New Planting Procedure - Summary of Integrated Management Plan

RSPO Roundtable on Sustainable Palm Oil	Bumitama Agri Ltd.	[Insert CB's Company Logo (if applicable)]
NPP Reference Number	MUTU-RSPO/NPP/01	
Country of the NPP submission:	Indonesia	
RSPO Membership Number	1-0043-07-000-00	
Reference to the management unit management plan	- Integrated HCV-HCS Assessment of PT Tanah Tani Lestari by Aksenta, satisfactory by December 2021 - Environmental Assessment Document (UKL – UPL) of PT Tanah Tani Lestari, approved by the relevant government agency - Social Impact Assessment of PT Tanah Tani Lestari by Aksenta, updated by the Bumitama Internal Team in 2022	
Name(s) of estate(s) covered under this management plan:	PT Tanah Tani Lestari	

1. EIA

Table 1. Management & Monitoring Plan of EIA

No	Impact	Source of Impact	Location	Environment Management		Environment Monitoring	
				Plan	Period	Indicators & methods	Period
	Construction and Operational Phase						
1.	Increment of job and business opportunities for communities, increased income and public unrest	• Recruitment of employee for construction phase, including plantation and development of infrastructure and facilities plantations • Workers in this phase who are also used in operational phase	• Sebungsu Village, Tualan Hulu Subdistrict • Sungai Hanya, Tumbang sepayang and Sei Manya Village, Telaga Antang Subdistrict	• Give information on job opportunities transparently in accordance with educational classification • Prioritize opportunities for directly affected communities to work in the company, according to the skills and needs of employees • Minimize conflict or civil unrest at the time of recruitment • Provide training, business guidance and capital, especially to the affected community about the business opportunities • Participate in providing and complementary economy facilities • Encourage growth of local business communities. • Provide entrepreneurial training	• During recruitment for construction phase • Training: once every 6 months	• Number of employees from the local population • Changes of people's income • Number of local businesses are around oil palm plantation	• Once a month • Yearly
2.	• Decrease in air quality (increment of dust) due to mobilization of pile material • Noise increased • Water quality decreased and impact on the number of fish species. • Reduced flora and fauna around plantation activities	• Gas emissions from the mobilization of heavy equipment and transportation • Infrastructure development • Road construction, drainage and maintenance • Power stations	Villages around the palm oil plantation area, especially roads that are still dirt roads and main roads that are passed by vehicles to mobilize equipment and materials	• Reduce vehicle speed 30-40 km/hour when passing around the population. • Water roads regularly at least once a day during the dry season, so the flying debris can be localized. • Maintainand check the vehicles periodically • Use recommended exhaust technology for emission of combustion • Complete the chimney with measuring holes to control quality of air	Once every 3 months during construction & operational phase	Air quality and noise parameters (physics, temperature, humidity, wind direction, wind speed and chemical parameters): • Noise < 75 dBa • Air quality standards BML based on Government Regulation No. 41 of 1999	Once every 6 months during construction & operational phase

		On operational phase: • FFB Transportation • Palm Oil Mill operation		emissions, measuring instruments and direction of wind speed and safety stairs • Test the ambient air and air emissions • Use of PPE (ear plugs and masks) continuously for workers, especially in activities close to the pollutant source			
3	Disruption caused by residual waste materials such as pieces of wood, iron and steel unused.	• Construction of facilities and supporting infrastructure of activities, bridges and culverts, housing, electrical installation and clean water installation	Villages around the oil palm plantation area	• All employees must comply with all rules and procedures in carrying out development • Inspection of the equipment used • Save the remnants of harmful ferrous scrap or metals at a particular storage according to legislation.	During the period of facilities and infrastructure construction	Monitoring the management of residual material	Once every month during construction phase
4.	• Decrease in water quality level • Land fires • People's unrest who live along the river below the location • Pollution from pesticide and fertilizer packaging waste	• Land clearing • Construction of facilities and infrastructure • Plant nursing (manuring & chemical spraying) • Palm oil mill (POM) operation • Waste management • Offices operational and housing • Water treatment process • Maintenance of transport equipment	• Location of immature maintenance activities • Anak Mentaya River • Hanya River, Tumbang Sepayang, Sebungsu and Sei Manya	• Maintain the green belts along rivers and plant cover crops with nuts, also do soil and water conservation • Maintain drainage and road facilities through hardening of damaged/eroded roads • Erect sign boards prohibiting logging, including around the rivers if it is done in the riparian area • Use chemicals, the type and dose allowed by the rules. • Make and manage temporary storage of hazardous waste in accordance with the applicable legislation • Use of land application for wastewater management from POM and strict monitoring the quality of wastewater • Maximize the ecological function of riparian and enrichment with local plants • Build the fire tower and provide fire-fighting equipment	During land clearing activity	• There is no water quality decrease around the project area based on standard PP 82 of 2001 • No complaints from communities who use the water resources, about changes in water quality • No symptoms of disease caused by the degraded water quality waterborne diseases	• Once every 6 months for water source or surface water • Once a month for wastewater quality during construction & operational phase

