

High Conservation Value Assessment of PT KutaiMitra Sejahtera

Summary (Section 4b)

MAY 2011

Contents.

1. **Executive Summary.**

As is mentioned in the document on "RSPO Detailed Process Flow for New Plantings Procedures" the summary must include reporting of the identification of

- All primary forest.
- Any area required to maintain or enhance one of more High Conservation Values (HCVs)
- All areas of peat soils.
- Local peoples' lands.

2. **Scope of the SEIA and HCV Assessments:**

- Organisational information and contact persons.
- List of Legal documents, regulatory permits and property deeds related to the areas assessed.
- Location maps – both at landscape level and property level.
- Area of new plantings and time-plan for new plantings.

3. **Assessment process and procedures**

- Assessors and their credentials
- Assessment methods (Data sources, data collection, dates, programme, places visited)
- Stakeholder consultation (stakeholders contacted, consultation notices and dates)
- List of Legal, regulatory and other guidance referenced.

4. **Summary of assessment findings (for SEI assessments)**

- Summary of key findings in respect of socio-economic impacts to country, region and local communities.
- Summary of key findings in respect of socio-economic impact in respect of emergent communities (workers, suppliers, etc.).
- Issues raised by stakeholders and assessors comments on each issue.

5. **Summary of assessment findings (For HCV assessments)**

Overall HCV identification and proposed measures to maintain and enhance those identified
Documentation showing the Obtained Free, Prior and Informed Consent of any indigenous peoples affected by the development of the concession (part of RSPO requirements)

- Data sources and quality.
- Which HCV toolkits employed.
- Decisions on HCV status and related mapping.

6. **Internal responsibility**

- Formal signing off by assessors and company
- Statement of acceptance of responsibility for assessments.

High Conservation Value Assessment of PT KutaiMitra Sejahtera

1.0 Executive Summary

A HCV assessment was undertaken on the HGU area of PT KutaiMitra Sejahtera. The area is approximately 7,420 hectares and it is located in Kecamatan (Sub-district) of MuaraAncalong, Kabupaten (district) KutaiTimur, Propinsi (Province) Kalimantan Timur, Indonesia.

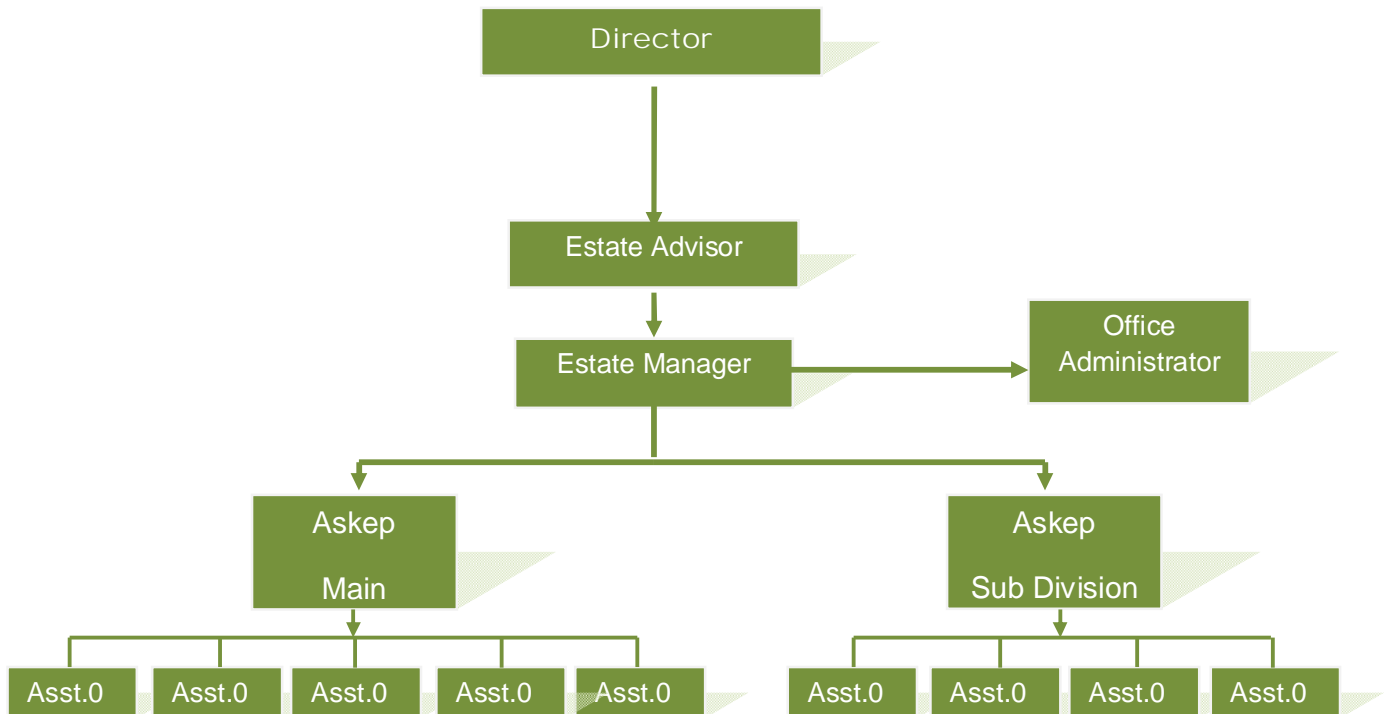
The parent company (PT REA Kaltim Plantations) is a RSPO member. In line with the requirements of RSPO's New Planting Procedures (NPP) an independent High Conservation Value assessment is required among other things.

The area has been logged repeatedly and has been subjected to fire between 1998 and 2008. It is dominated by secondary forests and there is no primary forest on site. However, there is a small patch of relatively undisturbed forest adjoining the riverine forest which has *Eusideroxylonzwageri*. For conservation purposes, it has been classified as primary having HCV status. There are no peat areas found onsite. The site is remote and does not have any local community settlements within or adjacent to its boundaries.

Approximately 5,393 ha is available for planting, the remaining 2,027 ha is classified as having potential HCV. The presence of HCV 1, 2, 3 and 4 is recorded. There were no areas having HCV 4 and 5 values.

2.0 Scope of HCV assessment

Organizational structure.



Role	Responsibility	Entity
Director	Budget approval, corporate affairs	PT Kutai Mitra Sejahtera
Estate Advisor	Planning of various estates operations	PT Kutai Mitra Sejahtera
Estate Manager	Implementation of daily operations	PT Kutai Mitra Sejahtera
Office Administrator	Administrative work	PT Kutai Mitra Sejahtera
Askep Main Division	Overseeing the assistance in the daily operations of their respective divisions	PT Kutai Mitra Sejahtera
Askep Sub Division	Overseeing the assistance in the daily operations of their respective divisions	PT Kutai Mitra Sejahtera
Assistant	Implementing and monitoring various estates operations	PT Kutai Mitra Sejahtera

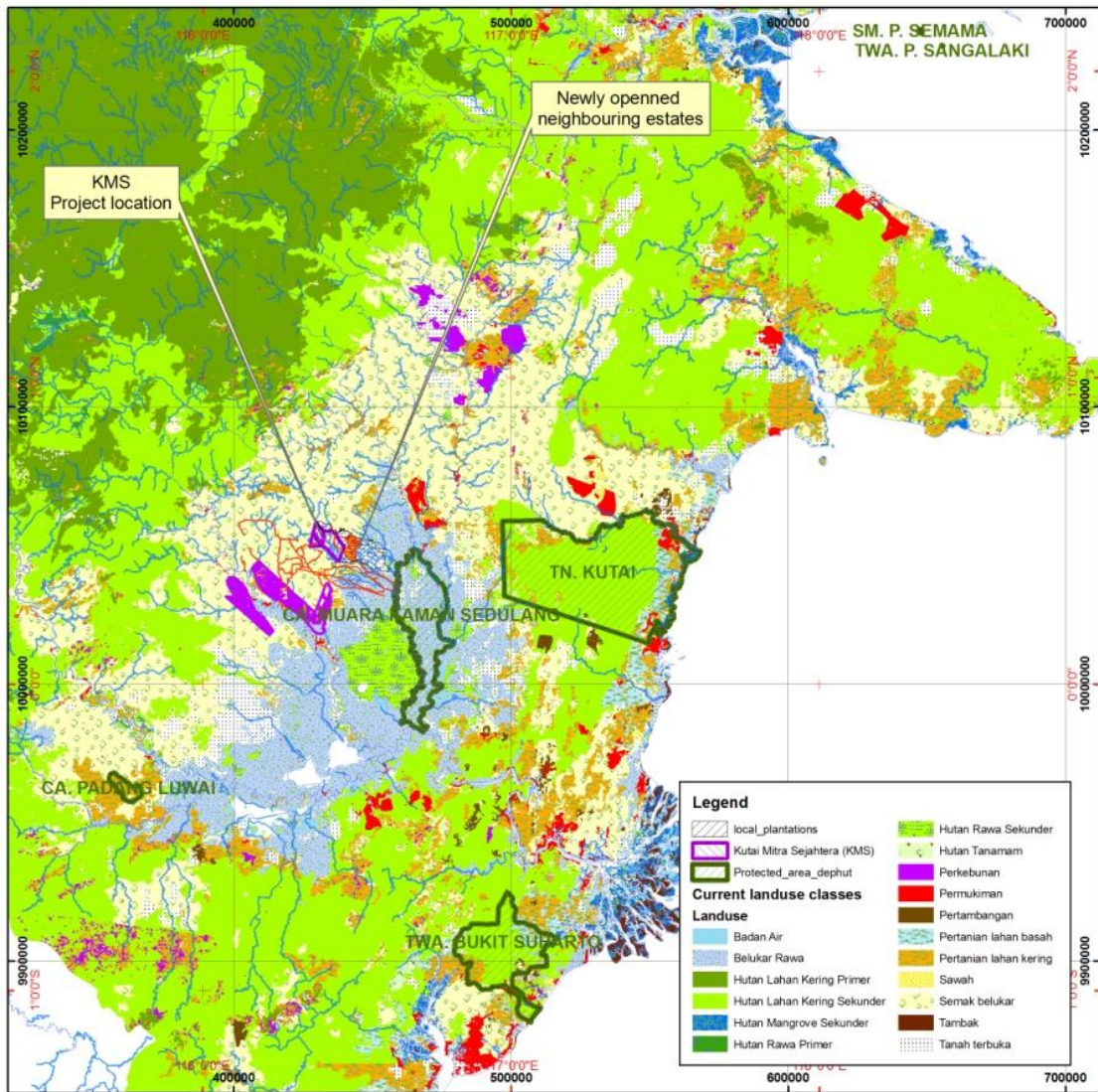
List of Legal Documents and regulatory permits related to the areas assessed

