. USP (75%) in farming (20%) the rest are traders, honorary and others.<br>• In meeting basic needs, the community is not only provided with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market, namely in Pangkalan Bun and Kota Waringin Barat.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (30%).<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. This is because in addition to residents who usually have fruit trees in their family and private gardens, they are also accustomed to growing various types of vegetables to meet the basic needs of their families, which are intercropped with rice plants in the fields. Some residents are looking for forest vegetables and mushrooms both inside and outside the PT. USP. However, according to residents, there is no dependence to meet the two commodities, considering that the fulfillment of the needs for vegetables and mushrooms can also be obtained from gardens or fields, and can also be obtained by buying from vegetable traders or from the market.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (30%).<br>• Places where residents fish include the Kapul river, Sinyarip river and several other rivers.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• The types of animals that are hunted include pigs, deer, deer, mouse deer, porcupines, |
| Lead of Community Group | Runi | | |
| Young Leader | Pancang | | |
| Land owner/Community Leader | Johan | | |
| Head of LPM | Ibin | | |
| Head of Customary | Diman | | |
| Lead of Community Group | Siat | | |
| Village staf | Sahroni | | |
| Village staf | Yogi | | |
| Head of sub village | Krianto | | |
| Woman Leader/Village staff | Suryanti | | |
| Community Leader | Cana | | |
| Head of Pelampangan sub village | Sandi | | |
| Head of Santui sub village | Undat | | |
| Head of Village | Kusnadi | | |
| Community Leader | Sohir | | |
| Community member | Gunawan | | |
| Head of Community Group/land owner | Pinan | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | crickets, field snakes, frogs, tadung, labi-labi, rats, squirrels, kelebiau, ruai and so on.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the villagers of Pelampangan usually suffice it by using dug wells around their houses and when the dry season arrives, they use water from the Kapul River, Sinyarip River, Jelai River, Mount Sailing Springs, Blanti Springs and Matak sentui hill water.<br>• As for the MCK, apart from using water from the well, the river that flows through the village is the Kapul River, the Sinyarip River and the Jelai River.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, in general there are still many who take from the forest or their gardens that are outside the HGU of PT. USP. However, the harvesting of this wood is subsistence or only for personal needs where the felling is still selective.<br>• Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (50%), where this firewood is obtained from around the house and in community gardens or fields. The use of firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• The villagers of Pelampangan still use herbal medicines as an alternative to chemical medicines, where because the residents' access to chemical medicines is quite difficult, many of them still use herbal medicines obtained from inside and outside the HGU PT. USP (both planted in the yard as well as fields and gardens). The types of medicinal plants commonly used include ghost starfruit, kumpang, madang, kabai-kabai, mali-mali, manjing, bamboo, earth pegs, hook roots and others. However, taking herbal medicines from |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | within the PT. The USP is very low (only about 2%) and generally those who take these herbal medicines are company employees who accidentally find them while working in the plantations of PT. USP. This means that there is no dependence from residents in meeting the needs of herbal medicines from within the PT. USP. This was also stated by the FGD participants when the FGD was conducted with community representatives in the village.<br>• There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. USP (50%) . precisely around the Kapul river border.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in Pelampangan village.<br>• Sacred places in this village include:<br>- The Sacred Graves of Kalimantan Lalau are the sacred graves of the ancestors of Pelampangan villagers in Pelampangan village. In this sacred place, there are several old graves where above the graves there are earthen pots or earthenware jars.<br>- The sacred grave of Tanah Merah is also a sacred place in Pelampangan Village. Based on the results of field studies, there is not much information about this sacred place. However, based on the results of the FGD with the community, this place has become a sacred place for the villagers because it is recognized that there is a guardian spirit that can help the residents if they carry out traditional ritual activities asking for blessings in that place.<br>- The sacred stick (there is an orchard) is a sacred place in the village of Pelampangan where this area is recognized as the area that became the origin of the village of Pelampangan. So that some residents also say this area is an "old village" area for local villagers. In this area there are orchards which are shared or communal property. However, not many residents take their fruit in this place, considering that apart from the road to the place which is already difficult to reach because it is a forest, the need for fruit has been fulfilled quite well from the garden/field area or by buying from other residents, markets and traders. around.<br>• Other sacred places outside the PT. USPs include:<br>- The sacred grave of appeal.<br>- The sacred grave of tamarind.<br>- The sacred grave is thick.<br>• In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel. |
| **Asam Jelai Village** | | | |
| Head of BPD | Yakobus Tono | FGD | • The community of Asam Jelay village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in the company PT. USP (40%) farming (20%) the rest are employees in other companies, traders, honorary and others.<br>• In the meeting of basic needs, the community is not only supplied with natural products and grows on their own land, they also buy from stalls or shops around the village or buy directly from the nearest market.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (85%).<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.<br>• There is a communal (communal) garden located in block C62, where residents usually get fruit from this garden to meet the fruit needs of their family. When the yield of this fruit is in excess, then people usually sell it outside the village.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (30%).<br>• Places for local people to fish include the Jelai River and several other rivers.<br>• The fishing gear used includes traps, fishing rods, trawls and others.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• For the type of game the game is generally the same as in other villages.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the residents of Asam Jelai village |
| Deputy of BPD | Stanilaus Lala | | |
| Customary Leader | M. Ijai | | |
| Young Leader | Adup | | |
| Head of Asam Jelai Sub Village | Syahriadi | | |
| Woman Leader | Aina | | |
| Religion Leader | Fransiska Nona | | |
| BKO PT. USP | Yuven | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | usually supply it by using dug wells around their houses and when the dry season arrives, they use springs from the Titi Ubar River and from the Jelai River.<br>• The rivers used for fishing include the Blobu River, the Jolay River, the Jelai River and the Ugan River.<br>• As for MCK, apart from using water from wells, they also use the river that flows through the village, namely the Barley River.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the PT. USP. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the wood needs are done by buying from outside.<br>• Fulfillment of the need for wood for people's houses and other needs such as household furniture and others is generally obtained by buying and others from remaining forests or their own fields/gardens.<br>• The use of wood for building materials is still needed by the community and is quite important. However, there is no dependence from residents in meeting the need for wood for building materials or other needs from within the PT. USP.<br>• Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (10%), where this firewood is obtained from around the house and in community gardens or fields. The use of firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• The villagers of Asam Jelai still use herbal medicines as an alternative to chemical drugs (30%). These herbal medicines are generally obtained from inside and outside the HGU PT. USP. The types of medicinal plants commonly used are the same as herbal medicines that are generally used by other village communities such as pasak bumi, turmeric, madang, kumpai, mali-mali and others.<br>• The location for taking herbal medicines is within the permit area of PT. USP is located in the Block C62 area or what people usually call it by the name “Kebun Bersama”. According to |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | the villagers when the FGD was conducted, this area was communal land or jointly owned by the residents of Asam Jelai village.<br>• There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. USP (5%) . generally located near riverbanks.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.<br>• Sacred places in this village include:<br>- The grave as well as the sacred forest of Keranji (a place to store gongs, kris and so on) The location of the Keramat Keranji is in Block C69. Where in the sacred place there are gongs, kris, jars and others. The sacred place is a sacred place for residents, especially for residents of Asam Jelai Village. It is acknowledged that in this place there is a sacred grave of the ancestors of the Pak Adup family.<br>- Sacred graveyard of Dukuh Ugan Tering (old village) This is a sacred place in the Asam Jelai village and is an "old village" for the residents of Asam Jelai village. The function of the Dukuh Ugan Tering Tomb is actually the same as the Meleket Sacred Forest in Pelampangan village. As the old village which became the initial area of the village which is now the village of Asam Jelai, in this area there are orchards which are shared or communal property. However, not many residents take their fruit in this place, considering that apart from the road to the place which is already difficult to reach because it is a forest, the need for fruit has been fulfilled quite well from the garden/field area or by buying from other residents, markets and traders. around.<br>• Other sacred places outside the PT. USPs include:<br>- Sky wood grave.<br>- Bedari's grave<br>- The hamlet of the market<br>• In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| **Biku Sarana Village** | | | |
| Head of BPD | Silun Rasiks | | • The community of Biku Sarana village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in Sinar Mas company (60%) farming (20%) the rest are employees in other companies, traders, honorary and others.<br>• In the meeting of basic needs, the community is not only supplied with natural products and grows on their own land, they also buy from stalls or shops around the village or buy directly from the nearest market.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (80%). Very few are cultivated and generally subsistence. This is because agricultural land began to narrow.<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.<br>• There is a communal (communal) garden, namely the customary land of Tanjung Babuy covering an area of 5 hectares.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (80%).<br>• Places where residents fish include the Semantun river, the Jelai river and several other rivers.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the villagers of Biku Sarana usually supply it by using dug wells around their houses.<br>• The rivers used for fishing include the Kuyang River, Lating River, Blangkuh River, Lemongrass River, Tadung River and Barley River. |
| Community Leader / Head of Belancy sub village | Suriadi | | |
| Head of Pring Kunyit sub village/Youth Leader | Tino | | |
| Woman Leader | Hun Munia | | |
| Village Secretary | Renaldi | | |
| PKK/Woman Leader | Liliyen | | |
| Community Leader | Kabul Budiono | | |
| Community member | Lis Wandi | | |
| Land owner/Community Leader | L Usai | | |
| Customary Leader | Limsui | | |
| Land owner/plasm member | Deki | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | • As for MCK, apart from using water from wells, they also use the river that flows through the village, namely the barley river.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the PT. USP. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside or replacing it with other materials such as concrete, mild steel and others.<br>• Most of the people in this village use LPG for cooking (85%). However, the use of firewood is still carried out (10%), where this firewood is obtained from around the house and in gardens or cultivated fields. The use of firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• The residents of Asam Jelai village still use herbal medicines as an alternative to chemical medicines, where because the residents' access to chemical medicines is quite difficult, many of them still use herbal medicines obtained from inside and outside the PT HGU. . USP (both planted in the yard as well as fields and gardens). The types of medicinal plants commonly used include ghost starfruit, kumpang, madang, kabai-kabai, mali-mali, manjing, bamboo, earth pegs, hook roots and others. However, taking herbal medicines from within the PT. The USP is very low (only about 2%) and generally those who take these herbal medicines are company employees who accidentally find them while working in the plantations of PT. USP. This means that there is no dependence from residents in meeting the needs of herbal medicines from within the PT. USP. This was also stated by the FGD participants when the FGD was conducted with community representatives in the village.<br>• There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. USP (5%) . usually located near riverbanks.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area. |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | • Sacred places in this village include:<br>- The Sacred Forest of Tanjung Babuy customary land is a communal garden area belonging to the residents of Biku Sarana village which has an area of + 5 hectares. This area is a low-lying area that is prone to flooding in the vicinity if the rainy season arrives. The area around the edge of the land has been planted with oil palm belonging to PT. USP and this area is right inside the permit area of PT. USP. In this place the wood trees are still intact. The area is also believed to be a sacred area for Biku Sarana villagers.<br>• In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |
| **Sengkuang Merabong Village** | | | |
| GA PT. USP | K. Undat | FGD | • The community of Sengkuang Merabung village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in the company, farming/garden, traders, honorarium and others.<br>• In meeting basic needs, the community is not only supplied with natural products and grows on their own land, they also buy from stalls or shops around the village or buy directly from the nearest market.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (80%). Very few are cultivated and generally subsistence. This is because agricultural land began to narrow.<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (70%). |
| Governance Section Head | J. Resnadi | | |
| Community Leader | Panen | | |
| Customary Leader | Tant | | |
| Community member/Land owner | Ranai | | |
| Community member/Land owner | Nujum | | |
| Woman Leader /Section Head of services | Parida | | |
| Woman Leader | Regina Ayuriani | | |
| Deputy Head of BPD | Suryadi | | |
| Head of sub village | Natah | | |
| Youth Leader | Armat | | |
| Head of Community Group | Kerenius Rikan | | |
| Community Leader | Pain | | |
| Section Head of Properity | E. Rona Yunita | | |
| Customary Leader | Kicap | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | • Places where residents fish include the Kapul river, Sinyarip river, Jelai river and several other rivers.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the villagers of Sengkuang Merabung usually supply it by using dug wells around their houses.<br>• The rivers used for fishing include the Kapul river, the big river, the Ladak engkabung river and the Melauu river.<br>• As for MCK, apart from using water from wells, the Kapul River, the Big River, Ladak Engkbung River and the Melauu River are also used.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the PT. USP. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside or replacing it with other materials such as concrete, mild steel and others.<br>• Fulfillment of the need for wood for people's houses and other needs such as household furniture and others is generally obtained by buying and others from remaining forests or their own fields/gardens.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.<br>• Sacred places in this village include:<br>- Sinjalau's grave.<br>- Singkong manis grave.<br>- Kentala grave.<br>- Lubuk Batu grave.<br>- Titik Kulim grave.<br>- The kinjil grave.<br>- Sacred Kayu Tempajak.<br>• In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |
| **Pakit Selaba Village** | | | |
| GA. PT. USP | K. Undat | FGD | • The community of Pakit Selaba village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in the company, farming/garden, traders, honorarium and others.<br>• In meeting basic needs, the community is not only supplied with natural products and grows on their own land, they also buy from stalls or shops around the village or buy directly from the nearest market.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (80%). Very few are cultivated and generally subsistence. This is because agricultural land began to narrow.<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (70%).<br>• Places where residents fish include the Rawa Penatangan river, the Selaba river, the Jelai River and several other rivers.<br>• Some types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and cows.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• People who are still hunting intensively are the Dayak Jelai and Sekakai tribes, where the current hunting area is generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area which is quite far away (in the Penopa area).<br>• To meet the need for clean water, especially for drinking, the villagers of Pakit Selaba usually |
| Youth Leader | Reman | | |
| Community Leader | Jampul | | |
| Community Leader | Aloh | | |
| Woman Leader | Fitri | | |
| Community Leader | Kumis | | |
| Village staff | Ripin | | |
| Head of BPD | Mardiyoy | | |
| Village staff | Pitriani | | |
| Village staff/Youth Leader | Erdin | | |
| Village staff/Woman Leader | Erinia Mita | | |
| Community Leader | Diksin | | |
| FSR Police Jelai Hulu district | Juang Ependi | | |
| Ajt. Police Jelai Hulu | Sy. Kadakus Matu | | |
| Customary Leader | Petrus M Medan | | |
| Customary Leader | Petrus Huos | | |
| Religion Leader | L. Remon | | |
| Community member/land owner | Riba | | |
| Community member/land owner | Gerimput | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | suffice it by using dug wells around their houses and from the Bukit Barus springs and the Tempajak river springs which are outside the PT. USP.<br>• The rivers used for fishing include the engkabang river, connection river, melaras river, jelapangan river, pakit river, cangal river, selabak river, defiant lake, indun lake, pakit selaba lake and suak ilang lake.<br>• As for MCK, apart from using water from wells, they also use the engkabang river, connection river, melaras river, jelapangan river, pakit river, cangal river, selabak river, pakit selaba lake.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the PT. USP. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside or replacing it with other materials such as concrete, mild steel and others.<br>• Most of the people in this village use LPG for cooking (85%). However, the use of firewood is still carried out (10%), where this firewood is obtained from around the house and in community gardens or fields. The use of firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• The villagers of Pakit Selaba still use herbal medicines as an alternative to chemical drugs (30%). These herbal medicines are generally obtained from outside the HGU PT. USP.<br>• There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. USP (5%) . usually around the Kapul river.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.<br>• Sacred places in this village include:<br>- Abi Sacred Grave is a sacred tomb in the village of Pakit Selaba. Abi's grave is the burial place of a sacred family. Not many stories are obtained about this sacred. However, in addition to its shape in the form of a sacred ancestral grave, |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | there are also stories that are almost the same as the sacred story of Tanah Merah where in this place every visitor is prohibited from speaking rudely, dirtyly, arrogantly, destroying nature or the surrounding environment, including cutting trees carelessly and other actions. other bad deeds. If this is done, people believe that bad things will happen to the person who did the bad thing.<br>• Other sacred places outside the PT. USPs include:<br>- The sacred Hutan Kayu Tempayak<br>- Supan's grave.<br>• In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. USP. These types of plants include bamboo, kumpang, madang, areca nut, nails, mali-mali, tabai-tabai entanjat wood, umpar, scratching, turmeric, paring and betel.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |
| **Kelampai Village** | | | |
| Head of BPD | Rahmat Suganda | FGD | • The community of Kelampai village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. USP in collaboration with PT. SAN as long as it does not harm the community.<br>• The main livelihood of the community at this time is employees in the company, farming/garden, traders, honorarium and others.<br>• In meeting basic needs, the community is not only supplied with natural products and grows on their own land, they also buy from stalls or shops around the village or buy directly from the nearest market.<br>• The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (80%). Very few are cultivated and generally subsistence. This is because agricultural land began to narrow.<br>• The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.<br>• Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some are buying (8%). |
| Community Leader | Herman | | |
| Woman Leader | Heti Andriani | | |
| BPD Member | Iskandar | | |
| Community Leader | M. Yani | | |
| Religion Leader | H. Rusmansyah | | |
| GA. PT. USP | K. Undat | | |
| GA. PT. USP | Abror | | |
| Head of Cooperative Kebun Plasma MKP PT. USP | Sukransyah | | |
| Village staff | Ahmad Sumarti | | |
| Community Leader | Bahrudin | | |
| Head of RW 2 | Nudin | | |
| Governance head section | Dardi | | |
| Youth Leader | Al Imron | | |
| Community Leader/Customary | Ardiansyah | | |
| Woman Leader/BPD | Rosyati | | |
| Woman Leader/BPD | Rudiah | | |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | • Places where residents fish include the Semantun river, the Jelai river, the Sinyarip river and several other rivers.<br>• Some types of animals that are kept or raised by residents are generally chickens, ducks and cows.<br>• For the type of game the game is generally the same as in other villages.<br>• For residents of Kelampai village who are Muslim, the prey in the form of wild boars is usually left after being hunted. This is because there is a prohibition according to Islam to consume pork. However, this wild boar is still being hunted because it becomes a nuisance to people's fields and gardens.<br>• Hunting and fishing activities are carried out only as hobbies.<br>• Current hunting areas are generally carried out outside the PT. USP. This is because the forested area as a habitat for hunting animals is decreasing, so it is necessary to visit a forested area that is quite far away.<br>• To meet the need for clean water, especially for drinking, the villagers of Kelampai usually fulfill it by using dug wells around their houses.<br>• The rivers used for fishing include the Jelai River, the Semantun River and the Sinyarip River.<br>• As for MCK, apart from using water from wells, they also use the barley and semantun rivers.<br>• To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.<br>• For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the PT. USP. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside or replacing it with other materials such as concrete, mild steel and others.<br>• Fulfillment of the need for wood for people's houses and other needs such as household furniture and others is generally obtained by buying and others from remaining forests or their own fields/gardens.<br>• The use of wood for building materials is still needed by the community and is quite important. However, there is no dependence from residents in meeting the need for wood for building materials or other needs from within the PT. USP.<br>• Most of the people in this village use LPG for cooking (85%). However, the use of firewood is still carried out (10%), where this firewood is obtained from around the house and in community gardens or fields. The use of |

| Expert / Organization/ Social Group | Name/Position/ Role as Relevant | Intercation Type | Concern and or Recommendation |
|---|---|---|---|
| | | | firewood is also generally used when residents will hold a thanksgiving party. Based on residents' statements that so far there has been no dependence on residents in meeting the needs of firewood from within the PT. USP. Because firewood reserves from gardens and yards are quite affordable and easy to obtain. Besides, the existence of LPG is also considered much easier, practical and quite affordable.<br>• Villagers in Kelampai still use herbal medicines as an alternative to chemical drugs (10%). These herbal medicines are generally obtained from inside and outside the HGU PT. USP. However, taking herbal medicines from within the PT. The USP is very low (only about 1%) and generally those who take these herbal medicines are company employees who accidentally find them while working in the plantations of PT. USP. This means that there is no dependence from residents in meeting the needs of herbal medicines from within the PT. USP. This was also stated by the FGD participants when the FGD was conducted with community representatives in the village.<br>• There are still residents who take animal feed such as grass from the HGU area of PT. USP (3%) . usually around the border of the Sinyarip river.<br>• To get cash, people generally work as company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.<br>• There are no sacred places in this area.<br>• Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released. |

The total area of management and monitoring of HCV-HCSA within the HGU area of PT. USP covering an area of 2.103,04 ha, with details: an area that is not allowed to be cultivated is 432,20 ha and an area that can be cultivated but with great care because it has the potential as an orangutan distribution area of 1.585,23 ha. The GIS data received from the assessor states that the area to be protected is 433.31 ha, different from the HCV-HCS area written in the report (432.20 ha). To apply the precautionary approach, the total area of HCV-HCS managed is 433.31 ha. The reason why the area of management and monitoring of HCV-HCSA in the HGU area of PT USP is the same as the HCV-HCS area because the HCV-HCS area found in the area already takes into account both the HCVs found in the area and those potentially found in the area.

Table 22. Summary of HCV-HCS values identified within and around permit area of PT PT. USP

| HCV Area | HCV Area at the Landscape Level (Ha) | HCV Area within HGU PT USP | | |
|---|---|---|---|---|
| | | Total Areal (Ha) | Unplanted Area (Conservation Area) (ha) | Planted Area with Precautionary Approach (ha) |
| HCS | 4.327,56 | 83,01 | 83,01 | 0,00 |
| HCV 1[1)] | 7.732,53 | 365,81 | 365,81 | 0,00 |
| HCV 2 | 15.905,08 | 1.542,85 | 71,42 | 1.471,43 |
| HCV 3 | 6.142,19 | 83,01 | 83,01 | 0,00 |
| HCV 4 | 9.396,89 | 620,01 | 434,47 | 185,54 |
| HCV 5[2)] | 1.057,82 | 317,83 | 317,83 | 0,00 |
| HCV 6 | 2,63 | 10,47 | 10,47 | 0,00 |
| **Total[3)]** | **15.778,09** | **2.103,04** | **432,20** | **1.585,23** |

*Note ::*

*[1)] = The management of HCV 1, HCV 2, and HCV 3 must be carried out comprehensively both inside and outside the HCV area considering that wildlife species (mammals and birds) are always mobile.*

*[2)] = HCV 5 is closely related to HCV 4.1.*

*[3)] = The total HCV management area is not the same as the sum of all HCV areas because there is overlap between one HCV and another.*

Table 23. Recapitulation of conservation and management area in the study location

| Environmental and social values must be preserved | Area (ha) | Management Area (ha) | |
|---|---|---|---|
| | | No-Go Areas | Go Areas |
| HCS Forest<br>• HCS Area-1<br>• HCS Area- 2<br>• HCS Area-3 | 83,01 | 83,01 | 0,00 |
| **HCV 1**<br>• Flora species which are endemic, rare, threatened or endangered: *Agarwood (Aquilaria malaccensis Lamk.), Mentawak/Mentawa (Artocarpus anisophyllus Miq.), Ground orchid (Bromheadia finlaysoniana (Lindl.) Miq.), Rambutan Hutan/Mata mamar /bedara pait (Cantleya 81annah818181te Howard.), Ayau (Cotylelobium burckii Heim), Kayu besi (Cotylelobium lanceolatum Craib.), Medang (Dehaasia firma Bl.), Pekawai (Durio kutejensis (Hassk.) Beccari), Durian kusik/teratungan/ meruyan (Durio lanceolatus Mast.), Ulin/Belian (Eusideroxylon zwageri T. & B.), Kumpang (Knema perconacea Sinch.), Entuyut root (Nepenthes gracilis), Anggrek Bongkol (Pholidota chinensis Lindl.), Berabak (Shorea leptoclaus)), Tengkawang (Shorea pinanga Scheff.), Lingis (Shorea 81annah8181 v. Slooten), and Orchid (Thrixpermum ridleyanum).*<br>• Animal species that are endemic, rare, threatened or endangered: *Mammals Red Langur/Kasi (Presbytis rubicunda), Long-tailed Monkey (Macaca fascicularis), Gibbon Kelawat/Kelempiau (Hylobates muelleri), Pangolin (Manis javanica), Sun Bear ( Helarctos malayanus), Kelawit Kecil (Lutra perspicillata), Kucing Kuwuk (Prionailurus bengalensis), Muncak Deer (Muntiacus 81annah81), Sambar Deer (Rusa unicolor); Rat Eagle (Elanus caeruleus), Bondol Eagle (Haliastur indus), Black Eagle (Ictinaetus malayensis), Brontok Eagle (Nisaetus cirrhatus), Klihingan Hornbill (Anorrhinus Galeritus), Kangkareng Hitam (Anthracoceros malayanus), Takur Gedang (Megalaima chrysoporeus), Red-hat takur (Megalaima henricii), Layang Layang Asia (Hirundo rustica), Cicadaun Kecil (Chloropsis cyanopogon), Kipas Sirip (Rhipidura javanica); and Herpetofauna: Rice Field Snake (Malayopython reticulatus), Cobra Sumatera (Naja sumatrana), Ular Tedung (Ophiophagus 81annah), Water Monitor Lizard (Varanus salvator), Labi-Labi (Dogania subplana).*<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Forested Areas: Forested Areas and Forested Areas of Mount Menyalaq.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09. | 365,81 | 365,81 | 0,00 |

| Environmental and social values must be preserved | Area (ha) | Management Area (ha) | |
|---|---|---|---|
| | | No-Go Areas | Go Areas |
| • Hill: Bukit Menyalaq. | | | |
| HCV 2<br>• Distribution Area of Orang Utan | 1.542,85 | 71,42 | 1.471,43 |
| HCV 3.<br>• Mixed dipterocarp forest on metamorphic rocks.<br>• Forested Areas: Forested Areas and Forested Areas Bukit Menyalaq | 83,01 | 83,01 | 0,00 |
| HCV 4<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09.<br>• Hill: Bukit Menyalaq.<br>• Springs and their borders: Titi ubar Springs, Widows Berias Springs, Tinjil Springs, Mount Menyalaq Springs, Blanti Springs, and Mount Sentuai Springs.<br>• Forested Areas: Forested Areas and Mount Menyalaq Forested Areas. | 620,01 | 434,47 | 185,54 |
| HCV 5<br>• Communities in the village around the HGU area of PT. USP utilizes Titi Ubar Springs, Janda Berias Springs, Tinjil Springs, Bukit Menyalaq Springs, Blanti Springs, and Bukit Sentuai Springs to meet the needs of drinking water and MCK.<br>• Communities in the village around the HGU area of PT. USP utilizes Rawa Penantangan to meet protein (fish) needs.<br>• Communities around the PT. USP utilizes Share Garden to meet the needs of timber and non-timber forest products. | 317,83 | 317,83 | 0,00 |
| HCV 6<br>• Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Keramat Keranji, Dukuh Ugan Tering Grave, Kelapu Grave, Lubuk Bayur Grave, Kalimantan Lalau Sacred Grave, Tanah Merah Sacred Cemetery, Forest Sacred Sticks, Tanjung Babuy Customary Land, and Abi Sacred Graves. | 10,47 | 10,47 | 0,00 |
| Peat | 0,00 | 0,00 | 0,00 |
| Community Land | 0,00 | 0,00 | 0,00 |
| **Total[1)]** | **2.103,04** | **432,20[(2)]** | **1.585,23** |

*Note: [(1)] = Total HCV area is not the same as the sum of all HCV areas because there is overlap between one HCV and another.*

*[(2)] = The GIS data received from the assessor states that the area to be protected is 433.31 ha, different from the HCV-HCS area written in the report (432.20 ha). To apply the precautionary approach, the total area of HCV-HCS managed is 433.31 ha.*

**Community Land and Future Livelihoods**

From the results of field observations and analysis, residents who live in and around the PT. USPs generally make a living as gardeners and field farmers. The average field ownership is 2-4 fields, not to mention the ownership of rubber and oil palm plantations which are a source of cash income for the community to meet their daily needs. In addition to rice, residents cultivate in the concession area with corn and vegetables, and there are gardens or communal lands containing fruits (durian, rambutan, langsat, etc.).