5.	Environmental Sanitation	• Mobilization of heavy equipment • Land clearing	Villages around oil palm plantation	Technology Approach: • monitoring incentives, to potential sources of contaminants that pollute the environment to the area residents • monitor air quality and ground water used • socialization and education for workers to use safety facilities (including PPE) to avoid the symptoms of diseases caused by work	• Education about health and environment sanitation for employee and communities twice a year • Routine medical checks, once every 6 months or when needed	• Use of clean water • Waste management • Drainage	Once every 6 months or when needed
6.	Soil erosion rate and sedimentation	• road construction • nursery	Plantation & surrounding area	• Main road and block road made with slightly convex and given the trenches • Land cover crops to reduce erosion • Build individual terraces and rorak (dead end trenches) to reduce the speed of surface water flow and erosion • Prepare drainage lines (primary line, secondary, and tertiary) to remove excess water and landslides • Socialization the risk of erosion for soil fertility to the workers and communities	During construction & operational phase, maximum once every 6 months	• flow rate of water at ground level • kinetic force of the droplets of rain falling directly to the ground	Once every 6 months during the construction phase
7.	Changes in Diversity of Flora and Fauna	Land Clearing	Plantation & around the oil palm plantation area	• Protect flora which has ecology and economic value around the plantation with no logging • Maintain a riparian river as a protected area • Planting and maintaining vegetation types / flora which have ecological function for wildlife there, so it has room for feeding, covering, breeding • Provide conservation area for flora and fauna • Erect signboards of illegal logging and illegal hunting prohibitions, and socialize to the public	During construction & operational phase	Existence, species diversity, decreased in vegetation and wildlife populations	Once every 6 months

				• Take a persuasive approach to communities, to take no action that causes loss of species of protected flora and fauna and their ecological function, in the plantation areas, riparian areas, and areas bordering the protected area and to actively participate in environmental management • Work with Government agencies (Central Kalimantan provincial administration and local government Kotawaringin Timur) to jointly implement environmental management			

2. SIA

Table 2a. Management Plan of Social Impact for External Issues

No.	Objective	Target	Program	Activity	Timeline	Indicator	PIC
1.	Plasma Partnership Program	Continuity of plasma program, welfare of plasma member	Good plasma cooperative institutions, running in accordance with AD/ART	Socialization of: - Plasma partnership pattern - Transparency in cooperative and plantation management - Assistance for plasma cooperative management	Once per 6 months	• Activity documentation • Good and transparent plasma management	Partnership Dept., Corporate Affair Dept.
2.	Infrastructure access	Company operational continuity	Road maintenance	Program plan and implementation of road maintenance and/or repair to meet the needs of the company's access and assistance to communities around the concession area	Based on needs and request, keeping in mind priorities	Activity documentation	Staf CE

3.	Company's operation	Company operational continuity	Operational area security patrol	Patrol in case of: - Plantation area security - TBS theft prevention - Prevention and monitoring of fire prone areas - Management and monitoring of conservation areas	Once per 2 weeks	Activity documentation	Security
4.	Socio-environment	Good Corporate Governance	Create business opportunities for the community around the company	- Identification of potential land for community oil palm and/or any other plant. - Identification of potential local business based on community group skills - Assistance and training on business development	Based on potential and analysis	Numbers of groups accompanied	CSR, Corporate Affair
5.	Environment	Good Corporate Governance	Environmental management and monitoring, complying with applicable laws	Prepare and executing on environmental management programs/plans: - Prohibition of new planting of oil palm in river border areas (conservation areas) with a certain distance - Prohibition of the use of chemicals / spray application on oil palm trees located in the river border area and inspection of possible violations - More intense socialization about employees being able to shower and change clothes in the office after working with chemicals, and not bringing work tools home - Rehabilitation of river border areas Environmental quality test (water source, air, noise, and vibration)	Based on Indonesian regulation	• Environment Management Plan Document • Environmental analysis test results • Environment Monitoring Realization & Report • Reporting to related agencies	Sustainability Dept.
6.	Employment	Company operational continuity	Recruitment and career program	Transparency socialization of labour recruitment to the surrounding community: - competencies/skills required - recruitment mechanism	Based on company needs	- Activity documentation - Employee database with local employee	HRD, Corporate Affair Dept.

				- do not discriminate and intimidate in any form		recruitment percentage	

Table 2b. Management Plan of Social Impact for Internal Issues

No.	Objective	Target	Program	Activity	Timeline	Indicator	PIC
1.	Improved communication and internal social relations (Workers and family)	Established productive working relationships, and harmonious social relations between residents of housing	Increased internal cohesiveness of housing residents	Regular Meetings of employee housing residents	Once in a month	• Meeting frequency • Activity documentation	CSR Dept., Commercial Dept., Unit Operational
				Activity documentation	Based on event	Activity documentation	
2.	Environmental Quality Management and Monitoring	Environmental impact can be controlled (use of chemicals and waste does not pollute the environment and employee housing)	Environmental Management	Prepare and execute environmental management programs/plans: - Prohibition of new planting of oil palm in river border areas (conservation areas) with a certain distance - Prohibition of the use of chemicals / spray application on oil palm trees located in the river border area and inspection of possible violations - More intense socialization about employees being able to shower and change clothes in the office after working with chemicals, and not bringing work tools home - Rehabilitation of river border areas	Based on Indonesian regulation	• Environment Management Plan Document • Reporting to related agencies	CSR Dept., Partnership Dept., Corporate Affair Dept., Conservation Dept., Sustainability Dept., Unit Operational.