Name of Legal Document	
1.	Deed of Establishment/Articles of Association of PT Kutai Mitra Sejahtera No. 26 dated 22 March 2007 made before Soetati Mochtar, SH, Notary in Jakarta as approved by the Ministry of Law and Human Rights through Decree No. W7- 073210 HT.01.01-TH.2007 dated 2 July 2007 as amended from time to time and the latest is by the Deed of Statement of Shareholders' Decision No. 5 dated 5 March 2008 made before Soetati Mochtar, SH as approved by the Ministry of Law and Human Rights No. AHU-30743.AH.01.02.Tahun 2008 dated 6 June 2008.
2.	Tax-payer Identification Number No. 02.661.391.9-722.000
3.	Company Registration No. 17.01.1.01.03122 dated 6 November 2008.
4.	Decree of the Regent of Kutai Timur No. 500/197/Eko.2-II/2008 dated 28 February 2008 concerning Plantation Business Permit of PT Kutai Mitra Sejahtera
5.	Decree No. 1160/660.1/2/1/LH/XI/2008 dated 27 November 2008 concerning Environmental Impact Analysis of PT Kutai Mitra Sejahtera.
6.	Decree of the Head of National Land Affairs Agency No. 6/HGU/BPN.RI/2011 dated 18 February 2011 concerning Granting of Right to Cultivate (HGU) to PT Kutai Mitra Sejahtera for a total area of 7,321.15Ha.

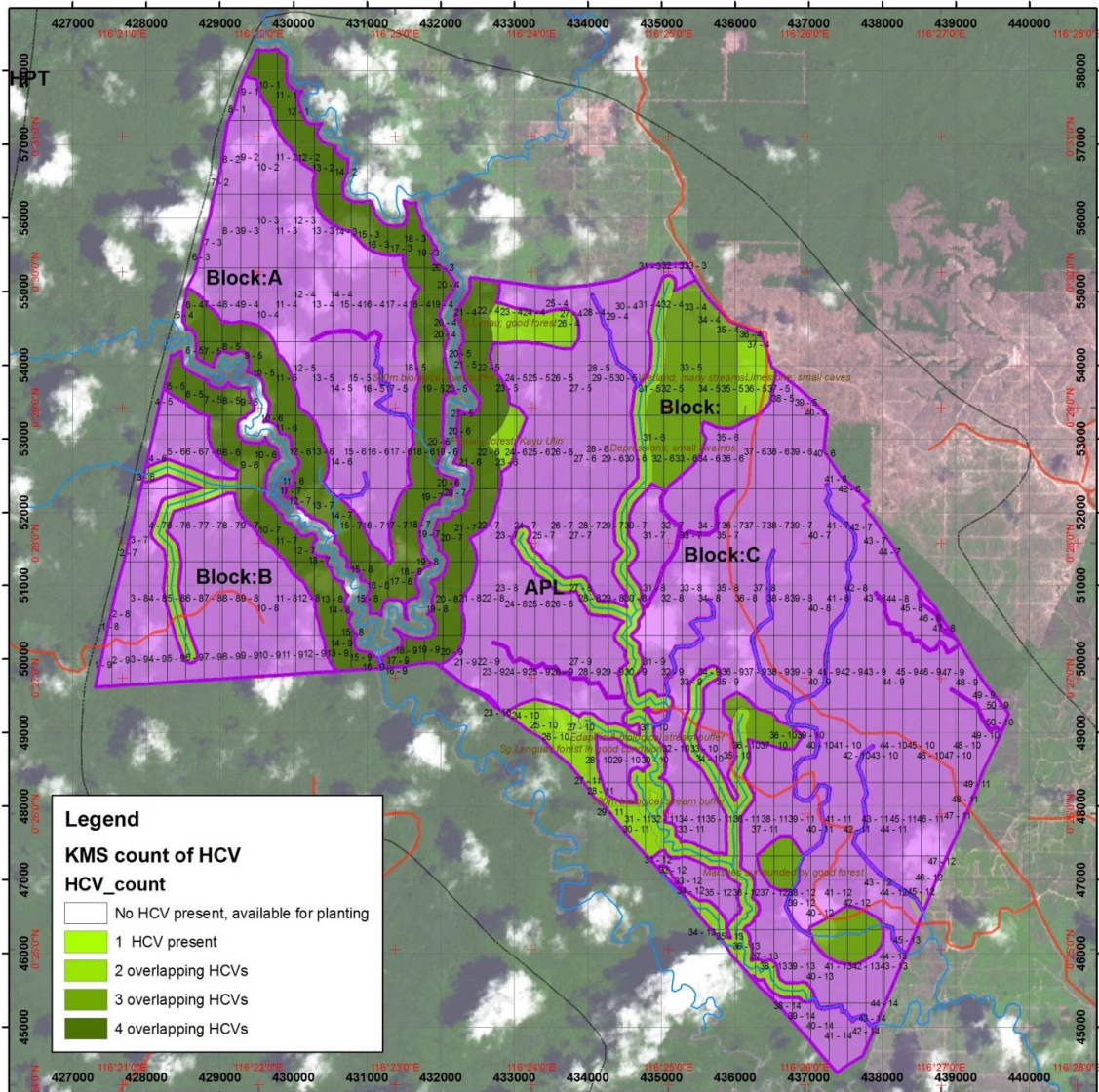
The scope of HCV assessment is as follows:

- i. Landscape assessment of Kutai Timur and Kalimantan Timur Province. (See **Map 1**)
- ii. The PT KMS site, approximately 7,420 ha in Kecamatan Muara Ancalong, Kabupaten Kutai Timur. (See **Map 2**).
- iii. Desa Senyur in Muara Ancalong.

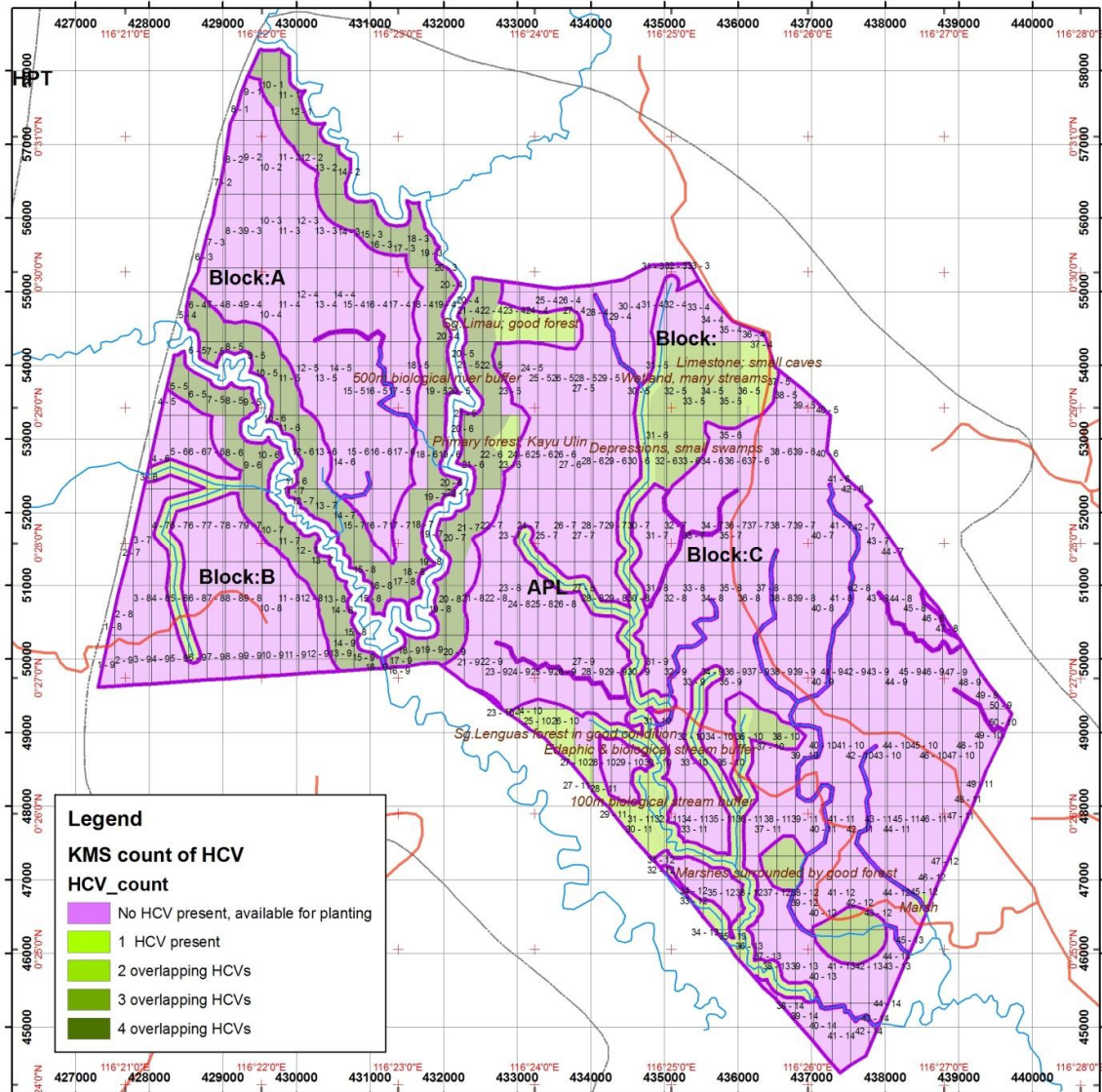
Areas for new planting are presented in **Map 3**.