The results of participatory mapping of land tenure and use information and social studies will provide the information needed to determine the quality, scope, and location of land that should be allocated for future livelihood needs such as land use for mixed plantations, rubber plantations, oil palm plantations, farms. or rice fields to support food security and economic security from income sources. While the actual amount of land needed for food security has to be determined on a case-by-case basis through a collaborative land use planning process, including participatory mapping, the HCS Toolkit stipulates that a minimum of 0,5 Ha of agricultural land per person in the family unit should be allocated for this purpose. It should be emphasized that the figure of 0,5 Ha/person is an indicative figure and the actual amount of land required for future livelihood needs will likely exceed this amount.

To support food security in the future so that the area of 0,5 ha/person is met, the policies that must be carried out by PT USP is not to allow all productive areas outside the HCV-HCS areas to be used as partnership areas for oil palm plantations, but PT USP at least supports food security in the 7 villages. The minimum to support food security in the 7 villages is 2.872 ha and an average of 410 ha per village

**Peat**

Based on the results of the overlay permit area of PT. USP with national soil map and land system map of Borneo Island (RePPProt 1987), Peat Hydrological Unit map according to SK.129/MenLHK/Setjen/PKL.0/2/2017 (KLHK 2017), Indonesian Peat Distribution Data (Wetland 2014), Data Distribution of Indonesian Peat (Ministry of Agriculture 2011) it can be concluded that in and around the permit area of PT. USP did not find the potential for the presence of peat areas.

**HCS Assessment**

In the >50 cm diameter class, no trees were found in all HCS cover classes; while in the 30 - 49,9 cm diameter class, only 188 trees were found in HK, 77 trees in HRM, 15 trees in B, 51 trees in AGRI and no trees in that diameter class were found in LT. Distribution of trees in diameter classes 15 – 29,9 cm and 5 - 14,9 cm were found in each land cover class.

Based on the results of the final land cover classification in the HGU area of PT. USP shows the largest land cover area in Plantation-Agriculture (AGRI) both inside and around the HGU area of PT. USP of total management unit area. The land cover class is dominated by oil palm plantations and community rubber plantations. The highest estimated carbon stock in the PT. USP was found in the land cover class of High, Medium and Low Density Forest (HK) of 6.335,54 tC/ha; while the lowest was in the Open Land Cover (LT) class of 59,53 tC/ha.

The Give and Take process is not carried out in this study. The conservation area polygons have been in the form of compact polygons. All HCS patches in and around PT USP's HGU area overlap with the designated HCV area. The results of the integration of conservation areas and land use indicate that there is a potential area for the development of oil palm plantations of 16.094,90 ha.

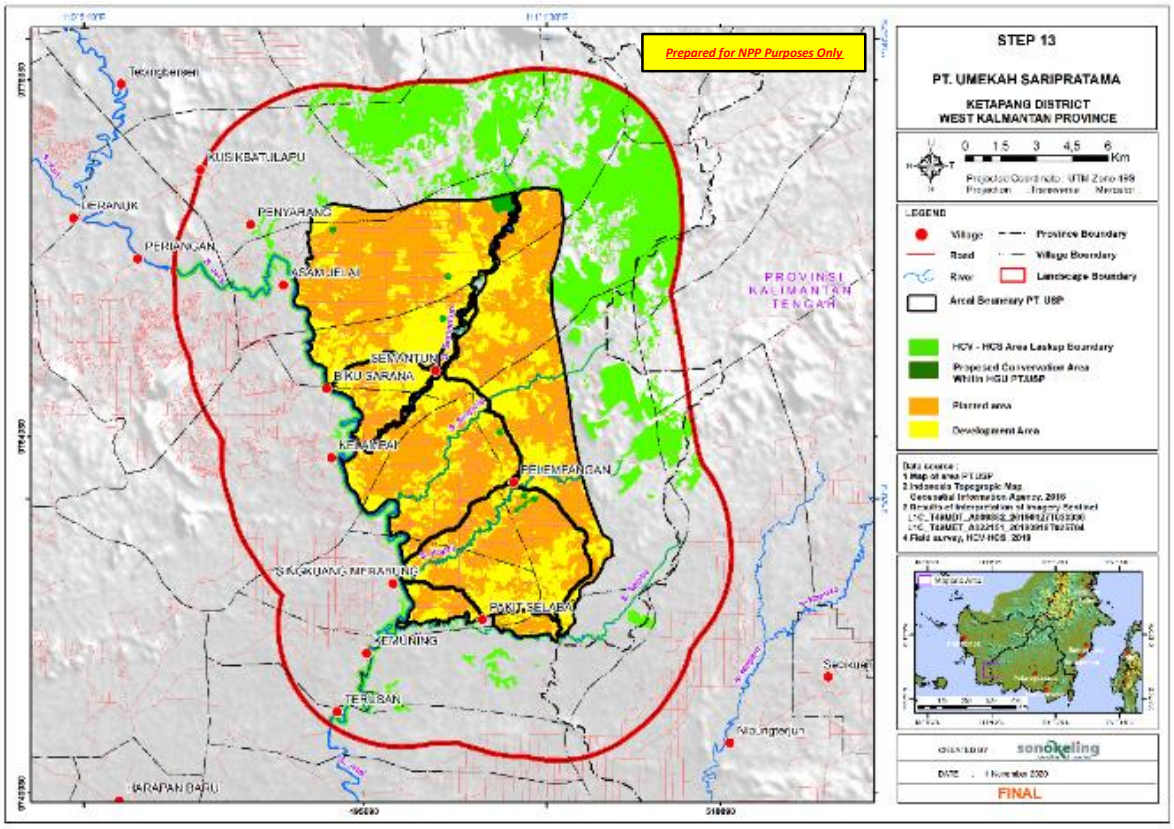



Figure 15. Step The Finalization ICLUP and HCS Area Step 13

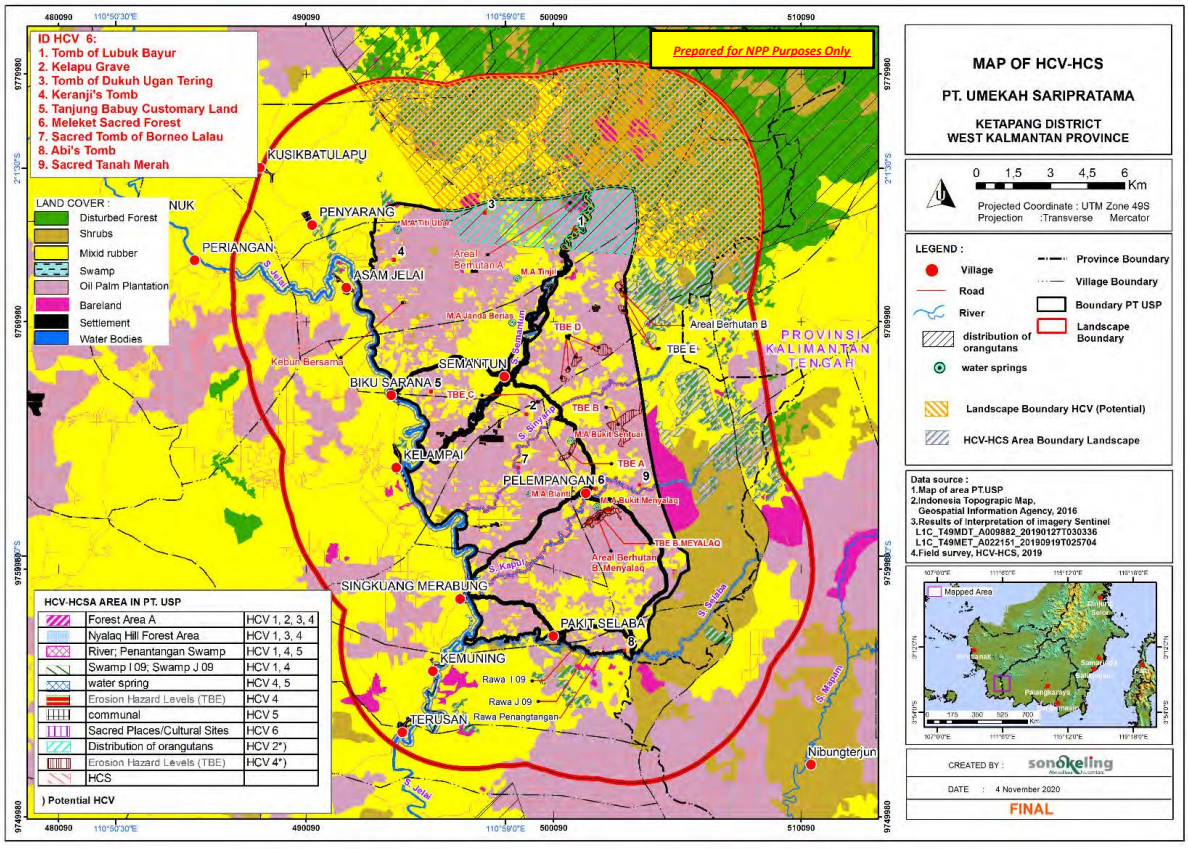



Figure 16. Map of Distribution of HCV-SKT Area Within and Around HGU Area PT USP

**Final Consultation Summary**

The final consultation which was carried out with stakeholders through meetings with various stakeholders was carried out twice, namely on Monday, August 10, 2020 in the Meeting Room (Saung House/Meeting Room) PT. USP, Ketapang Regency for the village and sub-district levels which was attended by 39 people including several government agencies such as: Muspika of Manis Mata and Jelai Hulu sub-districts, sub-district heads of Manis Mata and Jelai Hulu sub-districts, Dayak Customary Council at Manis Mata and Jelai Hulu sub-districts, Head of Danramil and Head of Manis Mata and Jelai Hulu sub-district police, company staff, and local communities (village heads, BPD, village officials, traditional leaders, traditional leaders and community leaders). While the second final consultation was carried out at the Ketapang Regency level, namely on Tuesday, August 11, 2020 in Pawan Room 3 Aston Hotel, Ketapang Regency which was attended by 5 participants from the district level and 3 company staff including several government agencies such as the Ketapang Regency Environmental Service, Plantation, Livestock and Agriculture Office of Ketapang Regency, and K 3 NGO, Ketapang Regency. Items presented in the public consultation include: understanding of HCVs and their categories as well as HCS, objectives and benefits of HCV-HCSA assessment, process of HCV-HCSA assessment, method of HCV-HCSA assessment, results of field observations (biodiversity, environmental and sociocultural services), the findings/results of the provisional HCV-HCSA assessment along with the map (draft version), threats to the HCVs, and recommendations for management and monitoring of the HCV-HCSA areas.

Table 24. Summary of Results of Interviews and Discussions with Communities in the Villages

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Jartop | Head of village | Head of village | Meeting Room PT. USP | 10 August 2020 |
| Concern: None<br>Main Recommendation:<br>Based on the explanation or explanation above, I caught something that the consultants had not found regarding the forest area that entered or indicated the HCV/HCS. The placement or presence of areas indicated for HCV/HCS are still in the area of residents who have not been released. Based on the explanation, if this area is included in the category of HCV/HCS, then we cannot open it. Meanwhile, the land has not been acquired by the company and its status is still community land. Please explain for land in such condition?<br>Assessor Respons:<br>• Our study is based on the area of the company's HGU and the map of the company's HGU permit area. Regarding the ownership of the residents' land that has not been completed with the company, it will be resolved by the company and the residents of the land owners. Our job is only to assess the areas that enter or are indicated by HCV-HCS only. Considering that the land included in the HCV-HCS must be conserved, as long as the area belongs to the community that has not been settled, the company must negotiate with the community.<br>• Based on this, the scope of the study is more important in the landscape of the PT. USP and still pay attention to the area around the permit boundary that is directly affected by the company's activities (the boundary within Aoi).<br>Company Management Respons:<br>We acknowledge that there are several HCV areas identified in the company's permit area and that there are still problems with the community, such as related to HCV 6, namely the Kelapu Grave in Semantun Village and Keramat Keranji which is claimed to be one of the family graves of the Asam Jelai village. However, as a proof of our commitment in resolving these various problems, we are currently trying to resolve the issue with the parties concerned. Of course we will cooperatively try to resolve the problem with the parties mentioned earlier. We will also try to resolve this issue amicably in order to obtain the best solution to the problem | | | | |
| **Group Name** | **Role** | **Organization/Social Group** | **Location** | **Time** |
| Timotius Udir | Customary Leader | Pakit Selaba Village | Meeting Room PT. USP | 10 August 2020 |
| Concern: None<br>Main Recommendation:<br>Within the HGU area of PT USP whose forest is only young mangroves whose status is still owned by the community and the Bawas that is used as forest currently has no more forest other than the community's inclave. almost all of the land that the company has acquired has been cleared and planted, while the HCVs have actually entered the community's land. Please explain this problem, considering that almost all of the existing forest is actually still in community ownership? | | | | |

Assessor Respons :
There are two conservation areas in the Yap Hills and to the north of the study area (For HCS). The area that can be used as HCV-HCSA must be in the company's permit area. Therefore, the study that we conducted in the area of the company permit PT. USP. If there is a problem related to land that has not been properly compensated by the company, then this problem will be resolved by the company and the community who own the land.

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Sumardi | Head of BPD | Semantun Village | Meeting Room PT. USP | 10 August 2020 |

Concern: None
Main Recommendation:
Adding to the questions from the two gentlemen earlier. For areas that are included or indicated for HCV/HCS, is the forest prepared by the company or taken from the community. Please explain?
Assessor Respons :

- Considering that the land included in the HCV-HCS must be conserved, so as long as the area belongs to the community that has not been settled, the company must negotiate with the community.
- HCV-HCS will be resolved by the company. Residents' lands indicated by HCV-HCS will also be settled with the land owners.

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Markus | Head of District | Jelai Hulu District | Meeting Room PT. USP | 10 August 2020 |

Concern: None
Main Recommendation:
Ask for help for the next material not like this. We are provided with material that has been shared. Please make the study in the form of a book so that we can easily study it. So that it can be a reference to make it easier to explain to residents who do not understand what is being conveyed. There are no sacred sites, there are sacred graves.
Assessor Response:

- Materials will be copied. The results still have stages to be completed. The review can be one year.
- This integrated HCV/HCS document is a public document, so when it is final, anyone can access it and it is open to those who need this document.
- The results of the study show that the site is clearly not found. However, sacred places were found in several villages where our study was conducted.

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Silun Rasius | Head of BPD | Biku Sarana Village | Meeting Room PT. USP | 10 August 2020 |

Concern: None
Main Recommendation:

- No printouts. There are no more forests. Existing forest or identified by consultant PT. SAN can not be pegged by residents, this is because the land belongs to the community. Why has this HCV and HCS study just come out now?. What do you think we can benefit from today?
- If the land has already been planted by the company while it is included in HCV/HCS land, how will it be treated?

Assessor Respons :

- Many cases were found like this from Sumatra, Kalimantan to Papua. For land that is indicated to have HCV values and has been planted with oil palm, usually oil palm trees are no longer allowed to be planted and reforestation must be carried out. As for the palms that have already been planted, they are given the opportunity for one cycle of management to survive and then proceed with reforestation.
- This HCV/HCS study has actually been around for a long time. For the PT. USP itself has actually conducted an HCV assessment in 2010 and a 2017 HCS study. The benefits of doing this activity are not only for companies to obtain RSPO certification, but also for residents, the government and companies to be able to conduct conservation around plantation areas so that the conservation values are high. can be well maintained and can maintain areas that are reserves in absorbing carbon so that the surrounding ecosystem can be well maintained and environmental balance can be maintained.

Company Management Respons:
As explained by the assessment team, we will do our best to manage and monitor the results of the integrated HCV-HCSA assessment of PT USP is as recommended by the assessment team, which of course we will also continue to communicate and involve community representatives in a participatory manner in carrying out management and monitoring during the field. With this, we hope that problems, especially those directly related to environmental protection, can be carried out or carried out in collaboration by involving related parties from the community to the government authorities from the village, sub-district, district and even provincial levels in a participatory and sustainable manner

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Polisius Kidai | Head of Dewan Adat Dayak | Manis Mata District | Meeting Room PT. USP | 10 August 2020 |

Concern: None
Main Recommendation:
Regarding customary land, there should be a signature from DAD. So that after we have recorded it, we will gather again so that these things do not conflict with the residents. Another hope, get in touch with every existing agency and institution.
Assessor Respons:
We welcome your input and suggestions and in the future of course we will always make improvements

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Flanino Ginga | Staff | Environmental Services Ketapang Regency | Pawan 3 Hotel Room Aston, Ketapang | 11 August 2020 |

Concern: None
Main Recommendation:
What spatial data technique is used to be included in order to know the reliability and visible validity?
Assessor Respons:
Spatial data and so on have been included in the report. The report itself, after completion, can be accessed by interested parties

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Dory Nofriyanda | Staff | Plantation, Livestock and Agriculture Office of Ketapang Regency | Pawan 3 Hotel Room Aston, Ketapang | 11 August 2020 |

Concern: None
Main Recommendation:
Please have a hard copy so we can study it. So we don't really understand what the speakers are talking about regarding conservation. Hopefully the results of this study are in accordance with existing regulations.
Assessor Response:
Thank you for the suggestions and input. This is of course a valuable input for us to improve in the future.

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Yoga Budihandoko | Staff | BKSDA, West Kalimantan | Pawan 3 Hotel Room Aston, Ketapang | 11 August 2020 |

Concern: None.
Main Recommendation:

- Several points are input/questions. Writing scientific names that still have to be corrected for animals and plants. Because considering that this document will become an international document, the report must be good. As we all know, this naming problem is very basic.
- Based on the results of the study, is the Amdal document a reference to be included or analyzed in this document?
- We still don't know how the company's activities are carried out considering we haven't been involved much so we also don't understand how the company operates.
- Regarding HCV, there are still tenure conflicts with residents. How is this problem solved?
- Regarding the hydrological unit, the hope is how each concession is integrated with the surrounding area, because it will be related to mitigation of potential fires or land damage.
- Speaking of orangutans, PHPA 2016 regulates the protection of orangutans.
- There is a regional regulation 6, 2016 essentially 7% must be a conservation area (West Kalimantan Governor Regulation). Community involvement in conservation must be carried out in relation to conservation activities in the company's permit area. The empowerment program must also be intensified, especially related to HCV activities or the protection of conservation areas.

Assessor Response:

- Thank you for your input and suggestions, we will immediately correct and improve related to writing the scientific names of animals and plants/trees.
- The Amdal document is one of the main documents that becomes our reference material in compiling the results of a complete assessment of the integrated HCV/HCSA study at PT. This USP is in addition to other documents such as SIA documents, previous HCV/SKT documents and others.
- There are several land-related issues between the company and the community, but they are currently in the process of being resolved. Every problem is resolved amicably and through deliberation to reach consensus.
- For every risk of fire, damage to the identified HCV area, etc., we have tried to formulate its management and monitoring so that its management is integrated between the HCVs and HCS that we find in the HGU area of PT. USP and those around it according to the results of the study.
- All laws and government regulations are our reference and consideration in preparing this document. Including the 2016 PHPA which regulates the protection of orangutans and the West Kalimantan Provincial Regulation Number 6 of 2018 regarding the obligation to have conservation land on plantation land or land-based businesses.
- Of course, this conservation activity will not be carried out properly without the help and participation of the surrounding community who actively cooperates with related parties, companies and local governments in maintaining and conserving land/places that are indicated to have high conservation values and high carbon stocks. The form of activities can be through the formation of conservation care groups, apai care groups and so on.

| Group Name | Role | Organization/Social Group | Location | Time |
|---|---|---|---|---|
| Zulfahmi | Secretary | NGO K3 | Pawan 3 Hotel Room Aston, Ketapang | 11 August 2020 |

Concern: None
Main Recommendation:

- Discussion related to HCV/HCS from one of the district EIA commission teams as well. It is not yet clear where the carbon stock is, the peat area and the lands in any area. Don't know the extent of carbon, peat and so on.
- This is not just polluting, but it certainly has something to do with palm oil trade permits or certifications and so on. This includes wherever citizens can still access their rights.
- There are local regulations related to customary rights as well, please be a reference and other documents as well.
- There used to be a polluted river issue, how about this? because it is related to ISPO and RSPO. How is this resolved.

Assessor Response:

- Based on the results of our field studies, in all areas of PT. USP found no peat area. Meanwhile, the extent of HCV and HCS has been detailed in the reports and presentation materials that we submit. Then the points of HCV 1 to 6 as well as HCS areas have been described in the maps that we present both in the report and in the percentage materials that we have presented.
- All laws and government regulations are our reference and consideration in preparing this document. Including the 2016 PHPA which regulates the protection of orangutans and the West Kalimantan Provincial Regulation Number 6 of 2018 regarding the obligation to have conservation land on plantation land or land-based businesses.
- Regarding social issues that occur in and around PT USP has been reviewed in the SIA report which is one of the references for this integrated HCV/HCSA report. Any impact issues (positive/negative) including social issues that occur are currently being resolved by the company and the community in a family manner by means of deliberation to reach consensus.

### 3.3. Soil and Thopography Assessment

From the results of the analysis, the permit area of PT. USP is divided into four land map units, each assigned a code for Satuan Peta Tanah 1, Satuan Peta Tanah 2, Satuan Peta Tanah 3, and Satuan Peta Tanah 4.