			Environmental Quality Monitoring	Environmental quality test (water source, air, noise, and vibration)		• Environmental analysis test results • Environment Monitoring Realization & Report • Reporting to related agencies	

3. HCV Areas and HCS Forests

Management and Monitoring Recommendation

Threat assessment

Threat assessment aims to assist the plantation management in dealing with internal/external threats by means of appropriate management and building the capacity to deal with various threat types and levels. Threat assessment applies IUCN's comprehensive approach that assesses direct threats to species, habitats or ecosystems. The following three factors are assessed from each threat: (i) time (the period of threat), including the continuity, recurrence both in the near future and in the long run; (ii) scope (the magnitude/proportion of the affected areas/objects, i.e., negligible (0), minority (1), majority (2) and whole (3)), and severity (rate of deterioration due to the threat pressure, i.e., negligible (0), slow (1), rapid (2), very rapid (3)). The period of threats to the HCV-HCSA objects will define the score interval for each level of threat.

The assessment of threat category based on IUCN Threat Category (ITC) has been verified in the field. Out of the 12 categories of threat, five have been found in the AoI, i.e., Agriculture/Plantation Activity, Pollution, Biological Use, Operational Threats and Transportation and service corridors. The threat intensity is divided into two levels, i.e., medium and low impacts. Medium impacts are sourced from the following sub-threats: land clearing, construction of roads and blocking line during land clearing, agricultural effluent, and inappropriate and ineffective agrochemical application (based on SOP and technical procedures in the field). Low impacts are sourced from the following sub-threats: commercial logging activity in the remaining shrublands by local community, poaching and fishing.

Table 3. Assessment of intensity of threats to HCV areas in general in the AoI

ITC (IUCN Threat Category)	Sub-Threat	HCV Location	Time	Scope	Severity	Intensity*
Agriculture/ Plantation Activity	PT TTL plan to clear lands for oil palm planting in its concession	Locations around riparian areas, shrublands in upstream of the Sangai and Sangsang and around Mentaya rivers	A plan for the future	Majority (2)	Very Rapid (3)	Medium Impact
	Land clearing for community agriculture/plantations in PT TTL concession may potentially change the condition of land cover, particularly in locations around riverbanks, and increase surface runoff and soil erosion.	Locations around riparian areas, shrublands in upstream of Sangai and Sangsang and around Mentaya rivers	Will reoccur in the near future	Minority (1)	Very Rapid (3)	Medium Impact
Pollution	Agricultural effluent such as application of fertiliser, pesticide and herbicide around riparian zones.	Areas around riparian zone that have been converted into oil palms (HCVMA)	Will reoccur in the near future	Whole (3)	Slow (1)	Medium Impact
Biological use	Logging activities by community in the remaining shrublands	Shrublands in upstream of Sangai and Sangsang and around Mentaya rivers	Will reoccur in the near future	Minority (1)	Rapid (2)	Low Impact
	Poaching					
	Fishing	Raya, Sebangan and Sangsang rivers	Will reoccur in the near future	Minority (1)	Slow (1)	Low Impact
Operational Threats	Inappropriate and inefficient agrochemical application	Oil palm plantations around the riparian zone	Will reoccur in the near future	Whole (3)	Slow (1)	Medium Impact
Transportation and service corridors	The Company plan to construct roads and blocking line during initial phase of land clearing	Locations around riparian zone, shrublands in upstream of Sangai and Sangsang and around Mentaya rivers	A plan for the future	Minority (1)	Very Rapid (3)	Medium Impact

The major causes or sources of threat that contribute to the pressures are mostly from external factor (community). This is because HCV areas are in areas where community freely use forest resources and these activities have long been carried out (before land acquisition by the Company). These include logging, poaching and fishing in the rivers. As for internal threats, they come from application of chemicals around riparian zones.

Recommendation by HCV

HCV management general objectives include maintaining HCV elements and, when necessary, the areas' important values can be enhanced. HCV element maintenance is the minimum requirement in HCV management, which can be carried out by protecting HCV areas and mitigate the threats they face to prevent the values from getting degraded. In addition, the Company is also expected to be able to restore important HCV getting diminished out of negative impacts from its operational activities.

This Assessment indicates 47 locations of HCV and HCVMA. In general, the HCVMAs take the form of bush/thicket, currently sound shrublands, riparian zone/buffer, sacred sites, and swamps. All of them should be managed as conservation areas and cannot be cleared or otherwise developed for oil palm plantation ('No Go Area'). As for the HCVMAs that have already been planted with oil palms (98.9 ha), strict conservation management should apply to them to protect the conservation areas and prevent from any land clearing/replanting activities. Concerning the conservation areas in overlap with PT Uni Primacom (map ID 5 and 29), PT TTL MU should immediately communicate, build understanding, and collaborate with the company to protect the conservation areas.

HCVMA monitoring concerns with the values/functions inherent to the HCV area in question, as to whether they enhance or deteriorate. HCV area size monitoring has already been decided concerning the coverage areas that remain with HCV values/functions (HCV 1-5). Other than element indicators, the management strategy is also monitored. It is likely that HCV values/function might deteriorate in the future. As for management strategy monitoring, this includes the following.

1) Implementation of the management strategy in the field, as to whether the planned strategy is easy to implement in the field (operational monitoring).
2) When the management strategy is poorly implemented. Although it is carefully planned, if poorly carried out, it would not reach the expected objectives and goals (strategic monitoring/effectiveness).
3) New or changed threats/conditions. An effective management strategy at a time may no longer be effective at the others (threat monitoring).