Map 1: Landscape level map



Map 2: Property level map



Map 3: Block map (Planting)

3.0 Assessment process and procedures

The list of Roundtable of Sustainable Palm Oil (RSPO) registered HCV assessors for this assessment is as follows:

- i. Kishokumar Jeyaraj (Biodiversity, Hydrology/Soil, Social and GIS)
- ii. Tunku Mohd Nazim Yaacob (Biodiversity, Hydrology/Soil, Social and GIS)
- iii. Dr. Lim Meng Tsai (Biodiversity and Hydrology/Soil)
- iv. Dr. Paramanathan Selliah (Hydrology/Soil)
- v. Dr. Lim Boo Liat (Biodiversity)

- vi. Sulhani (Social)
- vii. OiSoo Chin (Biodiversity, Hydrology/Soil and Social)

Assessment procedures for the assessment is as listed below.

- I. Undertake desk top review using available map and remote sensing data,
- II. Build landscape GIS map models of the land use and resources of the project site ,
- III. From the GIS map models, identify potential sites for field survey,
- IV. Ecological and social field survey
- V. Review field data to revise the map model and describe the current state of the environment,
- VI. Compile working lists and maps to identify potential HCV areas with biodiversity, environmental and social considerations.
- VII. Make recommendations for management that would conserve high conservation values.

Data sources for the assessment are as below.

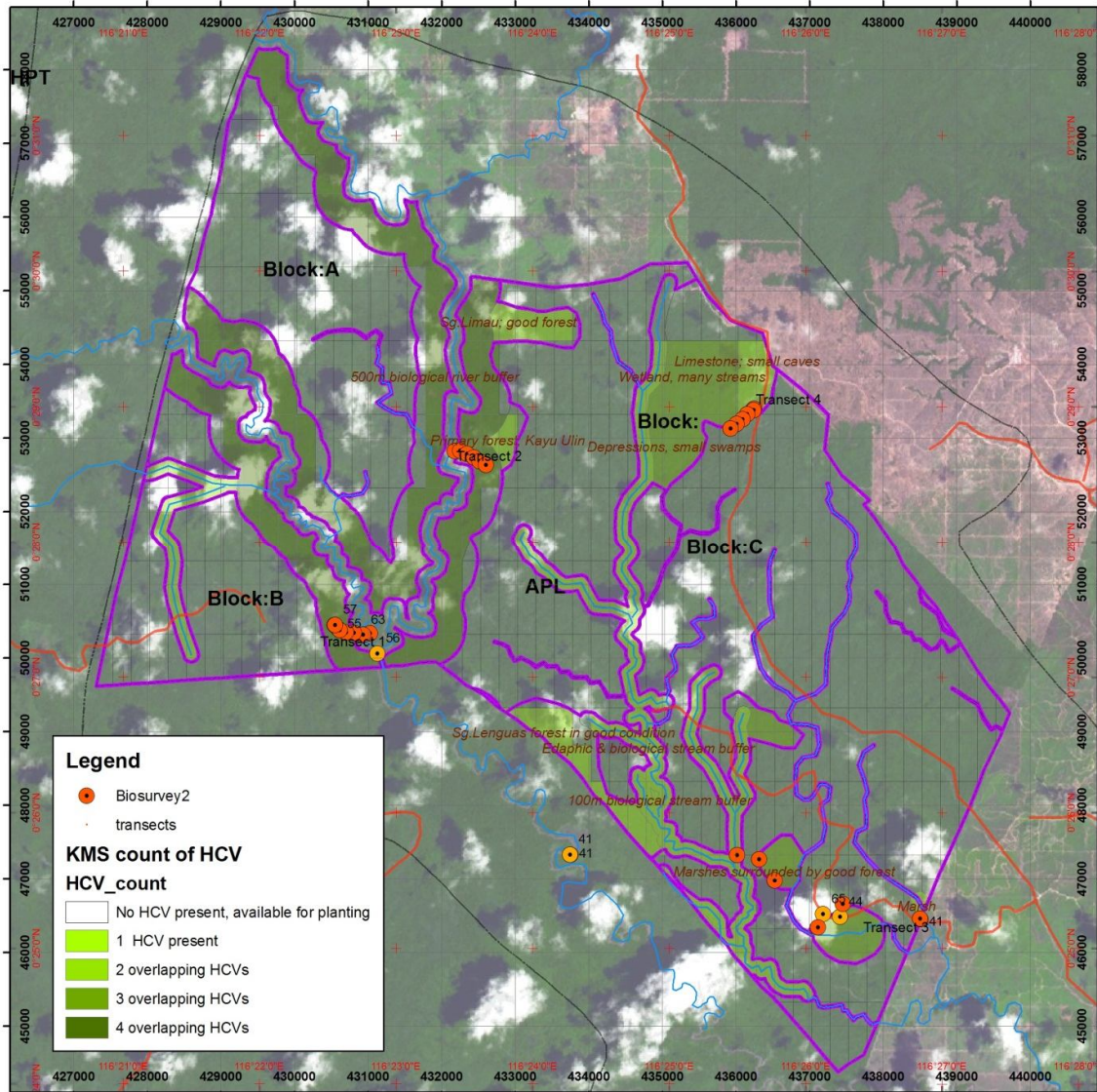
- i. Regional Physical Planning Project for Transmigration
- ii. *Identifikasi lanskap kawasan hutan bernilai konservasi tinggi di dalam dan sekitar Heart of Borneo, Kalimantan Timur* (WWF)
- iii. Eco-regional Assessment of Biological Diversity Conservation in East Kalimantan, Indonesia, The Nature Conservancy Asia/Pacific Region: Indonesia Program East Kalimantan Portfolio Office.
- iv. Soil Survey report of PT KMS
- v. The IUCN Red List of Threatened Species. <http://www.iucnredlist.org/>
- vi. *Peraturan pemerintah republik indonesia. Nomor 7 tahun 1999. Tanggal 27 januari 1999. Jenis-jenis tumbuhan dan satwa yang dilindungi.*

Details of assessment schedule are presented below.

- i. Preliminary conservation assessment by other consultants (August and December 2010)
- ii. HCV assessment (1st phase) was undertaken between 23rd and 29th April 2011. The public consultation was held on the 12th of May 2011 in Samarinda.

iii. The verification of HCV findings was carried out between 14th and 18th May 2011.

Map of areas visited is presented in **Map 4** below.



Map 4: Map of sites visited

4.0 Summary of SEI assessment findings

	Environment	Impact source	Impact	Mitigating plan												
PHYSICAL	Air	Development and operation of access roads to the sites and internal tracks	Emission of greenhouse gas	Vehicle fuel consumption will be verified at regular intervals and speed will be regulated; there will be regular maintenance of vehicles to minimize pollution.												
	Water	Herbicidal inputs	Use of Chemicals	Rational Use of Inputs; chemical application will monitored based on, crop yield and soil and leaf sample analysis, and the recommendation The quality of water will be monitored biannually. Minimal use of chemicals as the company endeavors on 100% leguminous cover, mucuna bracteata, which inhibits weed regeneration												
	Land	Development and operation of access roads to the site and internal tracks; Traffic	Road erosion	Adequate run off points will be provided to ensure that water does not run down the roads. Outlets for run-off water will be provided at regular intervals depending on gradient. Where the road is laid on longer slopes, silt pits will be provided along the waterway at regular intervals to prevent soil wash. mucuna bracteata will be planted on all slopes, which is an excellent ground cover and erosion control.												
		Planting methods (including site preparation and life cycle of palm)	Suppression of natural alleviating capacity of pollution in the area	Land clearing will be completed on a block by block basis, limiting deforestation to only what is necessary. There will be no planting on slopes greater than 25°												
		Operating procedures and maintenance of plantations	Use of chemicals	Chemical usage will be monitored and optimized												
		Management of domestic and industrial waste and sewage wastewater flows	Wastewater drainage leading to an organic pollution of the streams	Wastewater will be channeled and collected away from water bodies; All sewage from houses will be drained and collected in septic tanks, while domestic waste water will be contained within the plantation area.												
			Downward leaching	Establish buffer zones: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Type</th> <th>Width</th> <th>Buffer zone (m)</th> </tr> </thead> <tbody> <tr> <td>Small streams</td> <td><2</td> <td>50 on either side</td> </tr> <tr> <td>Medium stream</td> <td>>2<5m</td> <td>100 on either side</td> </tr> <tr> <td>River</td> <td>>5</td> <td>500 on either side</td> </tr> </tbody> </table> Water will be monitored on an annual basis	Type	Width	Buffer zone (m)	Small streams	<2	50 on either side	Medium stream	>2<5m	100 on either side	River	>5	500 on either side
	Type	Width	Buffer zone (m)													
Small streams	<2	50 on either side														
Medium stream	>2<5m	100 on either side														
River	>5	500 on either side														
	Soil	Development and operation of access roads	Compaction	Roads will be resurfaced and compacted as development progresses												
		herbicide	Spraying of herbicides	Application of the procedure for handling chemicals												
		Planting methods (including site preparation and life cycle of palm)	Erosion	Slope management Good agricultural practices, such as silt pits will be constructed and mucuna bracteatae will be planted												
		Operating procedures and maintenance of plantations	Erosion loss of fertility	Soil protection against water (water retention, flow paths, rub rails and ditches); weeding												
		Development and operation of access roads to the site and internal tracks; Traffic	Emission of dust	Restrict speed of vehicles and machines												
		Method of producing seedlings	Change of the vegetation cover	Seedlings will be outsourced												
		Planting methods (including site preparation and life cycle of palm)	Landscape Alteration and removal of minor vegetation	Windbreaks will be maintained around the site. Terracing, planting cover crop, palms planting												
		Management of household and similar waste, industrial waste and sewage wastewater flows	Waste lift	Waste from base camps and other locations will be collected on a regular basis, sorted according to biodegradability and kept in closed bins. Recyclable waste will be sold, while non-biodegradable waste will be disposed suitably												