Table 25. The unit map of the land and its condition in the permit area of PT. USP

| SPT | Jenis Tanah | Lereng (%) | Sistem Lahan | Topografi | Kelas butir | Drainase | Luas | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ha | % |
| SPT 1 | *Tipic dystrudept (D) Typic endoaquept (F)* | 0-3 % | Dataran berombak | Datar - landai | Halus, agak halus, sedang | Agak terhambat, Agak baik, | 682,27 | 3,97 |
| SPT 2 | *Typic hapludult (D) Typic dystrudept (F) Typic plinthudult (M)* | 3-8 % | Dataran berombak | Landai | Halus, agak halus | Baik, agak baik | 14458,0 | 84,11 |
| SPT 3 | *Typic hapludult (D) Typic plinthudult (F) Typic dystrudept (M)* | 15 – 25 % | Dataran bergelombang | Landau – agak curam | Halus, agak halus | Baik | 1416,27 | 8,24 |
| SPT 4 | *Typic hapludult (D) Typic plinthudult (F)* | 25 – 40 % | Perbukitan sedang | Agak curam - curam | Agak halus, sedang | Baik, | 633,46 | 3,68 |
| Jumlah | | | | | | | 17.190,00 | 100 |

*) The calculated area is the area of the analysis using GIS tools. There is a possibility that there is a discrepancy with the area used as a legal reference in the company due to an error in the GIS system

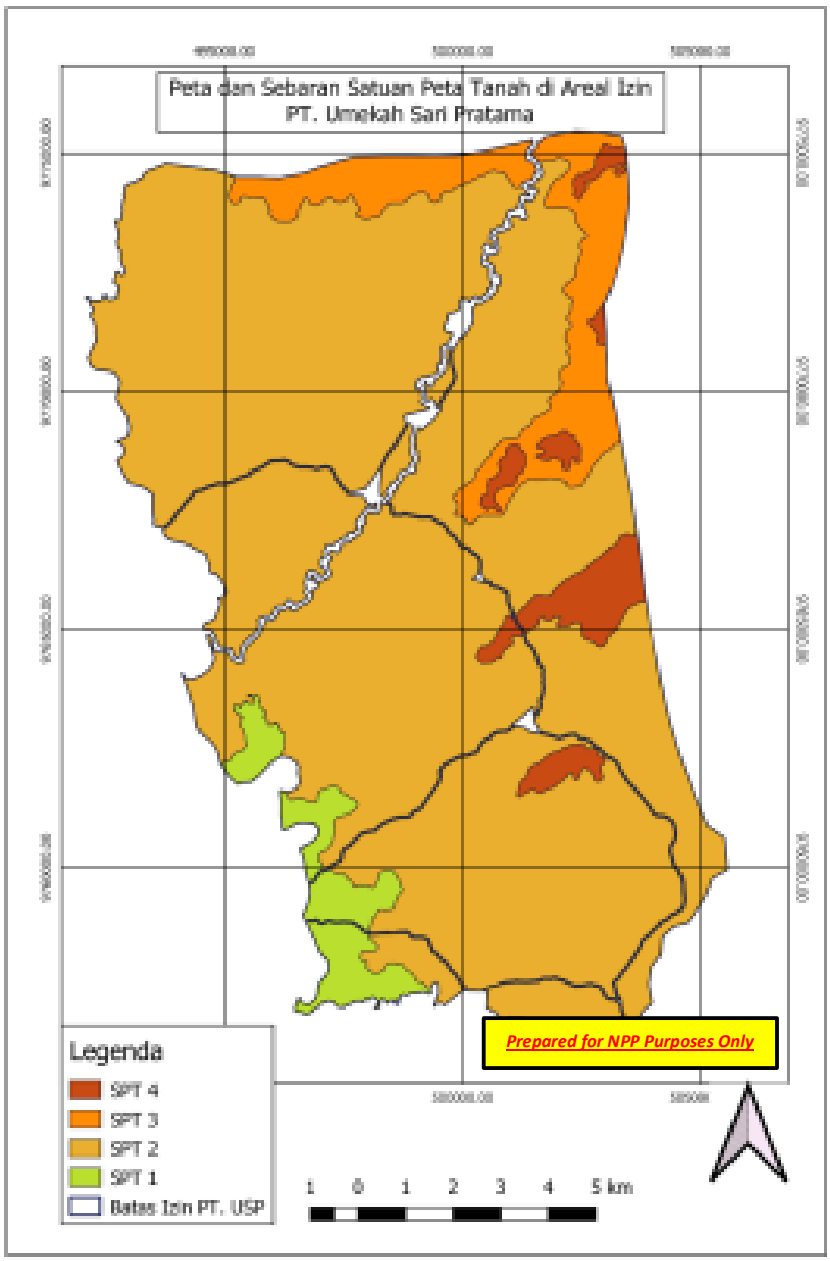



Figure 17. Map of land units in the permit area of PT. USP

Within the permit area of PT. USP is located at an altitude ranging from 20 – 170 m above sea level, while in the surroundings it ranges from 20 – 350 m above sea level. Based on the slope class, the slope class within the permit area of PT. USP ranges from flat to very steep (0 - >40%); while the surrounding area ranges from flat to very steep (0 - >40%).

Table 26. Area and percentage of slopes in and around the permit area of PT. USP

| No. | Kemiringan Lereng | | Luas (ha) | | |
|---|---|---|---|---|---|
| | % | Keterangan | Di dalam Areal HGU PT. USP | Di sekitar Areal HGU PT. USP | Total |
| 1 | 0 - 8 | Datar | 15.657,98 | 31.666,67 | 47.324,64 |
| 2 | 8 – 15 | Landai | 471,14 | 3.521,25 | 3.992,38 |
| 3 | 15 – 25 | Agak curam | 184,15 | 1.116,15 | 1.309,30 |
| 4 | 25 – 40 | Curam | 166,96 | 862,06 | 1.066,29 |
| 5 | >40 | Sangat curam | 37,28 | 94,48 | 94,48 |
| **Total** | | | **16.517,50** | **37.260,60** | **53.787,10** |

Source: The results of DEMNAS 0,27 arcsecond (8 m) 2021 (http://tides.big.go.id/DEMNAS/).

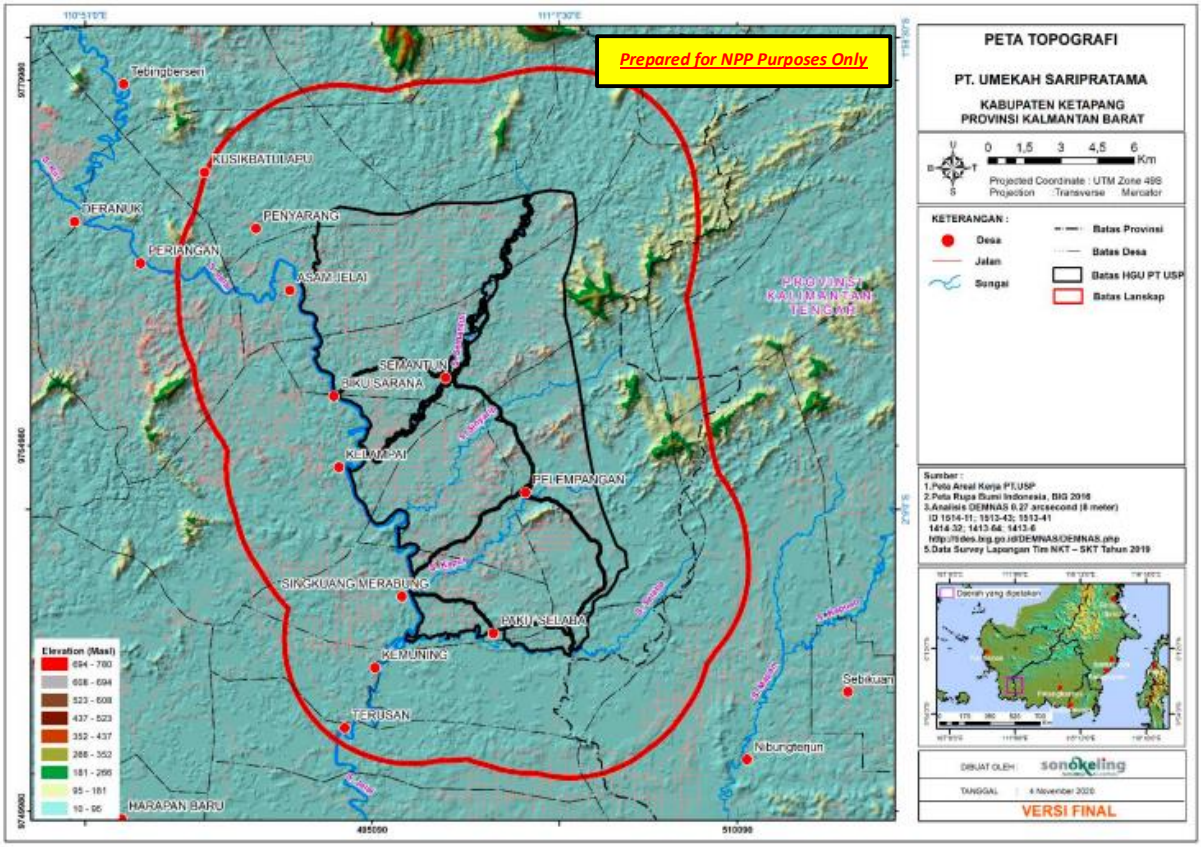



Figure 18. Topographic maps in and around the PT. USP

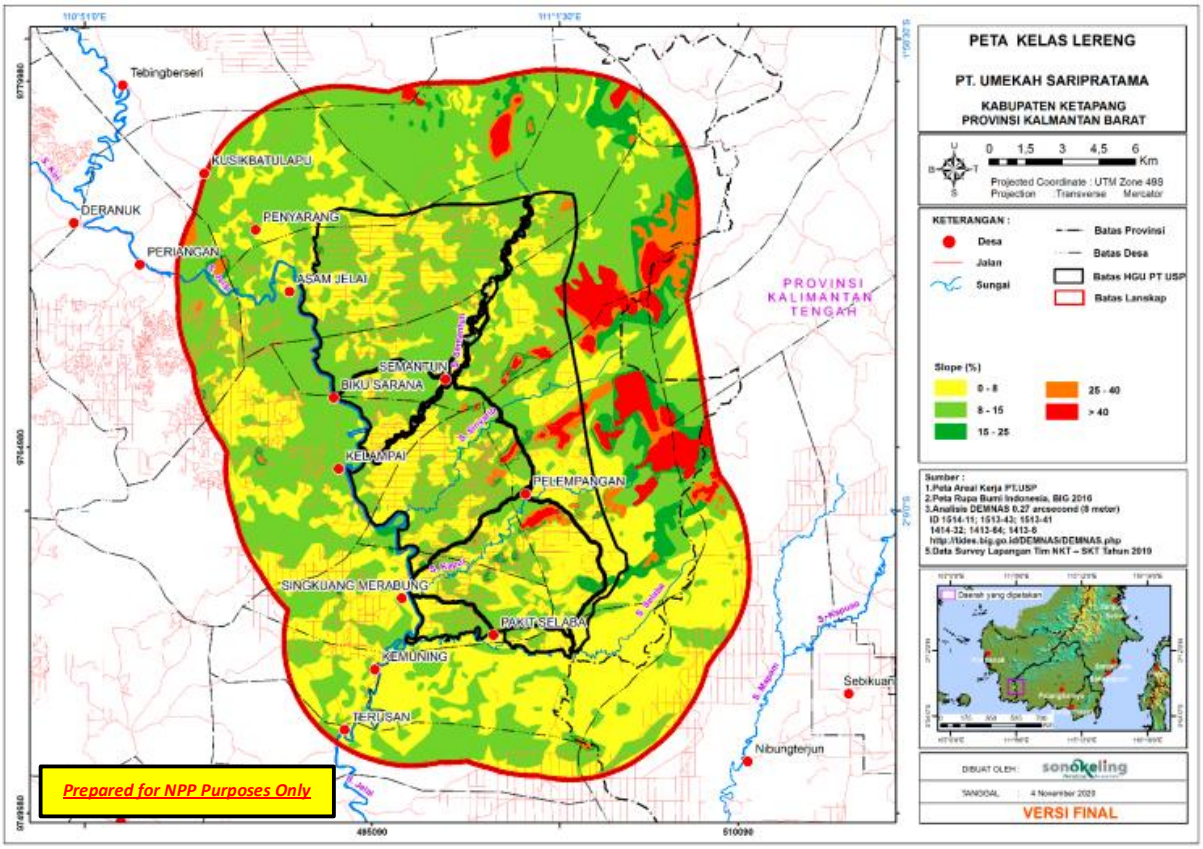



Figure 19. Slope class map in and around the PT. USP

### 3.4. Carbon Stock and Green House Gas (GHG) Assessments

**Carbon Stock Assessment**

Initial classification of land cover at PT. Umekah Saripratama uses the RSPO standard land cover classification system. Then ground-truthing activities were carried out based on the distribution of the land cover and delineation and relabeling were carried out on the initial land cover map, which was validated with direct checking data—distribution of land cover class and its area in PT. Umekah Saripratama, based on the RSPO GHG standard, is presented in Figure 19 and Table 27.

Table 27. Landcover class in CSA based on RSPO GHG procedures

| No | Landcover | Area (ha) | |
|---|---|---|---|
| | | Ha | % |
| 1 | Disturbed forest | 82,90 | 0,50 |
| 2 | Tree crop | 5.829,20 | 35,33 |
| 3 | Shrubland | 200,39 | 1,21 |
| 4 | Oil palm plantation | 10.258,79 | 62,19 |
| 5 | Grassland | 119,77 | 0,73 |
| 6 | Water Body | 6,04 | 0,04 |
| | **Total** | **16.497,09** | **100,00** |

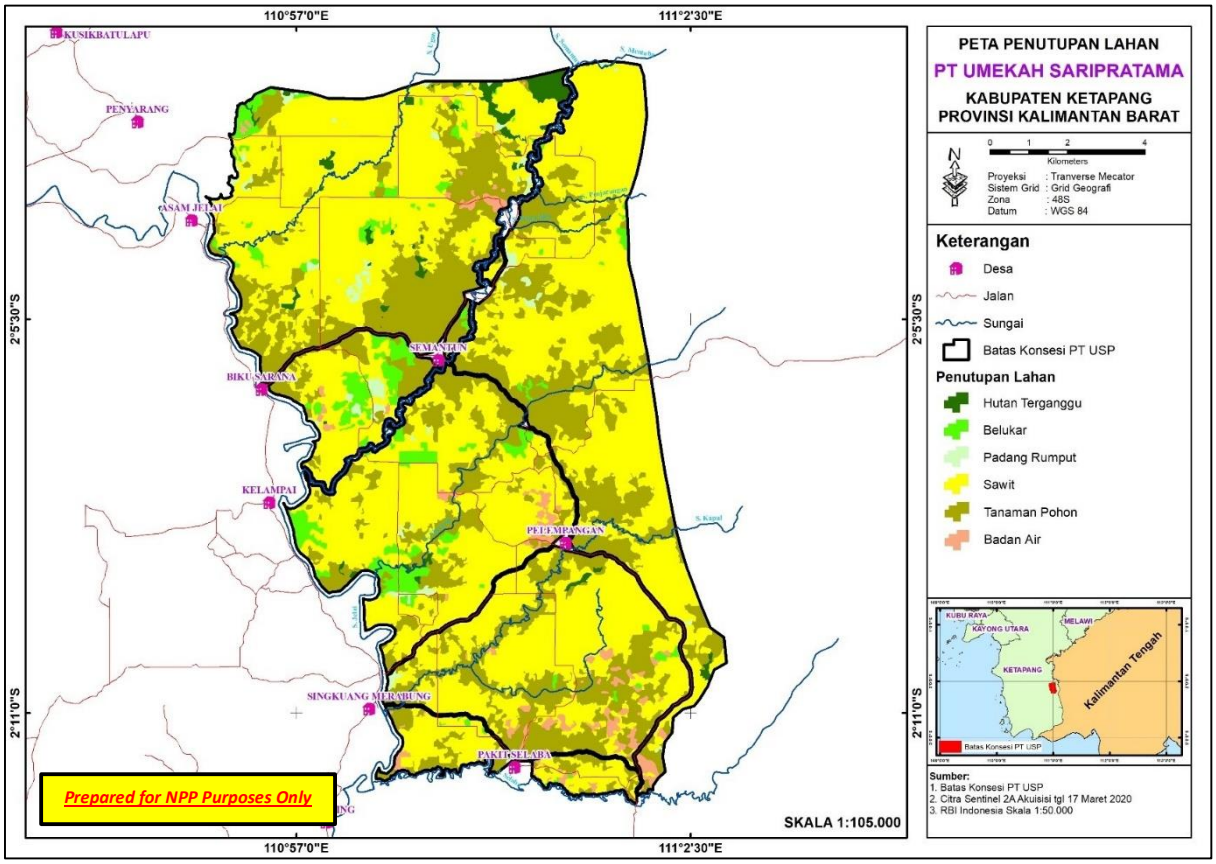



Figure 20. PT USP's final land cover map

Based on the analysis results, 6 land cover classes are found in PT USP. Land cover classes include shrubland, oil palm plantations, grasslands, tree crops, disturbed forests, and water bodies. The total carbon stock in PT. USP is the total value of the amount of carbon stock in various land cover classes (stratum). Analysis of total carbon stock in various land cover classes at PT. USPs, are presented in

Table 28 and Table 29. Based on the table, the total amount of carbon stock in the area of PT. USP is 1.222.032,70 tons C.

Table 28. Total carbon stock in land cover class disturbed forest, shrubland and tree crop (Ton C)

| Land Cover Class | Total Carbon in Plot (ton C/ha) | Plot | Stratum Area Total (ha) | Stratum Total Carbon (ton C) |
|---|---|---|---|---|
| Disturbed forest | 10.088,30 | 87 | 82,90 | 9.612,94 |
| Shrubland | 541,67 | 21 | 200,39 | 5.168,78 |
| Tree crop | 1.325,34 | 14 | 5.829,20 | 551.833,78 |
| **Total** | | | | **566.615,50** |

Source: field data analysis

Table 29. Total carbon stock in land cover class oil palm, food crops and grasslands (Ton C)

| Land Cover Class | Carbon Stock (ton C/ha) | Area | Carbon Total |
|---|---|---|---|
| | | Stratum (ha) | Stratum (ton C) |
| Oil palm plantation | 63,83* | 10.258,79 | 654.818,35 |
| Grassland | 5* | 119,77 | 598,85 |
| Water body | 0 | 6,04 | 0,00 |
| **Jumlah** | | | **655.417,20** |

The average carbon stock in various land cover classes in the sample plots at PT. USPs are presented in Table 30. In general, the average carbon stock in disturbed forest areas, both above ground (AGB) and below ground (BGB) has the highest value compared to other areas, namely 98,27 tons C/ha (AGB) and 17,69 tons C /ha (BGB). The average amount of carbon stock in disturbed forest areas is largely determined by the size of the carbon stock in the tree class. This is because the amount of carbon stock in an area is determined by tree biomass, tree density and tree age.

Table 30. Average carbon stock in plots across different land cover classes (ton C/ha)

| Land Cover Class | Plot Sample Class (ton C/ha) | | | | Carbon Total (ton C/ha) |
|---|---|---|---|---|---|
| | Tree | Pole | Stake | Seedling | |
| **Above Ground Biomass (AGB)** | | | | | |
| Disturbed forest | 82,41 | 12,36 | 2,99 | 0,51 | 98,27 |
| Shrubland | 8,82 | 8,63 | 3,52 | 0,88 | 21,86 |
| Tree crop | 58,04 | 19,58 | 2,30 | 0,31 | 80,23 |
| Oil palm plantation | 0,00 | 0,00 | 0,00 | 0,00 | 63,83* |
| Grassland | 0,00 | 0,00 | 0,00 | 0,00 | 5* |
| Water body | 0,00 | 0,00 | 0,00 | 0,00 | 0 |
| **Below Ground Biomass (BGB)** | | | | | |
| Disturbed forest | 14,83 | 2,22 | 0,54 | 0,09 | 17,69 |
| Shrubland | 1,59 | 1,55 | 0,63 | 0,16 | 3,93 |
| Tree crop | 10,45 | 3,52 | 0,41 | 0,06 | 14,44 |
| Oil palm plantation | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Grassland | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Water body | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |

The average carbon stock for oil palm and grassland cover classes using the reference carbon stock was 63,83 tons C/ha and 5 tons C/ha, respectively. Table 31 shows a summary of land cover area (ha) in the PT USP area and estimates of the average carbon stock (ton C/ha) and total carbon stock in the PT USP area. The map of the average carbon stock in the PT USP area is presented in Figure 20.

Table 31. Summary of land cover area (ha) and above and below ground biomass estimates based on average carbon stock for PT USP area.

| Land Cover Class | Area (ha) | Carbon Stock Average (ton C/ha) | Carbon Stock Total (Ton C) |
|---|---|---|---|
| Disturbed forest | 82,90 | 115,96 | 9.613,15 |
| Tree crop | 5.829,20 | 94,67 | 551.850,43 |
| Shrubland | 200,39 | 25,79 | 5.168,02 |
| Oil palm plantation | 10.258,79 | 63,83* | 654.818,35 |
| Grassland | 119,77 | 5* | 598,85 |
| Water body | 6,04 | 0 | 0,00 |
| **Total** | | | **1.222.048,80** |

Source: Field data analysis and reference (*)

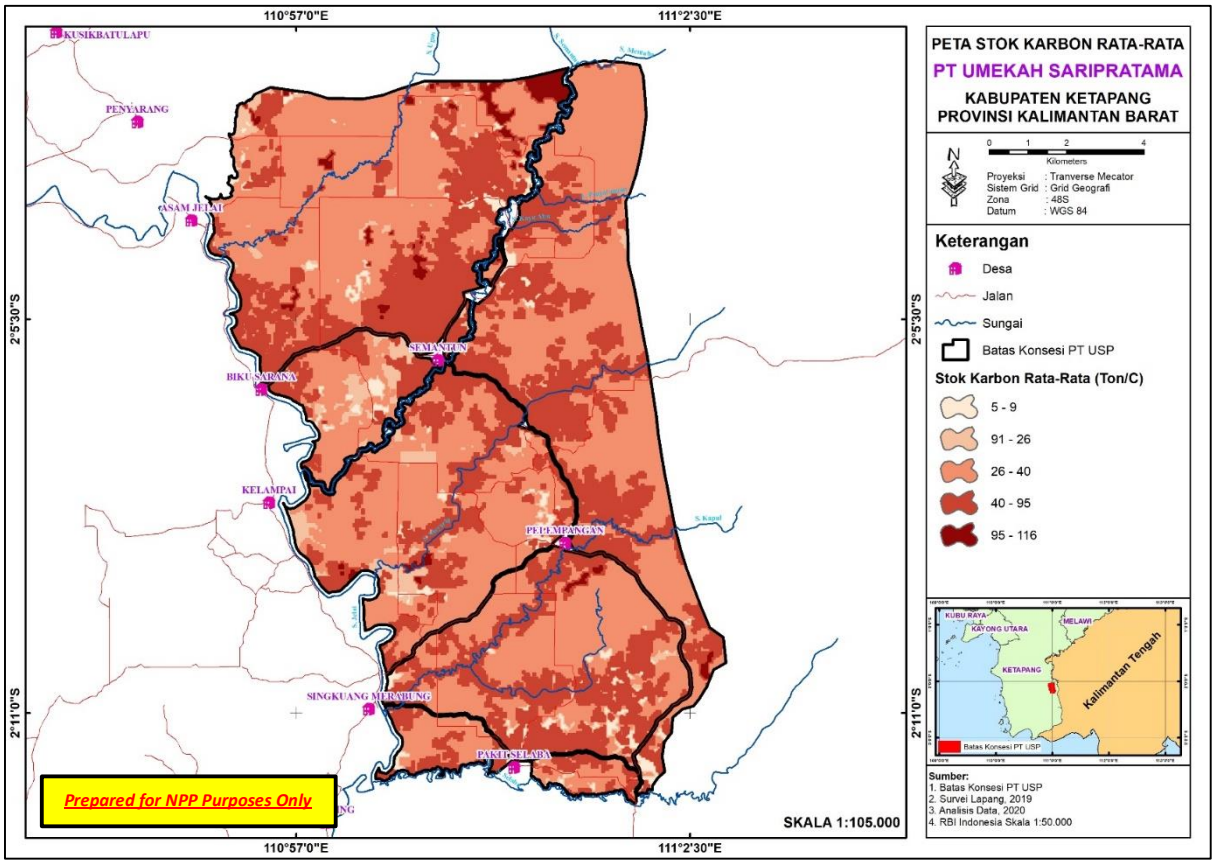



Figure 21. Map of the average carbon stock in the PT USP area

**Green House Gas (GHG) Assessement**

The development of new development scenarios in the PT USP area is carried out to guide the selection of an optimal development plan by considering areas that need to be avoided in development and the choice of operational practices that lead to GHG emission minimization. Scenarios are hypothetical projections of land use options and plant design. This allows potential future GHG emissions to be estimated. Table 32 shows the new development scenario.