The output of this monitoring serves as the basis to evaluation to ensure whether the HCV area management strategy is implemented following the objectives and goals. Goals in this HCV area management system are adaptive management system where the management constantly makes effort for continuous improvement in HCV management and monitoring.

Table 4. HCVMA management and monitoring plan

No.	Conservation Value	ID	Threat	Management Plan	Monitoring Plan	Frequency	Timeline	PIC
HCV 1								
1.	All species		▪ Logging and land clearing activities that may lead to	a) Organise continuous socialization events for surrounding communities on important	a) On a regular basis (every six months), conduct Monitoring and Evaluation towards the HCV-HCS management plan.	• Vegetation Growth & key species presence will be monitored	Start 2022 and continuous	• Sustainability Dept.

			decreased size and deterioration of wildlife habitat, and loss of connectivity to potential habitats outside the area ▪ Poaching ▪ High level erosion and chemical pollution may lead to deteriorated aquatic habitat.	values of HCV areas to prevent them from clearing conservation areas. b) Ensure that no RTE, endemic and protected species are poached by plantation staff and employee and local community in general. c) Prohibit all plantation staff and employees from trading and keeping RTE, endemic and protected species. d) Erect clear information boards on prohibition of poaching protected species. e) Establish wildlife patrol team able to mitigate wildlife conflict, including animal rescue, in collaboration with relevant institutions such as BKSDA, NGOs and local community. f) Prevent against land fires by, among others, prohibition of clearing lands through use of fire, poaching, fishing, etc. g) Manage the direction of land clearing in development area (not conservation area) to allow wildlife species to move towards conservation areas (HCV and HCS). h) Establish wildlife evacuation procedure (e.g., when they get trapped during land clearing). i) For prevention against erosion, see HCV 4 management recommendation. j) Immediately communicate and build understanding with multi stakeholder on the important values of conservation areas to organise a collaborative management.	b) On a regular basis (every six months), monitor conservation areas by documenting RTE wildlife species presence and population. The data should at least include time, type, number of individuals and location coordinate. c) Conduct survey to verify the presence of RTE species that, based on this Assessment, are documented based on information and interview with stakeholders, such as hornbill. d) Identify threats to RTE species and their habitats, such as RTE and endemic species poaching in the MU area. e) Monitor activities that relate to natural resources use such as hunting, fishery and farming activities around conservation areas. f) Conduct patrol against illegal logging, land burning and other threats to MU's conservation areas.	once every six months • Periodic socialization and refreshment will be conducted twice per year • Forest/conservation area patrols are conducted twice per week		• Conservation Dept • Management Unit
2.	White-fronted surili *(Presbytis frontata)*: VU & E; maroon leaf monkey *(Presbytis rubicunda)*: E	4, 7, 15, 19, 30, 33	▪ Loss of habitat out of logging activity ▪ Poaching	Maintain plant species as the source of food to these folivore species. Where possible, list such species and the list should be made one of the inputs to consider in case of conservation area rehabilitation.	*See also monitoring recommendation for all species.*			

3.	Southern pig-tailed macaque *(Macaca nemestrina)*: VU	16, 33	▪ Considered pest by community members who farm.	a) Develop techniques to drive away macaque from community farms. b) Conduct training for community members who own plantations on application of techniques to drive away macaque from their farms.	Together with community, map farms around plantations and monitor the intensity and extent of macaque attacks to community farms. *See also monitoring recommendation for all species.*			
4.	Sun bear (*Helarctos malayanus*): VU; Sambar deer (*Rusa unicolor*): VU; Bornean bearded pig *(Sus barbatus)*: VU.	Beruang: 4, 5, 11, 16, 19, 20, 21, 25, 27, 29, 33	Loss of habitat and poaching (case is found in other locations where bear is poached, eaten and its claws and bones are exported to Vietnam)	a) Develop cooperation with BKSDA, Law Enforcement under Ministry of Environment and Forestry and police to prevent against and deal with bear hunt and catch distribution. b) Socialization on prohibition of bear hunt in the MU area to all plantation staff and employees as well as to local community in general. Security guards at the plantation entrance should be provided with ability to communicate policies on protection for important wildlife species and prohibition of poaching them. They should also be tasked with prevention against hunting activities.	*See monitoring recommendation for all species.*			
8	Raptor (protected species): black-winged kite *(Elanus caeruleus)*; crested serpent eagle (*Spilornis cheela*); changeable hawk-eagle (*Nisaetus cirrhatus*); black-thighed falconet (*Microhierax fringillarius*).	5, 7, 18, 25, 29, 30, 33	Loss of habitat for nesting	Because species of predatory bird often use trees in the remaining shrublands in the MU and AoI, it is important to maintain their potential habitat for nesting ground.	Document the presence of raptor nests. This can be carried out during regular environmental monitoring. *See monitoring recommendation for all species.*			
9	Black hornbill *(Anthracoceros malayanus)*;	5, 25, 29, 30, 34	Deteriorated habitat: reduced number of trees for nesting and fruit (food)	Maintain potential habitats for nesting ground, e.g., shrublands along Mentaya River	Conduct advanced survey to ensure the presence of hornbill species other than black hornbill and document the nests. This can be carried out during regular environmental monitoring.			

