New Planting Procedure - Summary of Integrated Management Plan

RSPO Roundtable on Sustainable Palm Oil		SGS
NPP Reference Number	SGS-NPP22-0001	
Country of the NPP submission:	Indonesia	
RSPO Membership Number	1-0045-07-000-00	
Reference to the management unit management plan	PT Prasetia Utama 2022_NPP Summary of Integrated Management Plan	
Name(s) of estate(s) covered under this management plan:	PT Prasetia Utama (PT PU)	

Guidance Notes:
This summary management plan shall indicate at a minimum but not be limited to the following:

- Key findings of the various assessments (e.g., potential minor environment and/or social risk requiring mitigation actions; total conservation areas).
- Key mitigation and monitoring regime, covering both the environmental and social aspects.
- Evidence of FPIC and key agreements with local communities (if any).
- An action plan describing operational actions consequent to the findings of the various assessments, referencing the grower's relevant operational procedures.
- Designation of the management team and responsible person for the implementation.

1	**EIA**	**Environmental impact management and monitoring Plan** **Purpose of management and monitoring report compilation is:** a. Provide information on the implementation of environmental management and monitoring plan by PT PU to government agencies and agencies to assist in monitoring environmental management by the regions. b. Provide information on management and monitoring implementation of PT PU to central management to assist policy-making on environmental management. c. As control to the company for the implementation of management and monitoring in its operational area. d. Formulate the environmental management and monitoring plan (issues, strategies, programs and activities) that the company needs in managing the environmental aspect to create a healthy and safe environment. **Output:** a. Output expected from the implementation of those activities are the formulation of environmental management and monitorin plan of PT PU that contain issues/problem, and efforts to solve them (strategy, program, activity, location and time of implementation). **Benefits:** a. As a guideline for the company to manage significant environmental aspects resulting from the company's activities to minimize significant environmental impacts. b. As material for the company in creating environmental management programs, both short-term, medium-term and long-term programs, based on applicable laws and regulations. c. To foster harmonious relationship between the company and the surrounding community

Table 1. PT PU's Environmental Impact Assessment (EIA) management plan

NO	MANAGED ENVIRONMENTAL IMPACT	SIMPACT SOURCES	INDICATOR OF SUCCESS	ENVIRONMENTAL MANAGEMENT FORM	LOCATION	PERIOD OF MANAGEMENT	MANAGING INSTITUTION		
							DOER	SUPERVISOR	REPORT RECEIVER
1.	**PHYISICAL – CHEMICAL COMPONENTS**								
1.1	**Air Ambient Quality**								
	Based on the significant impacts evaluation indicate that the parameters of the impact is air quality degradation in the form of increased dust and emissions which are significant negative impacts and direct.	1. Oil palm planting activities. 2. Harvesting and transportation of FFB. 3. Mill operations. 4. Workshop and generator operations in	Air quality degradation in the form of dust and gas emissions not exceeding the established environmental quality standard:	1) On oil palm planting activities: a. Limit the speed of the transporting vehicles at maximum 20 km/ hour, particularly if passing residence or concentration of agriculture society. b. Conducting hardening and compaction on hauling roads	1. On oil palm planting, harvesting and transporting activities of FFB's, management need to be performed along the road and	1. Oil palm planting, harvesting & transportation activities are managed every working day. 2. On mill operations maintenance to mill	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment	1. Plantation and Forestry Office of Kutai Kartanegara Regency

	The intensity of the impact that exceeds the environmental quality standard may have further impacts on public and workers' health.	which series of these activities impact the air quality in the form of ambient dust concentration due to vehicle wheel friction with the road and emissions sourced from transporting truck, generator engine and boiler at the mill.	1. The quality standard of airborne dust content is 0.23 mg / m^3 (ambient air quality standard) based on Government Regulation number. 41 years 1999 on air pollution control. 2. Dust at workplace threshold limit value is o3 mg / m^3 based on Decree Minister of Labour number 51 year 1999 on Dust threshold values at the workplace. 3. Stationary Emission Source Standards are based on Decree of Environmental Minister number 13/MENLH/3/2005 (NO_2 = 1000 mg / m^3, SO_2 = 8000mg / m^3, Particulate = 350 and Opacity = 35% 1)	with specific aggregates especially on seed transportation routes. c. During dry season, water the road every 3 hours especially on transportation route near the settlement. 2) Harvesting and Transportation of FFB's a. Limit the FFB's transporting vehicle at maximum 20km/h, especially when passing through the settlement, farming and concentration of agriculture society. b. Conducting hardening and compaction on hauling roads with specific aggregates especially on plantation road network. c. During dry season, water the road especially on transportation route near the settlement, farming and concentration of agriculture society. 3) Mill Operations: a. Chop as smooth as possible the oil palm waste used as boiler fuel in order to increase high efficiency level of combustion (perfect). b. Installing dust collector device on boiler's chimney. c. Construct higher boiler chimney as high as 5 x higher than the surrounding buildings. d. Emissions generated by generator and boiler operations, these emissions generally released to open air. Particulate releseased by boiler	the surrounding area. 2. On mill operations management carried out is on mill's machinery/ boiler unit. 3. On workshop and generator operations, management carried out is on the operation locations.	machinery need to be done at least once in 2 weeks. 3. On workshop and generator operations management need to be done once a month.		Agency of Kutai Kartanegara Regency	2. Environment agency of Kutai Kartanegara Regency 3. Environment Agency of East Kalimantan Province.

				in the form of ashes generally controlled by installing dust collector to catch the dust. Dust collected by the dust collector can be used to harden the lower area. e. Allocate area specific for reforestation around the mill area in order to reduce pollutant concentration due to boiler activity. f. Require the workers primarily who work in mill location to wear personal protective equipment. g. Perform periodic and regular maintenance on machines to keep the condition well maintained and still in accordance with the technical age. 4)Workshop and generator operations: a. Perform regular maintenance on generator at regular intervals to maintain machine performance. b. Generator chimney should be ± 2.5 times higher than the surrounding buildings. c. Generator should be located at least 75 meters from the location of estate employees housing.					
1.2	**Noise**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased noise intensity which is negative and direct impact. The intensity of the impact that exceeds environmental	Due to the operation of mill's machinery and generator engine and heavy equipment repair on workshop and generator area.	The level of noise emitted does not exceed the established environmental standard: 1. Quality standard of noise in housing and	1). On mill operation activities: a. Perform periodic and regular maintenance on machines to keep the condition well maintained and still in accordance with the technical age.	1. On mill operations management carried out is on mill's machinery/ boiler unit. 2. On workshop and generator	1. On mill operations maintenance to mill machinery need to be done at least once in 2 weeks. 2. On workshop and generator	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency.	1. Plantation and Forestry Office of Kutai Kartanegara Regency.

	quality standard may have further impacts on the health of working people.		residential area is 55 dB (A) based on decree of Environment Minister Number 48 year 1996 on Noise Quality Standards. 2. Quality standard of noise for working environment as stated in decree of Minister of Labour and Workforce Number 51 year 1999 is 85 Db (A).	b. Require the workers, especially workers working at mill location to use personal protective equipment. c. Placing the boiler in a separate area with reinforced concrete foundation, indoor and closed to reduce boiler noise level. d. Allocate area specific for reforestation around the mill area in order to reduce pollutant concentration due to boiler activity. e. Delivering information to communities living around the plant site on the equipment/ machinery activity and the noise it generates. 2). On workshop and generator operation activities a. Generator units must be placed on area specifically designed for generator to reduce the noise emitted. b. Perform maintenance on generator periodically and regularly so that the condition is well maintained and still in accordance with its technical age. c. Require all workshop workers to use ear plugs at the time of work in progress.	operations, management carried out is on the operation locations.	operations management need to be done once a month.		2. Regional Environment Agency of Kutai Kartanegara Regency	2. Environment agency of Kutai Kartanegara Regency. 3. Environment Agency of East Kalimantan Province.
1.3	**Surface Run off**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of disruption on surface flow in which the impact is negative and direct due to micro and macro flow cut off on natural surface during cut and fill process.	Road network construction activities with surface runoff	There is no surface flow disruptions.	1. Carry out land clearing for plantations road network in a planned and efficient manner. 2. Constructing culvert at each intersection equipped with drainage ditch with appropriate size. 3. Creating bridge on areas with river flowing.	At the road points and natural paths	Once during road network construction and evaluated once a year for improvements against damaged sections or material.	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment	1. Plantation and Forestry Office of Kutai Kartanegara Regency.

				4. Conduct routine maintenance on bridges and culverts constructed.				Agency of Kutai Kartanegara Regency	2. Environment agency of Kutai Kartanegara Regency. 3. Environment Agency of East Kalimantan Province
1.4	**Erosion Rates**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased erosion rates in which the impact is negative, significant and derivatives.	Vegetation degradation on areas cleared: a. Development of estate emplacement b. Development of road network c. Preparation of nursery land d. Preparation of planting area e. Preparation of mill site.	Resulted erosion rate does not exceed critical threshold of 9 ton/ ha/ year based on Government Regulation No. 150 year 2000.	**Development of Estate Emplacement.** a. Implementation of estate emplacement development should be carried out in a planned manner and does not allow open land to be neglected for long term. b. Land clearing carried out to construct estate emplacement should be done in a planned manner and according to the needs. c. Immediately plant land cover crops on areas cleared for emplacement. d. On sloping area with gradient > 8% should have terraces to avoid erosion prone areas. **Road network construction** a. Land clearing should be done in a planned and efficient manner. b. Construct terraces on runoff areas near river riparian. c. Immediately plant land cover crops on areas cleared. d. Surfacing the road with coral mixture. **Preparation of nursery site**	On erosion-prone areas especially estate emplacement location, road network, nursery site planting location and mill's site.	Once during work on progress and evaluated once in 6 months.	PT PU	1.Plantation and forestry office of Kutai Kartanegara regency.	1. Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environment agency of Kutai Kartanegara Regency. 3. Environment Agency of East Kalimantan Province m

				a. Establish nursery site on sloping area. b. Development of nursery land should be conducted in a planned and efficient manner. c. Setting the pre-nursery site that cuts the slope. d. Immediately plant land cover crops on nursery site that have been left. **Preparation of planting site** a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. **Preparation of mill site** a. Land clearing should be conducted in a planned and gradual manner. b. Land clearing should be carried out during dry season. c. Do not carry out land clearing by burning. d. Immediately commence construction activities after land clearing completed. e. Immediately conduct reforestation on surrounding area of the ste with fast-growth plant type and LCC to minimize erosion.					
1.5	**Sediment Load**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased	This is a derivative effect of the increased erosion rate caused by	Controlled load of sediment in surrounding water bodies.	1) **Emplacement Development** a. Estate emplacement construction should be	Surronding drainage ditch that áre connected with	Once during work in progress and evaluated at least once in 3	PT PU	1. Plantation and forestry office of Kutai	1. Plantation and Forestry Office of

	sediment load rates in which the impact is negative, significant and may result in water quality degradation.	the activities implemented such as: a. Development of estate emplacement b. Development of road network c. Preparation of nursery land d. Preparation of planting área e. Preparation of mill site.		conducted in a planned manner and gradually. b. Construct drainage ditch which equipped with sediment trap around the area that has been cleared for estate emplacement site construction. c. Immediately plant LCC on area that has been cleared. 2) **Construction of road network** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Conduct intensive maintenance to each sediment trap on each drainage ditch. e. Conduct land clearing for oil palm planting in a planned and effective manner. f. Create terraces for land cleared close to river riparian. g. Surfacing the road with coral mixture. 3) **Preparation of nursery site** a. Development of nursery land should be conducted in a planned and efficient manner. b. Setting the pre-nursery site that cuts the slope.	sediment trap and wáter body.	months during PT PU operations.		Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency	Kutai Kartanegara Regency. 2. Environment agency of Kutai Kartanegara Regency 3. Environment Agency of East Kalimantan Province m

				c. At the end of drainage ditch construct sediment trap measuring 40m x 15m x 2m which divide into 2 components. d. Conduct periodic maintenance on sediment trap. 4) **Preparation of planting site** a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. 5) **Preparation of mill site** a. Land clearing should be conducted in a planned and gradual manner. b. Land clearing should be carried out during dry season. c. Do not carry out land clearing by burning. d. Immediately commence construction activities after land clearing completed. e. Immediately conduct reforestation on surrounding area of the ste with fast-growth plant type and LCC to minimize erosion.					

1.6	**Surface wáter quality**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of surface water quality degradation in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts of decreasing the diversity of aquatic biota.	Derivative impact due to increased sedimentation load (TSS) of fertilizers residue carried away to wáter bodies includes liquid waste sourced from mill, workshop and generator operations: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Nursery activities. e. Preparation of planting área. f. Preparation of mill site. g. Plantation upkeep h. Mill operation i. Workshop and generator operations j. Fertilizer and pesticide warehouse activities	Declining quality occurred does not exceed the quality standard as set by local government regulation PERDA number 02 year 2011 on water quality management & water pollution control with value TSS = 50mg / L Pg = 6 - 9 in sediment basin and water bodies.	**Emplacement development:** a. Estate emplacement construction should be conducted in a planned manner and gradually. b. Construct drainage ditch which equipped with sediment trap around the area that has been cleared for estate emplacement site construction. c. Immediately plant LCC on area that has been cleared. **Road network construction** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road. c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Conduct intensive maintenance to each sediment trap on each drainage ditch. e. Construct terraces on area cleared close to riparian river. f. Conduct land clearing for oil palm road network in a planned and effective manner. g. Create terraces for land cleared close to river riparian. h. Surfacing the road with coral mixture. **Preparation of nursery site**	Surronding drainage ditches that áre connected with sediment trap and WWTP.	Once during work in progress and evaluated at least once in 3 months during PT PU operations.	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency	1. Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environment agency of Kutai Kartanegara Regency 3. Environment Agency of East Kalimantan Province

				a. Provide coagulation treatment on sediment basin to accelerate the precipitation process of suspended fertilizers & pesticides. b. Application of fertilizers and pesticides are implemented effectively & efficiently. **Nursery** a. Fertilizers & pesticides are applied in accordance with the doses that have been determined so as not to cause environmental pollution, especially resulting in hazardous and toxic waste around the nursery area. b. Conducting pesticides spraying in hot weather. c. Conducting fertilization after raining and applying only around the seeds. d. Create a drainage network that leads to the retention basin in each division so that the water flow does not flow to water bodies. e. Using a biodegradable and environmentally friendly pesticide type. f. Collect plastic waste from pesticide bottles and other plastic waste at temporary storage facility for hazardous and toxic waste. **Preparation of planting area.**					

				a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. e. Not clearing area close to river border zones and maintain springs and natural vegetation in river border zones. **Preparation of mill site** a. Construct WWTP to treat wastewater generated from milling activities. b. Based on the characteristics of waste and pollution loads, wastewater management is effective if WPH is more than 75 days so that COD and TTS levels can be lowered to below quality standards. For this intention PT PU plans to handle wastewater generated by constructing WWTP that uses biological system (anaerobic and aerobic system) with a hydrological retention time (WPH) of approximately 150 days (5 months), the increased WPH is expected to decrease the quality of waste water and pollution loads to below environmental quality					

				standards and not pollute the waste recipient. c. Implementation of Land Application in which requires assessment in advance on pollution aspect that will occur previously conducted in the previous assessment of the aspect of pollution that will occur, the carrying capacity of land in the plantation area and influence on the soil, especially the microbiology/ biology of the soil, surface water and its permit (This assessment is intended to obtain Land Application permit from the Regent/ Mayor in accordance with decree of Environmental Minister Number 28 year 2003 and Number 29 year 2003. d. For handling of used lubricants should be collected/ stored in a specific container (barrel) and then submitted to the farm or sold to the third party (local entrepreneurs who have received license from the Ministry of Environment based on recommendation from Kutai Kartanegara regency government. Company should consult with Environmental Agency of East Kalimantan Province in advance when appointing used lubricants collector.					

				e. Training employees by incorporating environmental impact control programs. f. In collaboration with relevant agencies such as plantation office and forestry of Kutai Kartanegara regency and universities on wastewater treatment techniques. **Plants upkeep:** a. Provision of fertilizer in a planned and efficient manner to oil palm plant. b. Application of pesticides to prevent pests and diseases should refer to doses that have been recommended and using permitted materials. c. Herbicide application in weed control should be the last resort, non-chemical weeding is the priority. d. Conduct strict supervision on field workers applying fertilizers and pesticides in order to avoid irregularities during the application by following the work procedures that have been set. e. Apply strict rules that prohibit all estate workers either intentionally or unintentionally not to spill fertilizers or pesticides to water bodies f. Preparing safe storage for fertilizers and pesticides from runoff and protected from rain					

				at distribution points at planting area. g. Create SOP's on storage, distribution and application of fertilizers and pesticides in the field. h. Cease fertilization activities and pesticide applications temporarily during rain. i. All estate drainage ditches leading to local water bodies should have sediment basin that serves to test fertilizer and pesticide that carried away by water. j. Collect used fertilizer and pesticide containers on collection location that has been provided. k. Provide training to all workers who apply fertilizers and pesticides by prioritizing aspects of environmental security. l. Construct monitoring wells within the project location and local community residential location. **Mill maintenance:** a. Construct WWTP to treat wastewater generated from milling activities. b. Based on the characteristics of waste and pollution loads, wastewater management is effective if WPH is more than 75 days so that COD and TTS levels can be lowered to below quality standards. For this intention PT					