Table 32. Scenario for new development in PT USP's oil palm plantation area

| Scenario | Explanation |
|---|---|
| **Scenario 1 (S1)** | ▪ All potential land cover for new planting is cleared for oil palm.<br>▪ All disturbed forests will be preserved<br>▪ No land clearing in identified HCV areas<br>▪ No methane capture facilities are planned for the plant<br>▪ Planned crop area = 6.570,39 ha<br>▪ Conservation area plan = 432,20 ha |

| | |
|---|---|
| **Scenario 2 (S2)** | ▪ All potential land cover for new planting is cleared for oil palm<br>▪ All disturbed forests will be preserved<br>▪ No land clearing in identified HCV areas<br>▪ There is a methane capture facility planned for the plant<br>▪ Planned crop area = 6.570,39 ha<br>▪ Conservation area plan = 432,20 ha |

| | | S1 | S2 |
|---|---|---|---|
| **Areas to avoid for new development** | HCV | 432,20 ha | 432,20 ha |
| **Potential areas for new planting** | Crop area plan | 6.570,39 ha | 6.570,39 ha |
| **POME Treatment** | Conventional | Yes | No |
| | Methane Capture | No | Yes |

**Scenario 1 (S1)**

# Summary of results

**Summary of results**

## Summary of results

**Field emissions & sinks (Assumes vigorous growth for oil palm - for use by large scale operations**

| | t $CO_2e$ | t $CO_2e$/ha | t $CO_2e$/t FFB |
|---|---|---|---|
| Land clearing | 179.233,82 | 11,16 | 0,80 |
| Crop sequestration | -150.395,20 | -9,36 | -0,67 |
| Fertilisers | 9.116,82 | 0,57 | 0,04 |
| N2O | 8.076,33 | 0,50 | 0,04 |
| Field fuel | 745,82 | 0,05 | 0,00 |
| Peat | 0,00 | 0,00 | 0,00 |
| Conservation credit | -3.963,27 | -0,25 | -0,02 |
| **Total** | 42.814,33 | 2,67 | 0,19 |

| **Mill emissions & credit** | $tCO_2e$ | t $CO_2e$/ha | $tCO_2e$/tFFB |
|---|---|---|---|
| POME | 44.117,35 | 2,75 | 0,20 |
| Mill fuel | 428,35 | 0,03 | 0,00 |
| Purchased electricity | 0,00 | 0,00 | 0,00 |
| Credit (excess electricity exported) | 0,00 | 0,00 | 0,00 |
| Credit (sale of biomass for power) | 0,00 | 0,00 | 0,00 |
| **Total** | 44.545,70 | 2,77 | 0,20 |

| | |
|---|---|
| **Total emissions, $tCO_2e$ (field and mill)** | 87.360 |
| **Allocation:** | |
| t $CO_2e$/t CPO | 1,30 |
| t $CO_2e$/t PK | 1,30 |

Figure 22. Summary of the calculation results of GHG emission projections (tCO2e) for new development plans in the PT USP area Scenario 1 (S1)

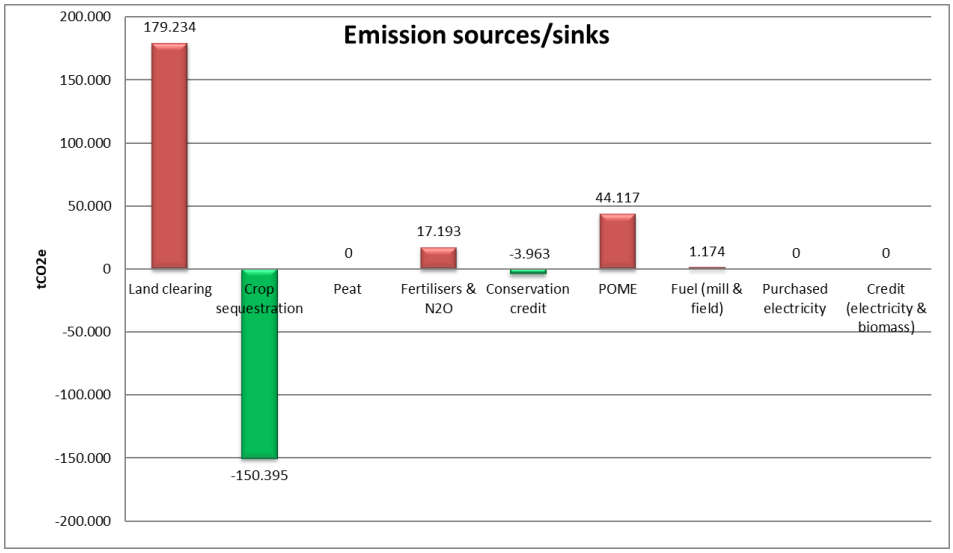



Figure 23. Emission source calculation for Scenario 1 (S1)

**Scenario 2 (S2)**

# Summary of results

**Summary of results**

## Summary of results

**Field emissions & sinks (Assumes vigorous growth for oil palm - for use by large scale operations**

| | t $CO_2$e | t $CO_2$e/ha | t $CO_2$e/t FFB |
|---|---|---|---|
| Land clearing | 179.233,82 | 11,16 | 0,80 |
| Crop sequestration | -150.395,20 | -9,36 | -0,67 |
| Fertilisers | 9.116,82 | 0,57 | 0,04 |
| N2O | 8.076,33 | 0,50 | 0,04 |
| Field fuel | 745,82 | 0,05 | 0,00 |
| Peat | 0,00 | 0,00 | 0,00 |
| Conservation credit | -3.963,27 | -0,25 | -0,02 |
| **Total** | 42.814,33 | 2,67 | 0,19 |

| **Mill emissions & credit** | t$CO_2$e | t $CO_2$e/ha | t$CO_2$e/tFFB |
|---|---|---|---|
| POME | 8.322,30 | 0,52 | 0,04 |
| Mill fuel | 428,35 | 0,03 | 0,00 |
| Purchased electricity | 0,00 | 0,00 | 0,00 |
| Credit (excess electricity exported) | 0,00 | 0,00 | 0,00 |
| Credit (sale of biomass for power) | 0,00 | 0,00 | 0,00 |
| **Total** | 8.750,65 | 0,54 | 0,04 |

| | |
|---|---|
| **Total emissions, t$CO_2$e (field & mill)** | 51.565 |
| **Allocation:** | |
| t $CO_2$e/t CPO | 0,77 |
| t $CO_2$e/t PK | 0,77 |

Figure 24. Summary of the calculation results of GHG emission projections (tCO2e) for new development plans in the PT USP area Scenario 2 (S2)

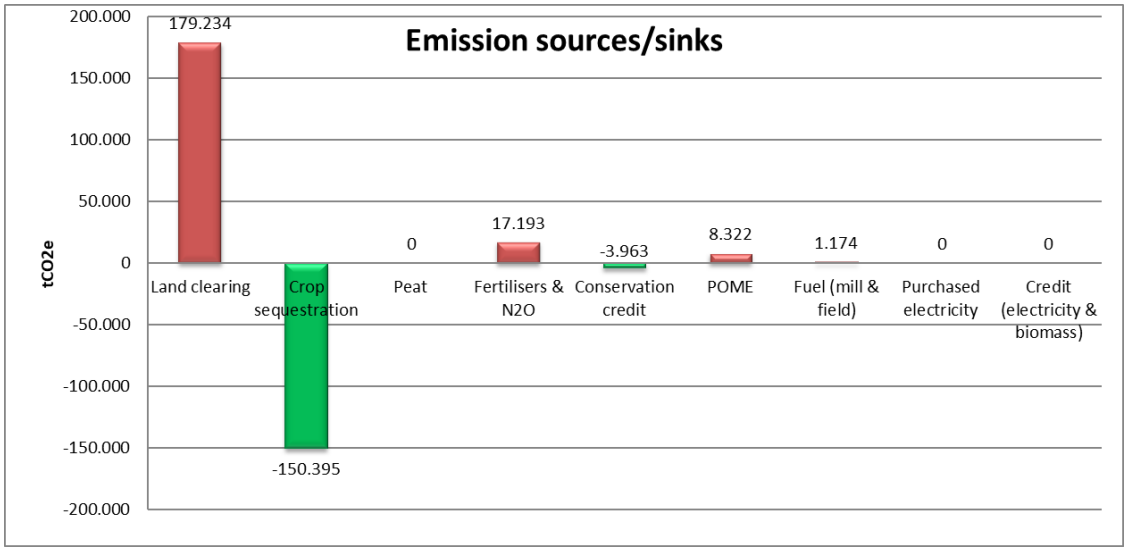
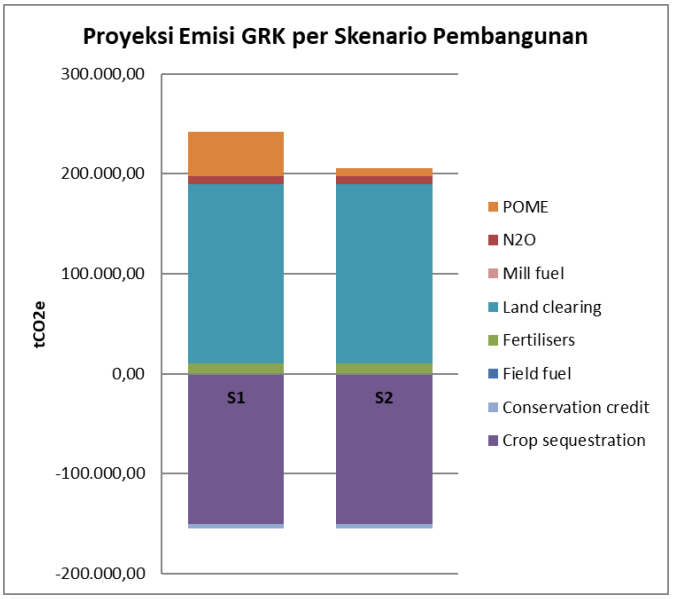



Figure 25. Emission source calculation for Scenario 2 (S2)

For each scenario, the GHG emissions at PT. The USP is calculated using the RSPO New Development GHG Calculator to find out the projected GHG emissions associated with the scenario options developed. Figure 21 shows a summary of the calculation results of GHG emission projections in the PT USP area for Scenario 1 (S1). While Figure 23 shows a summary of the results of the calculation of GHG emission projections in the PT USP area for Scenario 2 (S2).




| Emisi GRK (Ton CO2e) | Scenario 1 (S1) | Scenario 2 (S2) |
|---|---|---|
| Land clearing | 179.233,82 | 179.233,82 |
| Crop sequestration | -150.395,20 | -150.395,20 |
| Fertilisers | 9.116,82 | 9.116,82 |
| N2O | 8.076,33 | 8.076,33 |
| Field fuel | 745,82 | 745,82 |
| Conservation credit | -3.963,27 | -3.963,27 |
| POME | 44.117,35 | 8.322,30 |
| Mill fuel | 428,35 | 428,35 |
| **Net Emission** | **87.360,03** | **51.564,97** |

Figure 26. Comparison of projected GHG emissions (tCO2e) for the two scenarios of the new development plan in the PT USP area

Based on the calculation results of GHG emission projections using the RSPO New Development GHG Calculator, Scenario 1 (S1) results in Net GHG Emissions of 87.360,03 (tCO2e) while Scenario 2 (S2) produces Net GHG Emissions of 51.564,97 (tCO2e).

Taking into account the results of the GHG emission projections above and based on the consideration that in the near future PT USP does not yet have a plan to build methane capture, then Scenario 1 (S1) is the optimal development option at PT. USP. In Scenario 1 (S1), GHG emissions from land clearing and operations will be minimized by sequestration from conservation areas (HCV and HCS areas) and oil palm plantations. In addition, plans for new plantings (land clearing) will prioritize land cover with low carbon stocks such as tree crops, shrubland, and grasslands.

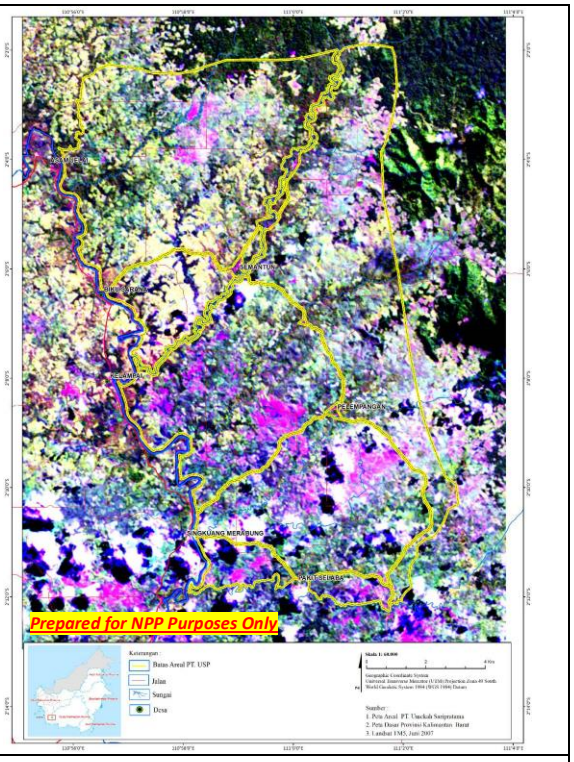
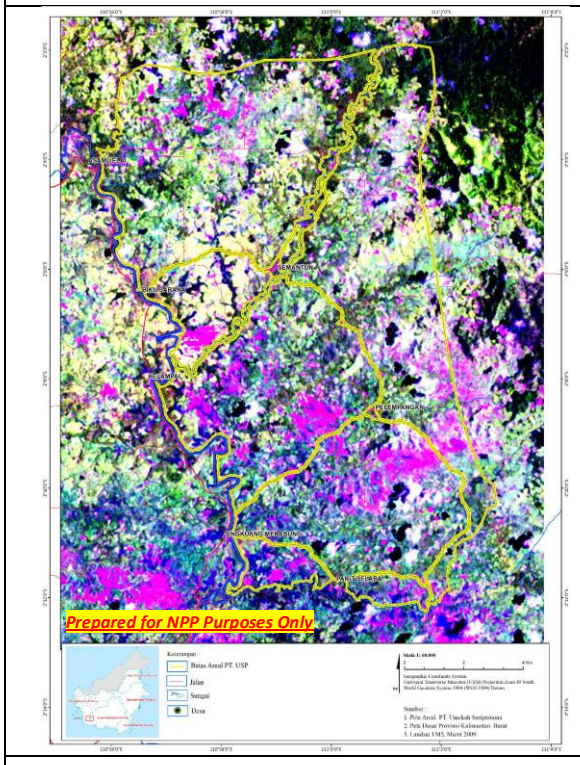
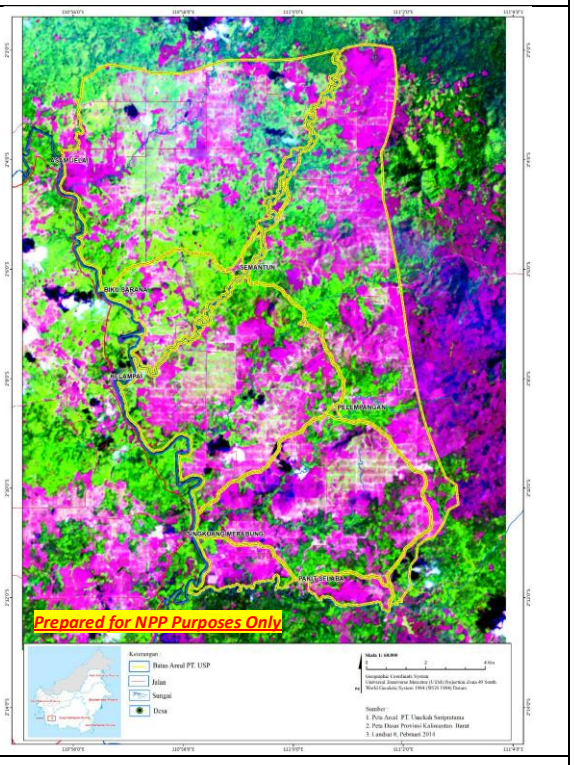
### 3.5. Land Use Change Analysis (LUCA)

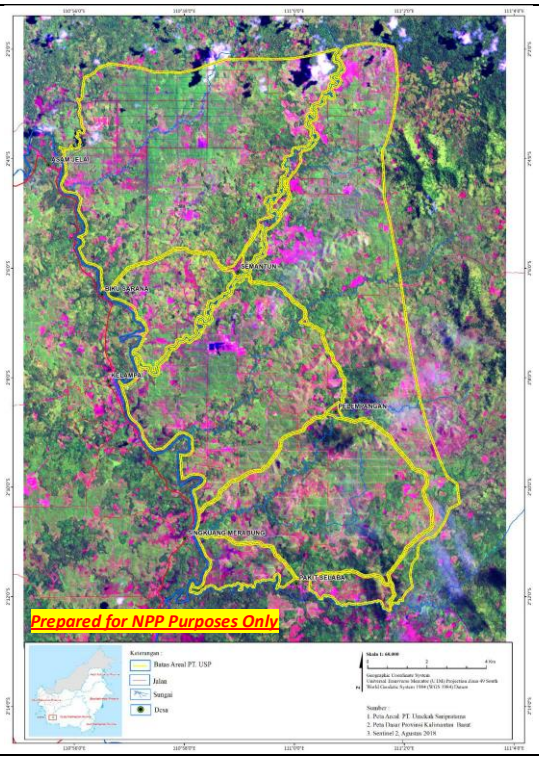
There is information from interviews with local communities related to the history of the land, the area where PT. Umekah Saripratama was previously part of the IUPHHK-HA concession of PT. Ponti Jaya which operated in 1979 – 1995. The existence of company activities caused massive deforestation which resulted in changes in land cover. In addition, changes in land cover during this period also occurred due to very high activity related to land clearing by the community. The majority of the people living around the PT USP permit area are farmers, both garden farmers and field farmers. So it is not surprising that PT USP's oil palm plantation development is carried out on community land in the form of fields and rubber plantations. The pattern of land use or utilization by the community has changed, from forests to fields, then developing into rubber and oil palm plantations. Before rubber and oil palm became the main commodities for their cultivation, the community planted several types of crops in the concession area, including: rice, corn, cassava, rubber, pepper.

Land ownership by the community in the permit area and around PT USP generally has different areas. These lands are recognized by cultural even though they are not yet certified. Differences in land ownership between individuals in the community result from differences in each individual's work in clearing land (farming). So that people who are able to open more land will have more land. Most of the land owned by the community does not or has no legality, only based on the community's recognition and the owner of the land next to it (the owner of the border). The boundaries of land ownership between one person and another are largely unclear. Only in the form of trust and recognition from the nearest land owner. One proof of land ownership is proof of planting or former fields. Based on the results of interviews, it is known that the community has acquired land for generations and/or bought it. In general, rice fields and rubber plantations can be traded between community members at mutually agreed prices.

Land clearing and used for cultivation activities by the community is carried out in turns. This is because the farming system carried out by residents does not use fertilizers or chemicals to fertilize the soil, but only depends on the level of natural fertility of the soil. For further planting, residents usually open a new location which is still a forest by cutting down existing large trees and then burning them. While the old land will be planted with long-term crops such as pepper/sahang, rubber, oil palm and fruit trees. Long-term planting of this type of commodity will be a marker of land ownership by individual communities. Currently (2019-2020), agricultural systems with land use have been carried out intensively or with a rotation system. The shifting farming pattern is rare. This change in land use patterns is carried out by residents, generally on the grounds that gardening, land and plant management is easier to do. In addition, garden produce is considered much more profitable than agricultural produce. Another reason is that gardening will give residents time to re-open the land while waiting for the garden plants to produce.

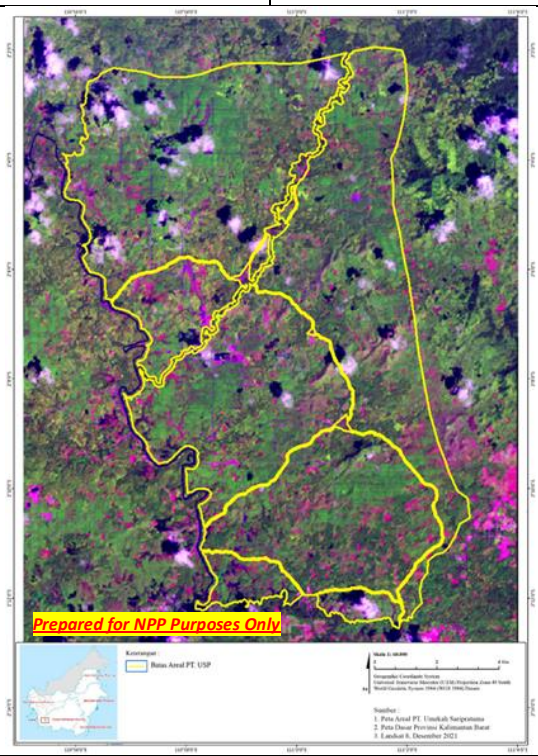
Table 33. Pre-processed georeferenced satellite images for entire concession area for each time of clearance period and additional cut-off periods.

| | |
|---|---|
|   |   |
| Before November 1, 2005 | November 1, 2005 - November 31, 2007 |
|   |   |
| December 1, 2007 - December 31, 2009 | January 1, 2010 – May 9, 2014 |



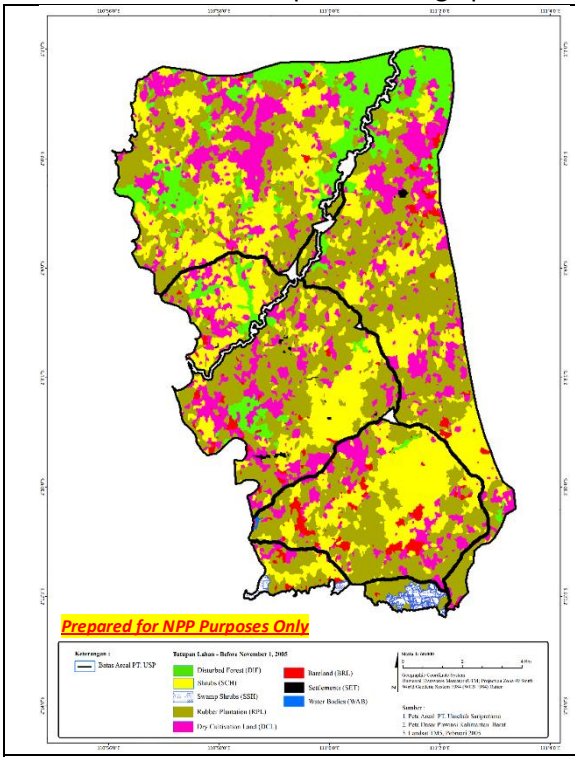
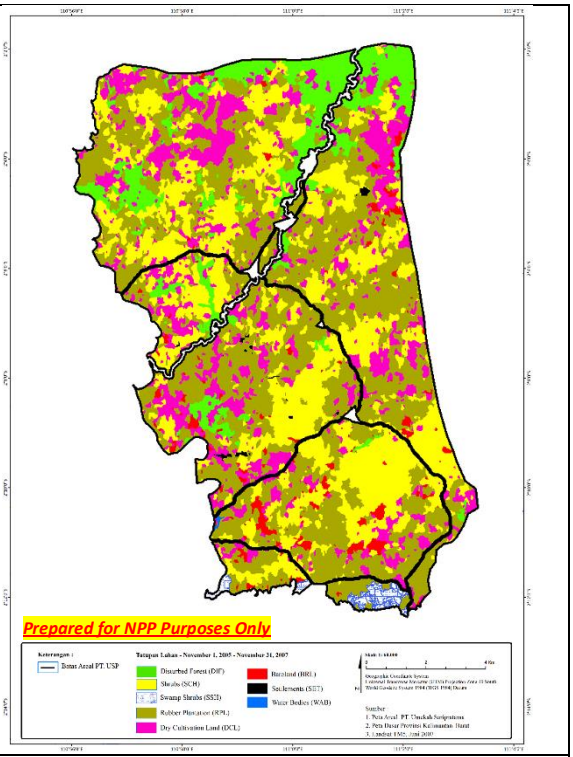
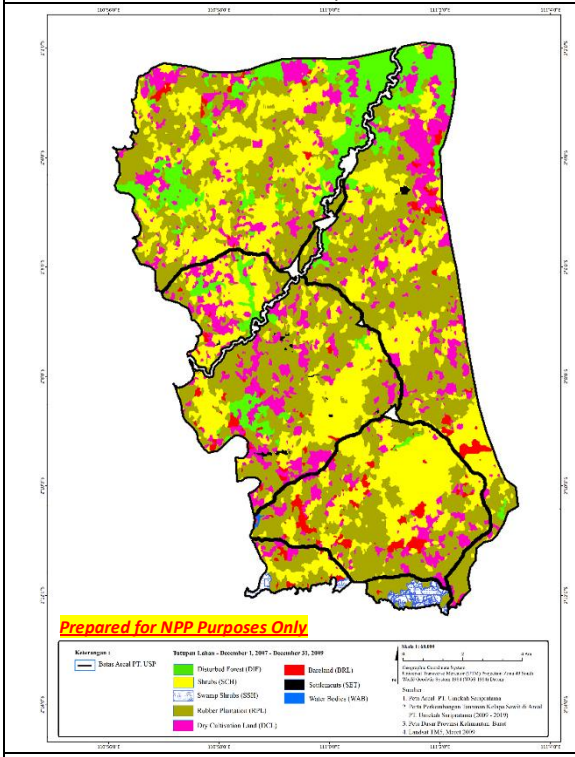
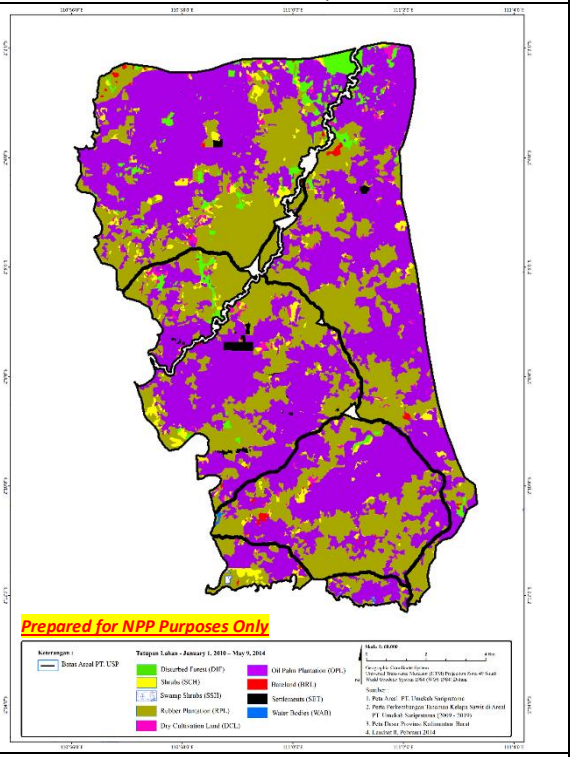

May 9,2014 - November 15, 2018

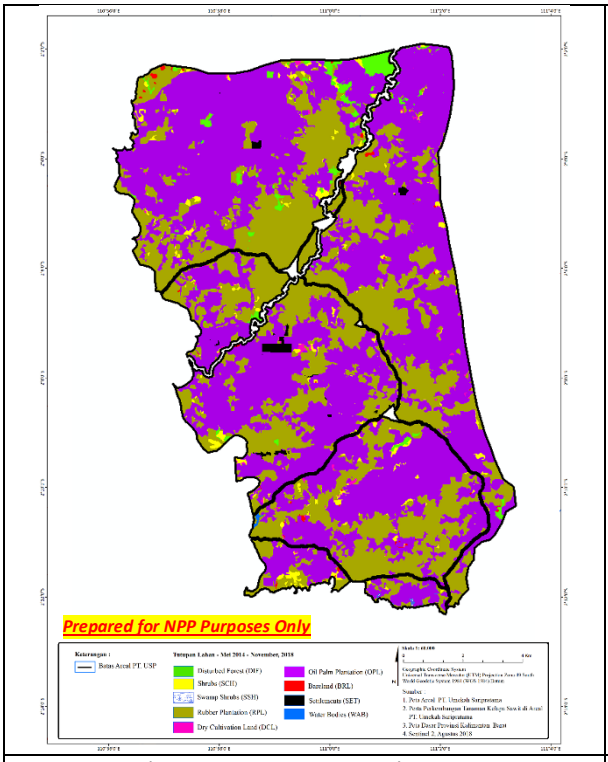

November 15, 2018 - Ground truthing, 2019



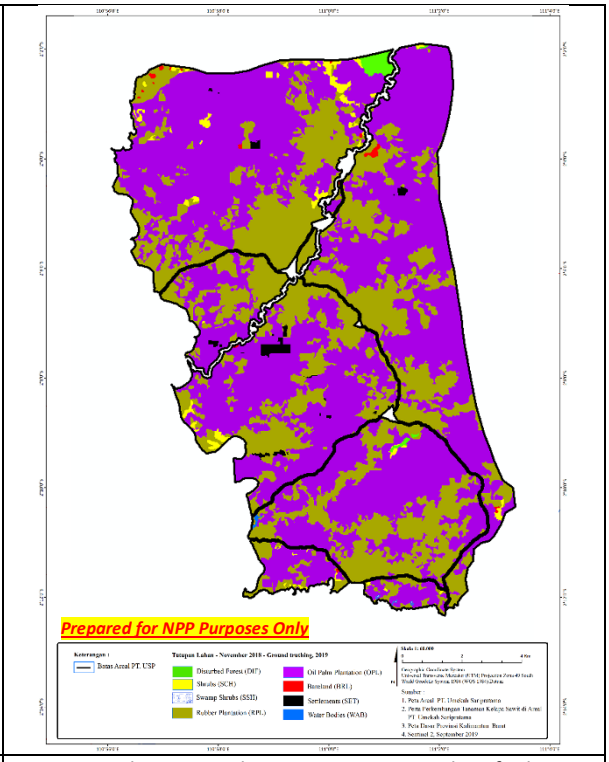

2019-2021

Table 34. Land cover maps after image processing

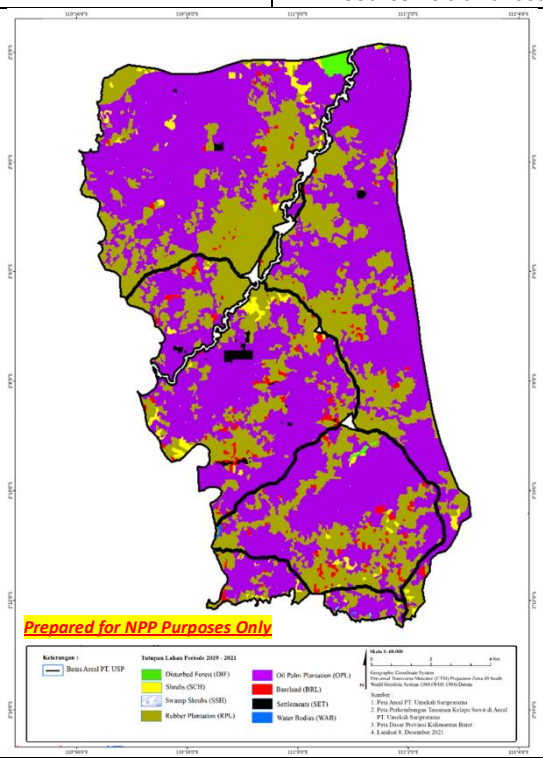
| | |
|---|---|
|  |  |
| Periode : Before November 1, 2005<br>Source : Citra Landsat acq. 13 Februari 2005 | Periode : November 1, 2005 - November 31, 2007<br>Source : Citra Landsat acq. 5 Juni 2007 |
|  |  |
| Periode : December 1, 2007 - December 31, 2009<br>Source : Citra Landsat acq. 9 Maret 2009 | Periode : January 1, 2010 – May 9, 2014<br>Source : Citra Landsat acq. 3 Februari 2014 |




Periode : May 9, 2014 – November 15, 2018
Source : Citra Landsat acq. 30 Agustus 2018




Periode : November 15, 2018 – HCV identified, 2019/2020 (re-assessment)
Source : Citra Landsat acq. 19 September 2019




Periode : 2019 - 2021
Sumber : Citra Landsat acq. 7 Desember 2021

The results of the historical analysis of land use change at PT USP are presented in the following table.