BIOLOGICAL	Terrestrial plant formations	Method of producing seedlings	No nursery	Mainly manual weeding .Rational use of chemicals. Seedling will be outsourced
		Operating procedures and maintenance of plantations	Protection of the crops	Integrated pest management against parasites and mammals may be introduced as the project progresses.
	Fish and wildlife	Establishment and operation of base camps	Fishery and hunting pressure	Barriers will be put up at the entry points into the project area to control movement of people hunting. Sign boards will be put up at strategic points indicating prohibition of hunting. People will be educated on conserving animals and the existing laws on hunting.
		Operating procedures and maintenance of plantations	Pollutions due to the storage of hydrocarbons and machine maintenance	Oils and fuel have to be stored in aboveground tanks with containment wall of more than equal capacity.
				A contingency plan will be established in the case of incidents
				Maintenance of equipment at appropriate places on impermeable ground, waste oil management and all waste oil will be disposed to licensed schedule waste collectors. All waste will be recorded and disposed as scheduled
				Establishment of collection facilities
		Management of household and similar waste, industrial waste and wastewater	Environment pollution by the leachates	Through proper drainage system Dispatch of waste through an adequate treatment process
HUMAN	Employment and local economic development	Planting methods (including site preparation and life cycle of palm)	Loss of wood resources	Conservation zones for villages or compensation in the case of relinquishment through the process of Free, Prior and Informed Consent and setting up of 20% of total planted area as smallholder project for the local community
			Reduction of rural activity zones	Employment policy in favor of local community
	Operating procedures and maintenance of plantations	Establishment and operation of base camps	Creation of jobs	Employment opportunities increase with the growth of the project. All permanent employees will be provided with basic accommodation with electricity and water supply. Clinic, school, religious and recreational facilities will be provided.
			Increase in economic dynamism with better communication	Increase efficiency with continuous progress
	Use of the soil	Planting methods (including site preparation and life cycle of palm)	Land tenure	Villagers will be compensated based on data collected during the agriculture and forest inventory, as well as during the social participatory mapping process.
			Loss of cultures, ancient villages and cultural places	Employees will have access to healthcare provided by the clinic. Nearby villages will also have access to medical consultancy, but will have to pay for any prescribed medication
Security / health	Establishment and operation of base camps	Setting up of healthcare facilities in the base camps	Use of individual protective equipment (IPE) will be compulsory, and employees will be trained in the use of chemicals. MSDS will be clearly displayed in the storage area, and labels will remain on chemical contains.	
	Operating procedures and maintenance of plantations	Use of chemicals and handling of hydro-carbon	Employees will be properly trained in health and safety prior to the use of machinery as per Standard Operating Procedures.	
		Body injury risks related to the use of machines, vehicles, insects and snake bite	Clinic equipped with sufficient medical supplies including Anti-venom serum	

STAKEHOLDER CONSULTATION - PT. KUTAI MITRA SEJAHTERA

HOTEL MESRA - Samarinda, Thursday 12 May 2011

NO.	Participants	INSTITUTION / VILLAGE	INPUT / SUGGESTION	ANSWERS
1	Bp. Asmuran	Villager from Senyur	1. How to preserve endangered species in areas of high conservation value?	1. PT KMS: through monitoring of biodiversity
			2. This stakeholder meeting should be held at the village	2. PT KMS: Thank you very much for your input; we will consider this for future events
2	REDD	Samarinda	1. Is there any concrete data on land burning?	1. PT KMS: There is no data available. As long as we were given the <i>ijin lokasi</i> there are no forest fires in the region PT KMS
3	Ibu Sulasih	Dinas Kehutanan Kaltim	1. Does PT KMS have <i>HGU</i> ? What is the percentage of the total area of conservation?	1. PT KMS: PT KMS has the <i>HGU</i> . MEC: The potential area for conservation is 2027 ha (27%)
			2. Social Aspect : Is the wood, which is used by the villagers being monitored and reported to the forestry department (<i>Dinas Kehutanan</i>) ?	2. PT KMS: no activities for land clearing have been started, therefore there are is no logging taking place
			3. Legal Aspect : Is the stage for land clearance in accordance with the applicable regulations? A regular coordination with the forestry department is needed	3. Legal Aspect : PT KMS: legal status is in accordance with the applicable regulations of the local and central government
4	Ibu Ria	BLH Provinsi Kaltim	1. Are there any activities?	1. PT KMS: No activities have started
			2. How far has the HCV area been implemented?	2. The plan for HCV is documented in a report prepared by MEC. PT KMS is committed to preserve an area for a conservations as as big as 2027ha
5	Bp. Wiwit	W.W.F	1. Remark: it is recommended that the HCV is prepared separately from the AMDAL. Therefore regions meant for HCV can be protected.	1. PT KMS will further set a five year plan on how to implement HCV
6	Bp. Yono	W.W.F	1. The HGU should be reported to BPN.	1. PT KMS: Noted, yet before the SK HGU is released,
7	Bp. Ade Fadli	BEBSIC	1. The HCV areas on the maps do not match one another. Why were potential HCV areas cut?	1. MEC: After repeated surveys, MEC concluded that the area is not suitable for conservation, since it is located at a bordering company. The monitoring of borders is difficult
			2. Suggestion: It is very important to have a stakeholder meeting at the district and village level.	2. PT KMS: noted and will be considered.
			3. Suggestion: How about the regulation, which states that companies must allocated 20% of the HGU to smallholders?	3. PT KMS will allocate 20% for smallholders and adhere to the government regulation <i>permentan 26 tahun 2004</i>

5.0 Overall HCV identification and proposed measures

5.1 Summary of identified HCV

Table 1 below gives a tabulated summary of the assessment of HCV in the KMS site. This table is extended into management guidance in **Table 2**. The components of **Table 1** are summarized below.

The columns in **Table 1** contain the following items:

a) HCV Criteria

HCV criteria as defined in the *Toolkit for Identification of High Conservation Values In Indonesia* compiled by the Consortium to Revise the HCV Toolkit for Indonesia, 2008. (HCV 2008).

b) issues

The site issues for KMS arise from a review of the HCV concerns at the landscape level, and information on the site obtained from the supporting field visits.

c) study activity

The tasks undertaken for this study. These included a review of desk-top materials, building GIS map models as well as field investigation to look at biodiversity, the physical environment and social and economic issues in the region.

d) evidence

Resulting from the study activities, the evidence found is summarized in this column.

e) potential threats

This looks at the HCV item at the KMS and looks at the existing and future activities, from neighbouring land users as well as KMS plantation development activities, which would reduce the quality of that HCV. Quality could be reduced by resource take, land occupation, or changes to the physical and ecological environment.

f) HCV present

This is a statement whether the HCV as defined is present or not at KMS. It should be noted that an HCV as defined by the IHCV2008 may not be present at this time. But because HCVs are stakeholder driven, changes could arise in the future. KMS would still be expected to follow good management practices that could support stakeholder-driven changes to HCV.

g) stakeholders

Essentially, the HCV only exists if there is a stakeholder who has expressed a position on the subject or has an interest. It is assumed that those stakeholders would be willing to support their positions and interest. Only Indonesian stakeholders are considered in this study, with the Government of the Republic of Indonesia (GORI) representing external stakeholders through its international treaties and obligations. Stakeholders will need to be kept informed of the HCV management that KMS will undertake on their behalf.