				PU plans to handle wastewater generated by constructing WWTP that uses biological system (anaerobic and aerobic system) with a hydrological retention time (WPH) of approximately 150 days (5 months), the increased WPH is expected to decrease the quality of waste water and pollution loads to below environmental quality standards and not pollute the waste recipient. c. Implementation of Land Application in which requires assessment in advance on pollution aspect that will occur the carrying capacity of land in the plantation area and influence on the soil, especially the microbiology/ biology of the soil, surface water and its permit (This assessment is intended to obtain Land Application permit from the Regent/ Mayor in accordance with decree of Environmental Minister Number 28 year 2003 and Number 29 year 2003. d. For handling of used lubricants should be collected/ stored in a specific container (barrel) and then submitted to the farm or sold to the third party (local entrepreneurs who have received license from the Ministry of Environment based on recommendation from Kutai					

				Kartanegara regency government. Company should consult with Environmental Agency of East Kalimantan Province in advance when appointing used lubricants collector. e. Training employees by incorporating environmental impact control programs. f. In collaboration with relevant agencies such as plantation office and forestry of Kutai Kartanegara regency and universities on wastewater treatment techniques. **Workshop activities:** a. Create a drainage channel to contain waste water from the workshop with dimensions of 60 cm top width, 40 cm base width and 50 cm depth and connect it to oil trap unit. b. Construct oil trap with a size of 0.75 x 0.75 x 1 m x 4 in one series. c. Temporary storage of hazardous and toxic waste should be equipped with permit specific for hazardous and toxic waste temporary storage. d. Temporary storage of hazardous and toxic waste is equipped with symbols in accordance with applicable regulations e. Containers used to accommodate hazardous waste					

				should be equipped with symbols and identification labels in accordance with applicable regulations. f. In workshop area and generator house should be equipped with SOP on Fuel Management. g. Use workshop for estate equipment maintenance. h. Avoid oil/ used lubricants spills during estate equipment maintenance in the field. i. Accommodate used lubricants resulted from equipment maintenance in specific leak-proof container further collect them at specific storage. j. Maintenance/ repair of workshop equipment. - Accommodate all used lubricant on a leak-proof container and collect them in specific storage. - Temporary storage for used lubricants should be free from flood. - Used oil temporary storage must be free from flooding. k. Fuel loading and distribution unit: - Apply strict control and supervision to prevent the possibility of leakage on fuel tank installation. - Immediately empty the fuel tank if there is a leak and immediately fix the leak. - Construct bund wall made of concrete that surrounds the fuel tank. The bund wall					

				should have the capacity to contain fuel tank maximum capacity. - Create and place warning board around the workshop location to avoid the occurrence of pollution to local water bodies due to used oil and fuel spilled. - Remove all used lubricants that have been collected at the project site and submitting them to a business entity that has the official license from the Ministry of Environment to manage hazardous and toxic waste. - Provide periodic guidance to all personnel at workshop operations related to oil pollution control to water bodies around the project site.					
1.7	**Surface wáter debit**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased surface wáter flow in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts in the form of increased erosion rate.	Increased surface wáter flow to wáter bodies around the planting áreas.	Runoff occured still can be well overcome.	a. Implementation of planting site preparation activities gradually & planned as needed. b. Conducting land clearing activities during the dry season. c. Not clearing land in river border zones and maintaining the existence of natural vegetation as conservation zones. d. Adjust the slope and steep terraces on the steep terrain. e. Create trenches equipped with sediment trap around the field. f. Maintenance of erosion inhibitors is done regularly every week, especially in rainy season.	On áreas designated as planting áreas.	Once during land preparation activities	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency.	1. Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environment agency of Kutai Kartanegara Regency 3. Environment Agency of East Kalimantan Province.

				g. Immediately plant the planting area after land clearing is completed.					
2	**BIOLOGICAL COMPONENTS**								
2.1	**Vegetation**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of land cover decreased in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts in the form of increased erosion rate and wildlife migration.	Degradation on áreas cleared for: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Preparation of planting área. e. Preparation of mill site.	Percentage of areas and type of cover vegetation with total area cleared.	**Environmental management activities for estate emplacement development, road network construction, Preparation of nursery site, preparation of planting area and preparation of mill site.** a. Planting area preparation should be done gradually and planned according to the needs. b. Land clearing is conducted only on areas designated for estate emplacement development (± 18,06 Ha), road network construction (± 9,06 Ha), preparation of nursery area (± 30 Ha), Preparation of planting area (± 8,819, 755 Ha), preparation of mill site (± 20 Ha). c. Enriching and maintaining conservation areas. d. Warning board installation to prohibit hunting on protected wildlife and land clearing on protected areas. e. Immediately plant the areas cleared with LCC. f. Employee training by incorporating environmental impact control programs.	Restoration is conducted on áreas that have been cleared so that impact the vegetations that are degraded.	Once a year, conducted gradually adjucted tol and cleared on each división and evaluated twice, first evaluation at the age of 6 months and second at the age of 1 year to obtain sucess rate. .	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency.	1. Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environmen t agency of Kutai Kartanegara Regency. 3. Environmen t Agency of East Kalimantan Province.

				g. Slope maintained at 8% on road network construction. h. Road signs installation according to the needs. i. Maintain road surfacing to prevent slippery road. j. Protect trees that can be protected as home for wildlife. **2) Land rehabilitation ad restoration.** a. Land reclamation activities are carried out after the location permit has expired. b. Immediately undertake reclamation by conducting reforestation on the location. c. Land that has been restored is surfaced with top soil then planted with LCC. d. Conducting land regeneration with plant spacing of 3x3m on areas that have been restored with fast growing plant species. e. On regeneration areas need to be planted with local fruit rambutan, cempedak, durian etc. f. Plants maintenance and fertilizing include: - Planting hole measuring 30x30 cm – - Dose of SP 36 fertilizer is 150 gr/tree - Dose of NPK fertilizer is 100 gr/tree - Dose of calcium provided is 1 ton/Ha					

				- Plant insertion is done <1 month on dead plants - 1 year old plant maintenance is done every 3 months by weeding on the circle. - 2 year old plant maintenance is done every 6 months by weeding on the circle. - Fertilization for local fruit crops is done until the age of 3 years. g. Perform insertion on growing vegetation plants with growing percentage of 90% h. Installing signing board on re-vegetation areas measuring of 200x80 cm i. Intensify patrol activities to prevent destruction on areas restored and rehabilitated.					
2.2	**Wildlife habitat**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of wildlife migration in which the impact is significant negative and positive and derivative due to vegetation degradation. .	Activities that have impact on wildlife migration are: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Preparation of planting área.	Percentage of number and types of wildlife living in the conservation area around the plantation location.	a. Installation of hunting prohibition board measuring 120x80 cm. b. Intensify patrol activity to prevent wildlife hunting and file a lawsuit to those who against it. c. Conservation areas and natural vegetation are wild animals' habitat, prevent disruption as much as possible and requires enrichment to maintain the existence of these locations. d. Conducting socialization to the community and workers to always protect the endangered species and if there is any endangered species kept please	Forested areas around the project site as well as the location of the river border around the location that are designated as conservation area.	One time during plantation work in progress by PT PU and evaluated once in every 6 months to obtain conservation área capacity compared with number of percentage of wildlife living in the área.	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency.	1. Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environmen t agency of Kutai Kartanegara Regency. 3. Environmen t Agency of East Kalimantan Province.

				report to the authorities immediately.					
2.3	**Aquatic Biota**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of aquatic biota decreased in which the impact is significant negative and direct.	The continued impacts of fertilizers & pesticides residues pollution on local water bodies, used oil & TSS content exceeding the environmental standard determined in accordance with the East Kalimantan Government Regulation No. 2 Year 2011 which is 50	Aquatic biota diversity are well maintained such as bentos and nekton.	**Road network construction** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road. c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Add alum to sediment basin until reaching pH 6-7. **Plants upkeep** a. Water polution control against fertilizers and pesticides residue should be conducted seriously and responsibly. b. Install notification boards in strategic areas and easily visible. **Mill Operations** a. Create surounding ditches that are connected to WWTP. b. Implementation of land application in which requires study in advance. c. For handling of used lubricants are collected and kept in barrels and submitted to third party who have obtained license from Environmental Ministry. **Workshop and generator operations**	On sediment basin, oil trap and WWTP.	Once during work in progress and evaluated at least once in 3 months during operations.	PT PU	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency.	1. BLH Prov Kaltim Plantation and Forestry Office of Kutai Kartanegara Regency. 2. Environment agency of Kutai Kartanegara Regency. 3. Environment Agency of East Kalimantan Province.

				a. Conduct strict control to prevent mineral oil pollution against local water bodies. b. Implement oil handling mechanism in accordance with regulations from Ministry of Energy and Mining. **Fertilizer & pesticide warehouse.** a. Avoid leakage during storage and distribution of pesticide and fertilizer. b. Apply storage provision for fertilizer and pesticides in accordance with regulations apply.					
3	**SOCIAL, ECONOMIC AND CULTURAL COMPONENTS**								
3.1	**Communitry attitude and perspective**								
	Significant impact in the form of positive perception on PT PU's plan is significant positive impact and direct impact. Number of human affected and happy or agree with PT PU's activity plan.	Changes in community's negative attitudes who reject the planned activities change their attitude into positive perception and support the development plan of PT PU, among others: Sosialisasi rencana kegiatan a. Socialization of activity plan b. Recruitment c. CSR program d. Land rehabilitation and restoration.	Positive attitudes and perceptions of the community towards PT PU	**1) Sosialization of activity plan** a. Conducting socialization/ public consultation relating to activity plan by PT PU which involves related agencies and society around, Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village. b. Providing explanations to the public on the positive and negative effects from PT PU's plantation & milling activities. c. Collaborate with village officials and related institutions by conducting socialization d. Acmmodate the suggestions and aspirations of the community	1. Socialization activities are conducted at. Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village. 2. Workforce recruitment is conducted at PT PU's location. 3. CSR Programs are performed for Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village.	1. Socialization activities are conducted once at the following villages: Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2. Penerimaan Workforce recruitment is conducted once in the begining and evaluated once a year at PT PU's location. 3. CSR Programs are performed for Muara Ritan Village, Muara Ritan Baru	PT PU	1. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2. Plantation and forestry office of Kutai Kartanegara regency. 3. Regional Environment Agency of	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Regional Environment Agency of East Kalimantan Province.

				2) Labour recruitment a. Prioritizing local employment b. In the implementation of manpower, the initiator coordinates with village government and Manpower Department of Kutai Kartanegara Regency. c. Post an announcement at the village office relating to the recruitment of workers for PT PU's activities. d. Announce the employee recruitment results at the village office e. Provide training to local workforce to improve skills and expertise in accordance with the level of education f. Provide salaries to workers in accordance with the classification, level of education and position and refers to the rules applicable. **3) CSR** a. Designing a CSR program that suits the needs and wants of the community around the plantation and explains the government 7 CSR program that can really be positive for the surrounding community. b. Immediately performs a deliberation with local community leaders in the project area relating to the CSR programs preparation whereby it also involves local government represented by	4. Lands that have been restored are returned to the Kutai Kartanegara Regency Office.	Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village. 4. Rehabilitasi & pengembalian lahan dilakukan pada tahun ke 1 seluruh areal efektif tanam. Land rehabilitation and restoration are conducted at the first year at the end of PT PU's operation to all planted áreas.		Kutai Kartanegara Regency.	

				Plantation and forestry office of Kutai Kartanegara regency. c. Implement all agreement resulted from deliberation in earnest. d. Entire activity plans are carried out openly both to the affected village apparatus and the community. e. The PT PU works closely with the affected village government in explaining the entire CSR program **4) Land rehabilitation and restoration** a. Perform restoration activities gradually b. In restoration activities involves local business actors. c. Post an announcement at the village office on PT PU's end of operations. d. Lands that have been restored are returned to the Kutai Kartanegara Regency Office.					
3.2	**Social conflicto**								
	Significant impact in the form of social conflict in which the impact is negative and direct to PT PU's activities. Social conflict potential occured due to dipsute in land acquisition process such as overlapping in land ownership and dispute on land compensation value on land acquired.	A direct impact due to land acquisition activities at Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village.	There is no social conflict occurred which may disrupt public peace and inhibit the plantation activities of PT PU.	1. Conduct socialization on boundaries of areas that will be acquired. 2. Perform land acquisition process gradually according to the progress of plantation activity plan. 3. No land acquisition on areas that have the potential to cause land tenure disputes. 4. Determination of the boundaries according to land	Project site location especially on agriculture area, plantation and comunity field that will be acquired.	Once during land acquisition process at pre-construction stages.	PT PU	1. Land Administration Division of Kutai Kartanegara Regency. 2. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village,	1) Land Administration Division of Kutai Kartanegara Regency. 2) Plantation and forestry office of Kutai

				owner agreement and acknowledged by Tabang Sub District officials. 5. Provision of land compensation to each community according to agreement, in terms of type of compensation, amount, time of delivery and parties entitled to receive directly without intermediaries. 6. Implementation of land acquisition involves village and sub-district government apparatus and coordinate with related technical institution (Land Administration Division of Kutai Kartanegara Regency).				Muara Pedohon Village & Umaq Dian Village 3. Plantation and forestry office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai Kartanegara Regency.	Kartanegara regency. 3) Regional Environment Agency of Kutai Kartanegara Regency 4) Regional Environment Agency of East Kalimantan Province.
3.3	**Employment opportunity**								
	Significant impact in the form of employment opportunities for the community in which the impact is direct and significant positive. It can lead to continued impact in increased of surrounding community income. In addition, it can also cause continued impact which is negative and cumulative in the form of perception and attitude of the community against PT.PU activity plan.	It is the impact from recruitment activity and post-operations such as work termination.	Number of local people who are accepted to work in PT.PU with 60% percent of local workforce and wages provision in accordance with government regulations (UMSK in Kutai Kartanegara Regency).	**1) Workforce recruitment.** a. 30 days' prior the operations, required for the company to register the company to Workforce and Transmigration Department of Kutai Kartanegara Regency. b. Publicly announcing to Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village and Umaq Dian Village on the job recruitment. c. Prioritize local workforce to work in the company tailored to educational qualifications required by the company. d. Job recruitment should be based on the working age of	The management office of PT PU, Settlement of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village and Umaq Dian Village, Tabang Sub District.	Once during recruitment process on progress in PT PU and at the time of termination of employment.	PT PU	1) Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2) Manpower and Transmigration Office of Kutai Regency Kartanegara	1) Manpower and Transmigration Office of Kutai Regency Kartanegara. 2) Plantation and forestry office of Kutai Kartanegara regency. 3) Regional Environment Agency of Kutai

				18 years in accordance with government regulations on employment. e. Inform the number, type, skills and requirements of the labour needed widely to the surrounding community. f. Provide special training for local workers to improve skills & expertise. **2) Employment termination** a. Termination of employment should be done in stages. b. Preparation for termination of employment should be done in advance and detailed. c. Provide severance pay to employees who will be affected by layoffs in which the amount is adjusted to the provisions of legislation.				3) Plantation and forestry office of Kutai Kartanegara regency. 4) Regional Environment Agency of Kutai Kartanegara Regency.	Kartanegara Regency 4) Regional Environment Agency of East Kalimantan Province.
3.4	**Business Field**								
	Significant impact in the form of business opportunity creation for the community in which the impact is positive and direct, this impact can lead to continued positive impacts on increased incomes of surrounding communities.	Business activities that involve local business actors in the activities such as: a. Development of estate emplacement. b. Preparation of nursery location. c. Nurseries. d. Preparation of planting area. e. Planting of oil palm. f. Construction of palm oil mill.	Increasing & developing local economic activity and the number of local people who can be empowered by PT PU	**1) Emplacement development** a. Providing opportunities for local carpenters in the provision of carpentry services during development activities. b. Provide wages in accordance with the agreement **2) Nursery location preparation** a. Provide widespread opportunities to business actors from surrounding communities for nursery activities b. Provide wages in accordance with the agreement	Settlement of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village and Umaq Dian Village, Tabang Sub District.	Once during the development of estate emplacement, land preparation, nurseries, planting area preparation, mill area preparation.	PT PU	1. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry	1. Manpower and Transmigration Office of Kutai Regency Kartanegara. 2. Plantation and forestry office of Kutai Kartanegara regency. 3. Regional Environme

				3) Nurseries a. Provide announcement to the community around the location on the needs of services for nursery activities by the company either type, classification and expertise required. b. Provide opportunities for business units/ individuals who are in and around the plantation location to participate particularly in the provision of goods and services to meet the needs of employees and companies. c. Involving the community of the sub-district government in the business unit activities. **4) Preparation of palnting area** a. Provide business opportunities as wide as possible to the surrounding community in the provision of land. b. Provide wages in accordance with the agreement. **5) Oil palm planting** a. Set the speed of the transporting vehicle at maximum of 20 km/h, especially if passing through settlement or concentration of community agriculture. b. Conducting hardening & compaction of haul roads with special aggregate, especially on seedlings transportation path.				office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai Kartanegara Regency.	nt Agency of Kutai Kartanegara Regency 4. Regional Environment Agency of East Kalimantan Province.