					See also monitoring recommendation for all species.			
10	Javan myna (*Acridotheres javanicus*);	4, 8	Poaching for being kept as pet	Disseminate information on prohibition of poaching important birds in the MU area to all plantation staff and employees, as well as community in general. Security guards at the plantation entrance should be provided with ability to communicate policies on protection for important wildlife species and prohibition of poaching them. They should also be tasked with prevention against hunting activities.	*See also monitoring recommendation for all species.*			
11	Dusky munia (*Lonchura fuscans*)	*n.a.* Habitat: farmland, barren soil	Serious threat is yet to be identified for this species. Potential threat may come from the likelihood that dusky munia is considered as pest to rice field.	*Follow management recommendation for all species.*	Together with community, identify area of non-irrigated rice fields and monitor the intensity and extent of dusky munia attacks to the rice fields. *See also monitoring recommendation for all species.*			
12	Aquatic wildlife species with VU status: Asian small-clawed otter *(Aonyx cinereus)*	2, 7, 8, 45	▪ Damaged aquatic habitat because of water pollution from agrochemical waste.	Prevent against any kind of pollution of rivers and their riparian areas because of application of agrochemicals from oil palm plantations and fish poisoning that may harm their habitats. *See also management recommendations for HCV 4 and 5.*	On a regular basis, monitor water quality in swamps and rivers. This can be carried out during regular environmental monitoring (AMDAL/UKL-UPL). *See also monitoring recommendation for all species.*			
13	Keruing (*Dipterocarpus hasseltii*, *D. kunstleri*, *D. tempehes*, *D. caudiferus*, *D. crinitus*), Meranti (*Shorea gibbosa*, *S. pauciflora*, *S. laevis*, *S. pinanga*), and other important plant species	4, 5, 6, 11, 16, 19, 20, 21,22, 25, 27, 29, 30, 33, 40, 44	▪ Logging and land conversion ▪ Low natural regeneration out of edaphic factor and microclimate change.	a) Plan for conservation area management. b) Disseminate information on conservation area status and the richness and diversity of its flora species as HCV elements to local community, followed with persuasive approach to prevent against logging activities and land conversion. c) Raise local community awareness of the importance of conservation areas in the MU area as the remaining natural vegetation cover elements that function to provide water and regulate microclimate.	a) As community partner, the MU should assist their management planning process. b) On a regular basis, conduct regular monitoring (twice in a year) of shrublands that become conservation areas (presence of RTE wildlife species, threats that emerge). c) On a regular basis (twice in a year), monitor the parents of seed-producing trees including information on flowering seasons.			

				d) Put identity and information tags on important tree species that also contain international and local protection statuses. See below for example of information tag (inset). e) Integrate the HCV concept into the current protection by local stakeholders to apply to the conservation areas. Document the entire length of the management process. f) Provide seedlings through nursery of forest-composing native tree species. g) Collect parent trees' seedlings from nature (e.g., seeds of keruing, meranti, bengkirai, etc.). 	d) On a regular basis (four times in a year), monitor RTE plant species seeds. *See also monitoring recommendation for all species.*			
HCV 3								
1	Mixed dipterocarp forest	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 27, 29, 30, 31, 33, 34, 38, 40, 44, 45,	Logging, land use conversion, and land fires	a) See also management recommendation for HCS Forest. b) Assign shrub fragments as HCV areas. c) Disseminate information to landowners and community groups to develop shared understandings on preserving HCV areas by, among others, avoid land clearing and land use conversion. d) Erect information board on conservation areas and their protection for community in general. e) Prohibit land burning and warn people to avoid any actions that may lead to fire.	a) Prepare a management and monitoring plan involving the landowners. b) On a regular basis (every 6 months), monitor natural vegetation fragments, particularly through identification of any changes. c) In case of logging or land clearing, the company will do a persuasive approach to community to reach a mutually beneficial agreement and avoiding any threats to the HCV area presence.	• HCV boundaries will be monitored twice per year • The engagement with the local community in the context of HCV co-management is carried out in the long term by involving multi stakeholders.	• Start 2022 and continuous. • Monitoring the progress of HCV c0-Management will be carried out once every 6 months	Conservation Dept.

				f) Other management should be carried out in line with general management such as what has been elaborated for other HCV areas, e.g., establishment of managing group, information dissemination, etc. g) Immediately communicate and build understanding with multi stakeholder on the important values of conservation areas to organise a collaborative management.				
HCV 4								
1	Riparian area & floodplain	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40	▪ Land clearing by the Company for oil palm plantation expansion ▪ Land clearing by local community for farms/plantations. ▪ Agricultural effluent from fertiliser and pesticide application and herbicide washed away around riparian zones because of inappropriate and ineffective agrochemical application.	a) Prohibit encroachment in riparian areas and floodplains by the Company or community. b) Protect cleared riparian areas and floodplains to allow natural succession, hence their enhanced value as part of surrounding HCV areas. c) Establish SOP for riparian zone management. d) Delineate and demarcate riparian areas and floodplains. e) Appropriately and efficiently apply agrochemicals (restricted application) to areas already getting converted into oil palms. f) Recover cleared riparian zones through reforestation activity (using woody plants and bamboos). g) On a regular basis, clean rivers from twigs and oil palm fronds carried by flood to smoothen the flow. h) Collaborate with community to maintain the sustainability of riparian areas that the Company is yet to acquire. i) Immediately communicate and build understanding with multi stakeholder on the important values of conservation areas to organise a collaborative management.	a) On a regular basis, patrol along HCV area perimeters. b) Make additional documentation concerning important events in HCV areas (rivers and their riparian areas) such as flood, land clearing in riparian areas, and river pollution. c) On a regular, sample river water to monitor river water quality (TSS/TDS, colour, odour, BOD and DO) at Hanya River's inlet and outlet and Penyahuan River's inlet. d) Monitor extreme water surface level (by installing gauge) in areas by Sangsang River.	• River water sampling at the specified point to monitor river water quality is carried out twice a year and will be reported in the AMDAL RKL-RPL • Monitoring of land cover related to conservation and other land cover changes is carried out using satellite imagery per quarter, equipped with ground truthing	• Monitoring of water quality has been started on 2021 will be continued as long as company operation • Monitoring of land cover of conservation area has been started 2018 and continuous	• Sustainability Dept. • Management Unit