Table 35. Historical analysis of land use change at PT USP

| Classified Class | Reference Class | | | | | | |
|---|---|---|---|---|---|---|---|
| | Before Nov. 1st 2005 | Nov. 1st 2005 - Nov. 31st 2007 | Dec. 1st 2007 - Dec. 31st 2009 | Jan. 1st 2010 – May 9th 2014 | May 9th 2014 – November 15th 2018 | November 15th 2018 – HCV Identified - Ground truthing 2019 | 2019 - 2021 |
| **Bareland (BRL)** | 362.82 | 362.82 | 417.83 | 69.13 | 36.22 | 33.36 | 317.70 |
| **Disturbed Forest (DIF)** | 1,557.51 | 1,546.61 | 1,472.37 | 436.29 | 253.22 | 82.90 | 82.90 |
| **Dry Cultivation Land (DCL)** | 2,932.70 | 2,711.15 | 2,262.67 | 206.02 | 67.32 | - | - |
| **Oil Palm Plantations (OPL)** | - | - | - | 8,895.96 | 9,789.44 | 10,258.79 | 10,258.79 |
| **Rubber Plantation (RPL)** | 6,664.30 | 6,718.79 | 6,886.38 | 6,322.87 | 6,022.93 | 5,829.20 | 5,457.20 |
| **Settlement (SET)** | 31.07 | 31.07 | 31.51 | 73.55 | 69.23 | 83.91 | 83.91 |
| **Shrubs (SCH)** | 4,779.87 | 4,957.83 | 5,257.53 | 476.59 | 247.68 | 200.39 | 288.05 |
| **Swamp Shrubs (SSH)** | 162.85 | 162.85 | 162.85 | 10.72 | 5.09 | 2.49 | 2.49 |
| **Water Bodies (WAB)** | 5.96 | 5.96 | 5.96 | 5.96 | 5.96 | 6.04 | 6.04 |
| **Total** | **16,497.09** | **16,497.09** | **16,497.09** | **16,497.09** | **16,497.09** | **16,497.09** | **16,497.09** |

Based on the analysis of land use change, from the beginning of the period (2005) to the end of the period of obligation (2019), it is known that the PT USP area has two categories of vegetation coefficient, namely a coefficient of 0,7. which describes Disturbed Forest, and a coefficient of 0,0 which describes Non-Forest.

During the period November 2005 – 2007, land use changes were made by the surrounding community (non-corporate) for cultivation activities in forest and non-forest areas. This is reflected in the condition of land cover in that period where the area of community cultivation such as rubber plantations (RPL) increased. An increase also occurred in the shrub area (SCH), where the area shows the former fields left by the land-owning community.

The same thing also happened again in the period of December 2007 – 2009. The area of rubber plantations increased because people shifted their commodities from seasonal field commodities to rubber. Not only that, the opening of new areas and areas of former abandoned fields are also carried out by planting rubber. This is reflected in the reduced area of shrubs and also the increase in the area of open land in 2009.

Changes in land use patterns (from farming to gardening) continue. In this period, the plantation commodities that were cultivated were not only rubber plants, but also oil palm plants which began to be noticed by the community. Where based on the monitoring of land cover conditions in the period January 2010 – May 2014, there are land areas (DCL) that have been converted into smallholder oil palm plantations. Not only that, some people (rubber owners) choose to shift their plantation commodities from rubber to palm oil. While some other communities clear land in forest areas and

other non-forest areas (former shrubs). During this period, land clearing was also carried out by the company. The company carried out the land clearing process after the first HCV assessment was conducted (2010). Land clearing is carried out on non-HCV areas that have been compensated (fields, former fields and community rubber land).

Meanwhile, in the last period of May 2014 – HCV assessment, the process of developing oil palm plantations was carried out by the company and the community. The development of oil palm plantations carried out by the company is carried out in areas of community cultivation land that have been previously compensated. Of course, the areas the company is developing are non-HCV areas. Meanwhile, the development area carried out by the community comes from unproductive cultivation areas and bush areas that were ex-fields. They reopened the area and then turned it into a community oil palm plantation. Forest areas are also not spared from the land clearing process carried out by the community.

In the period 2019 – 2021 there was no increase in the area of oil palm plantations by the company. This is because the company has implemented a moratorium on new land clearing until the NPP process is complete. The opening of new land and/or changes in land cover that have occurred so far have been carried out by the community who own the land. Strong suspicion, this is done for the benefit of cultivated plants. This is evidenced by the presence of rubber plantations which were previously bareland and shrubs (BRL > RPL and SCH > RPL). Another form of change in land cover conditions is the existence of several new open lands which can be said to be large, where previously these lands were smallholder rubber plantation areas. The change is thought to be related to the land owner's plan to change the commodity of the planting area.

Table 36. Land use analys per period

**Period Nov. 1st 2005 - Nov. 31st 2007** - *in hectares*

*Non-Corporate*

| | Land Cover Class | November 2007 | | | | | | | | Total 2005 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | DCL | RPL | SET | SCH | SSH | WAB | |
| November 2005 | BRL | 362.82 | | | | | | | | 362.82 |
| | DIF | | 1,546.61 | 10.90 | | | | | | 1,557.51 |
| | DCL | | | 2,700.25 | 54.49 | | 177.97 | | | 2,932.70 |
| | RPL | | | | 6,664.30 | | | | | 6,664.30 |
| | SET | | | | | 31.07 | | | | 31.07 |
| | SCH | | | | | | 4,779.87 | | | 4,779.87 |
| | SSH | | | | | | | 162.85 | | 162.85 |
| | WAB | | | | | | | | 5.96 | 5.96 |
| | **Total 2007** | **362.82** | **1,546.61** | **2,711.15** | **6,718.79** | **31.07** | **4,957.83** | **162.85** | **5.96** | **16,497.09** |

**Period Dec. 1st 2007 - Dec. 31st 2009** - *in hectares*

*Non-Corporate*

| | Land Cover Class | Desember 2009 | | | | | | | | Total 2007 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | DCL | RPL | SET | SCH | SSH | WAB | |
| Desember 2007 | BRL | 361.99 | | | 0.83 | | | | | 362.82 |
| | DIF | 3.02 | 1,472.37 | 71.00 | 0.23 | | | | | 1,546.61 |
| | DCL | 12.39 | | 2,191.67 | 139.40 | | 367.69 | | | 2,711.15 |
| | RPL | 7.49 | | | 6,710.86 | 0.44 | | | | 6,718.79 |
| | SET | | | | | 31.07 | | | | 31.07 |
| | SCH | 32.94 | | | 35.06 | | 4,889.84 | | | 4,957.83 |
| | SSH | | | | | | | 162.85 | | 162.85 |
| | WAB | | | | | | | | 5.96 | 5.96 |
| | **Total 2009** | **417.83** | **1,472.37** | **2,262.67** | **6,886.38** | **31.51** | **5,257.53** | **162.85** | **5.96** | **16,497.09** |

**Period Jan. 1st 2010 – May 9th 2014** - *in hectares*

*Corporate*

| Januari 2010 | Land Cover Class | Mei 2014 | Total 2010 |
|---|---|---|---|
| | | OPL | |
| | BRL | 281.31 | 281.31 |
| | DIF | 780.64 | 780.64 |
| | DCL | 1,227.56 | 1,227.56 |
| | RPL | 3,176.66 | 3,176.66 |
| | SCH | 3,131.77 | 3,131.77 |
| | SSH | 85.90 | 85.90 |
| | **Total 2014** | **8,683.84** | **8,683.84** |

*Non-Corporate*

| Januari 2010 | Land Cover Class | Mei 2014 | | | | | | | | | Total 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | DCL | OPL | RPL | SET | SCH | SSH | WAB | |
| | BRL | 36.06 | | 1.48 | 6.94 | 81.79 | | 10.25 | | | 136.52 |
| | DIF | 7.40 | 436.29 | 0.95 | 17.37 | 200.80 | | 28.91 | | | 691.72 |
| | DCL | 5.59 | | 203.59 | 38.05 | 754.45 | 8.10 | 25.32 | | | 1,035.11 |
| | RPL | 13.95 | | | 89.86 | 3,541.75 | 31.15 | 32.28 | 0.72 | | 3,709.72 |
| | SET | | | | | | 31.51 | | | | 31.51 |
| | SCH | 6.12 | | 0.00 | 58.40 | 1,680.24 | 2.78 | 378.21 | | | 2,125.76 |
| | SSH | | | | 1.49 | 63.84 | | 1.61 | 10.00 | | 76.94 |
| | WAB | | | | | | | | | 5.96 | 5.96 |
| | **Total 2014** | **69.13** | **436.29** | **206.02** | **212.11** | **6,322.87** | **73.55** | **476.59** | **10.72** | **5.96** | **7,813.24** |

**Period May 9th 2014 – November 15th 2018** *in hectares*

*Corporate*

| Mei 2014 | Land Cover Class | Nov. 2018 | Total 2014 |
|---|---|---|---|
| | | OPL | |
| | BRL | 26.54 | 26.54 |
| | DIF | 168.61 | 168.61 |
| | DCL | 125.56 | 125.56 |
| | OPL | 8,683.84 | 8,683.84 |
| | RPL | 270.80 | 270.80 |
| | SET | 3.69 | 3.69 |
| | SCH | 210.42 | 210.42 |
| | SSH | 5.30 | 5.30 |
| | **Total 2018** | **9,494.76** | **9,494.76** |

*Non-Corporate*

| | Land Cover Class | November 2018 | | | | | | | | | Total 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | DCL | OPL | RPL | SET | SCH | SSH | WAB | |
| Mei 2014 | BRL | 36.22 | | | 6.36 | 0.00 | | | | | 42.58 |
| | DIF | | 253.22 | | 14.29 | 0.17 | | | | | 267.68 |
| | DCL | | | 67.32 | 12.12 | 1.02 | | | | | 80.46 |
| | OPL | | | | 212.11 | | | | | | 212.11 |
| | RPL | | | | 30.33 | 6,021.74 | | 0.00 | | | 6,052.07 |
| | SET | | | | 0.63 | 0.00 | 69.23 | | | | 69.86 |
| | SCH | | | | 18.49 | 0.00 | | 247.68 | | | 266.17 |
| | SSH | | | | 0.33 | | | | 5.09 | | 5.43 |
| | WAB | | | | | | | | | 5.96 | 5.96 |
| | **Total 2018** | **36.22** | **253.22** | **67.32** | **294.67** | **6,022.93** | **69.23** | **247.68** | **5.09** | **5.96** | **7,002.32** |

**Period November 15th 2018 – HCV Identified - Ground truthing 2019** *in hectares*

*Corporate*

| | Land Cover Class | Date of HCV Assessment | Total 2018 |
|---|---|---|---|
| | | OPL | |
| November 2018 | BRL | 1.74 | 1.74 |
| | DIF | 18.76 | 18.76 |
| | DCL | 6.92 | 6.92 |
| | OPL | 9,459.03 | 9,459.03 |
| | RPL | 22.95 | 22.95 |
| | SCH | 20.41 | 20.41 |
| | SSH | 0.58 | 0.58 |
| | **Total Date of HCV Assessment** | **9,530.40** | **9,530.40** |

*Non-Corporate*

| | Land Cover Class | Date of HCV Assessment | | | | | | | | Total 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | OPL | RPL | SET | SCH | SSH | WAB | |
| November 2018 | BRL | 22.34 | | 12.14 | 0.00 | | | | | 34.48 |
| | DIF | | 82.90 | 32.58 | 33.41 | | 85.57 | | | 234.46 |
| | DCL | | | 57.18 | 3.22 | | | | | 60.40 |
| | OPL | 11.02 | | 276.08 | | 14.60 | 27.79 | 0.83 | 0.08 | 330.40 |
| | RPL | | | 208.04 | 5,791.85 | 0.08 | | | | 5,999.98 |
| | SET | | | | | 69.23 | | | | 69.23 |
| | SCH | | | 140.24 | 0.00 | | 87.04 | | | 227.27 |
| | SSH | | | 2.13 | 0.72 | | | 1.66 | | 4.51 |
| | WAB | | | | | | | | 5.96 | 5.96 |
| | **Total Date of HCV Assessment** | **33.36** | **82.90** | **728.39** | **5,829.20** | **83.91** | **200.39** | **2.49** | **6.04** | **6,966.68** |

**Period 2019 – 2021** *in hectares*

*Corporate*

| | Land Cover Class | 2021 | Total Date of HCV Assessment |
|---|---|---|---|
| | | OPL | |
| Date of HCV Assessment | OPL | 9,530.40 | 9,530.40 |
| | **Total 2021** | **9,530.40** | **9,530.40** |

*Non-Corporate*

| | Land Cover Class | 2021 | | | | | | | | Total Date of HCV Assessment |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BRL | DIF | OPL | RPL | SET | SCH | SSH | WAB | |
| Date of HCV Assessment | BRL | 4.59 | | | 20.72 | | 8.06 | | | 33.36 |
| | DIF | | 82.90 | | | | | | | 82.90 |
| | OPL | | | 728.39 | | | | | | 728.39 |
| | RPL | 307.48 | | | 5,425.02 | | 96.71 | | | 5,829.20 |
| | SET | | | | | 83.91 | | | | 83.91 |
| | SCH | 5.64 | | | 11.47 | | 183.28 | | | 200.39 |
| | SSH | | | | | | | 2.49 | | 2.49 |
| | WAB | | | | | | | | 6.04 | 6.04 |
| | **Total 2021** | **317.70** | **82.90** | **728.39** | **5,457.20** | **83.91** | **288.05** | **2.49** | **6.04** | **6,966.68** |

Based on the results of the HCV document review and interviews with several key respondents, no missing social HCV areas were found. The development of oil palm plantations is carried out on community land, where it has been agreed that land compensation will be carried out. No oil palm planting activities were found at PT. USP in areas not permitted by P&C or prohibited by applicable laws and regulations.

### 3.6. FPIC Process

The FPIC assessment from stage 1 to stage 5 summarized the key points, including:

1) The current working group to facilitate the land acquisition process, namely the Village Task Force consisting of the Village Government, Traditional Leaders and Representatives of Community Leaders, needs to be maintained.
2) Participatory mapping was carried out to identify important areas associated with social HCVs (HCV 4, HCV 5 & HCV 6) and information on land ownership, land use/use, and indicative village administrative boundaries.
3) Preparation of the company's work plan after the participatory mapping process and discussions with residents, such as socialization and realization of the GRTT process, plans to involve residents in HCV management or monitoring, routine socialization related to plasma plantation management plans, CSR program plans for communities, and others.
4) Prepare a plan for a joint agreement or decision related to the management and monitoring plan for conservation areas (HCV & HCS) and plasma plantations by involving traditional leaders.

Stakeholders around PT USP are land owners and rulers such as the Village Head, Village Secretary, BPD, LPM, RT Chair, Traditional Leaders, Youth Leaders, Women Leaders, Land Owners, Villagers, Representatives of Community Leaders, and management or members of Mitra Karya Perkasa and Bumi Sentosa Jaya Cooperative.

The community understands the GRTT (plantation and growth compensation) process carried out by PT USP management, the land owner and the Village Task Force agree on the steps taken by the company, including area measurement, ownership data collection, data collection on boundaries and the determination of plant growth prices that have been previously agreed upon.

The results of the socialization through FGDs or interviews with the Village Head, Village Secretary, BPD, RT Chair, Youth Leaders, Women Leaders, Land Owners, Villagers and Community Leader Representatives, they accepted and approved the development of oil palm plantations and oil palm mills and approved the areas that has been designated as a conservation area (HCV-HCS) provided that the conservation area is not located in a prospective plasma plantation area. The FPIC study as an initial plan for the development of oil palm plantations and mills is good and it is important that there is caution in the development of oil palm plantations and the construction of oil palm mills.

# 4. SUMMARY OF MANAGEMENT PLAN

## 4.1. Team Responsible for Developing Management Plans

In order to enable effective implementation of the programs, it is required that human resources competencies, sufficient knowledge and skills to implement the planned activities are in place. It is also essential to provide appropriate tools and facilities so that implementation of the activities can be smoothly carried out. The management of PT USP, onsite Sustainability team and public relation team will implement implementation, management, and monitoring in the field. The implementation is also supported by others team such as audit and certification team. Below is the organisational structure of the team responsible for implementation, management and monitoring in the field.


Figure 27. Chart of PT USP's organisational structure

## 4.2. Mitigate Impact SEIA

**Elements to be Included for SEIA**

Social management and monitoring plan aims to reduce and/or eliminate and mitigate negative impacts, social risk, and social issues related to the new development and management activities. In aaddition, it is also designed to improve the positive impact and benefits to the social. The management plan recommended based on the SIA refers to First Resources Sustainability Policy.

The FR Sustainability Policy states that FR is commited to ensuring that its products are produced sustainably. This is realised through continuous balanced assessment and development of its operations while simultaneously conserving and improving the natural environment, protecting high carbon stock forests, HCV Areas, and peatlands, uplifting the socio-economic conditions and respecting the human rights of its employees and local communities.