				c. During dry season water the road every 3 on the transportation path that passes the nursery. **6) Palm oil mil constrution** a. Conduct special open bidding for business groups from local communities for plant construction activities. b. Provide wages in accordance with the agreement.					
3.5	**Community Revenue**								
	Significant impact against community revenue in which a continued impact due to land conversion which increase the community revenue	Is a derivative impact of the recruitment activities that create jobs for the surrounding community from the following activities: a. Workforce recruitment b. Development of estate emplacement c. Preparation of nursery area d. Seedling e. Preparation of planting area f. Oil palm planting g. Construction of a palm oil mill h. Harvesting & transporting of FFB's i. Mill operations	Increasing or decreasing revenue of the surrounding community of PT PU.	**1) Recruitment activity during emplacement development, preparation of nursery, planting area, oil palm plantation, plant construction, harvesting transportation.** a. Provide wages/ salaries to workers adjusted to classification, expertise and level of education and refers to legislation relating to wages. b. Provide education and training to workers to improve skills and expertise. c. Encourage the development of community business around estate operations so that can create non-formal job opportunities. **2) Mill operations** a. Construct wastewater treatment plants to manage liquid waste generated from plant operations.	At PT PU management office and community settlement around PT PU.	Once during operation in progress ad evaluated once a year during PT PU estate and mill operations.	PT PU	1. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Regional Environment Agency of East Kalimantan Province.

				b. Based on the waste characteristic & pollution load, the effluent treatment is effective if WPH is more than 75 days so that the COD & TSS level can be decreased to below the standard. PT PU plans the wastewater treatment with a biologically WWTP system (anaerobe & aerobe system) with hydrological retention time of 150 days so that WPH increase is expected to decrease the quality of waste water & pollution loads to below the quality standard. c. Implementation of land applications in which requires study in advance on pollution aspect that may occur, the carrying capacity of the land, the effect on soil and ground water and surface water. d. Convert the local people's livelihoods sources from farming to estate workers. If the degradation of water quality at the site is considered to exceed the quality standard of water pollution.				Kartanegara Regency.	
3.6	**General Traffic (Land)**								
	Significant impact in the form of traffic disturbance in which the impact is negative and direct. The occurrence of impact may cause inconvenience for road users	Is a direct impact from the following activities a. Employees transportation.	1. No traffic congestion and traffic accidents during transporting employees activities, transportation & harvesting of FFB's	**1) Employees transportation** a. Time arrangement for employee transportation to work in the morning is at 06:00 pm	At public road used by the company for transporting.	During the operations of PT PU estates.	PT PU	1. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village,	1. Plantation and forestry office of Kutai

	in their if disturbance is not managed well.	b. Harvesting and transportation of FFB's		b. Time arrangement for employee transportation to return to home in the afternoon is at 14:00 wita. c. Limit the speed of the transporting vehicles at max 20 km / hour, especially when passing through the settlement. d. Use appropriate vehicle in accordance with its function such bus/car for passenger. **2) Harvesting & transportation of FFB's** a. Disseminate to affected workers on the detailed plan estate road network. b. Allowing the local community to use the estate road for their accessibility. c. Prioritize maintenance of estate road which used by the community as access roads. d. Implement traffic rules to all road users. e. At the section of the road which used by the community as access roads are installed with traffic signs in accordance with applicable laws and regulations. f. Prioritizing public road user first. g. Placing officer at the intersection of public roads and estate roads.				Muara Pedohon Village & Umaq Dian Village 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai Kartanegara Regency.	Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Regional Environment Agency of East Kalimantan Province.

				h. To limit the capacity of CPO transporting unit at max 8 tons.					
3.7	**Water traffic**								
	Significant impact in the form of water traffic disturbance in which the impact is negative and direct. The occurrence of impact may cause inconvenience for public transportation due to the operations of LCT.	Impacts arising from the following activities such as: Mobilisasi peralatan a. Mobilization of equipment. b. Demobilization of equipment.	No disruption on water traffic during the mobilization and demobilization of equipment.	1. Conduct socialization to the surrounding community on estate equipment mobilization and demobilization plan 2. Setting the port location for heavy machine unloading zone. 3. Provide adequate lighting during equipment mobilization & demobilization process. 4. Provide adequate signs for the activities around the area. 5. Conduct estate equipment mobilization and demobilization in stages and periodically for the entire heavy equipment. 6. Coordinate with the relevant Kutai Kartanegara Regency office transportation to provide guard at the time of mobilization and demobilization.	On Belayan river wáter body.	Once during mobilization and demobilization process in progress.	PT PU	1. Village officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village & Umaq Dian Village 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai Kartanegara Regency.	1. Plantation and forestry office of Kutai Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Regional Environment Agency of East Kalimantan Province.
3.8	**Environmental Hygiene**								
	Significant impact against environmental higiene and sanitation due to estate emplacement activities which may lead to degradation of sanitation quality in the project environment.	Impact arises due to mill operations, office and housing activities.	Hygiene and sanitation are well managed at the Project location.	**1) Mill operations** a. Accommodate the remaining liquid waste from mill operation in barrels then submitted to a licensed third party.	At the location of activities such as office, employees housing and clinic.	Twice, in the evening and in the morning during the operations of PT PU.	PT PU	1. Health Department of Kutai Kartanegara Regency.	1. Plantation and forestry office of Kutai

				b. Create surrounding ditches that are connected with WWTP. c. Implementation of Land Applications which requires assessment in advance. **2) Office and housing activities** a. Provide solid waste container at each unit that produces solid waste both organic & inorganic. b. Prohibit waste disposal to water bodies. c. Create waste disposal system for housing unit. d. Toilet provision should have septic tank. e. Use biological decomposition for septic tank. **3) Clinic operations** a. Accommodate all solid waste generated from clinical operational activities by preparing waste container at several strategic locations. b. Installing warning board on the obligation to maintain the environment c. Provide waste container at the location that generates waste. d. Immediately deliver solid waste generated by clinical operations to a licensed third party that have				2. Plantation and forestry office of Kutai Kartanegara regency. 3. Regional Environment Agency of Kutai Kartanegara Regency.	Kartanegara regency. 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Regional Environment Agency of East Kalimantan Province.

				obtained from Ministry of Environment e. Cooperate with Kota Bangun hospital for medical waste destruction generated by clinical operations.					
3.9	**Occupational Health and Safety**								
	Significant impact to occupational helath and safety in which the impact is potentialy harmful for the workforce working at Project location during work in progress.	Impact arised due to the following activities. a. Development of estate emplacement. b. Road network construction. c. Preparation of nursery location. d. Preparation of planting area. e. Planting of oil palm. f. Plants upkeep g. Harvesting and transportation of FFB's h. Fertilizer and pesticides warehouse activities.	Occupational health and safety disturbance at work.	**1) Estate emplacement development** a. Determine and implement safety procedures relating to estate emplacement development. b. Provide means of first aid and medical personnel c. Perform periodic medical examinations d. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. e. Provide hearing & respiratory protection. f. Insuring all the labour involved in the project **2) Road network construction** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken	At the project location of the following activities: a. Development of estate emplacement. b. Road network construction. c. Preparation of nursery location. d. Preparation of planting area. e. Planting of oil palm. f. Plants upkeep g. Harvesting and transportation of FFB's h. Fertilizer and pesticides warehouse activities.	During the operations of PT PU.	PT PU	1. Health Department of Kutai Kartanegara Regency. 2. Manpower and Transmigration Office of Kutai Regency Kartanegara. 3. Plantation and forestry office of Kutai Kartanegara regency. 4. Regional Environment Agency of Kutai Kartanegara Regency 5. .	1. Health Department of Kutai Regency Kartanegara. 2. Plantation and forestry office of Kutai Kartanegara regency. 3. Regional Environment Agency of Kutai Kartanegara Regency 4. Regional Environment Agency of East Kalimantan Province.

				c. Provide first aid facilities along with medical personnel d. Perform periodic health checks e e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Provide hearing & respiratory protection. g. Insuring all the labour involved in the project. **3) Nursery location preparation** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project **4) Planting area preparation**					

				a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **5) Oil palm planting** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to					

				accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **6) Plant upkeep** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **7) Harvesting and Transportation of FFB's** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety					

				procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **8) Fertilizer and pesticides warehouse activities.** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken c. Provide first aid facilities along with medical personnel d. Perform periodic health checks e e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Provide hearing & respiratory protection.					

				g. Insuring all the labour involved in the project.					
3.10	**Human Resources**								
	Human resources development is a positive significant impact and direct. The impact will develop local community human resorce for both sklled and non-skilled and have immediate impact against increased local community income.	Developed human resources due to CSR activities.	Meningkatnya keterampilan dan produktifitas masyarakat sekitar akibat program CSR	1. Conducting socialization to the surrounding community on company CSR program. 2. Company provides special field experts to train the workers enrolled in the program 3. Conduct skills tests to program participants 4. Conduct placement activities and course on the community so that people can be more independent to fulfil their economic needs. 5. Together with the government to develop local business by using public facility as facilitator for local economy development.	Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Mura Pedohon Village and Umaq Dian Village	During the estate operation of PT PU.	PT PU	1. Village Officials of Muara Ritan Village, Muara Ritan Baru Village, Buluq Sen Village, Muara Pedohon Village and Umaq Dian Village, Tabang Sub-District. 2. Land Administration Division of Kutai Kartanegara Regency. 3. Plantation Office of Kutai Kartanegara Regency. 4. Environment Agency of Kutai Kartanegara Regency.	1. Plantation Office of Kutai Kartanegara Regency 2. Regional Environment Agency of Kutai Kartanegara Regency 3. Environment Agency of East Kalimantan Province.
4	**COMMUNITY HEALTH COMPONENTS**								
4.1	**Community Health**								
	Significant impact is the occurrence of public health problems with indicators of	Impact arised due to the following activities a. Nursery b. Planting of oil palm	No increase in public health problems in the vicinity of the project site.	**1) Nursery** a. Nursery activities should be conducted in a planned	At the project location of the following activities:	Once during activities on progress and evaluated once a	PT. PU	1. Health Department of Kutai	1. Health Departmen t of Kutai

	increased morbidity rate among local community.	c. Plant upkeep d. Harvesting & transportation of FFB's e. Mill operations.		manner and gradually according to the estate development. b. Construct drainage network that lead to retention basin at each división. c. Use environmentally friendly pesticide type. d. Collect hazardous and toxic waste at hazardous and toxic waste storage facility. **2) Oil palm planting** a. Avoid air pollution along the seedling transportation routes. b. Inventory number of resident who affected by nursery activities. c. Conducting intensive road watering, especially in the dry season on the community residential areas once in 2 hours **3) Plant upkeep** a. Planting activities should be conducted in a planned manner and gradually according to the estate development. b. Construct drainage network that lead to retention basin at each división. c. Use environmentally friendly pesticide type. d. Collect hazardous and toxic waste at hazardous and toxic waste storage facility.	a. Preparation of nursery location. b. Preparation of planting area. c. Planting of oil palm. d. Plants upkeep e. Harvesting and transportation of FFB's f. Mill operations.	month during the operations of PT PU.		Kartanegara Regency. 2. Plantation Office of Kutai Kartanegara Regency. 3. Environment Agency of Kutai Kartanegara Regency.	Kartanegara Regency. 2. Environment Agency of Kutai Kartanegara Regency. 3. Environment Regency of East Kalimantan Province.

				4) Harvesting and transportation of FFB's a. Minimize the dust caused by transporting activities by limiting the transportation vehicle speed. b. Installing notification board on the need to use mask especially on dusty áreas. c. Provision of dust mask to community affected by the dust on the transporting route. d. Incorporate CSR program as main program. **5) Mill operations** a. Construct wastewater treatment plants to manage liquid waste generated from plant operations. b. Based on the waste characteristic & pollution load, the effluent treatment is effective if WPH is more than 75 days so that the COD & TSS level can be decreased to below the standard. PT PU plans the wastewater treatment with a biologically WWTP system (anaerobe & aerobe system) with hydrological retention time of 150 days so that WPH increase is expected to decrease the quality of waste water & pollution loads to below the quality standard. c. Implementation of land applications in which requires study in advance on pollution aspect that may occur, the					

				carrying capacity of the land, the effect on soil and ground water and surface water.					
4.2	**Public safety**								
	Impact on public safety disturbance in which the impact is significant negativem and direct. The impact may occur durig the estate operations of PT PU.	Impact arised from activities such as: a. Mobilization of equipment b. Transport of employees c. Harvesting & transportation of FFB's d. Demobilization of equipment	No traffic accident occured during the following activities: 1) Mobilization of equipment 2) Transport of employees 3) Harvesting & transportation of FFB's 4) Demobilization of equipment	**1) Equipment mobilization and demobilization** a. Conduct mobilization to equipment in stage to entire heavy equipment. b. Coodinate with Transport Department of Kutai Kartanegara regency on LCT operations. c. Install adequate lightings. **2) Employee transportation** a. Time arrangement for employee transportation to work in the morning is at 06:00 pm b. Time arrangement for employee transportation to return to home in the afternoon is at 14:00 wita. c. c. Limit the speed of the transporting vehicles at max 20 km / hour, especially when passing through the settlement. d. Use appropriate vehicle in accordance with its function such bus/car for passenger. **3) FFB's Harvesting and Transportation** a. Carry out control measures of road traffic b. Preparing mobilization units, first aid facilities &	At public road intersection passed by or areas prone to traffic accident	During the operational activities of PT PU.	Pt PU	1. Health Department of Kutai Kartanegara Regency. 2. Plantation Office of Kutai Kartanegara Regency. 3. Environment Agency of Kutai Kartanegara Regency.	1. Health Department of Kutai Kartanegara Regency. 2. Environment Agency of Kutai Kartanegara Regency. 3. Environment Regency of East Kalimantan Province.

				medical personnel to anticipate traffic accidents. c. Prioritizing public road users first.					

2	**HCV areas and HCS forests**	Understanding the threats to the identified HCVs is an important step in making management decisions to protect and/or enhance HCV values (Stewart et.al., 2008). Threats to HCV can come from the internal scope of the land manager or from external factors (institutional or personal communities). Threat assessment aims to help companies to overcome internal threats with proper management, and improve the ability to reduce the impact of various external threats. The threat assessment uses a comprehensive approach from the IUCN. This approach only assesses direct threats to species, habitats or ecosystems. The threat category assessment is based on the IUCN Treat Category (ITC) that has been verified in the field. Of the 12 categories, there were 5 categories of threats in the MU area of PT PU, namely agriculture/plantation activity, pollution, biological use, transportation & service corridors, and natural system modification. From each threat, there are 3 factors that are assessed, namely time (period of threat continuity), scope (size/proportion of affected area/object) and severity (rate of quality decline due to threat pressure). The results of the threat intensity assessment are generally medium impact. However, there is an assessment of threats that are classified as low impact, namely fires originating from a stretch of shrubs around the borders of the Sungai Batu Brang, Jalin, Bayeq, Meqloq, and Sungai Sengen rivers, which were former community fields. This is because the location is in the form of small spots and only takes place if there are triggers such as a dry and long drought and the lighter (such as cigarette butts of people looking for fish). It is different with logging in forested areas around the Jalin River, Batu Brang River and Belayan River which is classified as high impact. The rate of decline in quality due to threat pressure is very fast (land becomes barren and dries quickly). For the threat assessment at each location of the HCV area, **Tables 2 and 3** are presented. Table 2. HCV and HCMA threat intensity assessment

HCV	Brief Description of Existence of Values in the Valuation Area	Main Threat
1	• Presence of RTE species, especially populations of kelawait (Hylobates muelleri) and several species of Dipterocarpaceae. Kelawait occupies the remaining secondary forest fragments within the MU and AOI. Similarly, several Dipterocarp species make up the species composition of the secondary forest fragments in the assessment landscape. • Important areas of rivers within the assessment landscape that are natural habitats for various RTE aquatic fauna, including thorn turtles and sinyulong crocodiles.	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/company
3	There are ecosystems that are threatened and meet the criteria for HCV 3, namely in the form of lowland forest in sandstone	• Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants

		• Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company
4	There is land with steep slopes, as well as rivers and their riparian zone. The land with steep slopes has good vegetation conditions in the valley area. Within the MU area, there are 8 rivers and riparian zones.	• Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands (such as Mount Naga, Mount Mendam, and valley areas with steep slopes east of the Banggeh River) • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)
5	There are situations that meet the requirements for the existence of HCV 5, namely rivers that are used as a place to find fish and a source of clean water for local communities	Community/company land clearing activities for agriculture (fields) or oil palm plantations around the riparian zone