Table 1: HCV assessment summary

a) HCV criteria	b) issues	c) study activity	d) evidence	e) potential threats	f) HCV present	g) Stakeholder	h) management objective
HCV 1.1 Areas that Contain or Provide Biodiversity Support Function to Protection or Conservation Areas	1.1.1 protected areas	GIS data sourced from stakeholders. Build ecological map models.	Not adjacent, have minimal ecological interaction and common species populations. CagarAlam Kaman Sedulang - peat down stream on Sg. GedangKepala. And Taman Negara Kutai - dry lowland forest. Separate catchments.	Constraint of the movement for species and genetic material between PA and the rest of the ecosystem not significant from KMS Eutrophication of common drainage basin minimal.	no	GORI (Government of the Republic of Indonesia)	None at present.
	1.1.2 peat	Refer to site soil study.	small pockets of organic soils, possibly shallow peat in flooded valleys.	Vegetation cover damage, drainage and fire from poor land clearance control.	no	GORI	See under HCV 3 and 4
	1.1.3 watersheds	Refer to topographical maps and social study	local use for estate	diminish local storage capacity, and eutrophication by over draining fields..	No for external stakeholders.	Local community, Estate &neighbouring estates	See HCV 4 Maintain current hydrological state.
	1.1.4 local conservation areas	Data from social study	None.		no	GORI, local community, biodiv NGOs	None at present.,
HCV 1.2 Critically Endangered Species	1.2.1 Individual specimens of critically threatened species	refer to IUCN redlist& GIS distribution maps on <i>extent of occurrence</i> (EOO). Review biophysical characteristic of site and surrounding region, and build ecology/habitat map model. Field observations during site sampling exercise to confirm ecological model and species presence.	No critical species confirmed; but crocodiles observed on site and the possibility remains that unidentified crocodiles could include <i>Crocodylussiamensis/ranius</i> - a critical endangered species.	targeted hunting pressure, local disturbance and habitat loss of protected species.	possible - wetlands	GOIR, sectoral experts and biodiv NGOs	Conserve threatened and protected species present on site..
	HCV 1.3 Areas that Contain Habitat for Viable Populations of Endangered, Restricted Range or Protected Species	1.3.1 Dryland animals	Small nests of <i>Pongopygmaeus</i> observed suggest breeding thus potentially viablepopulation, but not the animal itself.		yes HCV 1.3 present - wetlands	GORI, sectoral experts and biodiv NGOs	Conserve habitats for threatened species are protected and free from disturbance.
		1.3.2 Wet land species	<i>Nasalis larvatus</i> observed with young. <i>Tomistomaschlegelii</i> observed guarding a nest. Breeding suggest viable population.		yes HCV 1.3 present - wetlands	GORI, sectoral experts and biodiv NGOs	
HCV 1.4 Areas that Contain Habitat of Temporary Use by Species or Congregations of Species	1.4.1 riverine breeding sites	Filed observations	river lacks extensive sand banks for mass breeding. Ponds too small for mass water bird use.	disturbance from river traffic. Potential target for hunting.	no	GORI, sectoral experts and biodiv NGOs	None at present.
	1.4.2 Salt licks and feeding sites	Field observations	No large concentrations of fruiting trees, or salt licks to attract and support populations from outside the site.	local trapping of deer reported; this usually takes place around areas of congregation.	no	GORI, sectoral experts and biodiv NGOs	None at present
	1.4.3 limestone area reported, potential bat roost and breeding site	Field visit	earlier field work identified karst areas which was being quarried. The limestone site appears to have been eliminated and replace with lalang.	local community quarry for other limestone sites.	no	GORI, sectoral experts and biodiv NGOs	None at present – eliminated; but If other sites found, conserve limestone as habitat-see 1.3. above and for environmental services – see 4.1

a) HCV criteria	b) issues	c) study activity	d) evidence	e) potential threats	f) HCV present	g) Stakeholder	h) management objective
							below.
HCV 2.1 Large Natural Landscapes with Capacity to Maintain Natural Ecological Processes and Dynamics	2.1.1 Project site overlaps sub-area of larger landscape wetland ecological units	Build regional ecology map models. Field observations.	Site itself is too small, but riverine area part of ecosystem that links upstream rivers in the <i>Hutanproduksi</i> with protected swamps downstream.	damage to the riverine areas in the project site which would constrain the movement of species and genes along the corridor.	yes HCV 2.1 present - wetlands	GORI, biodiv NGOs	Maintain contiguity of riverine ecosystem
	2.1.2 Project site overlaps sub-area of larger landscape dryland ecological units	Build regional ecology map models. Field observations.	dry land areas heavily disturbed by logging. Currently offers vacant habitat and acts as a 'sink' for biodiversity from the surrounding area.	localised only; the area is a replicate reserved under forest cover.	no		None
HCV 2.2 Areas that Contain Two or More Contiguous Ecosystems	2.2.1 conserving 'Beta'-βdiversity	Build regional ecology map models. Field observations.	between the dryland forest on raised ground and the river running along its valley are areas of swap created by back flooding from the river.	damage to one of the ecosystems will threaten the ecotone. In this case clearance of the dry forest will expose the swamp and cut it off from in- migration of species from drier forest types. Dryland areas at the edge of swamps favoured for clearance and settlement.	Yes, HCV 2.2 present wetlands and ecotone with dryland	GORI, biodiv NGOs	Select multiple ecosystem sites to maximize conservation value
HCV 2.3 Areas that Contain Representative Populations of Most Naturally Occurring Species	2.3.1 Naturally occurring species	Build regional ecology map models. Review of EOO of threatened species and build community model. Field observations.	Dryland areas are at an early stage of secondary succession. Riverine and wetland areas are at a climax stage - presence of <i>T.schlegelii</i> .	Habitat disturbance by river traffic and land take.	yes HCV 2.3 present - wetlands	GORI, biodiv NGOs	Select conservation sites for greatest chance of self-sustaining biological community.
HCV 3 Rare or Endangered Ecosystems	2.1 Identify ecological types within the project areas	Build ecological model of site and surroundings. Review HCV work at a landscape level	WWF-I has identified karst, kerengas and pet swamp and lowland forest as having HCV3 significance. Only the karst - limestone hill could qualify. The other areas present are too disturbed.	local community quarrying , removal of cover and fire.	yes, HCV 3 present - limestone	GORI, biodiv NGOs	Conserve ecosystems by engaging local community to support to control unregulated land clearance and occupation.
HCV 4.1 Areas or Ecosystems Important for the Provision of Water and Prevention of Floods for Downstream Communities	4.1.1 Water source for downstream communities	review topography and social study	No direct use of Sg.Senyiur by local community	none at present	no	Local community, neighbouring estates	None at present. See HCV 1.1.3 Maintain current hydrological state in the event of HCV status change.
	4.1.2 Water in river can rise 2 m within a day.	observe river physical character and interviews on river use with LC.	river flows fast - up to 2.5 m/s through riffles, but volume is smaller than the Sg.GedangKepala. Sg. Senyiur affected by back flooding from the larger river.	none at present	no		None
HCV 4.2 Areas Important for the Prevention of Erosion and Sedimentation	4.2.1 Erosion and capacity to transport sediments in river.	observe river	The Sg.Senyiur during wet weather flows fast and erodes its banks. Because of its speed, sediments are carried through to the Sg. GedangKepala where there are deposited in backwaters behind the berm when the river floods. This has created the wetlands. Tributaries within project site have less energy	none at present	no	Local community, River authority	None

a) HCV criteria	b) issues	c) study activity	d) evidence	e) potential threats	f) HCV present	g) Stakeholder	h) management objective
			and are more clear.				
	4.2.2 Steep sections within site prone to erosion. As a HGU, the site would have to be returned to the GORI, in which case it should be with minimal soil loss.	field observations	No high elevation areas, but adjacent estate (SSS) has elevated ground - 60m asl, with steep, friable slopes, prone to gulley erosion.	poor development practices damage fragile slopes.	potential HCV4.2	GORI,	Conserve fragile slopes as part of integrated erosion management.
HCV 4.3 Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire	4.3.1 uncontrolled fires destroying peat soils and vegetation cover.	review historical map data for fires, field observations.	no historical significant fires in the area.	low at present	HCV 4	Local community, neighbouring estates	Conserve vegetation in high risk fire areas as part of integrated fire risk control
HCV 5. Natural Areas Critical for Meeting the Basic Needs of Local People	No Issues	Village and site survey	Community consensus that HCV 5 sites are non-existent.	No Threats		Local community	None
HCV 6. Areas Critical for Maintaining the Cultural Identity of Local Communities	No Issues	Village and site survey	Community consensus that HCV 6 sites are non-existent.	No Threats		Local community	None

5.2 Summary of proposed management actions

The key to subsequent management of identified potential HCV sites in KMS is the identification of issues relating management actions and monitoring implementation. This Chapter provides a concise table recording the necessary actions needed to promote the preservation and enhancement of the potential HCV sites in KMS. A summary of the management actions for specific issues is presented in **Table 2**.

5.2.1 Specific Management actions

Actions are divided into two parts: 1) planning and development, and 2) operations. For planning, this column gives an outline of the steps to be taken which would include:

- block layout and estate planning,
- ground marking and clearing,
- road making drainage and planting.

These are then followed by a review of operations which would include:

- communications and consensus building with stakeholders,
- review of KMS SOPs and capacity building among staff and contractors
- monitoring and reporting procedures
- publications and communications of HCV management performance with stakeholders.

Though good planning and ground is essential for the HCV, much of the success for management actions will depend on support by the local community. This will require a set of transparent protocols for communications. This will ensure that in the event of misunderstandings and conflict on other issues, HCV co-management is not compromised.

5.2.2 Monitoring and indicators

All HCV management actions would need to be monitored against stated indicators. As mentioned in f) above, changes in laws, or to stakeholder positions would need to be monitored for items such as new protected areas (1.1.1, and 1.1.4). For HCV sites already identified, indicators would need to be selected to assess their quality and a programme for monitoring initiated to ensure the KMS

management is able to control threats to the HCV quality. This could include consultation with local community, security patrols, monitoring water chemistry and surface levels, presence of ERT species, etc. For habitat and ecosystems areas, sectoral experts will need to identify sites for rapid sampling of plant and animal species that could be used to assess site ecological health.

5.2.3 Reporting and publications

Records need to be kept on HCV management input. These would include:

- reports from security patrols,
- communications with stakeholders
- records from monitoring water chemistry and water levels.
- Results from updated census work on ERT
- Records from rapid assessment of ecological sites.

5.2.4 Follow up

HCV management is iterative. Once sites have been identified and marked, management activities are prescribed. At its simplest, site management can be limited to external security. However, if the results of monitoring indicators indicates that there is a declining trend in HCV quality, KMS management together with the stakeholders interested would need to identify if and what new actions need to be undertaken to reverse negative trends, and sustain the HCV.

5.2.5 Recommendations

The information presented in this report serves to guide not only both the management and all associated contractors involved in the development of the site. It serves as a general guidance document helping the company to translate information provided here into Standard Operating Procedures (SOP) where land clearing and subsequent management is concerned. Boundaries of HCVs have been adjusted to follow road boundaries to avoid multiple fragmentations. It is stressed that the company does not excessively fragment the identified HCV sites when constructing block roads. A survey has to be undertaken before land clearing and HCV boundaries clearly demarcated to prevent infringement. Small and intermittent streams need to be surveyed, marked and buffered. The company has to undertake a socialization programme especially with the local community in DesaSenyur informing them of their commitment to conserve approximately 27% of the KMS HakGuna Usaha (HGU). The relevant local land authorities need to be informed regarding the HCV areas set aside. If this is not done, the land might be considered fallow and declassified as HGU.