2	Freshwater swamp	1	▪ Land conversion by the Company for oil palm plantation expansion	a) Delineate and demarcate swamp area. b) Construct water gate at the swamp outlet to control the water coming out. In dry seasons, the swamp water can become stock of water.	a) Monitor water surface level at locations that represent swamp area (by installing gauge). b) Make additional documentation concerning important events in swamp area such as flood and land clearing in its bank.			
HCV 5								
1.	HCV 5: use of river water for sanitation, sources of water and fishing ground	All HCV 5 areas	▪ Logging activities in riparian zones by community. ▪ Farming in riparian zones by community. ▪ Land clearing by the Company for clearing new oil palm plantation areas and construction of roads/blocking lines. ▪ Fertiliser and pesticide application. ▪ Fishing using electricity/ trawl/poison ▪ Waste disposal into water bodies and riparian areas	a) Delineate HCV 5 in the field. b) Identify HCV 5 stakeholders and users. c) Establish communication with HCV 5 stakeholders and users and agree upon the joint work plan for protecting/enhancing HCV 5 quality. d) Delineate boundaries in the field and install warning signs based on agreement with HCV 5 stakeholders/users. e) Disseminate information on boundaries of and treatment to HCV 5 areas to workers, contractors and HCV 5 users/stakeholders. f) Arrangement recommendation: prepare a mutual agreement on procedure of use of timber, farming, land clearing, fertiliser/pesticide application, fishing, use of water (for sanitation/source of water), and waste disposal. g) Agree upon joint monitoring system and its implementation. h) Immediately communicate and build understanding with PT Uni Primacom on the important values of conservation areas overlapping with its concession (map indices 5 and 29). It is recommended to organise a collaborative management for the area until plantation boundary issues are resolved.	a) Establish HCV 5 monitoring team. b) Prepare a monitoring documentation system. c) Document the monitoring output following the documentation system. d) On a regular basis (quarterly) or in the event of urgent field events, conduct monitoring and communicate with HCV 5 stakeholders. e) On a regular basis (quarterly), evaluate and implement the monitoring follow-up.	• River water sampling at the specified point to monitor river water quality is carried out twice a year and will be reported in the AMDAL RKL-RPL • Monitoring of land cover related to conservation and other land cover changes is carried out using satellite imagery per quarter, equipped with ground truthing	• Monitoring of water quality has been started on 2021 will be continued as long as the company operation • Monitoring of land cover of conservation area has been started 2018 and continuous	• Sustainability Dept. • Management Unit • Conservation Dept.

2.	Boloi River, sanitation & source of water	3	▪ Pollution because it is used for bathing, washing and toilet, and waste disposal	a) Follow clean water management standard. b) Erect signboards on prohibition and solicitation so that waste is not disposed of to the river. c) Direct CSR programmes for provision of clean water to community. d) See also management recommendation for HCV 4.	On a regular basis, carry out monitoring to collect data and documentation of community's use of water. See also monitoring recommendation for HCV 1, 3 and 4.			
3.	Tanggiran River, sanitation & source of water	33						
4	Haik River, fishing ground	5	▪ Fishing using electricity or poison. ▪ Pollution of agrochemical from plantations and farmlands.	a) Follow standards and regulations on prohibition of use of electricity and poison in fishing. b) Erect signboards on solicitation against and prohibition of use of electricity and poison in fishing. c) See also management recommendation for HCV 4.	a) Monitor anyone who use electricity and poison when fishing so that the Company has the data that can be used for evaluation and prepare the better management plan. b) Monitor locations where community uses electricity and poison when fishing. c) *See also monitoring recommendation for HCV 1, 3 and 4.*			
5.	Anak Konjat River, fishing ground	13						
6.	Konjat River, fishing ground	14						
7	Konjat Pohon River, fishing ground	15						
8.	Mentaya River, fishing ground, sanitation & source of water	17						
9	Raya River, fishing ground	25						
10	Sangsang River, fishing ground	29						
11	Sebangan River, fishing ground	30						
HCV 6								
1.	HCV 6: historical & cultural site, sacred/religious sites/ceremony location	All HCV 6 areas	▪ Farming around HCV 6 area ▪ Land clearing by the Company for new oil palm plantation areas	▪ Delineate HCV 6 areas in the field. ▪ Identify stakeholders who own HCV 6 areas. ▪ Communicate with stakeholders and HCV 6 owners and agree upon joint work plan for HCV 6 protection and enhancement.	▪ Establish HCV 6 monitoring team. ▪ Develop a monitoring documentation system. ▪ Adjust the monitoring output to the documentation system.	Preservation of traditional ceremonies and traditional places is carried out based on	Has been started on 2015 and will be continued	CSR Dept.