Table 3. Threat assessment for each HCV and HCVMA

HCV	ID Map	Source of Threat	Threat Source Status	Risk
HCV 1	ID01, ID03, ID06, ID09, ID12, ID15, ID16, ID18	Community hunting of animals, especially RTE species	Animal hunting is a side activity for local people, it has been going on for a long time and seems to be continuing in the future	Fauna belonging to RTE species is increasingly threatened
		Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species	Timber logging has been carried out and will continue to be carried out by the community, especially in the Belayan, Batu Brang and Jalin forest blocks	Flora belonging to RTE species is increasingly threatened
		Clearing of forested land/which still has good vegetation for farming/gardening by the community/company	• Until now, the company has not carried out land clearing activities but in the near future it will clear land for oil palm plantations. • In the land clearing process there must be a plan for making lanes and blocking lanes (eg real threats to ID04 and ID05 connectivity). • Cultivation by the community has taken place, especially on land with slightly steep slopes and around the riparian zone.	• The area and quality of habitat for endangered animals is decreasing (disturbed) • Animal habitats are fragmented so that connectivity is lost, for example: riparian zones as ecological corridors that connect better and wider forested/shrub areas. • Increased soil erosion so that sediment yields in rivers increase and water becomes very cloudy, as well as residues of plantation chemicals (aquatic fauna

						habitat is disturbed and its quality decreases)
		HCV 3	ID02, ID03, ID04, ID05, ID06, ID08, ID09, ID11, ID12	• Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing	• Until now, the company has not carried out land clearing activities but in the near future it will clear land for oil palm plantations. • Plans for making lanes and blocking lanes in line with the company's plan to clear land for oil palm plantations	Fragments of old forest/groves which are part of a rare ecosystem are threatened with damage or even disappearance
				Illegal logging by local communities and migrants	Timber logging has been carried out and will continue to be carried out by the community, especially in the Belayan, Batu Brang and Jalin forest blocks	
		HCV 4	ID01, ID03, ID06, ID07, ID09, ID10, ID12, ID13, ID14, ID15, ID16, ID17, ID18	Land clearing for farming/gardening by the community on land with steep slopes and around river borders	• The river flows across the PT PU HGU area. Until now the company has not carried out land clearing activities, in the near future land clearing will be carried out for oil palm plantations (starting with the construction of roads and blocking lanes). Without close supervision the riparian zone area can also be opened. • It has become a local community tradition to open fields around riparian zones and land with steep slopes (although the area is not very large), and will continue to do so in the future.	• Erosion yields increase, sedimentation yields also increase which causes silting • Increased turbidity of river water (dissolved material in river water increases) • Increase riverbank morphoerosion because there is no protection on the riverbank • Riparian zone as a flood buffer area that still has natural vegetation will disappear
				Plantation operational activities by the company after palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides	Plantation operational activities have not yet taken place, the threat will take place intensively in the first 5 years after planting	Increased agrochemical pollution when plantation operations have started (fertilizers, pesticides, herbicides)
				The activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season	Fishing is a local community side activity that takes place only at certain times. During the dry season the river water recedes, the frequency of fishing is getting more frequent. This will be repeated next time	Land fire
		HCV 5	ID06, ID12, ID16	Community/company land clearing activities for agriculture (fields) or oil palm plantations	• The river flows across the PT PU HGU area. Until now the company has not carried out land clearing activities, in the near future land	Reducing river water quality, because:

		around riparian zones that are not environmentally friendly	clearing will be carried out for oil palm plantations (starting with the construction of roads and blocking lanes). Without close supervision the riparian zone area can be opened too. • It has become a local community tradition to open fields around riparian zones and land with steep slopes (although the area is not very large), and will continue to do so in the future.	• Land erosion results increase, sedimentation results also increase which causes river silting • Increase riverbank morphoerosion because there is no protection on the riverbank • Increased turbidity of river water (dissolved material in river water increases)

The general objective of HCV management is to maintain elements of the HCV; (if needed), the importance of the area can be enhanced. Maintenance of HCV elements is a minimum requirement in HCV management. This HCV maintenance can be done by protecting the HCV area and mitigating its threats so that the important value of the HCV is not degraded. In addition, the company is also expected to be able to recover from the significant decline in the value of HCV caused by the negative impact of the company's operational activities.

The management recommendations for managing HCV areas in general are as follows:

1. The company must have a commitment to carry out the land acquisition process for the entire HGU area, including the area to be managed as a conservation area (HCV-HCS, Risk Area). This needs to be done to ensure that there will be no problems in the process of managing and monitoring the conservation area on the grounds that the area is still controlled by the community. The land acquisition process to be carried out must refer to the procedures established by the company and the principles of FPIC.
2. Immediately prepare a more detailed HCV Management Plan document, taking into account:
   - Species protection aspect, because not all endangered species have a definite core area or clear path across the garden, also consider the connectivity between habitats.
   - Regarding the connectivity of the HCV area (eg in ID04 and ID05), the thing that must be considered is to maintain the existence of the forest in good condition and not fragmented by closing all access to the HCV area and creating a buffer area around the HCV area that cannot be changed by land use. make the buffer area an HCVMA No Go Area. Meanwhile, the border area of the national road that connects to the HCV ID04 area becomes the HCVMA Go Area.
   - Strengthening communication links with other companies in the vicinity to develop management plans and action plans to protect HCV areas.
   - A landscape approach that involves local communities and related stakeholders, because the interests and benefits of the existence of HCVs are mutual interests and benefits.

		• Integrated Management Plan and Monitoring of HCV area with other environmental management activities (Integrated Management Plan) such as AMDAL, HCS, and others • This management plan must be on target, realistic, simple, practical and effective. 3. Build institutions for HCV management: • Establish a management unit to ensure HCV management objectives are achieved. • Train staff or recruit staff with the necessary qualifications for HCV management. 4. Strengthening capacity in identification, management, monitoring and evaluation: • Detailed SOP for Management and monitoring of HCV areas. • Consistent application of procedures and policies. 5. Conduct delineation and demarcation of HCV areas that have been identified and install sign boards as a form of socialization and public awareness regarding information on HCV areas 6. Before demarcating and delineating the HCV area, it is necessary to first consider the tenure/ownership of the land where the HCV area is located. This will have implications for further management actions of the HCV area and elements, namely: • If the status of land ownership/tenure is still in the community, then all matters relating to the protection and management of the HCV area must be coordinated with the land owner, and carried out by mutual agreement between the company and the land owner. • If the land ownership status is with the company, what is needed is the enforcement of protection rules. 7. Coordinate with relevant stakeholders (NGOs, government, communities) in the maintenance of HCV areas and support collaborative activities related to the concept of area management 8. Regarding the company's plan to build roads and blocking lanes, the management plan is to determine the location of the cross section between the road/blocking lane and river channel, which is minimal (in quantity) but effective in the operational mobility path of the plantation by maintaining the condition of the surrounding vegetation. Then, regarding the company's plan to create a drainage network, the things that must be considered are keeping the river flow in good condition (not normalizing the river) and making it the main drainage channel. The direction in this HCV area management system is an adaptive management system where the manager always tries to make continuous improvement in the management and monitoring of HCVs. Recommendations for management of HCV areas are presented in **Table 4.**

Table 4. PT. PU's HCV & HCS area management plan

ID	Name & Description	Base Line Description/ Condition	Threats	Management Activity		
				Technology Approach	Social Approach	Institutional Approach
01	Belayan River Riparian	The slope of the land is rather steep; the condition of the land cover is still good in the form of shrubs that have not been disturbed Type : 1; 4	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpacea e species • Clearing of forested land/which still has good vegetation for farming/gardeni ng by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and

					• Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					• Do not occupy area on the river border as settlement to prevent river water pollution.		
		02	Belayan River Block Forest	• In general the condition of land cover is still good (secondary forest scrub, only a small amount of shrubs), in some places there is land clearing by PT Lembang Ganesa and PT Karya Rimba Raya (still active). • Important area as habitat for endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Type : 1; 3	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and

				• Illegal logging by local communities and migrants • Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company	community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with

							relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
		03	Batu Brang River and the Riparian Zone	• The river water is cloudy during the rainy season from the upstream (community agricultural land development area) • Most of the vegetation on the riverbank is still good (shrub-secondary forest) • Lowland scrub and secondary forest ecosystem that supports the habitat of the endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinosa, Tomistoma schlegelii Type : 1; 3; 4	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

				• Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants • Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders	prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance.	community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with

					• Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local

					open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		government apparatus and surrounding communities in HCV area management program.
		04	Batu Brang River Block Forest	• In general the condition of land cover is still good (scrub-secondary forest), there are logging areas of PT Lembang Ganesa and PT Karya Rimba Raya, the slopes of the land are gentle to bumpy • Lowland scrub and secondary forest ecosystems that support habitat for endangered species	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company.

				(Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants • Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company	hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. Provision of forest and land fire prevention equipment in accordance with	HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and	• Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					prevailing laws and regulations.	gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. •
		05	Jalin River Block Forest	• In general the condition of land cover is still good (scrub-secondary forest), in some places there is land clearing by the community for farming, the slopes of the land are	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location &	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's.

			sloping to undulating. • Lowland scrub and secondary forest ecosystems that support habitat for endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants Clearing of forested land/which is still well-vegetated for farming/gardening by the community/compan	periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas	within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to	• Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and

					identified as degraded based on land cover inventory results. Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. •
		06	Jalin River and the Riparian Zone	• The river water is cloudy during the rainy season from	• Community hunting of animals,	• Conduct inventory and identification of land cover conditions.	• Organize internal and external socialization explaining the importance	• Determination of environmental and preservation of natural

				the upstream (community agricultural land development area) • In the dry season it is used by the community as a source of water for bathing and washing • The Jalin River during the flood is used by people who are logging in the upstream to extract wood • Lowland shrub and secondary forest ecosystem that supports the habitat of the endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 3; 4; 5	especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants • Clearing of forested land/which is still well-	• Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife	of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary,	biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational

					vegetated for farming/gardening by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas	junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV

					• Community/company land clearing activities for agriculture (fields) or oil palm plantations around the riparian zone	identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants		area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		
		07	Jalin Tukung River and the Riparian Zone	The upper reaches of the Jalin Tutung River is located at Mount Mendam. The condition of the upstream cover is in the form of old thickets. The downstream part flows in hill valleys which have slopes between 15-25%. Type: 4; 5	• Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands	• Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV

					• Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire) • Community/company land clearing activities for agriculture (fields) or oil palm plantations around the riparian zone	• Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as	development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an	area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and

						the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement	effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with

					to prevent river water pollution.		relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. •
		08	Bayeq River Block Forest	Shrub and lowland secondary forest ecosystems that support the habitat of endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

				• Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company	prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and

							incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
		09	Bayeq River and the Riparian Zone	• The upper reaches of the Bayeq River is located on Mount Naga, the water conditions are relatively clear (not too cloudy), flowing throughout the year • Lowland scrub and secondary forest ecosystems that support habitat for endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus

				protected species (Family Bucerotidae) • As a corridor connecting Mount Naga and forest blocks in the lower reaches of the Bayeq River (around the Belayan River) Type; 1; 3; 4	• Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants • Clearing of forested land/which is still well-vegetated for farming/gardening by the community/company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on	identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area.	• Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies,	and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and

					steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of	village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such

					fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. Do not occupy area on the river border as settlement to prevent river water pollution.		as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
		10	Mount Naga	Located east of Mount Mendam, extending to the banks of the Belayan River. Has a micro slope of up to40%? Covered with thickets and shrubs. as a catchment area for the Baya River.	• Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers,	• Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's.

				Type: 4	pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. Do not occupy area on the river border as settlement to prevent river water pollution.	fire-fighting community (KTPA) program.	• Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
			11	Belayan River Scrub	Area penting sebagai habitat spesies terancam punah (Hylobates muelleri dan Buceros rhinoceros); spesies	• Community hunting of animals, especially RTE species	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity.	• Determination of environmental and preservation of natural biodiversity policies by Top Management.

				endemik dan sebaran terbatas (Hylobates muelleri), refugium, stepping stone bagi spesies yang dilindungi (Family Bucerotidae) Type: 1; 3	• Illegal logging by local communities and migrants in forest fragments containing Dipterocarpace ae species • Clearing of forested land/which still has good vegetation for farming/garden ing by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants Clearing of forested land/which is still well-vegetated for farming/gardeni	• Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption.	• Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-	• Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company.

					ng by the community/company	• Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas.	• Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

		12	Meqloq River & its tributaries and riparian zone	• The upstream is in Mendam hills and Mount Naga, there are 2 waterfall locations with fairly clear water conditions, vegetation conditions around the riparian zone in the form of shrubs and shrubs are still good • Lowland scrub ecosystem that supports the habitat of the endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 3; 4; 5	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and

					• Clearing of forested land/which is still well-vegetated for farming/gardening by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of	HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas.	• Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding

					shrubs that dry up during the dry season (prone to fire) • Community/company land clearing activities for agriculture (fields) or oil palm plantations around the riparian zone	• Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border,		communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		
		13	Mount Mendam	Located in the middle of the MU area. Covered with old scrub forest, has a micro slope of up to 40%. This mountain is a water catchment area for the Bangge River, Tumau River, Meqloq River, Baya River, and Jalin Tutung River.	• Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands	• Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus

				Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		and surrounding communities in HCV area management program.
		14	Tumau River and the Riparian Zone	The upstream part is in Mount Mendam, most of the vegetation conditions around the riparian zone are still good (no disturbance) in the form of shrubs, there are few community oil palm plantations, downstream there is the Ung Tumau waterfall Type; 4	• Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders	• Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such

			• Illegal logging by local communities and migrants on sloping lands Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
15	Valley area with steep slopes east of the Banggeh River	• Vegetation condition in the form of undisturbed old scrub has a slope of more than 40%. This vegetation cover serves to control sheet erosion and stabilize steep slopes • Important areas as habitat for endangered species (Hylobates muelleri	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpacea e species • Clearing of forested	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational

				and Buceros rhinoceros), endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) and unique and rare ecosystems in the form of lowland forest ecosystems Type: 1; 4	land/which still has good vegetation for farming/gardening by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the	board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands	HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (MPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV

				dry season (prone to fire)	• Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		area management program.
		16	Sengen River and the Riparian Zone	• The upstream part of the Sengen River is a forested area outside the MU area, very fluctuating flow conditions (floods in the rainy season and relatively shallow in the dry season), vegetation conditions around the riparian zone in the form of community farming land and shrubs. • Important area as habitat for endangered species	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with

				Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 4; 5	vegetation for farming/gardening by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations.	• Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the	relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					• Community/company land clearing activities for agriculture (fields) or oil palm plantations around the riparian zone	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers	fire-fighting community (KTPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and

					and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.
		17	Banggeh River and the Riparian Zone	The upstream part is in Mount Mendam and its surroundings.	• Plantation operations by the company	• Determination flood plain on river riparian as wide as	• Organize internal and external socialization explaining the importance	• Determination of environmental and preservation of natural

				The condition of the vegetation around the riparian zone is still good in the form of shrubs. Type: 4	after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	the highest peak of inundation period. • Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement	of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. •

					to prevent river water pollution.		
18	Ritan River Riparian	• Located in the lower reaches of the Ritan River, • Important area as habitat for endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 4	• Community hunting of animals, especially RTE species • Illegal logging by local communities and migrants in forest fragments containing Dipterocarpacea e species • Clearing of forested land/which still has good vegetation for farming/gardeni ng by the community/ company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardeni ng by the	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Determination flood plain on river riparian as wide as the highest peak of inundation period.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's.

					community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Setting and marking of boundaries of areas identified as HCV 4 (rivers and borders) followed by installation of HCV 4 information boards (rivers and borders), mounting signs containing restrictions and appeals, especially prevention of fires and cultivation and logging • Identification of land cover in river basins for rehabilitation/ enrichment planting by categorizing open areas, shrubs, low density stands, high density stands • Rehabilitation/ enrichment planting in river border river. If there are already other plants in the border, then enrichment is done by planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement	of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program.	• Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program.

					to prevent river water pollution.		
HCS*	HCS Conservation Areas	The type of land cover varied, consisting of low-medium density forest, young regenerated forest, and shrubs. are scattered within the MU area, referring to the ICLUP HCSA study	• Illegal logging by local communities and migrants in forest fragments containing Dipterocarpaceae species • Clearing of forested land/which still has good vegetation for farming/gardening by the community/ company • Company plans to clear land for oil palm plantation • Company plans to build roads and blocking lanes, in the early stages of land clearing • Illegal logging by local communities and migrants • Clearing of forested land/which is still well-vegetated for	• Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance.	• Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance	• Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management.Preparation of HCV Area Management and

					farming/gardening by the community/company • Plantation operations by the company after the palm oil is planted (Agricultural effluent), such as application of fertilizers, pesticides, herbicides • Land clearing for farming/gardening by the community on steep slopes and around river borders • Illegal logging by local communities and migrants on sloping lands • Activities of anglers around the riparian zone of the river in the form of shrubs that dry up during the dry season (prone to fire)	• Installation of HCV name board location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas. • Undertake rehabilitation and enrichment activities (restoration) on areas identified as degraded based on land cover inventory results. • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Conduct inventory and identification of land cover conditions. • Comprehensive inventory on flora/ fauna in the HCV area. • Conducting HCV boundary marking adjacent to operational areas as well as community land location & periodic border maintenance. • Installation of nameplate in HCV location according to HCV type, installation of board prohibiting wildlife hunting and flora disruption. • Conducting patrols in HCV areas.	of conserving HCV areas and biodiversity. • Activities are also carried out targeting school-aged children (elementary, junior high school, high school) at schools located within village areas, sub-districts affected by PT. PU operations. • Conduct HCV area management training to HCV officers and/ or staff & employees. • Conduct forest and land fire prevention and handling training to employees and gradually developing the fire-fighting community (KTPA) program. • Develop an accountable and relevant community development program in collaboration with government agencies, village agencies and community leaders in an effort to prevent and minimize encroachment impact on HCV areas. • Organize internal and external socialization explaining the importance of conserving HCV areas and biodiversity. • Conduct forest and land fire prevention and handling training to employees and	Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such as BKSDA, Forestry and Plantations Agency, DLHK, Police, local government apparatus and surrounding communities in HCV area management program. • Determination of environmental and preservation of natural biodiversity policies by Top Management. • Preparation of HCV Area Management and Monitoring Procedures/ SOP's. • Establish and appoint HCV officers along with job descriptions and incorporate into the organizational structure of the company. • Coordinate & cooperate with relevant agencies, such

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				planting the same plant species. Types of plants planted are local native species. • Conducting patrols on the HCV river boundary • Provision of forest and land fire prevention equipment in accordance with prevailing laws and regulations. • Do not occupy area on the river border as settlement to prevent river water pollution.		