Table 2: Summary of site HCV issues and proposed management actions

a) HCV criteria	b) issues	h) management objective	i) Management actions	j) Monitoring and indicators	k) Reporting and publications	l) Follow up
HCV 1.1 Areas that Contain or Provide Biodiversity Support Function to Protection or Conservation Areas	1.1.1 protected areas	None at present.	1) Engage with managing agencies at provincial level and stakeholders to review updates for proposed and confirmed protected areas	1) monitor external publications - Stakeholder publications. Landuse plans for Kaltim	1) Annual HCV report, external	1) Identify any potential sources of stress on proposed/new PA that could originate from activities at KMS, and mitigate as needed by stakeholders.
	1.1.2 peat	See under HCV 3 and 4	1) With sectoral experts, check best areas with natural vegetation on organic which should be conserved intact to protect the peat.	Periodic patrols to check: 1) undisturbed boundaries; 2) local water table are not lowered by drains. 3) water table levels – see 1.1.3 below.	1) Security reports internal 2) Water management reports internal 3) Annual summary in HCV report.	1) Immediate response in case of fire. 2) Review drainage management options to restorer water table levels in the event of uncontrolled water table changes in wet lands.
	1.1.3 watersheds	See HCV 4 Maintain current hydrological state.	1) Ensure field drainage does not impact conservation areas. 2) Hydrological survey. 3) Plan and execute drainage system to conserve natural water table levels in wetlands during dry periods.	1) Establish sites to monitor water tables in wetlands and surrounding drainage system.	1) Water management reports, internal. 2) Annual summary in HCV report.	1) Review water table records for trends away from desired water table levels at KMS site, and in the event of unplanned changes, investigate management options to restore water table levels.
	1.1.4 local conservation areas	None at present.	1) Establish communications protocols with local community and NGOs. 2) Periodic communications with local community and NGOs to check whether they have any updates on proposals for informal protected areas	1) review items mentioned in communications files with stakeholders.	1) Annual summary of communications and follow up action in HCV report.	1) in the event of the creation of local conservation areas, develop mutually agreed SOPs with stakeholders and execute.
HCV 1.2 Critically Endangered Species	1.2.1 Individual specimens of critically threatened species	Conserve threatened and protected species present on site.	1) Consult with management agencies for management and enforcement support. 2) Consult with local community on co-management to support conservation and minimise disturbance in riverine buffer areas outside KMS HGU. 3) Develop protocols with local community to respond to land occupation, resource take and other local community activities that impose stress on ERT species . 4) Engage with NGOs and sectoral experts for species and site management protocols 5) Survey and mark boundary inside KMS HGU. Install information signs. 6) Draft SOP for patrolling, annual assessment and reporting. 7) Consult with stakeholders on report circulation	1) Periodic field survey for ERT species present, population and distribution. 2) Annual internal status report on population and distribution of <i>endemic, rare and threatened species</i> (ERTS), and their habitats within KMS area. 3) Publish external summary report as agreed with stakeholders. 4) Consult with NGOs for indicators for habitat quality. Periodic monitoring for quality, and stress and sources of stress if and where they occur.	1) Annual summary in HCV report on ERTS and habitats, (see 1.1 above)	1) Periodic review ERTS population trends at intervals agreed with stakeholders, and consult with stakeholders on further action when unforeseen changes occur. 2) For populations and habitats under stress from external sources, consult with local community organisations for mitigation actions.
	HCV 1.3 Areas that Contain Habitat for Viable Populations of Endangered, Restricted Range or Protected Species	1.3.1 Dryland animals	Conserve habitats for threatened species are protected and free from disturbance.	1) Consult with management agencies for management and enforcement support. 2) Consult with local community on co-management to support conservation and minimise disturbance in riverine buffer areas outside KMS HGU. 3) Develop protocols with local community to respond to land occupation, resource take and any activity that degrades habitat quality. 4) Engage with NGOs and sectoral experts for habitat and site management protocols 5) Survey and mark boundary inside KMS HGU. Install information signs. 6) Draft SOP for patrolling, annual assessment and reporting.		
1.3.2 Wet land species						
HCV 1.4 Areas that Contain Habitat of	1.4.1 riverine breeding sites	Current status is no HCV at present.	1) None – (see monitoring for 1.2 above)	1) Consult with stakeholders on status change	1) Annual HCV report status	1) Review for any change in status, and consult with stakeholders should change in

a) HCV criteria	b) issues	h) management objective	i) Management actions	j) Monitoring and indicators	k) Reporting and publications	l) Follow up
Temporary Use by Species or Congregations of Species	1.4.2 Salt licks and feeding sites	None at present				status occur..
	1.4.3 limestone area reported, potential bat roost and breeding site	None at present – eliminated; but If other sites found, conserve limestone as habitat-see 1.3. above and for environmental services – see 4.1 below.	1) Survey, map, mark boundary, and post information signs. 2) Consult with local community on conservation objectives and drafting of protocols for intrusion and land occupation. 3) Consult with administrative authority to express intent to protect resource from quarry. 4) Enforce protection from occupation, clearance of natural vegetation and quarry activity in accordance with agreed protocols.	1) Periodic patrols and investigation for intrusion onto site. 2) Fire patrols and assessment of current fire risk	1) Security reports, internal 2) Stakeholder communications files for records of action taken in the even of incidences. 3) Annual HCV status report.	1) Review for intrusion and damage if any. 2) review of effectiveness of protocols agreed with local community.
HCV 2.1 Large Natural Landscapes with Capacity to Maintain Natural Ecological Processes and Dynamics	2.1.1 Project site overlaps sub-area of larger landscape wetland ecological units	Maintain contiguity of riverine ecosystem	1) Consult with management agencies for management and enforcement support. 2) Consult with local community on co-management to support conservation and minimise disturbance in riverine buffer areas outside KMS HGU. 3) Develop protocols with local community to respond to land occupation and resource take. 4) Engage with NGOs and sectoral experts for site management protocols 5) Survey and mark boundary inside KMS HGU. Install information signs. 6) Draft SOP for patrolling, annual assessment and reporting.	1) Periodic field survey for ecosystem quality in riverine areas. 2) Annual internal status report on physical damage and decline in ERTS as indicator for ecosystem quality in areas within and surrounded by the KMS HGU. 3) Publish external summary report as agreed with stakeholders. 4) Consult with NGOs for indicators for habitat quality. Periodic monitoring for quality, and stress and sources of stress if and where they occur.	1) Security reports, internal 2) Stakeholder communications files for records of action taken in the even of incidences. 3) Annual HCV status report.	1) Periodic review ERTS population as indicators for ecosystem quality. Consult with stakeholders on further action when unforeseen changes occur. 2) Review effectiveness of protocols with local community to enforce conservation of riverine ecosystem areas.
	2.1.2 Project site overlaps sub-area of larger landscape dryland ecological units	None	1) None – (see monitoring for 1.2 above)	1) Consult with stakeholders on status change	1) Annual HCV report status	1) Review for any change in status, and consult with stakeholders should change in status occur..
HCV 2.2 Areas that Contain Two or More Contiguous Ecosystems	2.2.1 conserving 'Beta'-βdiversity	Select multiple ecosystem sites to maximize conservation value	1) survey extent of wetlands, mark adequate dry land buffer – min 10 m to ensure ecotone strip is conserved. 2) sectoral experts to select indicator species to monitor for dryland species in the ecotone.	1) 1) Periodic field survey for ecosystem quality in riverine areas for dryland indicator species along boundary.	1) Security reports, internal 2) Stakeholder communications files for records of action taken in the even of incidences . 3) Annual HCV status report.	1) Review for any change in status, and consult with stakeholders should change in status occur..
HCV 2.3 Areas that Contain Representative Populations of Most Naturally Occurring Species	2.3.1 Naturally occurring species	Select conservation sites for greatest chance of self-sustaining biological community.	See 1.2.1 above	See 1.2.1 above	See 1.2.1 above	See 1.2.1 above
HCV 3 Rare or Endangered Ecosystems	2.1 Identify ecological types within the project areas	Conserve ecosystems by engaging local community to support to control unregulated land clearance and occupation.	See 2.1.1 above	See 2.1.1 above	See 2.1.1 above	See 2.1.1 above