Table 37. Social management plans

| No. | Impact Sources | Monitored Significant Impact | Social Monitoring Plan | Monitoring Purpose | Social Impact Monitoring | | |
|---|---|---|---|---|---|---|---|
| | | | | | Location | Period | Method |
| **1.** | **Natural Resources** | | | | | | |
| 1.1. | Land tenure and land use | Reduced agricultural land | • Monitoring training activities and community assistance in developing productive farming on limited and unproductive land with agricultural intensification systems (integration of seasonal crops, five farming businesses or intercropping systems) and agricultural mechanization (use of agricultural technology).<br>• Monitoring the facilitation of training on the development of agricultural derivative products and small-medium enterprise management and training on strengthening joint business groups (KUB) and Bumdes. | • To find out how to help increase farming capabilities and skills through agricultural intensification and agricultural mechanization so that income from agricultural products can increase even though the land is already narrow.<br>• To find out the improvement of community skills in implementing the intercroping agricultural system between plantation agriculture and horticultural agriculture (eg rubber with horticultural crops or oil palm with horticultural crops). | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| 1.2. | Crop Cultivation | • The pattern of managing rubber and palm oil is still traditional<br>• The yield of upland rice and horticulture is decreasing because the land to plant it is getting narrower<br>• The cropping system no longer follows the seasonal calendar because farmers are pursuing agricultural yield targets<br>• The more homogeneous types of plantation crops are because they are considered the most profitable (rubber and oil palm) | • Monitoring the assistance to the community in the development of rubber or oil palm plantations for living plants<br>• Monitoring community assistance activities for the development of rubber plantations on limited land by intercroping systems with secondary crops or through agricultural intensification and agricultural mechanization systems | • To find out activities to help the community to intensify land and increase the value of land productivity<br>• To find out the improvement of community skills in the fields of rubber plantation cultivation, agriculture and agroforestry.<br>• To find out the activities of expanding the marketing network for products | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | which causes excess production by every citizen<br>• Reduced productive timber and other crops due to land conversion for oil palm plantations<br>• The decline in agricultural production and the types of agricultural crops planted by farmers is because many farmers have switched professions to become company employees.<br>• People's doubts as members of cooperatives about plasma management are not maximized. | • Monitoring the development of a marketing system for community agricultural and plantation products in order to increase community economic growth in the agriculture and plantation sector.<br>• Monitoring the activities of making agreements between the community and companies related to profit sharing or production fees from harvesting co-operated crops on community land<br>• Monitoring the provision of clarity on the status of community plasma (related to profit sharing on plasma). | produced by the community in each village.<br>• To find out that the community has a guarantee for the production fee agreement on the results of harvesting crops that are collaborated on community-owned land.<br>• To find out activities to regenerate public trust in plasma companies and cooperatives. | | | |
| 1.3. | Land Economic Value | • Land is getting limited due to the entry of investors (oil palm plantation companies)<br>• People have difficulty in farming because the land is getting narrower<br>• The land is increasingly infertile, forcing farmers to use the land for other purposes<br>• As land prices increase, it becomes increasingly difficult to obtain land for both residential and agricultural land. | • Monitoring the identification and mapping of areas controlled by other parties, local communities and companies.<br>• Monitoring the activities of making boundaries between work areas and community lands.<br>• Monitoring the outreach activities to land buyers and local residents regarding the status of the PT. USP and legal consequences for land buyers in forest areas.<br>• Monitoring the activities of making security posts to monitor the entry and exit of other parties at every entry and exit of the company. | • To find out the activities of ensuring the PT. USP is protected from illegal activities carried out by other parties.<br>• To find out the activities of providing information to residents regarding the status of their land in the HGU area of PT. USP.<br>• To find out activities to help local residents increase their agricultural output. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | • Monitoring development activities and fostering partnerships with the community in managing living plants.<br>• Monitoring the activities of assisting the improvement of agricultural products in the community. | | | | |
| 1.4. | River Ecological Value | Potential occurrence:<br>- Water river pollution<br>- Decreased water river debit<br>- River silting<br>- Erosion around the border the river due to the felling of the wood plants around the river border | • Monitoring of activities to assist in supervising and assisting the community through social programs in the form of fish cultivation and maintenance of river cleanliness as well as the planting of trees to support river erosion which are planted around the edges/borders of the river.<br>• Monitoring of rule-making activities based on mutual consensus for the protection and preservation of rivers based on the customary law of each village and formal government law accompanied by strict sanctions for any violators.<br>• Monitoring of mentoring and coaching activities to implement governance mutually agreed rules.<br>• Monitoring of activities of PT. USP in coordinating regularly and intensively with other companies and relevant government agencies to discuss long-term solutions | • To find out activities to improve river environmental conditions and provide alternative sources income of the people who have been using river as a source for obtaining cash to meet needs the basis of community life.<br>• To find out the activities of making alternative borehole water as a source of clean water for the community or making clean water pipelines to ensure the residents' needs for clean water sourced from springs around the village or boreholes.<br>• To know the activities of maintaining and preserving river environment. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | for river security due to declining river water quality<br>• Monitoring of periodic laboratory test activities to determine the quality of river water.<br>• Monitoring of activities to assist residents in the provision of clean water through CSR assistance for piped clean water which can be sourced from bore wells or springs water around the village. | | | | |
| 1.5. | Environtment Ecological Value | The waning of sustainable use in the community and the decreasing number of flora and fauna | Carry out monitoring of rules made based on mutual consensus for the protection and preservation of rivers based on the customary law of each village and formal government law accompanied by strict sanctions for anyone who violates it | To find out the improvement of environmental conditions and provide alternatives preservation of flora and fauna | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| **2.** | **Human Resources** | | | | | | |
| 2.1. | Education | Management Unit Level (internal): The results of the questionnaire analysis distributed to several company employees show that educational facilities including training to improve employee work skills are very weak and are in quadrant III. This position shows that PT. The USP for this indicator is still weak but there is a chance to improve it. The results of the interview also show that education and/or training are still not evenly distributed at all levels of employees. | • Monitoring of the activity of providing equal opportunities for every worker to participate in training or internships in accordance with their position in work.<br>• Monitoring of coaching activities for every worker to always comply company regulations, work according to SOPs and continue to improve work quality and skills.<br>• Monitoring of activities of providing stimulus or motivation to each worker, | • To know the applicable regulations related to plantation management.<br>• To determine the quality of employee performance. | Office company | Conducted by periodic | Interview with employees, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | for example in the form of bonuses and others in order to increase employee morale.<br>• Monitoring of activities to fulfill basic needs needed by employees in order to improve employee performance. | | | | |
| | | Community level : Up to the time the SIA survey was conducted, the community said that the company's attention to public education still needed to be increased | • Monitoring of implementation of training or courses in accordance with the needs of the company and the community.<br>• Monitoring of the activity of providing scholarships to outstanding students at the elementary, junior high, high school, university levels.<br>• Monitoring of activities to provide assistance in the care and maintenance of educational facilities in each village around the PT. USP.<br>• Monitoring of the activities of providing scholarship assistance, honorary teacher assistance, educational infrastructure, training/ courses, out-of-school education etc. according to the SOP and CSR work program of PT. USP. | • To find out the activities increasing the competence and skills of local (village) workers.<br>• To find out the activities follow and improve the quality of public education.<br>• To find out the implementation of CSR activities in the field of education in the community as part of the company's social responsibility to the community, especially those affected. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| 2.2. | Health | Management Unit Level (internal):<br>- Still limited health facilities and infrastructure in the unit management of PT. USP.<br>- There are still employee complaints related to the limited and incomplete PPE for employees. | Carry out monitoring of activities to complete health facilities for employees, including PPE and Health insurance and BPJS employment | To determine the increase in the level of employee health. | Office company | Conducted by periodic | Interview with employees, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Community level:<br>- Up to the time the survey was conducted, the community in several surrounding villages expect increased company attention in helping residents, especially in the provision of health facilities and infrastructure in the community.<br>- Concerns about environmental pollution, especially rivers, will reduce the level of public health | • Monitoring of procurement of health assistance activities such as mobile health center (Pusling), free medical treatment, health infrastructure assistance, assistance in providing clean water, etc.<br>• Monitoring of activities to facilitate residents who complain that their health is disturbed due to the impact of the company's operations.<br>• Monitoring of activities to assist residents in procuring standby cars for residents who are sick and need to be referred to the nearest puskesmas or hospital. | To find out the increase in the level of public health. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| 2.3. | Employment | - Employment turns out become one of the most widely voiced impacts by the community. Moreover, it is considered that the company's policy in hiring local workers is not in line with the expectations of the community.<br>- Social jealousy with migrant workers or from outside the village<br>- There will be more and more workers who work outside agricultural sector because agricultural land is getting narrower due to company work activities<br>- Lack of socialization or information from companies related to labor recruitment | • Monitoring the prioritization of employing local workers (surrounding villages) in accordance with the company's needs.<br>• Monitoring of activities to prioritize human resource quality improvement through education and training to potential local workers according to company qualification standards.<br>• Monitoring of activities to facilitate the development of cooperation between companies and local contractors in several jobs that match the needs of the company. | To find out how to absorb and increase the competence of local workers. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| **3.** | **Financial Resources** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.1. | Public Income Sources | - Increased sources of income will have an impact on increasing expenses/needs.<br>- The high level of expenditure, will force some residents to have income in other sectors which has an impact on being unfocused at work.<br>- The abundance of oil palm and rubber agricultural products in the community makes it difficult for residents to market these products and find it difficult to get prices that are in accordance with what they want because of price games by middlemen. | • Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community.<br>• Monitoring of activities of implementing an integrated farming and livestock business system to increase people's income.<br>• Monitoring of activities to promote SMEs in the community and open up new business opportunities as a side business for the community to increase people's income.<br>• Monitoring of activities to provide opportunities for local communities to take advantage of business opportunities at the location of the company's activities.<br>• Monitoring of activities to provide entrepreneurship training for the community.<br>• Monitoring of activities to coordinate with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community.<br>• Monitoring of activities to encourage cooperatives or Bumdes to be able to become drivers of the community's economy and to create marketing for abundant | • To find out the activities of optimizing people's sources of income so that they can be used productively.<br>• To find out the activities encourage small and medium- sized businesses as well as household businesses to be able to improve products and create product marketing.<br>• To find out the activities to facilitate farmers, SMEs, Cooperatives and Bumdes to be able to create new types of businesses, create marketing and become the driving force of the local economy. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | community products such as rubber and oil palm plantations in the community. | | | | |
| 3.2. | Local Economic Growth | - With the presence of the company oil palm plantations, businesses in the agricultural sector will begin to be abandoned so that it can lead to vulnerability food. | • Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community.<br>• Monitoring of activities of implementing an integrated farming and livestock business system to increase people's income.<br>• Monitoring of activities to promote SMEs in the community and open up opportunities new businesses as a side business for the community to increase people's income.<br>• Monitoring of activities to provide opportunities for local communities to take advantage of business opportunities at the location of the company's activities.<br>• Monitoring of activities to provide entrepreneurship training for the community.<br>• Monitoring of coordinating activities with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community.<br>• Monitoring of activities to encourage cooperatives or Bumdes to be able to become | • To find out the activities of optimizing people's sources of income so that they can be used productively.<br>• To find out the activities encourage small and medium- sized businesses as well as household businesses to be able to improve products and create product marketing.<br>• To find out the activities to facilitate farmers, SMEs, Cooperatives and Bumdes to be able to create new types of businesses, create new businesses marketing and become a driving force for the local economy. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | drivers of the community's economy and to create marketing for abundant community products such as rubber and oil palm plantations in the community. | | | | |
| **4.** | **Physical Resources** | | | | | | |
| 4.1. | Infractructure | Open access road to PT. USP makes it easier for the public and other outside parties to enter and potentially commit criminal acts. | • Monitoring of identification and mapping of areas controlled by other parties, local communities and companies.<br>• Monitoring of activities of making boundaries between work areas and community lands<br>• Monitoring of socialization activities to land buyers and local residents about the status of the PT. USP and legal consequences for land buyers in forest areas.<br>• Monitoring of activities of making security posts to monitor exit entry of other parties at every entry point of the company.<br>• Monitoring of development activities and fostering partnership patterns with the community in managing life plants. | To ensure the area of PT. USP is protected from illegal activities carried out by other parties | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| 4.2. | Access to Market | The more open access to the economic center (the market) changes the mindset of the subsistence community to become commercial | • Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community.<br>• Monitoring of activities of implementing an integrated | • To find out the activities optimizing people's sources of income so that they can be used productively.<br>• To find out the activities encourage small and medium- sized businesses as well as household | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | farming and livestock business system to increase people's income.<br>• Monitoring of activities to promote SMEs in the community and open up new business opportunities as a side business for the community to increase public income<br>• Monitoring of activities to provide opportunities for local communities to take advantage of business opportunities in location of company activities.<br>• Monitoring of activities to provide entrepreneurship training for the community.<br>• Monitoring of coordinating activities with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community.<br>• Monitoring of activities to encourage cooperatives or Bumdes to be able to become drivers of the community's economy and to create marketing for abundant community products such as rubber and oil palm plantations in the community. | businesses to be able to improve products and create product marketing.<br>• To find out the activities providing facilitation to farmers, SMEs, Cooperatives and Bumdes to be able to create new types of businesses, create marketing and become the driving force of the local economy. | | | |
| **5.** | **Social Resources** | | | | | | |
| 5.1. | Social Institutions | - Social institutions will getting weaker because everyone will be busy with their work and social institutions will be material | • Monitoring of activities optimizing the role of customary institutions and the government in helping | To find out the activities of establishing closer and stronger relationships with the institutions of each village | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | oriented rather than promoting social values and public interest.<br>- The emergence of conflicting land claims by the community through the government, local institutions and village leaders. | communities make and determine land boundaries within the village concerned.<br>• Monitoring of mentoring activities for each village to determine village boundaries and the size of each village.<br>• Monitoring of coordinating activities with formal and informal leaders as well as with relevant agencies, including intensively with traditional institutions. | and village government and other relevant agencies. | | | |
| 5.2. | Social Relations | - The wider social relations are due to the increasing number of company workers from outside the region, the more difficult it will be to stem foreign cultures from entering the region and change the local cultural order that should be preserved.<br>- The emergence of land conflicts can trigger estrangement in social relations between the community and the community and between the community and the company.<br>- Communication that needs to be improved between the company and residents regarding the customs and norms prevailing in the community to produce a good relationship.<br>- Residents perceive that the company's communication with surrounding villages needs to be improved | • Monitoring of the activity of making traditional courts for the preservation of local culture, especially culture in community land management, so it is hoped that the local wisdom of residents in land management will continue to be maintained.<br>• Monitoring of activities to accommodate public concerns or doubts about the company's operational plans and realization.<br>• Monitoring of activities to maintain good relations and communication with traditional leaders or leaders and the government of each village in order to rebuild public trust.<br>• Monitoring of the activity of compiling several alternative patterns of cooperation and empowerment-based social programs carried out in a participatory manner between | • To find out the activities forge a closer and stronger relationship between the company with the community, social actors in each village, customary institutions and village government and other relevant agencies.<br>• To know the activities of regrowth public trust in the company. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | the community and the company in the implementation of the company's operational activities.<br>• Monitoring of problem-solving activities with or through deliberation for consensus and collectively kinship. | | | | |
| 5.3. | Conflict Resolution | - There is the potential for problems with land acquisition activities and residents' concerns about pollution, labor recruitment and other problems<br>- Another conflict that has the potential to occur in the community is environmental conflict. Where due to the operation of the company, many rivers which are feared by the community have been polluted.<br>- The existence of overlapping land triggers the potential for land disputes between residents that have the potential to affect the company<br>- Along with the increasing needs, it is possible for more conflicts to occur and the weakening of conflict resolution because the community will have a more individualistic attitude.<br>- Land conflicts that occur between communities, between villages and conflicts between communities/villages and companies have the potential to cause other social conflicts | • Monitoring of mentoring activities for each customary institution, local government and other institutions in the working area of PT. USP in facilitating residents to resolve conflicts in the community, especially those related to land management, land ownership, overlapping land and community land management systems carried out by the company.<br>• Monitoring of activities of functioning of customary institutions and local government for the resolution of possible conflicts will occur in the community, especially related to land use and tenure issues.<br>• Monitoring of formulation activities and accommodating people's expectations of the company's operational activities.<br>• Monitoring of the use of land conflict resolution procedures in accordance with all procedures issued by the management of PT. USP. | To find out the activities or resolving land conflicts within the PT. USP in accordance with applicable procedures and in accordance with customary law that applies in each village. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | • Monitoring of problem-solving activities with or through deliberation for consensus and collectively kinship. | | | | |
| 5.4. | Mobility and Migration Population | - There was migration of people from other areas who deliberately came to several areas in the 7 study villages to earn a living in plantation companies. With this migration from outside, the population for some villages has increased and the need for land is good for housing and for agriculture will increase.<br>- Population growth is increasing causing concern from the community that the land will be reduced again, especially for settlements.<br>- Decreasing skilled workforce in the villages.<br>- Emergence of labor conflict work in every village. | • Monitoring of Prioritizing activities employ local workers (surrounding villages) in accordance with the company's needs.<br>• Monitoring of activities give priority to improving the quality of human resources through education and training for potential local workers according to company qualification standards<br>• Monitoring of socialization of the workforce recruitment plan to the village government, leaders and local community members.<br>• Monitoring of activities to facilitate the development of cooperation between the company and local contractors on several jobs that suit the company's needs | • To find out the activities absorption and improvement of local workforce competence.<br>• To find out the activities of prioritizing local workers to work in the company in order to reduce the number of employees unemployment.<br>• To know the activities of. limiting external workers in order to participate in controlling the mobility and migration of the population from outside to the study villages. | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |
| 5.5. | Social Threats | - Seeing the condition of the community in each village in the area around the concession of PT. USP, where Several social conflicts have now occurred a lot, so social threats are very likely to occur at any time.<br>- The delay in the delivery of plasma production sharing from the original plan has the potential to cause problems in the future.<br>- The potential for conflict to arise over the postponement of | • Monitoring of activities to change existing policies and adjust them to community expectations.<br>• Monitoring of activities to sit down with the leaders of each village to discuss and formulate how to solve social problems that occur, especially those related to the operation of the company.<br>• Monitoring of activities prioritize hiring local workers | • To find out the activity absorption and improvement of local workforce competence through training and education as well as coaching.<br>• To find out the activities synergize with the government and village customary institutions in solving any problems that occur in the community | All villages | Every 6 months and conducted by periodic | Interview with the community, FGDs, field observations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | plasma profit sharing and labor problems.<br>- The problem of land claims and overlapping triggers potential land disputes between residents that have the potential to affect the company.<br>- A company's CSR program that is not running well has the potential to cause conflict between the company and the community.<br>- There is a potential for land disputes between communities and between villages which can lead to conflicts with companies because village boundaries or community lands are still unclear. | (surrounding villages) according to company needs.<br>• Monitoring of activities to prioritize human resource quality improvement through education and training to potential local workers according to company qualification standards.<br>• Monitoring of socialization activities for each plan to recruit workers to the village government, leaders and residents of the surrounding community.<br>• Monitoring of activities to facilitate the development of cooperation between the company and local contractors on several jobs that suit the company's needs.<br>• Monitoring of activities carrying out CSR activities that are tailored to the basic needs of the community.<br>• Monitoring of activities in collaboration with village customary institutions, sub-districts and local village governments in resolving any problems related to land and other actions caused by the impact of unresolved land use problems including plasma land.<br>• Monitoring of activities to provide clarity to the plasma participating residents in each village about the current condition and position of the | regarding the business activities of PT. USP<br>• .<br>• To find out the activities providing clarity about the plasma of residents and when they will get the profit sharing on the plasma.<br>• To find out the activities of carrying out the CSR mandate in accordance with the SOP or provisions that have been made by the company PT. USP | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | plasma residents as well as information on when the profit sharing will begin to be received inhabitant. | | | | |

In order to mitigate and build communication with the stakeholders, there are 3 programs of the social management plan that are expected to be done in the first 3 years (from 2021 until 2024) and will be followed by a monitoring program to ensure that every stakeholder understands and supports the sustainable palm oil production. The following programs are:

1. Preparation of Social Management Plan
   - The accommodation of the stakeholder's problems and needs around the operational region of the social management plan, as stated in company group: “To place the community around the operational areas of FR Group as one of the significant stakeholders and participating in improving their welfare through proper community development Programs”
   - The consolidation and socialization of the purpose in sustainable palm oil production. The society will be provided with guidance on the concession boundaries and company permission as well as the explanation of land acquisition procedures that correspond to the company’s terms and conditions along with FPIC implementation
   - The involvement of stakeholders to improve society, including the implementation of CSR programs, Plasma building, and local social development.
   - Socialization activities were carried out in the early years of the activity and continued until the land acquisition process was completed and it was confirmed that there were no remaining land tenure issues. The implementation of community empowerment is carried out in line with the company's operational activities.

2. Development of the community around the company’s operational area
   - This program is implemented for the surrounding community who are directly affected by the company's activities by strengthening programs to improve the economy and community business opportunities for the existence of company operations in their area.
   - Invite and explain to the public about the Plasma Program; The Empowerment Program for Local Contractors and MSMEs as well as other CSR and empowerment programs with a strategy aimed at increasing and strengthening the community's economy.
   - Build communication and active participation of the surrounding community through corporate public relations programs, for example through support for community religious activities or local cultural events; commemoration of national holidays and others.
   - Community development activities around the company are carried out in line with the development of the company's oil palm plantations. Plasma development is carried out after the completion of the land acquisition process, empowerment of local contractors is implemented in line with plantation development, for example the community takes part in building bridges/harvest points; road paving; workers' housing development, etc.

3. Local Employee Recruitment Programs

- The company provides opportunities for local communities to take part and build sustainable gardens together.
- Providing training and capacity building to local communities so that they are more professional in carrying out their work and directing them to improve their welfare.
- This Local Workforce Absorption activity involves all relevant stakeholders, coordinates with the local village/sub-district authorities and community leaders. This activity is carried out in line with the development of plantations and factories.

To ensure the success of these programs, the company monitors every 6 months with the aim of getting feedback and taking immediate follow-up efforts to improve it as a basis for sustainable social management.

Basically the existence of the community around the company's operations is an integral part in the development of the company's plantations and factories as a whole, therefore an integrated Social Management program can be the main supporter for the success of the sustainable development of PT USP's oil palm plantations.

Table 38. Environment management plans

| NO | LOCATION | TYPE OF IMPACT | SOURCES OF IMPORTANT IMPACT | MEASURED PARAMETERS | METHOD | TIME/PERIOD |
|---|---|---|---|---|---|---|
| 1 | Plantable area | Micro Climate Change | Land clearing and preparation | Air temperature, humidity, wind direction and wind speed | Laboratory Analysis | 2 x a year |
| 2 | Plantable area | Decreased Air Quality and Increased Noise | • Mobilization of equipment and materials<br>• Land clearing and maturation ( land clearing )<br>• Development of plantation area facilities and infrastructure | Noise, CO, Dust (TSP), Pb (Lead) | Laboratory Analysis | 2 x a year |
| 3 | Plantable area | Decline in Surface Water Quality | Land clearing and preparation | pH, COD, BOD, DO, TSS, TDS | Laboratory Analysis | 2 x a year |
| 4 | Plantable area | Increased Erosion and Sedimentation Rate | Land clearing and maturation | Rainfall, slope, soil properties, ground cover , etc | USLE | 2 x a year |
| 5 | Plantable area | Forest Fire Potential | Land clearing and preparation | Microclimate conditions, field monitoring | Descriptive | Continue |
| 6 | Plantable area | Soil Fertility Level | Land clearing and preparation | pH, CEC, KB, P available, Organic matter, Heavy metals | Laboratory Analysis | 2 x a year |
| 7 | Plantable area | Transportation (quality of roads and bridges) | • Mobilization of equipment and materials<br>• Development of facilities and infrastructure | Road quality | Descriptive | Continue |

| NO | LOCATION | TYPE OF IMPACT | SOURCES OF IMPORTANT IMPACT | MEASURED PARAMETERS | METHOD | TIME/PERIOD |
|---|---|---|---|---|---|---|
| 8 | HCV/HCV areas | Changes in the abundance and diversity of flora/vegetation species | Land clearing and preparation | Diversity of vegetation | Descriptive | 1 x Year |
| 9 | HCV/HCV areas | Changes in Fauna Abundance and Diversity | Land clearing and preparation | Wildlife diversity | Descriptive | 1 x a year |
| 10 | HCV/HCV areas | Changes in Abundance and Diversity of Aquatic Biota | Care for immature plants | Diversity of aquatic biota | Laboratory Analysis | 2 x a year |
| 11 | Social, economic, cultural and public health | Employment and Business Opportunities | • Labor recruitment<br>• Land clearing and preparation<br>• Development of facilities and infrastructure | Job opportunities | Descriptive | Continue |
| 12 | Social, economic, cultural and public health | Community Income | • Labor recruitment<br>• Land clearing and preparation<br>• Construction of facilities and infrastructure and supporting facilities | Min. wage | Descriptive | Continue |
| 13 | Social, economic, cultural and public health | People's Attitudes and Perceptions | • Labor recruitment<br>• Land clearing and preparation<br>• Construction of facilities and infrastructure and supporting facilities | Changes in people's mindset | Descriptive | Continue |
| 14 | Social, economic, cultural and public health | Social jealousy | Labor recruitment | Social relations | Descriptive | Continue |
| 15 | Social, economic, cultural and public health | Social Process | Labor recruitment | Employment Opportunity | Descriptive | Continue |
| 16 | Social, economic, cultural and public health | Environmental Sanitation Quality and Changes in Disease Patterns | Care for immature plants | The level of availability of environmental sanitation facilities, clean and healthy living behavior, types of diseases that arise and develop | Descriptive | Continue |
| 17 | Social, economic, cultural and public health | Public Health Level | • Vehicle mobilization<br>• Land clearing and maturation<br>• Development of facilities and infrastructure | Clean and healthy living behavior (PHBS) of community members, morbidity rate | Descriptive | Continue |

| NO | LOCATION | TYPE OF IMPACT | SOURCES OF IMPORTANT IMPACT | MEASURED PARAMETERS | METHOD | TIME/PERIOD |
|---|---|---|---|---|---|---|
| | | | • Maintenance of immature plants | | | |

### 4.3. HCV-HCS Management Plan

Threat Assessment

The approach used in conducting the threat assessment to the HCVs in the PT USP HGU area is a qualitative approach. A qualitative approach is carried out by measuring the relative impact of an event and tends to focus more on strategic and political aspects in avoiding or reducing the negative impact of a risk. The results of the threat level assessment are divided into 5 types, namely very low, low, medium, high and very high. Assessment of HCV-HCS threats in PT USP's HGU area is carried out in 4 (four) ways, namely (1) Literature study, (2) Interview, (3) Focus Group Discussion (FGD), and (4) Field observation. The assessment of threats in the PT USP HGU area is directed at 2 sources, namely internal and external, as well as on 2 events, namely current and potential. Activities that threaten the presence of HCVs in PT USP's HGU area are presented in Table 39.

Table 39. Threats to the HCV-HCSA Area in the HGU Area of PT. USP

| HCV/HCS | A Brief Description of the Presence of Values in the Valuation Area | Main threat | Threat Level |
|---|---|---|---|
| HCS Forest | **HCS Areal**<br>• HCS Area -1<br>• HCS Area -2<br>• HCS Area -3 | **Present**<br>• Illegal logging. | Very High |
| | | **Potential**<br>• Decreased forested area due to community conversion into gardens/agricultural fields. | Very High |
| HCV 1 | **Species Diversity**<br>• Flora species which are endemic, rare, threatened or endangered: *Agarwood (Aquilaria malaccensis Lamk.), Mentawak/Mentawa (Artocarpus anisophyllus Miq.), Ground orchid (Bromheadia finlaysoniana (Lindl.) Miq.), Rambutan Hutan/Mata mamar /bedara pait (Cantleya corniculata Howard.), Ayau (Cotylelobium burckii Heim), Kayu besi (Cotylelobium lanceolatum Craib.), Medang (Dehaasia firma Bl.), Pekawai (Durio kutejensis (Hassk.) Beccari), Durian kusik/teratungan/meruyan (Durio lanceolatus Mast.), Ulin/Belian (Eusideroxylon zwageri T. & B.), Kumpang (Knema perconacea Sinch.), Entuyut root (Nepenthes gracilis), Anggrek Bongkol (Pholidota chinensis Lindl.), Berabak (Shorea leptoclaus).), Tengkawang (Shorea pinanga Scheff.), Lingis (Shorea seminis v. Slooten), and Orchid (Thrixpermum ridleyanum).*<br>• Animal species that are endemic, rare, threatened or endangered: *Mammals Red Langur/Kasi (Presbytis rubicunda), Long-tailed Monkey (Macaca fascicularis), Gibbon Kelawat/Kelempiau (Hylobates muelleri), Pangolin (Manis javanica), Sun Bear ( Helarctos malayanus), Kelawit Kecil (Lutra perspicillata), Kucing Kuwuk (Prionailurus bengalensis), Muncak Deer (Muntiacus muntjak), Sambar Deer (Rusa unicolor); Rat Eagle (Elanus caeruleus), Bondol Eagle (Haliastur indus), Black Eagle (Ictinaetus* | **Present**<br>• Illegal logging | Very High |
| | | • Wildlife Hunting | Very High |
| | | • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. | Very High |
| | | **Potential**<br>• Decreased habitat area due to conversion of forested areas in the form of dry land forest due to community conversion into gardens/agricultural fields. | Very High |
| | | • Decrease in river water quality due to land clearing, washing/runoff of fertilizers & pesticides or other pollution from oil palm plantations entering rivers. | Very High |
| | | • Pollution of household waste. | High |

| HCV/HCS | A Brief Description of the Presence of Values in the Valuation Area | Main threat | Threat Level |
|---|---|---|---|
| | *malayensis), Brontok Eagle (Nisaetus cirrhatus), Klihingan Hornbill (Anorrhinus Galeritus), Kangkareng Hitam (Anthracoceros malayanus), Takur Gedang (Megalaima chrysoporeus), Red-hat takur (Megalaima henricii), Layang Layang Asia (Hirundo rustica), Cicadaun Kecil (Chloropsis cyanopogon), Kipas Sirip (Rhipidura javanica); and Herpetofauna: Rice Field Snake (Malayopython reticulatus), Cobra Sumatera (Naja sumatrana), Ular Tedung (Ophiophagus hannah), Water Monitor Lizard (Varanus salvator), Labi-Labi (Dogania subplana).*<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Forested Areas: Forested Areas and Forested Areas of Mount Menyalaq.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09.<br>• Hill: Bukit Menyalaq. | | |
| HCV 2 | **Ecosystem, Mosaic at Landscape Level and Intact Forest Landscape**<br>• Distribution Area of Orang Utan | **Present**<br>• Illegal logging | High |
| | | • There is conversion of land in the orangutan distribution area with land cover in the form of secondary forest and shrubs carried out by the community into gardens / agricultural fields | Very High |
| HCV 3 | **Habitat and Ecosystem**<br>• Mixed dipterocarp forest on metamorphic rocks.<br>• Forested Areas: Forested Areas and Forested Areas Bukit Menyalaq | **Present**<br>• Illegal logging | Very High |
| | | **Potential**<br>• Decreased habitat area due to the conversion of forested land in the form of dry land forest due to the conversion carried out by the community into gardens/agricultural fields. | Very High |
| HCV 4 | **Ecosystem Services**<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09.<br>• Hill: Bukit Menyalaq.<br>• Springs and their borders: Titi ubar Springs, Widows Berias Springs, Tinjil Springs, Mount Menyalaq Springs, Blanti Springs, and Mount Sentuai Springs.<br>• Forested Areas: Forested Areas and Mount Menyalaq Forested Areas. | **Present**<br>• Illegal Logging. | Very High |
| | | • Loss of land cover in the form of dry land forest and shrubs in river border areas. | Very High |
| | | • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. | Very High |
| | | **Potential**<br>• The company's operational activities will result in river silting, an increase in river water discharge in the rainy season and a decrease in river water discharge in the dry season, and increase erosion. | Very High |
| | | • Pollution of household waste. | High |

| HCV/HCS | A Brief Description of the Presence of Values in the Valuation Area | Main threat | Threat Level |
|---|---|---|---|
| | | • Loss of water supplies needed by downstream communities. | Very High |
| HCV 5 | **Community Need**<br>• Communities in the village around the HGU area of PT. USP utilizes Titi Ubar Springs, Janda Berias Springs, Tinjil Springs, Bukit Menyalaq Springs, Blanti Springs, and Bukit Sentuai Springs to meet the needs of drinking water and MCK.<br>• Communities in the village around the HGU area of PT. USP utilizes Rawa Penantangan to meet protein (fish) needs.<br>• Communities around the PT. USP utilizes Share Garden to meet the needs of timber and non-timber forest products. | **Present**<br>• Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. | Very High |
| | | **Potential**<br>• Pollution of household waste. | High |
| | | • Loss of drinking water sources due to river water being polluted. | Very High |
| HCV 6 | **Cultural Value**<br>• Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Keramat Keranji, Dukuh Ugan Tering Grave, Kelapu Grave, Lubuk Bayur Grave, Kalimantan Lalau Sacred Grave, Tanah Merah Sacred Cemetery, Forest Sacred Tongkat, Tanjung Babuy Customary Land, and Abi Sacred Graves. | **Present**<br>• None | - |
| | | **Potential**<br>• Land clearing, road construction and other facilities that do not take into account the existence of archaeological sites.<br>• Loss of public access to archaeological sites.. | High |
| | | • Loss of community access to archaeological sites. | High |
| Peat | • Not Found | None | None |

Recommendation for Every Value

HCV management is inseparable from the sustainable management of oil palm plantations, especially in realizing the preservation of ecological/environmental functions and social sustainability. Therefore, the HCV-HCSA areas found in the PT. USP must be maintained and improved its existence. HCV-HCSA monitoring is also an integral part of HCV-HCSA management. HCV-HCSA monitoring aims to determine the success and effectiveness of the HCV management activities that have been carried out. Based on the data and information obtained from the HCV-HCSA monitoring activities, it is then used as material for improvement and refinement of the follow-up plan for the management of the HCV-HCSA that will be carried out, so that the existence and sustainability of the functions of the HCV-HCSA areas can be maintained and enhanced in the long term. PIC for HCV-HCS Management Plan is Sustainability Conservation & Environmental Compliance with e-mail: (sholihudin.sholeh@first-resources.com). Recommendations for each of these values are presented in Table 40.