Note: *HCS Only

Specific HCV-HCS area management plan

The management referred to here is the management plan for HCV-HCS area which is included in the area proposed by the Government of Buluq Sen Village to be reserved as a village development area of ± 815.27 Ha and removed from the PT Prasetia Utama HGU. In this case, the proposal was submitted to the Government of Buluq Sen Village through a letter dated 8th August 2022 to RSPO during the public comment period of PT Prasetia Utama's NPP. The company accommodates the proposal and has agreed with the Governemnt of Buluq Sen Village to resolve this issue through the stages and mediation process with the Regency Government and other relevant agencies, namely the National Land Agency/Badan Pertanahan Nasional (BPN) & Plantation Service/Dinas Perkebunan and other relevant stakeholder, **this considers that the HGU change is not under the authority of the company because the HGU is a legal product so related to changes it must still follow the provisions of the applicable laws.**

As a form of the company's commitment to this issue, specifically for this area, the company has changed its new development plan, where the initial plan for the area to be developed in 2023 was changed to 2024 while waiting for the results of mediation decisions with the Regency Government and related agencies in completing the proposed HGU changes (see **Table 2** and **Figure 2** in the NPP notification statement document).

However, based on the analysis of the overlap between the conservation area (based on the final ICLUP of PT Prasetia Utama) and the proposed village development area, the company is committed to continuing to carry out management and monitoring involving the village government and the community so that all conservation areas that overlap with the village development area will still be subject to land acquisition of ±

		266.91 Ha (see **Figure 1**. The conservation area overlaps with the area proposed as a village development area). Land acquisition in this conservation area is a very crucial stage and becomes the basis for management, namely full control of the conservation area to be managed. The steps the company will take to overcome this are: 1. Conduct initial socialization of the company's needs, goals and objectives related to the conservation area management plan that overlaps with the area proposed as a village development area. 2. Identify and conduct a participatory mapping with the Village Government in the conservation area that overlaps with the area proposed as a village development area. 3. Submit an application to the Village Government for special land acquisition to be carried out in the conservation area with the intent and purpose as a basis for further management. 4. Develop a management and monitoring plan in the conservation area that involves the Buluq Sen Village community through program initiatives that can provide benefits to the village community. The above plan will be implemented in parallel with the completion stages related to the proposed revision of the HGU for village development area and for management and monitoring best practices impelemnetation still referring to the management plan **(Table 4)** and monitoring **(Table 5)** of the HCV-HCS area.

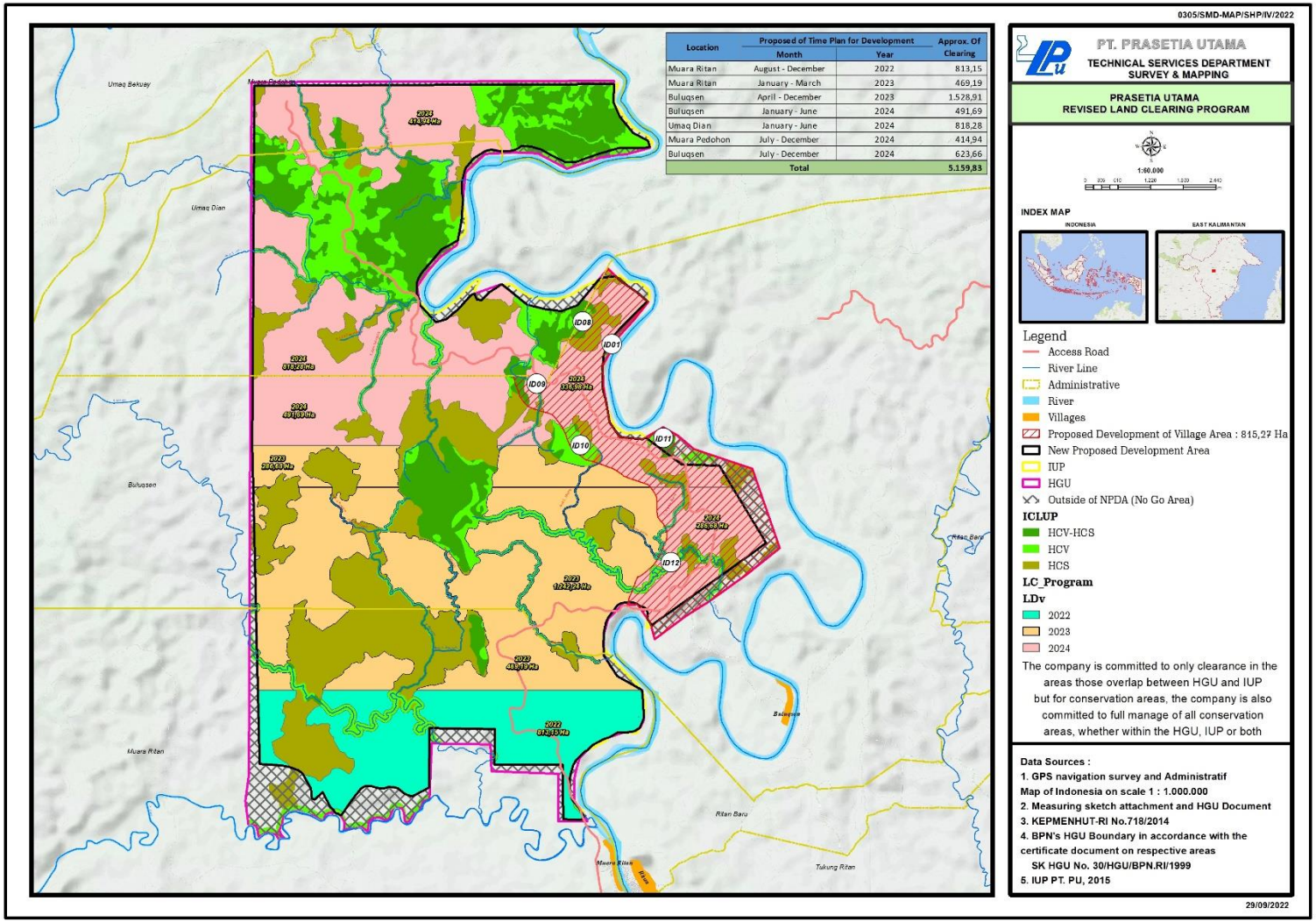

Figure 1. The conservation area overlaps with the proposed village development area

HCV's area monitoring plan

The general objective of monitoring is to know the development of the condition of the elements and the size of the designated HCV area. Monitoring of HCV elements is related to the value/function inherent in the HCV area, whether it is increasing (getting better) or decreasing (getting worse). Monitoring the size of the HCV area that has been determined is related to the coverage area that still has HCV value/function (HCV1-5). In addition to monitoring the indicators for HCV elements, the management strategy is also monitored. There is a possibility that over time there will be a decrease in the value/function of the HCV. Monitoring of the management strategy includes:

1. Implementation of the management strategy in the field, related to whether or not the planned HCV management strategy is carried out in the field (operational monitoring)
2. Implementation of management strategy is done poorly. Even if the planned management strategy is good, if it is carried out poorly it will not achieve the expected goals and objectives (strategic monitoring/effectiveness).
3. New or changed threats/conditions. Management strategies that were effective over time may not always be effective forever (threat monitoring).

The result of this monitoring serve as a basis for evaluation to ensure whether the implementation of the HCV area management strategy is accordance with its goals and objectivers. Recommendatuons for monitoring of HCV areas are presented in **Table 5.**

Table 5 PT PU's HCV-HCS area monitoring plan

Location and Type of HCV	Indicators Monitored	Monitoring Objectives	Parameters	Monitoring Period
ID 01 - Belayan River Riparian The slope of the land is rather steep; the condition of the land cover is still good in the form of shrubs that have not been disturbed Type : 1; 4	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month.

		ID 02 - Belayan River Block Forest • In general the condition of land cover is still good (secondary forest scrub, only a small amount of shrubs), in some places there is land clearing by PT Lembang Ganesa and PT Karya Rimba Raya (still active). • Important area as habitat for endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Type : 1; 3	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month.
		ID 03 - Batu Brang River and the Riparian Zone • The river water is cloudy during the rainy season from the upstream (community agricultural land development area) • Most of the vegetation on the riverbank is still good (shrub-secondary forest) • Lowland scrub and secondary forest ecosystem that supports the habitat of the	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month.

		endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinosa, Tomistoma schlegelii Type : 1; 3; 4				
		ID 04 - Batu Brang River Block Forest • In general the condition of land cover is still good (scrub-secondary forest), there are logging areas of PT Lembang Ganesa and PT Karya Rimba Raya, the slopes of the land are gentle to bumpy • Lowland scrub and secondary forest ecosystems that support habitat for endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month.
		ID 05 - Jalin River Block Forest	a. Disturbance intensity to the HCV location includes fire hazards,	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers.	**Good:** Fauna diversity and flora density (including protected and	a. Once a month b. Once in 6 months. c. Once in 3 months.

		• In general the condition of land cover is still good (scrub-secondary forest), in some places there is land clearing by the community for farming, the slopes of the land are sloping to undulating. • Lowland scrub and secondary forest ecosystems that support habitat for endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. Obtaining information on the realization of monitoring and security activities.	RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	d. Once in 6 months. e. Once a month.
		ID 06 - Jalin River and the Riparian Zone • The river water is cloudy during the rainy season from the upstream (community agricultural land development area) • In the dry season it is used by the community as a source of water for bathing and washing	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions.	**River Riparian Width:** **Good:** If there is an increase in the width of river riparian **Fair:** If there is no increase in the width of river riparian. **Poor:** If the width of river riparian has decreased. **Class II surface water quality for indicator such as dissolved residue, pH, BOD, DO**	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month. f. Once a month. g. Once in 6 months h. Once in six months. i. Once in six month j. Once a month.

		• The Jalin River during the flood is used by people who are logging in the upstream to extract wood • Lowland shrub and secondary forest ecosystem that supports the habitat of the endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 3; 4; 5	such as boundary conditions, nameplates installed. f. Intensity of disturbance to areas with HCV type, including hazards from fire, illegal logging and encroachment. g. The development of land cover conditions. h. Monitoring to river riparian width which is an indicator of enrichment program success. i. Monitoring of surface water quality such as turbidity level (soluble residue), pH, and BOD, DO reflecting the erosion rate of river riparian. This in accordance with Government Regulation number 82/2001 on Water Quality Management and Water Pollution Control (Class II Water Criteria). j. Monitoring and safeguarding habitat conditions especially on areas with HCV types. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	e. Obtaining information on the realization of monitoring and security activities. f. Intensity of disturbance to areas with HCV type g. Predicting erosion rate resulted from erosion rate measurements in which refers to Government Regulation Number. 150 years 2000 on Control of Soil Damage for Biomass Production h. Obtaining information on the development of land cover conditions. i. Monitoring and safeguarding habitat conditions especially on areas with HCV types	**Good:** In accordance with the quality standard. **Poor:** Exceed the quality standard determined.	
		ID 07 - Jalin Tukung River and the Riparian Zone The upper reaches of the Jalin Tutung River is located at Mount Mendam. The condition of the upstream cover is in the form of old thickets. The downstream part flows	a. Intensity of disturbance to areas with HCV type, including hazards from fire, illegal logging and encroachment. b. The development of land cover conditions. c. Monitoring to river riparian width which is an indicator of enrichment program success. d. Monitoring of surface water quality such as turbidity level (soluble residue), pH, and BOD,	a. Obtaining information on intensity of disturbance to areas with HCV types b. Obtaining information on the development of land cover conditions. c. Predicting erosion rates from river width measurement d. Obtaining information on pollution indicators of surface water surface water quality	**River Riparian Width:** **Good:** If there is an increase in the width of river riparian **Fair:** If there is no increase in the width of river riparian. **Poor:** If the width of river riparian has decreased. **Class II surface water quality for indicator such as dissolved residue, pH, BOD, DO**	a. Once a month. b. Once in 6 months. c. Once in 6 months. d. Once in 6 months e. Once a month.

		in hill valleys which have slopes between 15-25%. Type: 4; 5	DO reflecting the erosion rate of river riparian. This in accordance with Government Regulation number 82/2001 on Water Quality Management and Water Pollution Control (Class II Water Criteria). e. Monitoring and safeguarding habitat conditions especially on areas with HCV types. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	variable to surface water quality standard. e. Monitoring and safeguarding habitat conditions especially on areas with HCV types	**Good:** In accordance with the quality standard. **Poor:** Exceed the quality standard determined.	
		ID 08 - Bayeq River Block Forest Shrub and lowland secondary forest ecosystems that support the habitat of endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) Type: 1; 3	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once a month.
		ID 09 - Bayeq River and the Riparian Zone • The upper reaches of the Bayeq River is located on Mount Naga, the water conditions are relatively clear (not too	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and	a. Once a month. b. Once in 6 months. c. Once in 3 months. d. Once in 6 months e. Once in a month

		cloudy), flowing throughout the year • Lowland scrub and secondary forest ecosystems that support habitat for endangered species (Hylobates muelleri and Buceros rhinoceros); endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) • As a corridor connecting Mount Naga and forest blocks in the lower reaches of the Bayeq River (around the Belayan River) Type; 1; 3; 4	c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	
		ID 10 - Mount Naga Located east of Mount Mendam, extending to the banks of the Belayan River. Has a micro slope of up to40%? Covered with thickets and shrubs. as a catchment area for the Baya River. Type: 4	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and safeguarding activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once in a month. b. Once in 6 months. c. Once in 3 months. d. Once in 6 months. e. Once in a month.

		ID 11 - Belayan River Scrub Area penting sebagai habitat spesies terancam punah (Hylobates muelleri dan Buceros rhinoceros); spesies endemik dan sebaran terbatas (Hylobates muelleri), refugium, stepping stone bagi spesies yang dilindungi (Family Bucerotidae) Type: 1; 3	a. Intensity of disturbance to areas with HCV 4 type, including hazards from fire, illegal logging and encroachment. b. Monitoring of erosion rate by taking plots sample randomly and periodically. c. The development of land cover conditions. d. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	a. Obtaining information on intensity of disturbance to areas with HCV 4 type b. Predicting erosion rate resulted from erosion rate measurements in which refers to Government Regulation Number. 150 years 2000 on Control of Soil Damage for Biomass Production c. Obtaining information on the development of land cover conditions. d. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types.	Critical threshold value of erosion rate at a soil depth of 150 Cm is <9 Ton/ Ha/ Year.	a. Once in a month. b. Once in a month. c. Once in 6 months. d. Once in a month.
		ID 12 - Meqloq River & its tributaries and riparian zone • The upstream is in Mendam hills and Mount Naga, there are 2 waterfall locations with fairly clear water conditions, vegetation conditions around the riparian zone in the form of shrubs and shrubs are still good • Lowland scrub ecosystem that supports the habitat of the endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys	a. Intensity of disturbance to areas with HCV 4 type, including hazards from fire, illegal logging and encroachment. b. Monitoring of erosion rate by taking plots sample randomly and periodically. c. The development of land cover conditions. d. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	a. Obtaining information on intensity of disturbance to areas with HCV 4 type b. Predicting erosion rate resulted from erosion rate measurements in which refers to Government Regulation Number. 150 years 2000 on Control of Soil Damage for Biomass Production c. Obtaining information on the development of land cover conditions. d. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types	Critical threshold value of erosion rate at a soil depth of 150 Cm is <9 Ton/ Ha/ Year.	a. Once in a month b. Once a year. c. Once in 6 months. d. Once a month.

		spinose Tomistoma schlegelii Type: 1; 3; 4; 5				
		ID 13 - Mount Mendam Located in the middle of the MU area. Covered with old scrub forest, has a micro slope of up to 40%. This mountain is a water catchment area for the Bangge River, Tumau River, Meqloq River, Baya River, and Jalin Tutung River. Type: 4	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once in a month. b. Once in 6 months. c. Once in 3 months d. Once in 6 months. e. Once a month.
		ID 14 - Tumau River and the Riparian Zone The upstream part is in Mount Mendam, most of the vegetation conditions around the riparian zone are still good (no disturbance) in the form of shrubs, there are few community oil palm plantations, downstream there is the Ung Tumau waterfall Type; 4	a. Disturbance intensity to the HCV location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCV location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once in a month. b. Once in 6 months. c. Once in 3 months d. Once in 6 months. e. Once a month.
		ID 15 - Valley area with steep slopes east of the Banggeh River	a. Intensity of disturbance to areas with HCV 4 type, including	a. Obtaining information on intensity of disturbance to areas with HCV 4 types	**River Riparian Width:**	a. Once a month. b. Once in 6 months. c. Once in 6 months.