a) HCV criteria	b) issues	h) management objective	i) Management actions	j) Monitoring and indicators	k) Reporting and publications	l) Follow up
HCV 4.1 Areas or Ecosystems Important for the Provision of Water and Prevention of Floods for Downstream Communities	4.1.1 Water source for downstream communities	None at present. See HCV 1.1.3 Maintain current hydrological state in the event of HCV status change.	1) Ensure field drainage does not impact conservation areas. 2) Hydrological survey. 3) Plan and execute drainage system to conserve natural water table levels in wetlands during dry periods. 4) select monitoring sites and establish protocols to monitor river water quality at upstream entry and downstream exit from estate	1) Establish sites to monitor water tables in wetlands and surrounding drainage system. 2) undertake periodic river quality monitoring	1) Water management reports, internal. 2) River quality monitoring records. 3) Annual summary in HCV report.	1) Review water table records for trends away from desired water table levels at KMS site, and in the event of unplanned changes, investigate management options to restore water table levels. 2) review trends in water quality monitoring indicators, and consult with stakeholders in the event of unforeseen changes..
	4.1.2 Water in river can rise 2 m within a day.	None at present	1) select site to monitor river levels	1) monitor daily river levels as part of integrated drainage management.	1) Water management report, internal. 2) annual summary in HCV report.	1) review annual cycles and trends 2) consult with stakeholders in the event of unforeseen events.
HCV 4.2 Areas Important for the Prevention of Erosion and Sedimentation	4.2.1 Erosion and capacity to transport sediments in river.	None at present	1) Select protocols to monitor for suspended solids in river at entry point and exit point from KMS estate.	1) Periodic monitoring of suspended solids	1) Water management report, internal. 2) annual summary in HCV report.	1) compare to rainfall and river level monitoring. 2) review annual cycles and trends 3) consult with stakeholders in the event of unforeseen events.
	4.2.2 Steep sections within site prone to erosion. As a HGU, the site would have to be returned to the GORI, in which case it should be with minimal soil loss.	Conserve fragile slopes as part of integrated erosion management.	1) topographical survey and plan at appropriate intervals 2) detailed soil survey to identify mechanically fragile soils, their location and extent. 3) review of current REAKaltim SOP for erosion control and identification of limitations. 4) identification of sites for conservation where current SOP would not be able to guarantee successful soil erosion control. 5) mark boundary of conservation areas for slopes with fragile soils. 6) Develop SOP to monitor for soil movement in the field 7) Development of protocols to respond to slope failure.	1) periodic monitoring soil damage and slope failure. 2) monitor effectiveness of SOP for mitigation measures	1) Plantation reports 2) annual summary in HCV report.	1) review trends in soil movement. 2) review events outside expected rates of soil movement, investigate options, and select for implementation best options for mitigation.
HCV 4.3 Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire	4.3.1 uncontrolled fires destroying peat soils and vegetation cover.	Conserve vegetation in high risk fire areas as part of integrated fire risk control	1) identify and map fire risk areas, and natural fire breaks in the area, 2) mark boundaries on the ground, and post information signs. 3) in consultation with local community and neighbouring estates, develop protocols to minimise fire risk, communications and emergency response. 4) identify qualities of fire break areas that are required to maintain this function, and investigate protocols to ensure quality is maintained – e.g. timber felling, change in water table, accumulation of dry leaf litter, etc. 5) undertake daily fire assessment post updated results.	1) Patrolling of fire barrier areas. 2) Daily fire risk assessment	1) Security patrol reports. 2) Fire risk assessment records, 3) fire incident reports and records of response. 4) Annual HCV summary	1) review effectiveness of fire barriers 2) in the event of failure, restore fire barrier quality.
HCV 5. Natural Areas Critical for Meeting the Basic Needs of Local People	No Issues	None at present	None	Not Applicable	Not Applicable	Not Applicable
HCV 6. Areas Critical for Maintaining the Cultural Identity of Local Communities	No Issues	None at Present	None	Not Applicable	Not Applicable	Not Applicable

5.3 Documentation on obtained free, prior and informed consent

(Any form of information regarding FPIC to be filled in by company.)

No form of FPIC consultation was required as the local community has no high conservation value interest in the area. The local community looks upon the area as a source of income from logging. Logging in this area is classified as illegal and considered unsustainable. The issue of logging in this area was raised by the DinasKehutanan, where the representative reiterated that logging in this area would require permits from relevant authorities. Even land clearing for development would require permits. The nearest village is DesaSenyur which is approximately 30 km southwest (linear distance). The site is accessible by river which would take approximately 4-5 hours.

5.4 Methodology

5.4.1 Data sources, quality and HCV toolkit applied

Using “*The High Conservation Value Forest Toolkit*” for Indonesia, Edition 1 December 2003, and the *Toolkit for Identification of High Conservation Values in Indonesian*, June 2008 as the general guidelines to identify the six *High Conservation Values* (HCV), the following activities were undertaken to assess the project site to determine the occurrence of potential HCV areas.

The earlier document was specifically for forestry but still merits use and the later document is seen to better accommodate development of commercial oil palm plantations. The sequence of work that followed was to:

- I. Undertake desk top review using available map and remote sensing data,
- II. Build landscape GIS map models of the land use and resources of the project site ,
- III. From the GIS map models, identify potential sites for field survey,
- IV. Ecological and social field survey
- V. Review field data to revise the map model and describe the current state of the environment,
- VI. Compile working lists and maps to identify potential HCV areas with biodiversity, environmental and social considerations.
- VII. Make recommendations for management that would conserve high conservation values.

This assessment for *High Conservation Values* (HCV) has been undertaken using the *Toolkits for Identification of High Conservation Values – 2003/2008*.

HCV is a stakeholder driven process, so we can begin by reviewing some published stakeholder documents. The World Wide Fund for Nature-Indonesia (WWF-I), Samarinda Office published the *Identifikasilanskapkawasanhutanbernilaikonservasitinggi di dalamdansekitarHeart of Borneo, Kalimantan Timur* (WWF-I HCV), in 2008. This reviewed the areas of *High Conservation Value* (HCV), in the province at the time. **Map 5** gives an outline map of the KMS project site together with each HCV area in the surrounding region.

This freshwater swamp HCV area has been logged and cleared, and the former HCV areas on site and to the east have been drained and planted with oil palm. The HCV 2 and 4 areas on the project site are now remnant swamp patches, which would be conserved within HCV 4 riverine buffers.

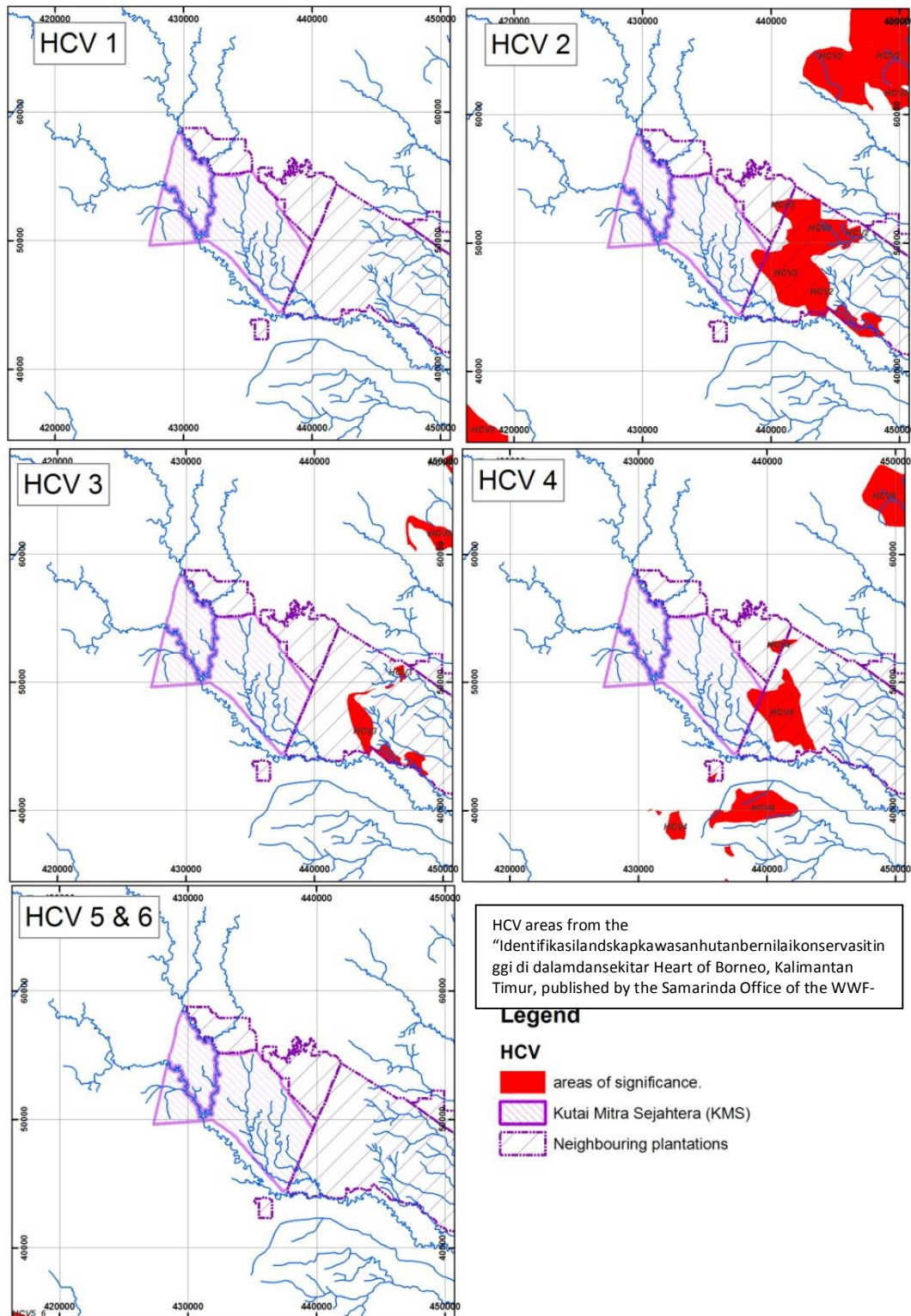
A second source for stakeholder view comes from *The Nature Conservancy Asia/Pacific Region: Indonesia Program East Kalimantan Portfolio Office* which published an *Eco-regional Assessment of*

Biological Diversity Conservation in East Kalimantan, Indonesia' (TNC-EAK). This report describes the ecological types in the area of concern; locate sites where conservation for each ecological type would be most effective; identify threats to those sites and discuss the conservation issues. The ecological types found in the KMS project site include: Lowland rain forest – mostly disturbed by logging; freshwater swamps – some disturbance, but in good condition; and limestone karst forest – disturbed small hill. Target animal species are also identified to lead conservation effort. For Kalimantan Timur (East Kalimantan) these included the highly threatened Mahakam Dolphin found in the lakes to the downstream in an ecological area not associated with the project site. The TNC target species present on the KMS site were: Orang utan – nests located; and Proboscis monkey - observed.