Cross Sectoral Recommendations

The management of HCV-HCS in PT USP's HGU area needs to be carried out in an integrated manner by considering 2 (two) contexts, namely the socio-political context of the landscape and (2) the socio-political context of the Watershed (DAS).

***Social Political Context Landscape***

Management of HCV-HCSA in the HGU area of PT. USP must be carried out on a large landscape scale, so it must be carried out in an integrated manner related to biodiversity conservation, namely building interconnections between HCV-HCS areas within the HGU area of PT. USP with the surrounding HCV-HCS areas as wildlife corridors. Investment activities that have been and are being developed around

the HGU area of PT. USP consists of 3 (three) types, namely (1) Oil palm plantations managed by PT. Falcon Agri Plantation, PT. Kalimantan Sawit Kusuma, and PT Bangun Nusa Mandiri; (2) Forestry (IUPHHK-HA) managed by PT. Agra Primera Plantation, and IUPHHK-HT managed by PT. Grace Putri Perdana; and (3) Community-owned plantation and agricultural areas. In this regard, the manager of the HGU area of PT. USP in managing HCV-HCSA must be carried out in an integrated and cross-sectoral manner by coordinating with companies that manage oil palm plantations in the vicinity, IUPHHK-HTI companies, as well as communities that manage plantations/fields/rice fields and the settlements they manage.

***Socio-Political Context of Watershed (DAS)***

HGU area of PT. The USP in landscape is in the Jelai watershed. Within the HGU area of PT. USP found as many as 2 (two) rivers/tributaries namely S. Sinyarip and S. Kapul. Conditions and characteristics of rivers/tributaries found around the HGU area of PT. USP indicates that the HGU area of PT. USP is found in the area between the upstream and downstream of the river. The flow of the 2 rivers/tributaries entirely passes through the HGU area of PT. USP, which ultimately boils down to S. Barley.

Based on the administrative location of the government area, the HGU area of PT. USP is located in Manis Mata Subdistrict (Kelampai, Pelampangan, Sengkuang Meraboh and Pakit Selaba Villages) and Jelai Hulu Subdistrict (Biku Sarana, Semantun and Asam Jelai Villages), Ketapang Regency, West Kalimantan Province. The communities of the seven villages located in or around the HGU area of PT. USP utilizes rivers originating or flowing through the permit area for drinking water, toileting (especially during the dry season) and fishing.

In addition, people in other villages located downstream and far from the HGU area of PT. The USP may also use the rivers that originate from or pass through the HGU area to irrigate the MCK. Therefore, the management of oil palm plantations in the HGU area of PT. USP should focus on efforts to preserve the function of these rivers by developing soil and water conservation principles, as well as adequate waste management in an integrated and cross-sectoral manner. In carrying out efforts to preserve these rivers, the manager of the HGU area of PT. The USP cannot do it alone, but it must be carried out in an integrated and cross-sectoral manner by coordinating with companies that manage oil palm plantations in the vicinity, as well as communities that manage the plantations/fields and settlements they manage, especially in the upstream areas.

Table 40. Management and monitoring HCV-HCS in the permit area of PT USP

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| **HCS Forest**<br>• HCS Area-1<br>• HCS Area- 2<br>• HCS Area-3 | • Illegal logging.<br>• Decreased HCS area due to community conversion into gardens/agricultural fields. | • Perform boundary marking and maintenance of boundary markings for forested areas at strategic locations.<br>• Socializing HCS internally and externally.<br>• Prevent, protect, and deal with disturbances to HCS management areas (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within the permit area, as well as effective law enforcement.<br>• HCS areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations | • Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized.<br>• Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in HCS management areas that have been carried out.<br>• Periodically monitoring the intensity of disturbances to HCS areas, including illegal logging and area conversion. | • Once year<br>• Once year<br>• Once month | Sustainability Conservation & Environmental Compliance |
| **Species Diversity**<br>• Flora species which are endemic, rare, threatened or endangered: Agarwood (*Aquilaria malaccensis* Lamk.), Mentawak/Mentawa (*Artocarpus anisophyllus* Miq.), Ground orchid (*Bromheadia finlaysoniana* (Lindl.) Miq.), Rambutan Hutan/Mata mamar /bedara pait (*Cantleya corniculata* Howard.), Ayau (*Cotylelobium burckii* | • Illegal logging.<br>• Wildlife hunting<br>• Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields.<br>• Decreased habitat area due to the conversion of | • Perform boundary marking and maintenance of boundary markings for river border areas (50 m wide), swamps, hills, and forested areas in the field.<br>• Conducting socialization of HCV internally and externally.<br>• Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Conduct further surveys to ascertain the population status of the HCV 1 species. | • Conduct periodic monitoring of the population of the HCV 1 species in the HCV management area.<br>• Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized.<br>• Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in the HCV management area that have been carried out. | • Twice a Year<br>• Once Year<br>• Once Year | Sustainability Conservation & Environmental Compliance |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| Heim), Kayu besi (*Cotylelobium lanceolatum* Craib.), Medang (*Dehaasia firma* Bl.), Pekawai (*Durio kutejensis* (Hassk.) Beccari), Durian kusik/teratungan/meruyan (*Durio lanceolatus* Mast.), Ulin/Belian (*Eusideroxylon zwageri* T. & B.), Kumpang (*Knema perconacea* Sinch.), Entuyut root (*Nepenthes gracilis*), Anggrek Bongkol (*Pholidota chinensis* Lindl.), Berabak (*Shorea leptoclaus*), Tengkawang (*Shorea pinanga* Scheff.), Lingis (*Shorea seminis* v. Slooten), and Orchid (*Thrixpermum ridleyanum*).<br>• Animal species that are endemic, rare, threatened or endangered: Mammals Red Langur/Kasi (*Presbytis rubicunda*), Long-tailed Monkey (*Macaca fascicularis*), Gibbon Kelawat/Kelempiau (*Hylobates muelleri*), Pangolin (*Manis javanica*), Sun Bear ( *Helarctos malayanus*), Kelawit Kecil (*Lutra perspicillata*), Kucing Kuwuk (*Prionailurus bengalensis*), Muncak Deer (*Muntiacus* | forested land in the form of dry land forest due to the conversion carried out by the community into gardens/agricultural fields.<br>• Decrease in river water quality due to land clearing, washing/runoff of fertilizers & pesticides or other pollution from oil palm plantations entering rivers<br>• Pollution of household waste. | • Performing river border maintenance in areas (riparian areas): (1) Conducting rehabilitation and restoration of river border areas that have land cover in the form of shrubs and open land; (2) Conduct socialization to the community to minimize the impact of the use of herbicides and fertilization on land cover in the form of mixed rubber plantations, oil palm plantations, and rubber plantations; (3) Making rorak or mounds, (4) Overcoming narrowing (due to garbage and others) and river silting, (5) For land cover in the form of secondary dry land forest, activities to control and prevent the spread of exotic and invasive species; (6) Increasing the "filter" of the watershed especially along riverbanks by planting grasses or other plants that can tightly cover the soil surface; and (7) Safeguarding riverbanks that are prone to landslides, for example by planting relatively light and deep-rooted plants such as bamboo (if the sediment comes from riverbank erosion).<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Sub-districts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations. | • Monitoring the intensity of disturbances to the borders of rivers, swamps, hills, and forested areas periodically, including illegal logging and area conversion.<br>• Conduct periodic monitoring of rehabilitation and restoration activities in river border areas. | • Once month<br>• Once Year | |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| *muntjak*), Sambar Deer (*Rusa unicolor*); Rat Eagle (*Elanus caeruleus*), Bondol Eagle (*Haliastur indus*), Black Eagle (*Ictinaetus malayensis*), Brontok Eagle (*Nisaetus cirrhatus*), Klihingan Hornbill (*Anorrhinus Galeritus*), Kangkareng Hitam (*Anthracoceros malayanus*), Takur Gedang (*Megalaima chrysoporeus*), Red-hat takur (*Megalaima henricii*), Layang Layang Asia (*Hirundo rustica*), Cicadaun Kecil (*Chloropsis cyanopogon*), Kipas Sirip (*Rhipidura javanica*); and Herpetofauna: Rice Field Snake (*Malayopython reticulatus*), Cobra Sumatera (*Naja sumatrana*), Ular Tedung (*Ophiophagus hannah*), Water Monitor Lizard (*Varanus salvator*), Labi-Labi (*Dogania subplana*).<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Forested Areas: Forested Areas and Forested Areas of Mount Menyalaq.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09.<br>• Hill: Bukit Menyalaq. | | | | | |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| **HCV 2**<br>Distribution Area of Orangutan | • Illegal logging.<br>• There is conversion of land in the orangutan distribution area with land cover in the form of secondary forest and shrubs carried out by the community into gardens/agricultural fields. | • Perform boundary marking and maintenance of boundary markings for Orangutan distribution areas in the field.<br>• Conducting socialization of HCV internally and externally.<br>• Preventing, protecting, and overcoming disturbances to the orangutan distribution area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations | Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized. | Once year | Sustainability Conservation & Environmental Compliance |
| **HCV 3**<br>• Mixed dipterocarp forest on metamorphic rocks.<br>• Forested Areas: Forested Areas and Forested Areas Bukit Menyalaq | • Illegal logging.<br>• Reduction of forested area due to illegal logging and land conversion in forested areas carried out by the community into gardens/agricultural fields. | • Perform boundary marking and maintenance of boundary markings for Orangutan distribution areas in the field.<br>• Conducting socialization of HCV internally and externally.<br>• Preventing, protecting, and overcoming disturbances to the orangutan distribution area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the | • Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized.<br>• Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in the HCV management area that have been carried out.<br>• Periodically monitoring the intensity of disturbances to forested areas, including | • Once year<br>• Once Year<br>• Once month | Sustainability Conservation & Environmental Compliance |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| | | Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations. | illegal logging and area conversion. | | |
| **HCV 4**<br>• The river and its borders: S. Sinyarip and S. Kapul.<br>• Swamp: Penantangan Swamp, Swamp I09, and Swamp J09.<br>• Hill: Bukit Menyalaq.<br>• Springs and their borders: Titi ubar Springs, Widows Berias Springs, Tinjil Springs, Mount Menyalaq Springs, Blanti Springs, and Mount Sentuai Springs.<br>• Forested Areas: Forested Areas and Mount Menyalaq Forested Areas. | • Illegal logging.<br>• Loss of land cover in the form of dry land forest and shrubs in river border areas.<br>• Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields.<br>• The company's operational activities will result in river silting, an increase in river water discharge in the rainy season and a decrease in river water discharge in the dry season, and increase erosion.<br>• Pollution of household waste. | • Perform boundary marking and maintenance of river border areas (50 m wide), springs and their borders, forested areas, hills, and swamps in the field.<br>• Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Develop and implement SOPs for the use of chemicals and SOPs for waste management, as well as SOPs for land clearing, construction and maintenance of roads and other facilities, as well as planting and maintaining plants that are able to minimize erosion and maintain water quality.<br>• Ensure that road and other facilities construction activities, as well as land clearing have been carried out correctly in accordance with the SOPs that have been prepared.<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Sub-districts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of | • Build a monitoring station for the physical condition of the river and the quantity of river and spring water.<br>• Conduct periodic monitoring with the community on the physical condition of the river, as well as the quality and quantity of river and spring water.<br>• Conduct periodic monitoring of illegal logging and land conversion activities by the community.<br>• Conduct periodic erosion monitoring.<br>• Conduct periodic monitoring of land cover changes and natural regeneration in river border areas, areas around springs, swamps, hills, and forested areas.<br>• Monitoring and evaluating the SOPs that are applied periodically. | • Twice year<br>• Once month<br>• Once month<br>• Once year<br>• Once Year<br>• Once Year | Sustainability Conservation & Environmental Compliance |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| | • Loss of water supplies needed by downstream communities. | areas within HGU areas, as well as effective law enforcement.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations. | | | |
| **HCV 5**<br>• Communities in the village around the HGU area of PT. USP utilizes Titi Ubar Springs, Janda Berias Springs, Tinjil Springs, Bukit Menyalaq Springs, Blanti Springs, and Bukit Sentuai Springs to meet the needs of drinking water and MCK.<br>• Communities in the village around the HGU area of PT. USP utilizes Rawa Penantangan to meet protein (fish) needs.<br>• Communities around the PT. USP utilizes Share Garden to meet the needs of timber and non-timber forest products. | • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields.<br>• Pollution of household waste.<br>• Loss of drinking water sources due to river water being polluted | • Protecting HCV 5 through clear boundary marking activities in the field and regular patrols.<br>• Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols.<br>• Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations | Conduct periodic monitoring of community participation in reducing environmental impacts (eg: land conversion and use of fertilizers and pesticides in gardens/fields). | Once year | Sustainability Conservation & Environmental Compliance |
| **HCV 6**<br>Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Keramat Keranji, Dukuh Ugan Tering Grave, Kelapu Grave, Lubuk Bayur Grave, Kalimantan Lalau Sacred Grave, Tanah Merah | • Land clearing, road construction and other facilities that do not take into account the existence of archaeological sites.<br>• Loss of public access to archaeological sites | • Marking the boundaries of HCV 6 areas if permitted by the community and periodically maintaining boundary markings in the field so that disturbances to the site do not occur.<br>• Involve community members during land clearing activities, especially those located adjacent to or adjacent to HCV 6 areas to avoid disturbance to existing sites.<br>• Develop SOPs for identification, boundary marking and maintenance of boundary | • Develop a simple HCV 6 monitoring system that is easily understood by the community.<br>• The company together with the community conducts site monitoring periodically (annually) and prepares a report. | • Once year<br>• Once year | Sustainability Conservation & Environmental Compliance |

| Identified Value | Threat | Management Recommendation | Monitoring Management | Timeline Monitoring | PIC |
|---|---|---|---|---|---|
| Sacred Cemetery, Forest Sacred Sticks, Tanjung Babuy Customary Land, and Abi Sacred Graves. | | markings in the field, as well as protection of all HCV 6 sites together with the community.<br>• Provide convenience for all communities to access the HCV 6 site.<br>• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations. | | | |
| **Peat** | Not found | Not found | Not found | | |

### 4.4. Soil Mangement Plan

Based on the soil survey, there is marginal soil in the proposed development areas. Considering the topography the proposed development areas, the areas that need attention and managed are the steep areas and riparian zone because both of those areas are prone to erosions. Management plan that need to be considered in preparing a complete document of the soil management plan in the proposed development areas are presented in the management and monitoring of HCV 4.

### 4.5. GHG Mitigate Management Plan

The mitigation plan is related to the process of planting oil palm and building a palm oil mill. Land clearing for new plantings is prioritized in areas with low carbon stocks. GHG emission efforts carried out in the development area for new plantings are maintaining the HCV-HCSA area, optimizing fuel use/efficiency and clearing land without burning (zero burning).

The new development plan in the PT USP area, based on scenario 1, must avoid conservation areas in the form of HCV areas and forest areas that aim to increase emission absorption and such as carbon storage. Mitigation plans and monitoring of protected areas in the PT USP area are presented in tables below.

Table 41. Plans for maintenance/improvement and monitoring of protected areas in the PT USP

| No | Maintenance/Improvement | Monitoring | Area | Frequency |
|---|---|---|---|---|
| 1. | Marking protected area boundary by participatory. | Maintenance sign protected area boundary periodically. | HCV area and disturbed forest | Once every 6 months |
| 2. | Socialization to employees, contractors and management regarding area boundaries and protected areas, especially those who have the task of clearing land, building roads and other facilities, as well as maintaining oil palm plantations, harvesting and transporting oil palm fruit | Understanding of employees, contractors and management related to boundaries of protected areas, socialization, prevention and control of forest and land fires, encroachment on protected areas | HCV area and disturbed forest | For employees and contractors, socialization is carried out every 3 months For the surrounding community, socialization is carried out every 6 months |
| 3. | Socialization of protected areas for the surrounding community | Understanding of employees, contractors and management related to boundaries of protected areas, counseling, and prevention and control of forest and land fires, encroachment on protected areas | HCV area and disturbed forest | |
| 4. | Prevention and control of fire disturbances and encroachment of protected areas through the formation of a task force | Patrol by periodic | HCV area and disturbed forest | In line with the estate patrol |
| 5. | Inventory and identification land cover in protected area | Monitoring vegetation structure and composition | HCV area and disturbed forest | Once every 6 months |
| 6. | Rehabilitation and species enrichment in protected areas | Realization and percentage of lives invested in rehabilitation and enrichment location | HCV area and disturbed forest | Once every 2 months |

Table 42. GHG emission reduction strategy for PT USP oil palm plantation operations

| Operational Stage | Actions to Maintain/Improve | |
|---|---|---|
| LC and planting (Land use change) | LC and planting | • Land clearing without burning (zero burning)<br>• Not opening conservation areas and conservation area reserves<br>• Implementation of good plantation crop cultivation practices in accordance with oil palm cultivation guidelines (eg not planting in certain locations with certain slopes) |

| Operational Stage | Actions to Maintain/Improve | |
|---|---|---|
| | | • Planting trees on riverbanks and critical areas<br>• Carry out fire patrols<br>• Conduct socialization to all levels of workers regarding the greenhouse gas emission mitigation program in lc and planting activities |
| | Use of machinery/heavy equipment | • Routine maintenance of vehicles and machines<br>• Routine vehicle emission testing<br>• Doing reforestation in strategic places<br>• Make transportation arrangements effectively and efficiently<br>• Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery |
| | Fertilizing | • Effective fertilization according to the dose in the recommended fertilization<br>• No fertilization when it rains<br>• No fertilization in river border areas<br>• Conducting socialization to all levels of workers regarding the greenhouse gas emission mitigation program due to fertilization activities |
| Plant upkeep and cultivation | Use of fossil fuels for transportation | • Routine maintenance of vehicles and machines<br>• Routine vehicle emission test<br>• Doing reforestation in strategic places<br>• Make transportation arrangements effectively and efficiently<br>• Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery |
| | Fertilizing | • Routine maintenance of vehicles and machines<br>• Routine vehicle emission test<br>• Doing reforestation in strategic places<br>• Make transportation arrangements effectively and efficiently<br>• Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery |
| Settlement | The use of fossil fuels for energy sources for diesel engines that are used as a provider of electricity | • Machine maintenance and repair regularly<br>• Periodic emission monitoring |
| | Decomposition of waste in landfill | Doing stockpiling after the landfill is full |

Table 43. GHG emission reduction strategy for PT USP palm oil mill

| Operational Stage | Actions to Maintain/Improve | |
|---|---|---|
| Processing and transportation | Use of fossil fuels for combustion in boilers and diesel engines (for power sources) | • Regular monitoring of boiler and diesel engine emissions<br>• Periodic service to the machines used<br>• Using biofuels (shells, fibers) to reduce the use of fossil fuels<br>• Socialization to workers regarding the GHG emission mitigation program sourced from processing FFB into CPO by using fossil fuels as an energy source in boilers and diesel engines |
| | Use of fossil fuels for transportation of CPO and EFB | • Routine maintenance of vehicles and machines<br>• Routine vehicle emission test<br>• Planting trees in strategic places<br>• Organize transportation effectively and efficiently<br>• Socialization to all workers regarding the GHG emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery |
| POME (Palm Oil Mill Effluent) | Liquid waste | • Land application<br>• Monitor the physical condition of the ponds and freeboard levels<br>• Regular monitoring for POME |

| Operational Stage | Actions to Maintain/Improve | |
|---|---|---|
| | EFB (Empty Fruit Bunch) | • Used for compost<br>• Used for mulch |

## 5. REFERENCES


Affandi, A. 2014. Modul Participatory Action Research (PAR), (Surabaya: LPM IAIN Sunan Ampel) hal. 91.

Agus, F, K. Hairiah, A. Mulyani. 2011. Mengukur stok karbon di tanah gambut: panduan praktis., Pusat Wanatani Dunia (World Agroforestry Centre/ICRAF) Program Kawasan Asia Tenggara & Pusat Penelitian dan Pengembangan Sumber Daya Lahan Pertanian Indonesia, Bogor dan Jakarta, Indonesia. Hal 60.

Agustinus S, Masaaki Y, Ibnu M, Maharadatunkamsi, Jito S. 1998. Checklist of the mammals of Indonesia : scientific name and distribution area table in Indonesia including CITES, IUCN and Indonesia category for Conservation. Bogor (ID) : Lembaga Ilmu Pengetahuan Indonesia (LIPI).

Ancrenaz M, Lackman-Ancrenaz I. 2004. Orangutan status in Sabah: Distribution and population size. Hutan-SWD Report, Kota Kinabalu, Sabah, Malaysia

Andaya, Leonard Y. 2001. "The Search for the 'Origin' of Melayu", dalam Journal of Southeast asian Studies, 32(3), pp 315-330 October 2001. Printed in the United Kingdom © 2001 The National University of Singapore.

Anonimous. 1990. Keputusan Presiden Republik Indonesia Nomor 32 Tahun 1990 tentang Pengelolaan Kawasan Lindung.

Anonimous. 1960. UU No 56 (Prp) Tahun 1960 tentang Penetapan Luas Lahan Pertanian.

Anonimous. 1982. Peraturan Pemerintah (PP) No. 22 tahun 1982 tentang Tata Pengaturan Air.

Anonimous. 1990. Keputusan Presiden Republik Indonesia Nomor 32 Tahun 1990 tentang Pengelolaan Kawasan Lindung.

Anonimous. 1991. Peraturan Pemerintah No. 27 Tahun 1991 tentang Rawa.

Anonimous. 2015. Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat (PUPR) Republik Indonesia No. 29/PRT/M/2015 tentang Rawa.

Anonimous. 2018. Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor P.106 tahun 2018 tentang Pengawetan Jenis Tumbuhan dan Satwa.

Badan Standarisasi Nasional (BSN). 2010. Klasifikasi Penutup Lahan. Badan Standarisasi Nasional. Jakarta.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2012. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2011. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2013. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2012. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2014. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2013. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2015. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2014. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2016. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2015. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2017. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2016. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2018. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2017. BMKG Stasiun Klimatologi Supadio. Pontianak.

Badan Meteorologi Klimatologi dan Geofisika (BMKG) Stasiun Klimatologi Supadio Pontianak. 2012. Data Curah Hujan, Hari Hujan, dan Suhu Tahun 2011. BMKG Stasiun Klimatologi Supadio. Pontianak.