		• Vegetation condition in the form of undisturbed old scrub has a slope of more than 40%. This vegetation cover serves to control sheet erosion and stabilize steep slopes • Important areas as habitat for endangered species (Hylobates muelleri and Buceros rhinoceros), endemic species and limited distribution (Hylobates muelleri), refugium, stepping stone for protected species (Family Bucerotidae) and unique and rare ecosystems in the form of lowland forest ecosystems Type: 1; 4	hazards from fire, illegal logging and encroachment. b. Development of land cover conditions. c. Monitoring to width of river riparian in which one of indicators of encrichment program success. d. Monitoring of surface water quality such as turbidity level (soluble residue), pH, and BOD, DO reflecting the erosion rate of river riparian. This in accordance with Government Regulation number 82/2001 on Water Quality Management and Water Pollution Control (Class II Water Criteria). e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	b. Obtaining information on the development of land cover conditions. c. Predicting erosion rates from river width measurement d. Obtaining information on pollution indicators of surface water surface water quality variable to surface water quality standard. e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 types	**Good:** If there is an increase in the width of river riparian **Fair:** If there is no increase in the width of river riparian. **Poor:** If the width of river riparian has decreased. **Class II surface water quality for indicator such as dissolved residue, pH, BOD, DO** **Good:** In accordance with the quality standard. **Poor:** Exceed the quality standard determined.	d. Once in 6 months. e. Once a month.
		ID 16 - Sengen River and the Riparian Zone • The upstream part of the Sengen River is a forested area outside the MU area, very fluctuating flow conditions (floods in the rainy season and relatively shallow in the dry season), vegetation conditions around the riparian zone in the form	a. Intensity of disturbance to areas with HCV 4 type, including hazards from fire, illegal logging and encroachment. b. Development of land cover conditions c. Monitoring to width of river riparian in which one of indicators of encrichment program success. d. Monitoring to surface water quality, this in accordance with Government Regulation number 82/2001 on Water Quality	a. Obtaining information on intensity of disturbance to areas with HCV 4 type b. Obtaining information on the development of land cover conditions. c. Predicting erosion rates from river width measurement d. Obtaining information on pollution indicators of surface water surface water quality variable to surface water quality standard.	**River Riparian Width:** **Good:** If there is an increase in the width of river riparian **Fair:** If there is no increase in the width of river riparian. **Poor:** If the width. **Class I surface water quality** **Good:** In accordance with the quality standard.	a. Once a month. b. Once in 6 months. c. Once in 6 months. d. Once in 6 months. e. Once a month.

		of community farming land and shrubs. • Important area as habitat for endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 4; 5	Management and Water Polution Control (Class I Water Criteria). e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type	**Poor:** Exceed the quality standard determined.	
		ID 17 - Banggeh River and the Riparian Zone The upstream part is in Mount Mendam and its surroundings. The condition of the vegetation around the riparian zone is still good in the form of shrubs. Type: 4	a. Intensity of disturbance to areas with HCV 4 type, including hazards from fire, illegal logging and encroachment. b. Development of land cover conditions c. Monitoring to width of river riparian in which one of indicators of encrichment program success. d. Monitoring to surface water quality, this in accordance with Government Regulation number 82/2001 on Water Quality Management and Water Polution Control (Class I Water Criteria). e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	a. Obtaining information on intensity of disturbance to areas with HCV 4 type. b. Obtaining information on the development of land cover conditions. c. Predicting erosion rates from river width measurement. d. Obtaining information on pollution indicators of surface water surface water quality variable to surface water quality standard. e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type.	**River Riparian Width:** **Good:** If there is an increase in the width of river riparian **Fair:** If there is no increase in the width of river riparian. **Poor:** If the width of river riparian has decreased. **Class II surface water quality for indicator such as dissolved residue, pH, BOD, DO** **Good:** In accordance with the quality standard. **Poor:** Exceed the quality standard determined.	a. Once a month. b. Once in 6 months. c. Once in 6 months. d. Once in 6 months. a. Once a month.
		ID 18 - Ritan River Riparian	a. Intensity of disturbance to areas with HCV 4 type, including hazards from fire, illegal logging and encroachment.	a. Obtaining information on intensity of disturbance to areas with HCV 4 type.	Critical threshold value of erosion rate at a soil depth of 150 Cm is <9 Ton/ Ha/ Year.	a. Once a month. b. Once a year. c. Once in 6 months. d. Once a month.

		• Located in the lower reaches of the Ritan River, • Important area as habitat for endangered species Ambon tortoise (Coura amboinensis), Orlitia borneensis, Amyda cartilaginea, Cuora amboinensis, Heosemys spinose Tomistoma schlegelii Type: 1; 4	b. Monitoring of erosion rate by taking plots sample randomly and periodically. c. The development of land cover conditions. d. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type. Activities undertaken such as monitoring to boundary conditions, nameplates installed.	b. Obtaining information on the development of land cover conditions. c. Predicting erosion rates from river width measurement d. Obtaining information on pollution indicators of surface water surface water quality variable to surface water quality standard. e. Monitoring and safeguarding habitat conditions especially on areas with HCV 4 type.		
		HCS Conservation Areas The type of land cover varied, consisting of low-medium density forest, young regenerated forest, and shrubs. are scattered within the MU area, referring to the ICLUP HCSA study	a. Disturbance intensity to the HCS location includes fire hazards, illegal logging, wildlife hunting and encroachment. b. Number and composition of flora & fauna species. c. Species growth rate (power of life) in rehabilitation/ enrichment activities d. The development of land cover conditions. e. Monitoring and safeguarding the habitat conditions to the area such as boundary conditions, nameplates installed.	a. Obtaining information on the intensity of disturbance to HCS location including fire dangers. b. Obtaining information on the population of species of flora/ fauna that are threatened with extinction. c. Obtaining information on enrichment rate. d. Obtaining information on the development of land cover conditions. e. Obtaining information on the realization of monitoring and security activities.	**Good:** Fauna diversity and flora density (including protected and RTE species) at HCV sites is at fixed states or increased by >15%. **Fair:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has increased by 5 up to 15%. **Poor:** Fauna diversity and flora density (including protected and RTE species) at HCV sites has decreased or increased by >5%.	a. Once a month. b. Once in 6 months. c. Once a month. d. Once in 6 months. e. Once in 6 months.
3	**Social impact, stakeholder and local people engagement (FPIC process)**	The presence and operation of PT Prasetia Utama oil palm plantations has the potential to give social impact on the communities in the surrounding villages of the company's HGU areas and associated employees. The impacts arise from various activities undertaken relating to the development process and operations of the estate. Discussion of impacts are identified from the facts or sources of occurring impact within the employee, community surrounding the company, as well as within the scope of neighbourhood, village, sub-district and district and can have both negative and positive dimensions on Pentagonal Assets. The explanation are as follows:				

		• Social impacts are positive or negative changes to one or more of social pentagon assets occurred at the time of the assessment as a direct or indirect result due to company operations (estates and mill); policies of management practices or corporate social management performance. • Potential social impacts are positive or negative changes to one, or more, possible social pentagon assets that may occur in the future as a direct or indirect result due to company operations (estate and mill); policies of management practices or corporate social management performance. • Social risks are social conditions, social issues or social reactions that are likely to disrupt the performance of the company's operations and or sustainability. • Social issue in this case is the perception of a particular social group about a matter. Explanation on the relation and explanation on social impacts of PT Prasetia Utama's existence to society, social impact on employees, and on the end, on social risks, and social issues faced by the company. Explanations on impact relationships, potential impacts, social risks and social issues need to be done so that we can understand the cause-and-effect relationship between these three issues and the source of the cause. **Social Risk** Social risk is a social condition that has the potential to cause material or immaterial losses/damage for the company so that the company is forced to stop operating or has to bear high social cost due to social issues. The source of the risk in question comes from the surrounding community as an outside party. Based on the social conditions in the study area and the conditions of the people who have interaction with the company, it was found that there are social risks faced by the company. There are three risks identified by reviewing the condition of the community: • Prohibition of any activities until the request of the Buluq Sen Village community is approved, which stems from the failure to reach an initial agreement with the Buluq Sen Village community. The problem is that there are some requests or expectations that are quite demanding from certain individuals or groups. • Low land acquisition rates and high social costs due to land disputes and conflicts. The low level of land acquisition is classified as operational risk, but because the source comes from the community who controls the land in the HGU area, it can be categorized as social risk. • Disturbance from the community which has high social costs originating from the development of plasma plantations which if not carried out in conjunction with the nucleus plantations. The level of risk is highly dependent on the company's attitude, leadership policies/decisions, and ways of communicating. The level of risk is categorized as high if the land acquisition is far below the target and the company's plantation development planning is hampered. In addition to the risks mentioned above, there are other risks with a medium or low level, the sources of which are the internal environment itself or the control measures tend to be less complex which do not depend on external parties or factors:

		• Did not get full support from all community groups. There are community groups in Buluq Sen Village who feel that the company is only communicating with a certain person or community group. This group feels less involved in matters related to PT PU. • Reputational risk. The long process of developing the plantations and the lack of communication and openness have made the community view that the new management of PT PU is the same as other companies that are not serious about investing in the village area. **Social impact management plan** The aspect of social management undoubtedly has a very important function for the company, both now and in the future. Meanwhile, social issues are a necessity, which will always occur, are broad and dynamic in accordance with environmental changes that occur. Social impact management is intended to mitigate, minimize or eliminate negative impacts (mitigating adverse effects) and increase positive impacts (advancing benefits). Likewise, with social risks, which need to be followed up and managed properly to minimize negative issues, social problems, and conflicts. The proposed recommendations refer to the principles of social justice and human rights as well as ecological principles that include sustainability, diversity, and balance. **Recommendations for mitigating negative impacts and social risks are:** a. Conduct social mapping and document profiles and descriptions of each village; including important stakeholders and figures, Company partners, forms of interaction between the Company and villages and villagers, social issues/issues with the Company, and other important information in order to maintain good social relations. b. Completely map out stakeholders to help manage social aspects and maintain social relations with key figures, and compile them in the stakeholder list and developing communication with all affected parties c. Mapping each issue, identify actors and community leaders, and provide complete data and information needed for strategic decision making. d. Avoiding land conflicts between the Company and the community by asking the community and villages to resolve their own internal land claims and overlapping land claims before starting the land acquisition process. e. Continue the plantation development plan or consider relinquishing HGU status on uncultivated land and hold joint discussions with the villages concerned, local government, and possibly mining companies. f. Ensure the application of the principle of FPIC in the process of land acquisition, land clearing, and other processes in the future that are related to the community. g. Implement best practices in plantation management and oil palm processing and consistently comply with all laws and regulations in the fields of land, labor and environment. h. Ensure to carry out monitoring and evaluation of negative impact mitigation and risk mitigation on a regular basis and document any developments, changes, and countermeasures.

Recommendations for strengthening positive impacts include:

a. Facilitate the establishment of village cooperatives that will partner with the Company for plasma plantation management and facilitate the selection of competent and balanced management of cooperatives not controlled by one particular group.
b. Establish plasma plantations within the HGU area considering the limited community land remaining.
c. Implement the development of plasma plantations together with the nucleus estates.
d. Examine alternatives to land rights for plasma plantations to be jointly registered with cooperatives and plasma farmers (in line with the extension of PT Prasetia Utama's HGU).

Table 6. Social impact management plan with the scope of company external impact

Impact Sources	Negative Impact	Positive Impact	Impact Magnitude	Specific Location	Community Response (Predicted)	Mitigation	Time
Type of Activities (Impact source): Estate activities							
Communication, social relations and partnerships, forms of activities include: Socialization of land clearing plans and plasma development plans	This is because the process should have been running at the beginning of the PU plan commenced but the fact that the development of PT PU has not be initiated yet and conflict arises in relation to land rights (ownership status, territorial boundaries) in plasma development program.	Social capital: Increasing opportunity and hope with the development plan of PT PU oil palm plantations with ownership by REA KALTIM will lead to positive attitude by the community.	Quite large. This activity should be carried out from the beginning, preparation and systematic plan is required	All affected villages	1. Negative and positive relating to resumption of PT PU development plan. This is due to the failure from previous PU management so that the community needs to regain their trust to PT PU management in this case is REA Kaltim. 2. The company is still not transparent in communicating & socializing to the community relating to the process of plantation	1. Re-identification of current social conditions includes assessing the impact and control to existing social issues. Changes in perceptions that occur in the field today need to be done study first. 2. Creat FPIC plans through key stakeholder engagement. Among others: • Establish communication and consultation mechanisms as a guide in communicating effectively to the community • Determine FGD schedules or regular	At the time of the plantation development plan will be initiated (2018).

								development and processing unit 3. Unclear status of plasma land, unclear ownership by farmers (relating to proof of ownership)	meetings to collect information relating to level of public perception towards the company • Periodic analysis against developed strategic issues within the community resulted from FGD results or community perceptions surveys • Adopt an accountable Community development program, such as donations of religious activities, communication and coordination assistance, superior fruit seed support, national day activities assistance, provision of working capital such vegetable carts, community economic improvement in the form of women group assistance, fish farming assistance , home finance management training, educational assistance, assisting women's groups in home industry products, indigenous activities assistance, financial assistance for youth organization	

							3. Building public trust back through socialization and/ or community activities prior to plantation development plan at PT PU is commenced 4. Establishment of a committee to resolve the status of plasma land 5. Transparency and socialization of plasma location development plan (location map).	
		Permit	NA	NA	NA	NA	NA	NA	NA
		Land acquisition process	1. Sosial capital: increase social problem conflicts. 2. Decline local community's cultivated land, potential disturbance of ecosystem and environment due to land clearing plan (natural capital)	1. Financial capital: where people get additional income from land acquisition by the company. 2. Physical capital: the resumption of plantation development plan means the opening access road areas which previously are inaccessible.	Relatively large, although the intensity of land disputes is still quite high, which comes from land acquisition, unfinished dispute resolution, threats identified against the company is still weak due to lack of supporting data and others.	All affected villages	Plan to change community livelihood pattern (traditional to modern). There are areas at stake Unclear land acquisition system Implemented community development program Plasma program that is not transparent.	Implementation of FPIC to: 1. Develop a participatory mechanism in handling conflict / complaints. 2. Socialization, FGD. 3. Participatory mapping during land acquisition including joint review for HCV determination & SIA review. 4. Transparent land acquisition process 5. Implement an accountable community development program. 6. Preparing the community for the changes that will occur and their implications	During land acquisition process is undertaken.