			and construction of roads/blocking lines. ▪ Destruction or vandalism	▪ Delineate boundaries in the field and install warnings based on agreement with HCV 6 area stakeholders/owners. ▪ Disseminate information on boundaries of and treatment to HCV 6 areas to workers, contractors and HCV 6 users/stakeholders. ▪ Arrangement recommendation: prepare a mutual agreement on procedure of farming and land clearing. ▪ Agree upon joint monitoring system and its implementation.	▪ On a regular basis (quarterly) or in the event of urgent field events, conduct monitoring and communicate with HCV 6 stakeholders. ▪ On a quarterly basis, evaluate and follow up the monitoring output.	requests from local communities		
2.	Batu Ampar, cultural site, sacred/ religious site/ ceremony location	41	Farming and land clearing for company plantations	Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			
3.	Bukti Gantung, cultural site, sacred/ religious site/ ceremony location	42	Farming	Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			
4.	Marso, cultural site, sacred/religious site/ceremony location	43	Farming and land clearing for company plantations.	Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			
5.	Oeng, cultural site, sacred/religious site/ceremony location	44	Farming and land clearing for company plantations.	Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas. Carry out this activity simultaneously with HCV 1 and 3 monitoring.			
6.	Rantian, cultural site, sacred/ religious site/ ceremony location	45	Farming and land clearing for company plantations.	Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			
7.	Simpang Tiga, cultural site, sacred/	46	Vandalism and land clearing for company	a) Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			

	religious site/ ceremony location		plantations and farming.	b) Where necessary, construct fence upon agreement with the owners.	Carry out this activity simultaneously with HCV 1 and 3 monitoring.			
8.	Untung cultural site, sacred/ religious site/ ceremony location	47	Vandalism	a) Delineate and give clear field markings to HCV 6 areas to allow community, contractor and the Company itself to be aware of their presence. b) Emphasise on information dissemination to mill workers and stakeholders, establish warning signs and, where necessary, construct fence upon agreement with the owners.	On a regular basis, monitor the condition of HCV 6 areas and those who are concerned with or use the areas.			
HCS Forest								
1	Natural vegetation fragment taking the form of forest and shrub	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 27, 29, 30, 31, 33, 34, 38, 40, 44	Logging, land use conversion and land fires.	a) See also management recommendation for HCV 3. b) Provide trainings and give understandings to landowners and local community on the importance of maintaining forest carbon stock and the impacts on the climate change. c) Establish a platform for early detection on fire-prone areas.	a) Document the number of fire events, along with the minutes. b) Liaise with the governments at local level to mitigate forest and land fires. c) On a regular basis, patrol during dry seasons. d) On a regular basis (every six months), analyse land cover based on the satellite image and/or aerial photograph and field survey.	• Field delineation and demarcation will be carried out once and monitored the condition of the stakes per 3 months • Once per 6 months	Field delineation: 2022	• Conservation Dept • Sustainability Staff

Cross-Value Recommendations

1. Immediately prepare an Action Plan for more detailed HCV-HCS management and monitoring, at least for the next three years.
2. Develop institutional capacity and build the capacity of HCV-HCS management and monitoring unit/division, including:
   - establish specific unit/division to ensure the achievement of HCV-HCS management and monitoring goals; and
   - train or recruit staff with necessary qualification for HCV-HCS management and monitoring.
3. Make SOP and apply internal SOP on HCV-HCS management and monitoring.
4. Every three years, evaluate and update HCV-HCS to identify the HCV-HCS area sustainability and any likelihood of additional or reduction to the areas.

5. Disseminate information to internal (daily worker and staff) and external stakeholders (local village communities, government institutions, neighbouring companies whose areas are adjacent to the HCV-HCS areas) on the presence of the HCV areas and their functions by, among others, erecting signboards on the presence of HCV-HCS areas and elements.
6. Support collaborative activities with stakeholder (neighbouring companies, government, and local communities) to maintain rivers and their riparian zones.
7. Establish a joint forum to facilitate coordination and cooperation between stakeholders.

4. Stakeholder and local people engagement (FPIC process)

Table 5. Management & Monitoring Plan of FPIC Issue

No.	Objective	Target	Program	Activity	Timeline	Indicator	PIC
1.	Acknowledgment of the existence of the company	Company operational continuity	Company operational socialization	Socialization on: - Company operational activities - Company area boundaries - The company's public relations structure and conflict and complaint handling mechanisms - Focus of community empowerment program	Based on event, and/or once per year	• Activity documentation • Perception index survey	Corporate Affair Dept, CSR Dept., Partnership Dept., Document & License Dept.
2.	Tenurial	Company operational continuity	Data collection of land that has not been controlled in the company's concession	Identification on land ownership around and within the Company's concessions	Once per year	List of landowners around and within the Company's concessions	Corporate Affair Dept, CSR Dept., Partnership Dept., Operational Unit
				Identifying problems that have the potential to become a tenure conflict around and within the Company's concessions	Once per 6 months	List of potential tenurial conflict and risk management	Corporate Affair Dept, CSR Dept., Partnership Dept., Operational Unit

5. Soil and Topography

The following is a summary of the limiting factors in the four lands suitability and their management recommendations:

1. Dry Month

   The four SPTs both had one dry month in the last 5 years. Dry month is a condition where the amount of rainfall accumulation in one month is <60 mm. Plan for land management for oil palm plant during dry month are follows:

   - Fertilization should be stopped during the dry months;
   - Planting cover crop such as legumes at TBM and Nephrolepis at TM can keep soil moisture longer;
   - Construction of dams, especially in sand and hill areas for water supply during the dry season
   - Selective weeding to increase land cover, increase soil microbiology and increase soil fertility
   - Zig-zag arrangement of fronds by cutting the slopes to reduce the rate of erosion (run off)
   - Application of organic matter such as empty bunches and compost as mulch to increase soil moisture
   - Making cutting side drains to collect rainwater (rain harvest) from either side of the road to increase soil moisture

2. Elevation and Slope

   The condition of wavy to hilly slopes, which the area has slopes more than 45% is recommended not to be managed agronomically. This area will be managed as a conservation area.

3. Drainage
   - To build Outlet Trench, Main drain, Collection drain and wind ditch
   - To build Mounding
   - To build in filed trenches 2:1

4. Soil Cation Exchange Capacity (CEC)
   - Regular dolomite application;

- Addition of organic material: empty bunches (composting)
- Boiler ash application

6. GHG

6.1. Steps to Manage and Increase the Carbon Stock

6.1.1. Land Use Change / New Planting

Land conversion appeared as the largest emission factor contributing to 9,734.97 tCO_2e

Target	:	Reduction of emissions from land clearing activities
Action Plan	:	1. No land clearing of conservation and forest area 2. Management plan of conservation areas 3. Development of fire mitigation and completion of firefighting equipment

6.1.2. Carbon Crop Sequestration

Carbon crop sequestration contributes to emissions reductions to -13,076.34 tCO_2e

Target	:	Increase of carbon crop sequestration
Action Plan	:	1. Use of seeds with high production potential 2. Use of land cover crops

6.1.3. Fertilizer

Emission source: manufacturing of the fertilizer and its application on the field.

Target	:	Emission reduction from fertilizing
Action Plan	:	1. Leaf & soil analysis to obtain the data of optimal amounts of fertilizer applied; 2. Empty bunch used for mulching (composting) 3. Fertilizers application technique based on topography 4. Proper fertilization dose, right time and place, and in accordance with the Good Agricultural Practice

6.1.4. Diesel Consumption in Operation

Fuel Consumption in the field contributed to 501.17 tCO_2e

Target	:	Reduction of emission from Diesel Consumption in Operation
Action Plan	:	1. Good maintenance of vehicles and other equipment, periodically 2. Safety of driving related training

6.1.5. HCV Crop Sequestration

Crop sequestration from the conservation area appeared as the largest emission reduction factor, contributing of -3,035 tCO2e

Target	:	Increase of carbon sequestration
Action Plan	:	1. Rehabilitation on the Conservation Areas which has open land and/or bushes as a land cover 2. To monitor the Conservation Area from any other activities 3. Work with the local community to protect the Conservation Area

In order to reduce carbon emissions when the plantation has finished the land clearances, and it continuous to operation and producing the FFB, the company will send its FFB to mills under one company group. Where in this mill there will be an installation for POME management, at least a belt press system.

6.2. Monitoring of the Action Plan implementation

6.2.1. Land Use Change/ New Planting

Monitoring of land clearing

Action Plan	Timeline
To monitor the plans for land clearing and its realisation	January 2023 to December 2024 (During land clearing phase) By operational team & Sustainability Dept.

6.2.2. Carbon Crop Sequestration

Monitoring carbon crop sequestration

Action Plan	Timeline
To make sure that seed is good quality and with a government license	January 2023 to December 2024 by QC Dept.
To monitor the realisation of oil palm planting & legume cover crops	January 2023 to December 2024 by QC Dept.
To minimise the FFB losses	On mature plant by Quality Agronomy Control Dept.

6.2.3. Fertilizer

Monitoring fertilizer emissions

Action Plan	Timeline
To monitor leaf and soil analysis activity	Once every 1 year, in April – May by Research Dept.
To monitor empty bunch application for mulching	When its applied by Quality Control Dept.
To monitor plan and realisation of fertilizer application	Every fertiliser application by Estate Assistant and QC Dept.

6.2.4. Diesel Consumption for Transport

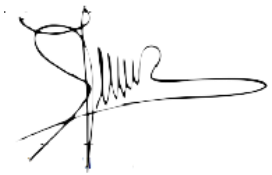
Monitoring fuel consumption in the operational activity

Action Plan	Timeline
To monitor the fuel consumption of each device and vehicle	Every month by Traction Dept.
To analyse work of equipment compared to its fuel consumption	Every month by Traction Dept.
To monitor planning & realisation of training related with driving safety	Once every 6 months by Training Centre

6.2.5. HCV Crop Sequestration

Monitoring carbon sequestration of the HCV – HCS Areas

Action Plan	Timeline
To monitor the planning and realisation of HCV areas rehabilitation, where the land cover is grassland or open land	Once every 6 months by Sustainability Dept.

6	**Acceptance of Management Plans**	**Name of Person Responsible**	Martin Mach
		Designation	Deputy of Corporate Sustainability Group Dept Head
		Signature	
		Name of Person Responsible	Johan Sukardi
		Designation	Director
		Signature	
		Date	12 December 2022