BBSDLP. 2004. Petunjuk Teknis Pengamatan Tanah. Balai Besar Sumber Daya Lahan Pertanian, Bogor

BBSDLP. 2011. Klasifikasi Tanah Nasional. Edisi Revisi. Balai Besar Sumber Daya Lahan Pertanian, Bogor.

Bismark, M. 2011. Prosedur Operasi Standar (SOP) untuk Survei Keragaman Jenis pada Kawasan Konservasi. Pusat Penelitian dan Pengembangan Perubahan Iklim dan Kebijakan, Badan Penelitian dan Pengembangan Kehutanan, Kementerian Kehutanan, Republik Indonesia Kerjasama dengan International Tropical Timber Organization (ITTO). Bogor.

BPS Kabupaten Ketapang. 2019a. Kabupaten Ketapang dalam Angka 2019. BPS Kabupaten Ketapang. Ketapang.

BPS Kabupaten Ketapang. 2019b. Kecamatan Manis Mata dalam Angka 2019. BPS Kabupaten Ketapang. Ketapang.

BPS Kabupaten Ketapang. 2019c. Kecamatan Jelau Hulu dalam Angka 2019. BPS Kabupaten Ketapang. Ketapang.

BPS Kecamatan Jelai Hulu Dalam Angka 2018, Angka 2018, Badan Pusat Statistik Kabupaten Ketapang.

BPS Kecamatan Manis Mata Dalam Angka 2018, Badan Pusat Statistik Kabupaten Ketapang.

Byram, G.M. 2004. Some Principles of Combustion and Their Significance in Forest Fire

Behavior. Forecasting Wildland Fire Behavior: Aids and Guide. Fire Management Today Vol 64: 1. United State Department of Agriculture, Forest Service. Washington, D.C.

Cassel, D.K. 1997. Foreword. Dalam: M.J. Vepraskas & S.W. Sprecher (eds.), Aquic Conditions and Hydric Soils. The Problem Soils. SSSA Special Publication Number 50. h vii,

CITES. 2019. Protected Species. <www.cites.org>. didownload pada 8 November 2019.

Cohen, J.1960. A Coefficient of Agreement for Nominal Scales. Educational and Psychological Measurement. Vol. 20 (1) : pp 37 – 46.

Colantonio, Andrea. Social Sustainability: Linking Research to Policy and Practice. Oxford Institute for Sustainable Development, UK. Colchester, Marcus et al. 2006. Promised Land: Palm Oil and Land Acquisition in Indonesia – Implications for Local Communities and Indigenous Peoples. World Agroforestry Centre, Sawit Watch, HUMA dan Forest People Programme.

Colchester, M., Chao, S., Anderson, P., & Jonas, H. (2015, November 20). http://www.rspo.org/: Retrieved April 29, 2017, from http://www.rspo.org/:http://www.rspo.org/key-documents/ certification/ rspo-new-planting-procedure

Cox MJ, van Dijk PP, Nabhitabhata J, Thirakhupt K. 1998. A Photographic Guide to Snakes and Other Reptiles, of Pennisular Malaysia, Singapore and Thailand. London (UK) : New Holland Publisher.

Darmawijaya, M. Isa. 1990.Klasifikasi Tanah : Dasar Teori Bagi PenelitiTanah Dan Pelaksana Pertanian Di Indonesia. Yogyakarta : GadjahMada University Pres.

de Boer, W.H. 1987. Land Evaluation for Estate Crops in Indonesia criteria for rubber, oilpalm, coconut, cocoa and tea cultivation. Government of Indonesia Directorate General of Estate Crops Team, Jakarta.

Denzin and Lincoln (eds). 2000. Handbook Of Qualitative Research, 3rd edition, California, 2000, Sage Publications, Inc.

DFID. April 1999. Sustainable Livelihoods Guidance Sheets.
Dirjen SDA Kalimantan Barat. 2011. Data Curah Hujan dan Hari Hujan Tahun 2008 –2010. Proyek Pengendalian Banjir dan Pengamatan Pantai, Dirjen SDA Kalimantan Barat. Pontianak.
Ditjen Perkebunan (2014). Statistik Perkebunan Indonesia Komoditas Kelapa Sawit 2013-2015. Ditjen Perkebunan Kementrian Pertanian. Jakarta.
Dudal, R dan M. Soepraptohardjo. 1957. Soil Classification in Indonesia. Pemberitaan Balai Besar Penyelidik Pertanian. Bogor.
Ewens JW, Brockwell PJ, Gani JM and Resnick SI. 1987. Minimum viable population size in the presence of catastrophes. InSoulé M E.Viable Population for Conservation. Cambridge University Press, New York, New York, USA. 189 pp.
Fadhilah. 2010. Pengertian Tanah Bertalian. http://repository.usu.ac.id
FAO, 1983. Guidelines: land evaluation for rainfed agriculture, FAO soils bulletin no. 52, Rome.
Franklin IR. 1980. Evolutionary changes in small populations. Pages 135-149 Di dalam : M. E. Soulé and B. A. Wilcox, eds. Conservation biology: an evolutionaryecological perspective. Sinauer Associates, Sunderland, Massachusetts, USA.
Gardner et.al. 1985. Fisiologi Tanaman Budidaya. Susilo, H dan Subiyanto (Penerjemah). UI Press: Jakarta.
Ghozali I. 2009. Aplikasi Analisis Multivariate Dengan Program SPSS, Edisi Keempat, Semarang: Universitas Diponegoro.
Gugus Tugas Intepretasi Nasional Atas Panduan FPIC RSPO, 2018. Panduan Teknis Untuk Anggota RSPO dalam Pengembangan Areal Baru Perkebunan Kelapa Sawit di Indonesia.
Gunarso, P., Hartoyo, M., Agus, F., and T. Killeen. 2013. Oil Palm and Land Use Change in Indonesia, Malaysia and Papua New Guinea. Reports from the Technical Panels of the 2nd Greenhouse Gas Working Group of the Roundtable on Sustainable Palm Oil (RSPO). Published November 2013 at www.rspo.org.
Hanafiah, K. A. 2005. Dasar-Dasar Ilmu Tanah. Divisi Buku Perguruan Tinggi. Raja Grafindo Persada. Jakarta.
Hardjowigeno, S dan Widiatmika, 2011. Evaluasi Kesesuian Lahan dan Perencanaan Tata Guna Lahan. Gadjah Mada Universitas Press. Yogyakarta
Hairiah, K., S. Dewi, F. Agus, S. Velarde, A. Ekadinata, S. Rahayu and M. van Noordwijk. 2011. Measuring Carbon Stocks Across Land Use Systems: A Manual. World Agroforestry Centre (ICRAF), SEA Regional Office, Bogor, Indonesia. 154 p.
Groves, CP. 2001. Primate Taxonomy. Washington (US) : Smithsonian Institution Press.
HCV Resource Network. 2017a. Common Guidance For The Identification Of High Conservation Values: A Good Practice Guide For Identifying HCVs Across Different Ecosystems And Production Systems. HCV Resource Network, Oxford, UK.
HCV Resource Network. 2017b. Pedoman Penilaian NKT-SKT Dipakai pada saat Penilaian NKT-SKT Terpadu. ID Dokumen : ALS_02_N Tanggal 08 Nopember 2018.
HCV Resourcee Network Secretariat. South Suite, Frewin Chambers, Frewin Court, Oxford OX1 3HZ, United Kingdom. Www.hcvnetwork.org.
HCV Resource Network. 2018a. Common Guidance for the Management and Monitoring of High Conservation Values. HCV Resource Network. Oxford. UK.
HCV Resource Network. 2018b. Guidance for using the HCV-HCSA assessment report template. ID Dokumen : ALS_02_S Date December 20th 2018. HCV Resourcee Network Secretariat. South Suite, Frewin Chambers, Frewin Court, Oxford OX1 3HZ, United Kingdom. www.hcvnetwork.org.

HCV Resource Network. 2019a. HCV Assessment Manual. ID Dokumen : ALS_02_D Date 18 March 2019. HCV Resourcee Network Secretariat. South Suite, Frewin Chambers, Frewin Court, Oxford OX1 3HZ, United Kingdom. www.hcvnetwork.org.

HCV Resource Network. 2019b. Guidance for using the HCV assessment report template. ID Dokumen : ALS_02_F Date 5 March 2019. HCV Resourcee Network Secretariat. South Suite, Frewin Chambers, Frewin Court, Oxford OX1 3HZ, United Kingdom. www.hcvnetwork.org.

HCV Resource Network. 2019c. HCV assessment Public Summary template with Guidance. ID Dokumen : ALS_02_H Date 5 March 2019. HCV Resourcee Network Secretariat. South Suite, Frewin Chambers, Frewin Court, Oxford OX1 3HZ, United Kingdom. www.hcvnetwork.org.

Heyne, K. 1987a. Tumbuhan Berguna Indonesia I (Terjemahan : Badan Litbang Kehutanan). Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Jakarta.

_____. 1987b. Tumbuhan Berguna Indonesia II (Terjemahan : Badan Litbang Kehutanan). Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Jakarta.

_____, 1987c. Tumbuhan Berguna Indonesia III (Terjemahan : Badan Litbang Kehutanan). Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Jakarta.

_____. 1987d. Tumbuhan Berguna Indonesia IV (Terjemahan : Badan Litbang Kehutanan). Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Jakarta.

High Carbon Stock Approcah, 2017. Toolkit Pendekatan SKT versi 2.0. Kelompok Pengarah Pendekatan SKT

Hikmatullah, Suparto, C. Tafakresnanto, Sukarman, Suratman dan K. Nugroho 2014. Petunjuk Teknis Survei dan Pemetaan Sumberdaya Tanah Tingkat Semi Detail Skala 1:50.000. Balai Besar Penelitian dan Pengembangan Pertanian, Badan Penelitian dan Pengembangan Pertanian, Bogor. 34 hal.

Ismangun. 1991. Pemanfaatan produksi peta satuan lahan dan tanah dari LREP partII. Hlm 57-70. Dalam Prosiding Expose Hasil penelitian Proyek Perencanaan dan Evaluasi Sumberdaya Lahan (LREPP Part-II) Sumatera Bagian Utara, Medan, 1213 Desember 1990.

IPCC. 2006. IPCC Guidelines for National Greenhouse Gas Inventories. Disusun berdasarkan Program Inventaris Gas Rumah Kaca Nasional. Eggleston, H.S. , L. Buendia, K. Miwa, T. Ngara & K.Tanabe K. (eds). IGES, Japan.

IPCC. 2006. Guidelines for National Greenhouse Gas Inventories. UNFCCC

IUCN. 2019. IUCN Red List of Threatened Species. Diakses pada tanggal 8 November2019 dari www.redlist.org.

Kauffman, J. B. 2001. The Workshop On Multiples Influences Of Riparian/Stream Ecosystems On Fires In Western Forest Landscapes: Summary Report. Department of Fisheries and Wildlife. Oregon State University. Corvallis, OR.

Kartono, A.P. 2008. Modul Inventarisasi Satwaliar di Kawasan Hutan Jati Perum Perhutani. KPH Madiun dan KPH Banyuwangi Utara, Perum Perhutani Unit II Jawa Timur.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018a. Modul 1 : Pendekatan SKT: Pendahuluan, gambaran umum dan ringkasan. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018b. Modul 2 : Persyaratan Sosial. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018c. Modul 3 : Integrasi Nilai Konservasi Tinggi (NKT), Hutan Stok Karbon Tinggi (SKT) dan Persetujuan atas Dasar Informasi di Awal Tanpa Paksaan (FPIC). Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018d. Modul 4 : Stratifikasi Hutan dan Vegetasi. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018e. Modul 5 : Analisis patch hutan Stok Karbon Tinggi dan perlindungannya. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018f. Modul 6 : Isu-isu yang tengah berkembang dalam Pendekatan SKT. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kelompok Pengarah Pendekatan Stok Karbon Tinggi. 2018g. Modul 7 : Menjamin kualitas penilaian SKT (Kerangka persyaratan Kontrol Kualitas Pendekatan SKT dan tantangan di masa mendatang. Kelompok Pengarah Pendekatan Stok Karbon Tinggi.

Kementerian Lingkungan Hidup. 2013. Deskripsi Peta Ekoregion Pulau/Kepulauan.

Kementerian Lingkungan Hidup, Deputi Tata Lingkungan. Jakarta.

Kementrian Lingkungan Hidup dan Kehutanan. 2016. Informasi 521 Kawasan Konservasi di Region Kalimantan - Sulawesi. Kementerian Lingkungan Hidup dan Kehutanan. Jakarta.

Kementerian Lingkungan Hidup dan Kehutanan (KLHK). 2016. Peta Kawasan Hutan dan Perairan Provinsi Sumatera Selatan Skala 1 : 250.000 (SK.454/MenhutII/2016). Kementerian Lingkungan Hidup dan Kehutanan. Jakarta.

Kementerian Lingkungan Hidup dan Kehutanan. 2017. Keputusan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor SK.129/MENLHK/SETJEN/PKL.0/2/2017 tentang Penetapan Peta Kesatuan Hidrologis Gambut Nasional.

Keputusan Bebas Didahulukan dan Diinformasikan, 2015. Panduang Untuk Anggota RSPO, Kelompok Kerja Hak Asasi Manusia (HRWG) RSPO 2015.

Ketterings QM et al. 2001. Reducing Uncertainty in the Use of Allometric Biomass Equations for Predicting Above-Ground Tree Biomass in Mixed Secondary Forests. Forest Ecology and Management 120: 199-209

Kleden, OE. 2009. Prinsip Free, Prior and Informed Consent, Sebuah Panduan Bagi Para Aktivis. Edisi Revisi dari naskah asli: Free Prior Informed Consent, Sebuah Panduan bagi Para Aktivis, FPP, AMAN, JKPP, 2006.

Konsorsium Revisi HCV Toolkit Indonesia. 2008. Panduan Kawasan Bernilai Ekonomi Tinggi di Indonsia. Konsorsium Revisi HCV Toolkit Indonesia. Jakarta.

Kusmana, C. dan A. Hikmat. 2015. Keanekaragaman Hayati Flora di Indonesia. Jurnal Pengelolaan Sumberdaya Alam dan Lingkungan Available online at: Vol. 5No. 2.

Kusrini MD, Hamidy A, Arida E, Riyanto A, Mumpuni, Eprilurahman R, Yuda DS, Munir M, Rahmania M, Tjaturadi B, Puspita AR, Faz FH, Atmaja VY. 2017. Daftar Amfibi Indonesia. Perhimpunan Herpetologi Indonesia. Bogor.

Ludi, Eva & Rachel Slater. June 2008. Using the Sustainable Livelihoods Framework to Understand and Tackle Poverty. The Swiss Centre for Postgraduate Studies on Development, ETH Zurich RSPO. 2007.

Marschner H. 1995. Mineral Nutrition of Higher Plants. Second edition. Academic Press, London.

MacKinnon, K. Phillipps, dan B. van Balen. 1992. Burung-burung di Sumatera, Jawa, Bali dan Kalimantan. Birdlife International Indonesia Programme dan Puslitbang Biologi-LIPI. Bogor.

MacKinnon, Jhon., Karen Phillipps dan Bas van Balen. Burung-burung di Sumatera, Jawa, Bali dan Kalimantan. 2010. Burung Indonesia. Bogor.

Manshur, A., A.p. Kartono, B. Masy'ud. 2015. Karakteristik Habitat Trenggiling Jawa (Manis javanica) di Taman Nasional Halimun Salak. Media Konservasi Vol 20, No 1 (2015)

Martawijaya, A., I. Kartasujana, K. Kadir, dan S.A. Prawira. 1981. Atlas Kayu Indonesia Jilid I. Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Bogor-Indonesia.

Martawijaya, A., I. Kartasujana, Y.I. Mandang, S.A. Prawira, dan K. Kadir. 1989. Atlas Kayu Indonesia Jilid II. Badan Penelitian dan Pengembangan Kehutanan, Departemen Kehutanan. Bogor-Indonesia.

Menteri Pertanian. (2013, September). Peraturan Menteri Pertanian tentang Pedoman Perizinan Usaha Perkebunan. Jakarta, DKI Jakarta, Indonesia.

Miles, MB. and Huberman, AM. 1994. Qualitative Data Analysis (2nd edition), Thousand Oaks, 1994, Sage Publication.

Mistar K, Handayani S, Siregar AJ, Fredriksson G. 2017. Buku Panduan Lapangan Amfibi dan Reptil Kawasan Hutan Batang Toru. Medan : Herpetologer Mania Publishing.

Moko, H. 2008. Menggalakan Hasil Hutan Bukan Kayu sebagai Produk Unggulan. Balai Besar Penelitian Bioteknologi dan Pemuliaan Tanaman Hutan. INFORMASI TEKNIS Vol. 6 No. 2, September 2008

Payne, J. C.M. Francis, K. Phillipps, dan S.R. Kartikasari. 2000. Panduan lapangan Mamalia di Kalimantan, Sabah, Sarawak dan Brunei Darussalam. Wildlife Conservation Society, The Society Malaysia dan WWF Malaysia. Indonesia –Malaysia.

Peraturan Pemerintah Republik Indonesia. 2013. Peraturan Pemerintah Republik Indonesia No. 73 Tahun 2013 tentang Rawa.

Prastowo. 2012. Pengelolaan Ekosistem Mata Air. Dalam: Penyelamatan Tanah, Air, dan Lingkungan (Eds: Arsyad, S. & E. Rustiadi). Crespent Press dan Yayasan Obor Indonesia, Jakarta.

PROSEA.. 1994. Plant Resources of South-East Asia 5: (1) Timber Trees : Major Commercial Timbers (Editors: I. Soerianegara and R.H.M.J. Lemmens). PROSEA Foundation. Bogor-Indonesia.

Pusat Penyuluhan Kehutanan – Departemen Kehutanan. 1997. Buku Pintar Penyuluhan Kehutanan. Pusat Penyuluhan Kehutanan Departemen Kehutanan. Jakarta.

RePPProT. 1987. The Land Resources of Indonesia: A National Overview. Regional Physical Planning Programme for Transmigration. Direktorat Bina Program, Direktorat Jenderal Penyiapan Pemukiman, Departemen Transmigrasi; Badan Koordinasi Survei dan Pemetaan Nasional; Department Natural Resources Institute, UK Overseas Development Administration. Jakarta.

Ricklefs, M.C. 2008. Sejarah Indonesia Modern 1200-2008, PT Serambi Ilmu Semesta.

Roundtable on Sustainable Palm Oil. 2014. Prosedur Remediasi dan Kompensasi RSPO Terkait Pembukaan Lahan yang Tidak Didahului Kajian NKT at www.rspo.org.

RSPO. 2014. Prosedur Remediasi dan Kompensasi RSPO Terkait Pembukaan Lahan yang Tidak Didahului Kajian NKT at www.rspo.org. RSPO, Kuala Lumpur, Malaysia.

RSPO. 2015. Certified growers: Last updated 8 July 2015. Roundtable Sustainable Palm Oil

RSPO. 2016. RSPO GHG Assessment Procedure for New Development. RSPO, Kuala Lumpur, Malaysia.

RSPO. 2016. RSPO New Development GHG Calculator. RSPO. Kuala Lumpur, Malaysia.

Russon, A.E; A. Erman; R. Dennis. 2001. The Population and Distribution of Orangutans (Pongo pygmaeus pygmaeus) In and Around The Danau Sentarum Wildlife Reserve, West Kalimantan, Indonesia. Biological Conservation 21-28.

Schrier-Uijl, A.P. & G.Z. Anshari. 2013. Metode untuk menentukan emisi gas rumah kaca dan stok karbon dari perkebunan kelapa sawit dan lingkungan mereka di lahan gambut tropis. In: T.J. Killeen &J. Good (eds.). 2013. Laporan dari Panel Teknis Kelompk Kerja Gas Rumah Kaca Ke-2 dari Roundtable on Sustainable Palm Oil (RSPO). RSPO, Kuala Lumpur, Malaysia.

Setiawan, N. 2005. Teknik Sampling. Universitas Padjadjaran Bandung. Bandung.

Shaffer M.L. 1981. Minimum population sizes for species conservation. Bio science 3L: 131-134

Sidiyasa, K. 2015. Jenis-jenis Pohon Endemik Kalimantan. Balai Penelitian Teknologi Konservasi Sumber Daya Alam, Badan Penelitian, Pengembangan dan Inovasi, Kementerian Lingkungan Hidup dan Kehutanan. Samboja.

Sitompul, A.F. 2011. Ecology and Conservation of Sumatran Elephants (Elephas maximus sumatranus) in Sumatra, Indonesia .Dissertations. University of Massachusetts.

Soekanto, S. 2012. Sosiologi (Suatu Pengantar). Jakarta. PT Raja Grafindo Persada.

Soil Survey Staff, 1998. Kunci Taksonomi Tanah. Edisi kedua USDA Natural Resources Conservation Service dan terjemahan Pusat Penelitian Tanah dan Agroklimat, Bogor.

Soil Survey Staff, 2010. Key to Soil Taxonomy, USDA Natural Resources Conservation Service. Wasington DC.

Soil Survey Staff, 2014. Keys to Soil Taxonomy. USDA Natural Resources Conservation Servive. Wasington DC. Soetrisno, Loekman dan Retno Winahyu. 1991. Kelapa Sawit Bagian Sosial-Ekonomi. Yogyakarta : Aditya Media.

Soule, M.E. 1987. Where do we go from here? In: Viabte Populations for Conservation, soul6, M.E. (ed.), pp. 175-183, cambridge University press, cambridge, England.

Springer J, dan Retana V. 2014. Persetujuan Atas Dasar Informasi di Awal Tanpa Paksaan dan REDD+: Pedoman dan Sumber Daya. Norwegia.

Standar Nasional Indonesia (SNI 7724:2011). 2011. Pengukuran dan Penghitungan Cadangan Karbon – Pengukuran Lapangan Untuk Penaksiran Cadangan Karbon Hutan (ground based forest carbon accounting). Badan Standarisasi Nasional, Jakarta.

Suhendang, E. 2013. Pengantar Ilmu Kehutanan. Bohor (ID) : PT. Penerbit IPB Press.

Sukmantoro W. 2013. Pola Migrasi, Pembagian Ruang Hidup dan Strategi Konservasi beberapa Raptor Migran di Indonesia. Mayor Konservasi Biodiversitas Tropika, Sekolah Pascasarjana IPB. Bogor.

Sukmantoro W., M. Irham, W. Novarino, F. Hasudungan, N. Kemp & M. Muchtar. 2007. Daftar Burung Indonesia No. 2. Indonesian Ornithologists' Union, Bogor.

Sukmono, T dan M. Margaretha. 2017. Ikan Air Tawar di Ekosistem Bukit Tigapuluh. Yayasan Konservasi Ekosistem Hutan Sumatera & Frankfurt Zoological Society.

Sumadiwangsa, S. dan F. Mas'ud. 1999. Prospek Pengelolaan Hutan Melalui Pengembangan Hasil Hutan Bukan Kayu. Bogor.

Tantra, I.G.M, T.C. Whitmore, and Sidiyasa, K. 1990. Tree flora of Indonesia : check list for Kalimantan. Forest Research & Development Centre, Agency for Forestry Research and Development, Ministry of Forestry. Bogor.

Umekah Saripratama, PT. 2010. Laporan High Conservation Value Area (HCVA) pada Kawasan Kebun Kelapa Sawit PT USP, Kabupaten Ketapang, Provinsi Kalimantan Barat.

_____. 2016. Laporan Social Impact Assessment pada Kawasan Kebun Kelapa Sawit PT USP, Kabupaten Ketapang, Provinsi Kalimantan Barat.

Van Noordwijk, M., S. Dewi, N. Khasanah, A. Ekadinata, S. Rahayu, J.P. Caliman, M. Sharma dan R. Suharto. 2010. Estimating the Carbon Foot print of Biofuel Production from Oil Palm: Methodology and Results from Two Sites in Indonesia. International Conference on Oil Palm and Environment, 23-25 Feb. 2010, Bali, Indonesia.

Wahyunto, S. Ritung, Suparto, and H. Subagjo.2003. Map of peatland distribution and its C content in Sumatera. Wetland International-Indonesia Programme and Wildlife Habitat Canada. Bogor, Indonesia.

Wahyunto, S. Ritung, Suparto, dan H. Subagjo. 2005. Sebaran Gambut dan Kandungan Karbon di Sumatera dan Kalimantan. Wetland International-Indonesian Programme. Bogor.

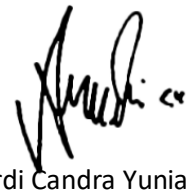
Walker, S. M., Pearson, T., and Brown, S.2007. Winrock Terrestrial Sampling Calculator.Sourcebook for Land Use, Land Use Change and Forestry Project.

Warren, K.S., Verschoor, E.J., Langenhuijzen, S., Heriyanto., Swan, R.A., Vigilant, L. & Heeney, J.L. 2001. Speciation and Intra subspecific of Bornean Orangutans, Pongo pygmaeus pygmaeus. Mol. Biol. Evol, 18 (4): 472-480.

## 6. INTERNAL RESPONSIBILITY

**Formal Signoff by Assessor and the Company**

This document is the Summary of Assessments for New Planting Procedures for PT Umekah Saripratama (PT USP) concession under the company management.

| **Assessment Team** | **PT USP Management** |
|---|---|
|  |  |
| M. Arif Yusni<br>(Team Leader)<br>Date: 12 October 2022 | Ardi Candra Yunianto<br>(Strategic Sustainability & Stakeholder Engagement Manager)<br>Date: 12 October 2022 |

**Statement of Acceptance of Responsibility for Assessments**

Result of the Assessments on New Planting Procedure for PT USP carried out by Mutuagung Lestari will be applied as part of guidelines to develop and manage PT USP management units.

**PT USP Management**

Ardi Candra Yunianto
(Strategic Sustainability & Stakeholder Engagement Manager)
Date: 12 October 2022