								7. Plans/ system / model of lasma division	
		Nursery	1. Natural capital: Has the potential to cause soil erosion due to land clearing for the nursery area and employee housing site. Damage and/ or loss of biodiversity (flora fauna) in the areas used as nursery sites. Exploitation of river water resources as for oil palm seedlings utilization and the potential to cause environmental pollution (land, water & air) 2. Physical capital: reduced community's cultivated land. 3. Social capital: occurrence of occupational health and safety issues to local community who work in the company.	1. Financial capital: creation of employment opportunity and business for surrounding communities*). 2. Human capital: increased local community skills in terms of application of good oil palm nursery practices. Skill is adopted by local community who work in the company. **) Woman empowerment is on of Gender Programme form.*	At moderate scale. Nursery activities will have an impact on environmental and social governance, economic but not very significant.	All affected villages	Land acquisition issue for nursery site will be an important issue in the community. Development can create employment and business opportunity for the community in the surrounding areas, such as opening a coffee shop, groceries, workshop and become company's partners (contractor).	1. Informing nursery jobs to affected villages in accordance with skills and expertise required. For local people who are not recruited to work in the company, can be developed through the community empowerment program through improving self-skills training and soft capital loans 2. Establishing environmental management aspects, policies and procedures. Environmental management and monitoring are conducted periodically including HCV/ flora fauna studies prior to land clearing for nursery 3. Ensuring that the aspects of OHS & environment management are properly implemented and monitored. Environmental programs that can be applied such as road watering especially	During nursery activities undertaken.

								on the village roads that are located within company immediate vicinity and often used by the company as access road.	
		Land clearing	1. Natural capital: has the potential to cause soil erosion and /or land fires due to land clearing for oil palm planting, damage and/ or loss of biodiversity (flora fauna), exploitation of river water resources, potentially causing environmental pollution (land, water & air) resulting from the operation of company vehicles and heavy equipment. 2. Physical capital: Reduced community's cultivated land. 3. Social capital: high social interaction is also a source of conflict within the community in the form of public unrest due to workforce recruitment that does not come from the surrounding	1. Financial capital: Creation of employment and business opportunities for surrounding local people. *) 2. Human capital: Increased local community skills in terms of application of good land clearing practices. Skill is adopted by local community who work in the company. *) *Woman empowerment is on of Gender Programme form.*	Relatively large if land clearing program is not integrated with environmental aspec impact management.	All affected villages	Land clearing will encourage shift in social and environmental order in the society. The existence of groups from community activities such as: Farmer groups, smallholder's cooperative groups, local contractors that supply logistic to the company and store traders.	Implementation of FPIC for: 1. Ensure that the community has a perceptual understanding of land clearing plans. 2. Local communities accept land clearing plan. 3. Conduct HCV & SIA studies prior to land clearing. 3. Develop program and mitigation plan of social impact arising from land clearing. 4. Strengthening local institutional capacity and intensive assistance for the independence of local organizations. 5. Land clearing activities are done in stages 6. Ensuring the aspects of OHS & environment management are properly implemented and monitored. Environmental programs that can be applied such as road watering, especially village roads that are	During land clearing activities undertaken.

			villages will have implication on OHS issue for local people working in the company.					located within immediate vicinity of company's location and often used by the company.	
		Planting	1. Natural capital: has the potential to cause soil erosion and /or land fires due to land clearing for oil palm planting, damage and/ or loss of biodiversity (flora fauna), exploitation of river water resources, potentially causing environmental pollution (land, water & air) resulting from the operation of company vehicles and heavy equipment. 2. Physical capital: has the potential to cause occupational accident and reduce level of public health and environment. 3. Social capital: high social interaction is also a source of conflict within the community in the	1. Financial capital: Creation of employment and business opportunities for surrounding local people. *) 2. Human capital: Increased local community skills in terms of application of good land clearing practices. Skill is adopted by local community who work in the company. *) *Woman empowerment is on of Gender Programme form.*	Relatively large if land clearing program is not integrated with environmental aspec impact management.	All affected villages	Local community also want to have their own oil palm plantation. Homogeneity of oil palm will bring pests and diseases problems in crops that are now the community has developed	Implementation of FPIC for : 1. Developing a program and mitigation plan social impact, one of which is counseling, socialization 2. Strengthening local institutional capacity and intensive facilitation for local organizational independence 3. Ensuring the aspects of OHS & environment are implemented and monitored properly	During planting activities undertaken.

			form of public unrest due to workforce recruitment that does not come from the surrounding villages will have implication on OHS issue for local people working in the company.						
		Plant upkeep	1. Natural capital where the use of chemicals (pesticides) in weed and pest & diseases control can damage the quality of river water and soil if not controlled properly, the potential of air pollution (air emission and ambient) from the vehicles operations and supporting machinery including the management of hazardous and toxic waste resulted from mill maintenance and plant upkeep activities which used chemicals/ pesticide is a critical point that can create negative impact.	1. Financial capital: Creation of employment and business opportunities for surrounding local people. *) 2. Human capital: Increased local community skills in terms of application of good land clearing practices. Skill is adopted by local community who work in the company. *) *Woman empowerment is on of Gender Programme form.*	Relatively large, if plant upkeep does not implement best management practices consistently.	All affected villages	Oil palm upkeep activities by the company can absorb labours extensively. Has the potential to environmental degradation specifically to river waterquality?	1. Company must have all clear working procedures on the oil palm plantations upkeep activities. 2. Socialization and training activities to workers. 3. Ensure environmental management and monitoring are implemented well. 4. Provision of PPE to all workers and installation of traffic signs at estate roads and housing and periodic health checks to all workers.	During the operations of the company.

			2. Social capital, where the occurrence of social interaction is high due to the process of employment can lead to new social problems such social jealousy in the layers of society, jeopardize the safety and health aspects of workers						
		Harvesting and transportation of FFB's	1. Social capital, where the occurrence of social interaction due to the process of employment can lead to new social problems such as social jealousy in the layers of society, jeopardize the safety and health aspects of workers 2. Natural capital, air pollution potential due to operation of FFB's transporting vehicle and from hazardous waste management. FFB's transportation is critical point that can create negative impact.	1. Financial capital: Creation of employment and business opportunities for surrounding local people. 2. Human capital: Increased local community skills in terms of application of good land clearing practices. Skill is adopted by local community who work in the company.	Relatively large, if harvesting and transportation of FFB's do not implement best management practices consistently.	All affected villages	Oil palm upkeep activities by the company can absorb labours extensively. Has the potential to environmental degradation due to air and hazardous waste pollution?	1. Company should have clear working procedures on harvesting and transportation of FFB's 2. Socialization and training activities for workers. 3. Ensure good environmental management and monitoring including the provision of environmental management infrastructure. 4. Provision of PPE to all workers. 5. Installation of traffic signs on estate and residential roads.	During the operations of the company
		Estate infrastructure construction	1. Physical capital: Reduced community's cultivated land for building estate infrastructure.	1. Financial capital Creation of employment and business opportunities for	Relaitvely large due to massive project that affect both environment and social.	All affected villages	1. Social jealousy due to external contractor operations. 2. Uninformed job opportunities to	1. Give priority to local workforce and contractors. 2. Employment opportunities are informed to villages	During the operations of estate

			2. Social capital: has the potential to cause work accidents and reduce the level of public health and the environment as well as high social interaction is also a source of conflict in the community in the form of public unrest due to the use of contractors in the development of estate infrastructure.	surrounding local community. 2. Physical capital: addition of transporation means and/or other facilities will lead to improved community governance pattern.			local communities 3 3. Employment opportunities will invite minors to work. 4. Local communities do not understand occupational safety standard. 5. Work contract is not undertsood	3. Company's policy not to employ minors (SOP). 4. Company's policy in relation to OHS and employment contract. (SOP)	
		Oil palm planting activities	Has impact on social capital where community perceptions are considered untrustworthy by the company.	Financial capital Creation of employment for surrounding local community. With the company's direct management system, it also helps the condition of the community around the company, in terms of increased sense of security.	Relatively small impact by developing personal, interpersonal and group approaches through community	All affected villages	Company's lack of trust in governance of each village.	Approaches are conducted intensively both personally, interpersonally and in groups through community representation.	During estate operations undertaken.
		Transportation and equipment management.	Negative impacts on this activity at its core are included in the part of the company's work program such as land clearing, planting, production, infrastructure development involving the use of transpotation and equipment	. Enhancement and development of positive impacts are in line with impacts management at company's operations area.	At medium to large scale if the management does not implement best management practices standard including effective social approaches.	All affected villages	1. The company has resources in terms of procurement of transportation means and equipment. 2. Communities require the use of more of these resources for	1. Company should have clear working policies and procedures pertaining to technical operations and/ or handling of social problems. 2. The socialization program must be conducted	During estate operations undertaken.

						improvement of their welfare	periodically and simultaneously 3. Management and monitoring of environmental impacts primarily through monitoring of environmental quality and social impacts through an accountable Community Development program.	
Type of Activities (Impact source): Mill activities:								
Construction of palm oil mill	1. Social capital: Potential for social conflicts from land acquisition process for palm oil mill construction and potentially to cause occupational accidents, declining worker and environmental health status. 2. Natural capital: Potentially to cause erosion around the mill construction site due to land clearing, decreased biodiversity sources, degrading environmental quality (ambient air and emissions) due to operations of vehicles and milling machines.	1. Financial capital: Labor absorption, creating business opportunities both formal and informal sectors for goods and services, increase per capita income and increase local taxes. 2. Physical & human capital, development of palm oil mill will also have an impact on road infrastructure development for palm oil mill access. Beside that this will affect the village governance into modern pattern.	Large. Impacts resulted are potentially contributing to environmental and social value shift.	All affected villages	1. Pollution and degradation of environmental quality, especially waste and odors 2. Community's expectation to be able to work at the mill.	1. Implementation of Good Manufacturing Practices by implementing sustainability aspect 2. Ensure that all FPIC processes during land clearing has been declared clean and clear. 3. Ensuring the legality/ permit aspects, especially the environmental aspects (permits and environmental documents) has been implemented well. 4. Socialization to the community on mill construction and operations plan 5. Ensure that all mill's operating procedures are prepared 6. Improving the competence of all mill operators	During mill operations

								7. HSE Policies & Programs are applied and communicated intensively to both workers and communities.	
		Transportation and acceptance of FFB including the purchase of community FFB	1. Social capital: Social interaction due to employment recruitment process can lead to new social problems in the form of social jealousy in the community layer, besides the competition between local contractors and migrant contractors are individual concentration areas in impact management and potential aspects of workers' safety and health and traffic accidents are potentially large. 2. Natural capital: potential pollution to the environment and the dangers of hazardous and toxic waste at the time of activities on progress.	Financial capital: Increased local community's income who work as contractors for transporting FFB's and create employment opportunity for surrounding community.	Relatively large. Impact resulted potentially affect environmental quality and social value.	All affected villages.	Local community wants to fully manage product transportation.	1. Companies must have clear working procedures on transportation activities. 2. Socialization and training to workers. 3. Ensuring environmental management and monitoring are implemented well. 4. Provision of PPE to all workers. 5. Installation of traffic signs at estate and residential roads. 6. Relevant Community development program such as road watering and road repair/ road hardening. 7. Implementation of effective, transparent and mutually benefitting cooperation model with the community 8. Developing cooperation through cooperative model 9. Socialization of cooperation system and registration of FFB's potential suppliers 10. Timely payment.	During mill operations

Mill processing	1. Affecting natural capital, potentially degrade environmental quality (ambient air and emissions), ground and surface water quality due to the operations of vehicles and milling machines. 2. Social capital: potentially causeing occupational accidents, decrease the level of workers' safety and health and environmental if not managed well.	1. Financial capital: Labor absorption, creating business opportunities both formal and informal sectors for goods and services, increase per capita income and increase local taxes. 2. The absorption of labor from local community as the operator in the mill will increase the skill / quality in terms of operating machines and mill processing through training activities held.	Large: due to impact mainly affects environmental quality.	All affected villages	1. Pollution and degradation of environmental quality, especially waste and odors 2. Community's expectation to be able to work at the mill.	1. Implementation of Good Manufacturing Practices by implementing sustainability aspect. 2. Socialization to the community on mill construction and operations plan 3. Ensure that all mill's operating procedures are prepared 4. Improving the competence of all mill operators 5. HSE Policies & Programs are applied and communicated intensively to both workers and communities.	During mill operations undertaken.
Transpotation of CPO/ CPKO product.	1. Affecting social capital where the occurrence of social interaction due to the process of employment can lead to new social problems such as social jealousy in the layers of society, jeopardize the safety and health aspects of workers, traffic accident risks are potential to occur. 2. Natural capital, potential of ambient air pollution due to CPO transporting activities include the management of	Financial capital: creation of employment and business opportunities for surrounding communities*)	Relatively large if transportation of CPO/ PKO does not implement Besa Management Practices consistently	All affected villages	Potentially reduce the environmental quality especially from air pollution and hazardous and toxic waste sources.	1. Company must have clear working procedures on transportation activities. 2. Socialization and training to workers. 3. Ensuring environmental management and monitoring are implemented well. 4. Provision of PPE to all workers. 5. Installation of traffic signs at estate and residential roads.	During mill operations undertaken

			hazardous and toxic waste management. These are critical points that can create negative impact.						
		Palm Oil Mill Effluent (POME) management.	1. Natural capital, potentially degrading environmental quality, surface water and groundwater quality, odor pollution around the land application areas. 2. Impact on social capital in the form of public unrest due to potential pollution that may occur	Natural capital: Increased plantation's soil fertility therefore increasing productivity.	Relatively large. Impacts potentially contributes to environmental pollution which very sensitive to trigger social conflict.	All affected villages	The company is not serious in handling waste.	1. Establishment of policies in environmental management. 2. Ensure that all aspects of management have been accommodated in environmental documents (AMDAL, RKL-RPL, UKL-UPL), understood and implemented according to applicable regulations. 3. Establish a PIC in environmental management and monitoring. 4. Coordination and intensify communication with related institutions in environmental management and monitoring. 5. Socialization and training for workers6. 6. Socialization involves relevant institutions to communities relating to environmental management and handling of aspects and impacts. 7. Accountable community	During mill operations undertaken.

							development program, such as clean water assistance program and public health assistance.	
		Bulking and shipping of CPO and PKO	NA	NA	NA	NA	NA	NA

4 **Soil and Topography**

Table 7. Soil suitability & fertility in the study Area of PT PU

Map Symbol	Soil Series	Slope (%)	Brief Description	Sustainability for Oil Palm (Main Limitations)	Total Extend	
					Ha	%
Sdg/3	Serdang	Rolling (12-24)	Deep (>100 cm) brownish yellow to strong brown fine sandy clay loams. Weak medium subangular blocky; friable. Patchy clayskins. Well drained. Soils developed over sandstones.	Suitable (Low fertility)	832	8,4
Kbg/3	Kuala Brang	Rolling (12-24)	Moderately deep (50-100 cm) brownish yellow to strong brown fine sandy clays. Moderate medium subangular blocky; friable to firm. Patchy clayskins. Moderately well drained. Soils developed over shales with minor sandstones.	Suitable (Low fertility, moderate depths)	2.039	20,6
Kbg/4		Hilly (24-38)		Marginal (Soil erosion, low fertility, moderate depth)	733	7,4
Nmi/3	Nami	Rolling (12-24)	Moderately deep (50-100 cm) brownish yellow fine sandy clay loam. Weak medium to fine subangular blocky; friable. Patchy clayskins. Weathered rocks around 70 cm depths. Well drained. Soils developed over sandstones with minor shales.	Suitable (Low fertility, soil eroson, moderate depths)	5.880	59,4
Nmi/4		Hilly (24-38)		Marginal (Soil erosion, low fertility, moderate soil depth)	119	1,2

Kuh/4	Kuah	Hilly (24-38)	Shallow (<50 cm) brownish yellow to strong brown fine sandy clays. Moderate medium subangular blocky; friable to firm. No clayskins. Weathered rocks around 40 cm depth. Moderately well drained. Soils developed over shales with minor sandstones.	Marginal (Shallow, soil depth, soil erosion, low fertility)	119	1,2
Gck/2	Gong Chenak	Undulating (4-12)	Deep (>100 cm) brownish yellow to light gray fine sandy clay. Moderate medium subangular blocky; friable to sticky with depth. Patchy clayskins. Imperfectly drained, occasional flooding. Soils on Sub-Recent Alluvium.	Suitable (Low fertility, minor flooding)		1,8
					9.900	100

Table 8. Managemen plan for soil conservation

Objective(s)	Action(s)	Timeline
Based on significant impact evaluation results indicate that impact parameters on occurrence of disruption on surface flow in which the impact is negative and direct due to micro and macro flow cut off on natural surface during cut and fill process.	• Carry out land clearing for plantations road network in a planned and efficient manner. • Constructing culvert at each intersection equipped with drainage ditch with appropriate size. • Creating bridge on areas with river flowing. • Conduct routine maintenance on bridges and culverts constructed.	Once during road network construction and evaluated once a year for improvements against damaged sections or material.
Erosion Rates	**Development of Estate Emplacement.** • Implementation of estate emplacement development should be carried out in a planned manner and does not allow open land to be neglected for long term. • Land clearing carried out to construct estate emplacement should be done in a planned manner and according to the needs. • Immediately plant land cover crops on areas cleared for emplacement.	Once during work on progress and evaluated once in 6 months.

				• On sloping area with gradient > 8% should have terraces to avoid erosion prone areas. **Road network construction** • Land clearing should be done in a planned and efficient manner. • Construct terraces on runoff areas near river riparian. • Immediately plant land cover crops on areas cleared. • Surfacing the road with coral mixture. **Preparation of nursery site** • Establish nursery site on sloping area. • Development of nursery land should be conducted in a planned and efficient manner. • Setting the pre-nursery site that cuts the slope. • Immediately plant land cover crops on nursery site that have been left. **Preparation of planting site** • Land preparation should be conducted in a well and planned manner. • Land clearing remnants should be stacked lengthwise and cut into the slope. • Immediately plant oil palm & LCC on areas planned. • Do not carry out land clearing by burning. **Preparation of mill site** • Land clearing should be conducted in a planned and gradual manner. • Land clearing should be carried out during dry season. • Do not carry out land clearing by burning. • Immediately commence construction activities after land clearing completed.	

			• Immediately conduct reforestation on surrounding area of the ste with fast-growth plant type and LCC to minimize erosion.	
		Based on significant impact evaluation results indicate that impact parameters on occurrence of land cover decreased in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts in the form of increased erosion rate and wildlife migration.	**Environmental management activities for estate emplacement development, road network construction, Preparation of nursery site, preparation of planting area and preparation of mill site.** • Planting area preparation should be done gradually and planned according to the needs. • Land clearing is conducted only on areas designated for estate emplacement development (± 18,06 Ha), road network construction (± 9,06 Ha), preparation of nursery area (± 30 Ha), Preparation of planting area (± 8,819, 755 Ha), preparation of mill site (± 20 Ha). • Enriching and maintaining conservation areas. • Warning board installation to prohibit hunting on protected wildlife and land clearing on protected areas. • Immediately plant the areas cleared with LCC. • Employee training by incorporating environmental impact control programs. • Slope maintained at 8% on road network construction. • Road signs installation according to the needs. • Maintain road surfacing to prevent slippery road. • Protect trees that can be protected as home for wildlife. **Land rehabilitation ad restoration.**	Once a year, conducted gradually adjucted tol and cleared on each división and evaluated twice, first evaluation at the age of 6 months and second at the age of 1 year to obtain sucess rate. .

			• Land reclamation activities are carried out after the location permit has expired. • Immediately undertake reclamation by conducting reforestation on the location. • Land that has been restored is surfaced with top soil then planted with LCC. • Conducting land regeneration with plant spacing of 3x3m on areas that have been restored with fast growing plant species. • On regeneration areas need to be planted with local fruit rambutan, cempedak, durian etc. • Plants maintenance and fertilizing include: - Planting hole measuring 30x30 cm – - Dose of SP 36 fertilizer is 150 gr/tree - Dose of NPK fertilizer is 100 gr/tree - Dose of calcium provided is 1 ton/Ha - Plant insertion is done <1 month on dead plants - 1 year old plant maintenance is done every 3 months by weeding on the circle. - 2 year old plant maintenance is done every 6 months by weeding on the circle. - Fertilization for local fruit crops is done until the age of 3 years. • Perform insertion on growing vegetation plants with growing percentage of 90% • Installing signing board on re-vegetation areas measuring of 200x80 cm • Intensify patrol activities to prevent destruction on areas restored and rehabilitated.	
5	**GHG**	The objects of mitigation and monitoring within the scope of new plantations are divided into three categories, namely (1) land clearing, (2) use of fuel, and (3) use of fertilizers. Land clearing is one of the mitigation objects because potential lands for new plantations (land that have		

not been planted) have potential for biomass carbon stocks, especially on lands covered with forest and scrub. The use of fuel and fertilizers is also the main object of mitigation because they are a significant source of GHG emissions. In the calculation, the production rate of fresh fruit bunches (FFB) per hectare is obtained from data from surrounding companies (Group Rea Kaltim), which is on average 14-15 tons-FFB/ha. Explanation of the mitigation object, as follows:

Plantations scope:

1. **High Carbon Stock (HCS) and High Conservation Value (HCV) areas**
   Biomass carbon stocks on potential lands for new planting were identified through the HCSA assessment and high value areas were determined from the HCV assessment results. Low-medium density secondary forest (HKR) is the area with the highest AGB carbon stock in the PT PU area, followed by young regeneration forest (HRM) or Shrubs. Meanwhile, open land (shrubs and inland swamps) is the area with the lowest AGB carbon stock. In the GHG emission mitigation plan, the company's management unit decided to exclude areas of conservation value and high carbon stock from the development plan (defined as non-development areas). This mitigation plan is embodied in the land use plan in the field for new developments and conservation.
2. **Projected fuel use in plantation area**
   GHG emission mitigation plans through fuel use planning are carried out based on projections of fuel use based on the planned area of new plantation development. The amount of fuel used is a variable in plant maintenance that depends on the area of the new plantation. Therefore, land use plans in GHG mitigation efforts have a direct effect on the projection of fuel use.

Table 9. Projected fuel use in plantation areas

No	Fuel Type	Usage per Year per Hectare (liter/ha)	Total Usage per Year (liter)*	Projected GHG Emissions (ton CO_2e/Year)
1	Diesel	99.37	571,780.87	1,784
2	Premium	1.88	10,817.63	30

3. **Projected use of fertilizers in plantation areas**
   The GHG emission mitigation plan through fuel use planning is carried out based on the projected use of fertilizers based on the types of fertilizers used and the area of new plantations. Like the projected use of fuel, the amount of fertilizer use is also directly and directly proportional to the area of land use for new plantations.

Table 10. Projected use of fertilizers in plantation areas

No				Projected GHG Emissions (ton CO_2e)

	Fertiliser Type	Usage Per Year per Hectare (ton/ha)	Total Usage oer Year (ton)*	Transport	N_2O Emissions	CO_2
1	Urea	0.314	1,806.8	2,861.75	5,152.21	1,324.97
2	RP	0.203	1,168.1	971.72	-	-
3	MOP	0.321	1,847.1	819.91	-	-
4	Kieserite	0.149	857.4	380.58	-	-

Milling scope:

PT PU does not plan to build a palm oil mill. The results of the FFB will be brought to the nearest PKS, namely Perdana POM. Therefore, GHG mitigation originating from mill s is not under the authority PT PU, but in the management of the Perdana POM unit. The amount of emission from this mill depends on the contribution of FFB supplied by PT PU's plantation. The parameters used in estimating GHG emissions from the scope of palm oil (CPO) production are presented in **Table 11.**

Table 11. Available data from Perdana POM

Mill Profile			
1.1.	Mill names	:	Perdana Palm Oil Mill (PT. REA Kaltim Plantations)
1.2.	Address	:	Pulau Pinang Village, Kembang Janggut District, Kutai Kartanegara Regency, East Kalimantan
1.3.	Coordinate	:	00°15'27.5"; 116°09'00.1"
1.4.	CPO's production (Ton)	:	66,016.47(OER 21.7%)*
1.5.	PK's production (Ton)	:	14,88.22 (KER 4.89%)**
1.6.	Export of electricity to grid (KWh)	:	5,645,361
1.7.	Export of palm kernel shell (Ton)	:	21,298.2
1.8.	Export of EFB (Ton)	:	69,981 (EFB/FFB 23%)***
Mill Operations Data			
2.1.	FFB's processed (Ton)	:	304,264.61
2.2.	Fuel usage for FFB's transportation from estate to mill	:	N.A
2.2.1.	Diesel (liter)	:	847,027.77

2.2.2.	Premium (liter)	:	2,708
2.2.3.	Other fuel	:	N.A
2.3.	Distance estate – mill (km)	:	+/- 57 km
2.4.	Grid electricity (KWh)	:	1,553,050
2.5.	Mill diesel usage (liter)	:	62,207
2.6.	Water usage (M3)	:	477,766
2.7.	Lubricant usage (Liter)	:	2,326
2.8.	Cycle-Hexane suage (kg)	:	385
2.9.	Soda Ash usage (kg)	:	26,150
2.10.	Coustic Soda Liuid usage (L)	:	51.450
2.11.	Natrium Hidroksida usage (kg)	:	N.A
2.12.	Asam Klorida usage(kg)	:	25,850
2.13.	Calcium Karbonat usage (kg)	:	N.A
2.14.	NaCl usage (kg)	:	N.A
2.15.	Fosfat usage (kg)	:	N.A
2.16.	Sulphite usage (kg)	:	N.A
2.17.	Alum usage (kg)	:	34,835
POME			
3.1.	POME production (m^3)	:	192,232 (POME/FFB 63.1%)
3.2.	POME distributed to Methane Capture (m^3)	:	192,232
3.3.	POME distributed to Composting (m^3)	:	0
3.4.	COD yang dikurangi oleh Kolam Terbuka (ton/m^3)	:	0

Mitigation and monitoring plan
GHG emissions strategic

		The GHG emission mitigation strategy is prepared based on practical achievements that can be realized as part of the company's operational activities. In addition, the GHG emission mitigation strategy also considers increasing productivity. In other words, an increase in productivity without an increase in the amount of significant emissions is also a form of reducing GHG emissions relative to the level of production, while a decrease in GHG emissions that causes a decrease in productivity will increase the amount of GHG emissions relative to the level of production. Mitigation and monitoring plans can be divided into two, namely specific mitigation and monitoring plans, and general mitigation and monitoring plans. In the new plantation development plan stage, specific GHG emission mitigation plans are focused on land use as the main variable affecting the amount of emissions from other operational activities (the scope of FFB production and the scope of palm oil production). Mitigation plans for other operational activities are implemented through planning the use of measurable emission source materials. In other words, the implementation of specific GHG emission mitigation and monitoring plans can be carried out in a practical and measurable manner by following the land use plan and the amount of fertilizer and fuel use that has been determined. A general mitigation and monitoring plan is made for components of GHG emission sources that cannot be projected by the company. In this case, the components of GHG emission sources from the palm oil production process. The company does not yet have a mill, so measurable measures to reduce GHG emissions from mill operational activities are not yet relevant. **General mitigation plan** General GHG emission mitigation activities apply to all aspects within the company's operational scope. The successful implementation of general mitigation activities will be recorded in periodic records in management, for example the decrease in fuel use due to rearrangement of FFB transport routes, decrease in fertilizer use due to technology application, etc. The success achieved in the implementation of a general mitigation plan can also be applied as a specific and measurable mitigation plan to be implemented in the next period. Therefore, recording in management is important. In simple terms, a general mitigation plan is an experimental space for companies to implement new innovations in an effort to reduce emissions, either directly or by increasing productivity. Some of the recommended general mitigation plans include: 1. Arrangement of FFB transport routes in the plantation. 2. Turning off vehicle engines when not in use for transportation. 3. Save electricity consumption, especially those that are generated with fuel. 4. Preventing fires. 5. Maintain and manage conservation areas. 6. Maintain and/or enhance oil palm growth. 7. Implementing new technologies that support GHG emission mitigation efforts.

8. Implementing the use of alternative materials that support GHG emission mitigation efforts.

Spesific mitigation plan

Specific GHG emission mitigation and monitoring activity plans are presented in **Table 12.**

Table 12. Matrix of GHG emission management activity plans in the scope of FFB production (plantations) for the period 2022-2025*

No	Objective	Indicator	Basic Data	Target	Management Plan	PIC
1	Protection of conservation areas (high conservation value areas and high carbon stock areas)	1.1 Quality of stand canopy cover is maintained. 1.2 Number of disturbances 1.3 Condition of boundary markings and warning boards of conservation areas in the field 1.4 Size of conservation area	1.1 Condition of boundary markings and warning boards of conservation areas in the field 1.2 Photos of stand canopy cover at conservation area monitoring locations 1.3 Minutes of disturbance findings in conservation areas (example: fire, encroachment, etc.) 1.4 Mapping progress of land clearing	1.1 There is no decrease in stand canopy cover area in the conservation area. 1.2 Sustainably reduce to eliminate the number of disturbances occurring in conservation areas 1.3 Land clearing does not enter the conservation area	1.1 Protecting the conservation area from disturbance (fire, encroachment, etc.) 1.2 Dissemination of conservation areas and their protection to workers, communities and land clearing contractors 1.3 Creation and maintenance of physical boundary signs (demarcations) and warning boards of conservation areas in the field. 1.4 Protecting the conservation area from contamination by maintenance activities in the plantation area	Internal company: Estate, Conservation Dept, LC&C, Survey Mapping Dept Relevant stakeholder: Government (distric, sub distric, regency), Police, BKSDA, Dinas Perkebunan, NGO
2	Oil palm plant biomass growth	2.1. Plant health 2.2. Number of plants (in blocks)	2.1. Palm oil principal survey data in each block 2.2. Palm oil principal survey data in each block	2.1. Pest and/or disease attacks are within normal limits 2.2. The dynamics of the principal amount in one block are within the normal threshold	2.1. Optimal plant maintenance 2.2. Prevention/and/or overcoming of pest and disease attacks in a responsive and effective manner 2.3. Thinning and/or insertion where necessary to optimize oil palm tree growth	Internal company: Estate, TSD Agronomy Dept, Survey Mapping Dept Relevant stakeholder: Dinas Perkebunan, palm oil practitioner, University

3	Land fire prevention	3.1. Number of fires 3.2. Burnt area	3.1. BA of the fire 3.2. Data collection of areas/blocks affected by fire	Progressive to reduce the number of fire incidents from the previous year.	3.1. Training and socialization of fire prevention and control 3.2. Implement fire prevention actions including fire patrol 3.3. Preparation of reservoirs/water sources in scattered locations in the plantation to combat fires 3.4. Making minutes in the event of a fire	Internal company: Estate, Safety Dept, Conservation Dept, LC&C Dept, Survey Mapping Dept Relevant stakeholde: Government (distric, sub distric, regency), Police, BKSDA, Dinas Perkebunan, NGO
4	Use of fuel in plantation operations	4.1. Amount of fuel used for plantation operations	4.1. Amount of fuel used for plantation operations	4.1. Optimal use of fuel in plantation operations for productivity	4.1. Management of fuel use through regulation (rations) 4.2. Undertake general activities to reduce vehicle fuel use (see general mitigation activities)	Internal company: Estate, Workshop & Transportation Dept Relevant stakeholde: Government (distric, sub distric, regency), transportation contractor
5	Fertilizer use	5.1. Amount of fertilizer use	5.1. Fertilizer usage data	5.1. Optimal use of fertilizers for productivity	5.1. Optimal use of fertilizers	Internal company: Estate, TSD Agronomy Dept, Survey Mapping Dept Relevant stakeholder: Dinas Perkebunan, palm oil practitioner, University

Table 13. Matrix of GHG emission monitoring activity plans in the scope of FFB production (plantations) for the period 2022-2025*

No	Objective	Indicator	Basic Data	Target	Monitoring Plan	PIC	Monitoring Schedule
1	Protection of conservation areas (high conservation value areas and high carbon stock areas)	1.1 Quality of stand canopy cover is maintained. 1.2 Number of disturbances 1.3 Condition of boundary markings and warning boards of	1.1 Condition of boundary markings and warning boards of conservation areas in the field 1.2 Photos of stand canopy cover at	1.1 There is no decrease in stand canopy cover area in the conservation area. 1.2 Sustainably reduce to	1.1 Periodic monitoring of the condition of conservation area boundary signs and warning boards 1.2 Monitoring land clearing activities adjacent to conservation areas	Internal company: Estate, Conservation Dept, LC&C, Survey Mapping Dept Relevant stakeholder: Government (distric, sub distric,	Every 6 months

			conservation areas in the field 1.4 Size of conservation area	conservation area monitoring locations 1.3 Minutes of disturbance findings in conservation areas (example: fire, encroachment, etc.) 1.4 Mapping progress of land clearing	eliminate the number of disturbances occurring in conservation areas 1.3 Land clearing does not enter the conservation area	1.3 Photographs of stand canopy cover at monitoring locations in conservation areas 1.4 Monitoring threats and disturbances to conservation areas with regular patrols. This can also be done by involving workers in the garden and the community	regency), Police, BKSDA, Dsibun, NGO	
		2	Oil palm plant biomass growth	2.1. Plant health 2.2. Number of plants (in blocks)	2.1. Palm oil principal survey data in each block 2.2. Palm oil principal survey data in each block	2.1. Pest and/or disease attacks are within normal limits 2.2. The dynamics of the principal amount in one block are within the normal threshold	2.1. Regular basic health surveys and reports on pest/disease attacks 2.2. Survey the number of principals on a regular basis and the minutes of thinning / insertion of the principal	Internal company: Estate, TSD Agronomy Dept, Survey Mapping Dept Relevant stakeholder terkait: Dinas Perkebunan, palm oil practitioner, University	Every 1 month
		3	Land fire prevention	3.1. Number of fires 3.2. Burnt area	3.1. BA of the fire 3.2. Data collection of areas/blocks affected by fire	Progressive to reduce the number of fire incidents from the previous year.	3.1. Socialization of fire prevention and control 3.2. Fire hazard patrol 3.3. Check the availability of water in water reservoirs for extinguishing 3.4. Organization of fire records	Internal company: Estate, Safety Dept, Conservation Dept, LC&C Dept, Survey Mapping Dept Relevant stakeholde: Government (distric, sub distric, regency), Police,	Daily hotspot data monitoring for other monitoring is done every 6 months

							BKSDA, Dinas Perkebunan, NGO	
		4	Use of fuel in plantation operations	4.1. Amount of fuel used for plantation operations	4.1. Amount of fuel used for plantation operations	4.1. Optimal use of fuel in plantation operations for productivity	4.1. Recording of fuel usage 4.2. Recording of plantation operational vehicles	Internal company: Estate, Workshop & Transportation Dept Relevant stakeholde: Government (distric, sub distric, regency), transportation contractor	Every 1 month
		5	Fertilizer use	5.1. Amount of fertilizer use	5.2. Fertilizer usage data	5.2. Optimal use of fertilizers for productivity	5.1. Monitoring and regulation of fertilizer use with reference to the amount of use that has been planned 5.2. Periodic recording of productivity dynamics (as an implication of the use of fertilizers)	Internal company: Estate, TSD Agronomy Dept, Survey Mapping Dept Relevant stakeholder: Dinas Perkebunan, palm oil practitioner, University	Every 1 month

6	**Acceptance of Management Plans**	**Name of Person Responsible**	Peter Bayliss
		Designation	Management Representative
		Signature	**PT PU Management** for **Peter Bayliss** (Management Representative) Date: 04th July 2022
		Date	04 July 2022