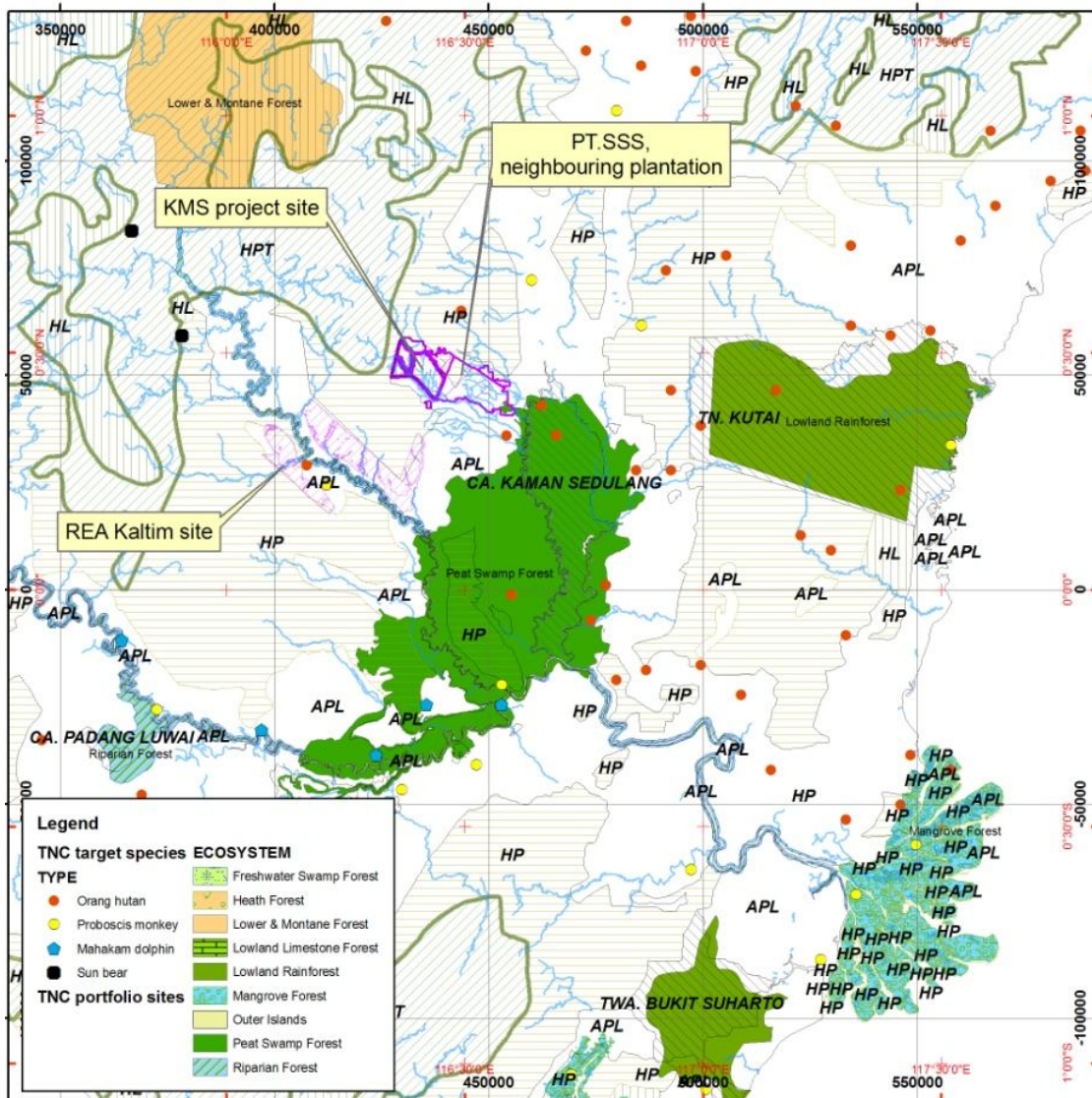
Though TNC is not concerned with HCV principles and criteria, their ecological approach covers HCV principles 1, 2 and 3. Among the threats the TNC identified are: fragmentation of ecological types; increased access to new areas followed by land and resource take; and ecologically destructive fires.

Map 6 shows the location of the project site with the location of TNC 'portfolio' ecological sites and known location of 'TNC 'target' species. The KMS project site does not overlap or is adjacent to any of the TNC sites. The Sg. Senyur was not included among its 'portfolio' of sites for conservation. Orang utan has been located in the KMS project area, but not the Proboscis monkey. These species would be of HCV concern. **Map 6** also shows the KMS project site is located on APL and borders permanent forest on HP land to the south and west.

All data is from reliable sources such as national and international NGOs such as WWF-Indonesia, IUCN, TNC, etc. All resource maps are sourced from projects sanction or undertaken by the government of Indonesia. Field data was collected using sound methodology by acknowledged Indonesian and Malaysian experts.



Map 5: KMS project site with HCV areas identified by WWF - Indonesia, 2008.



Map 6: TNC sites for conservation and known location of target species.

5.5 HCV status and maps

The field assessment has provided data that is translated into information allowing mapping of the presence of HCV in the KMS site. A precautionary approach has been taken and thus the extent of HCV is thought to be maximal. At time of clearing, variation of the extent of the HCV areas might in this case be smaller as the second round of field verification has shown extensive areas of *Imperata* grass and destruction of the limestone outcrop. In any case, the precautions taken at the time of land clearing should include a total survey and demarcation of HCV boundaries. A summary of the areal extent of the potential HCV identified in the KMS area are presented in **Table 3**. In **Table 3**, approximately 5,393 ha is available for planting, the remaining 2,027 ha is classified as having potential HCV. The HCV overlaps are also presented for the three land parcels, A, B and C. The HCV presence is further categorized by ecological function and type. The table is concise and does not require further elaboration.

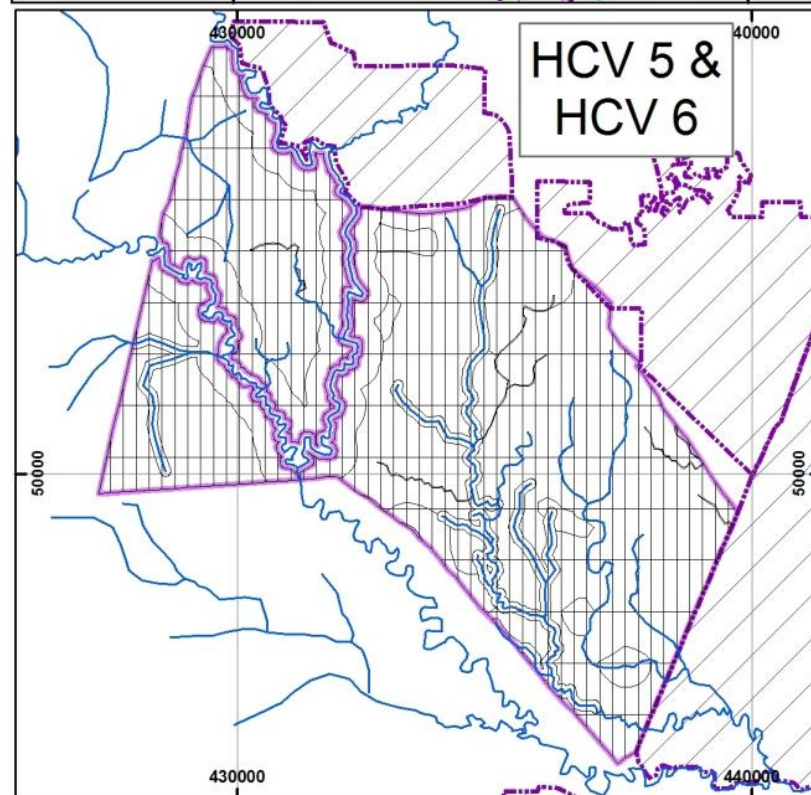
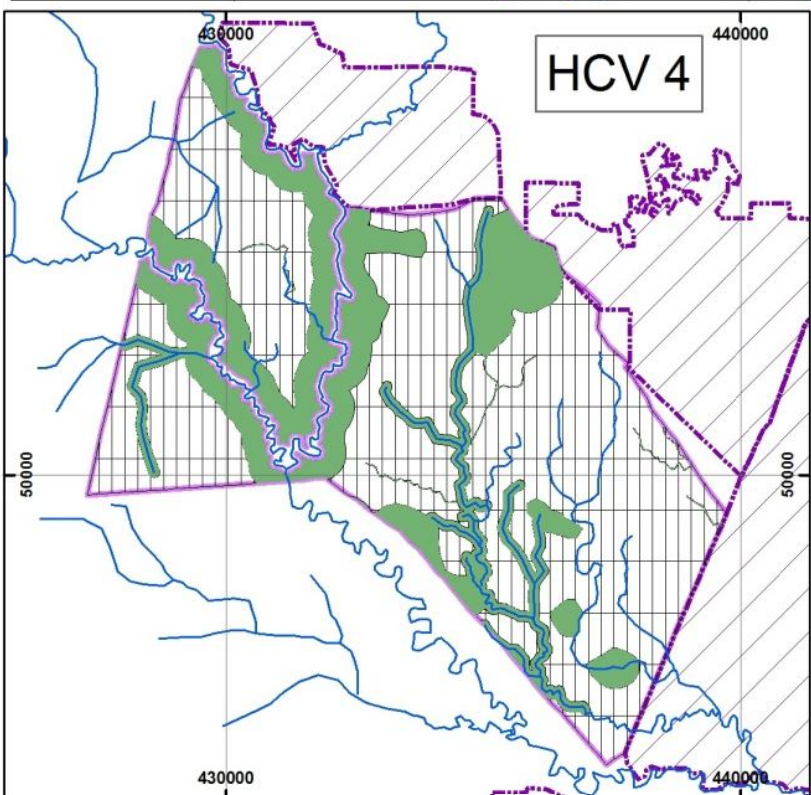
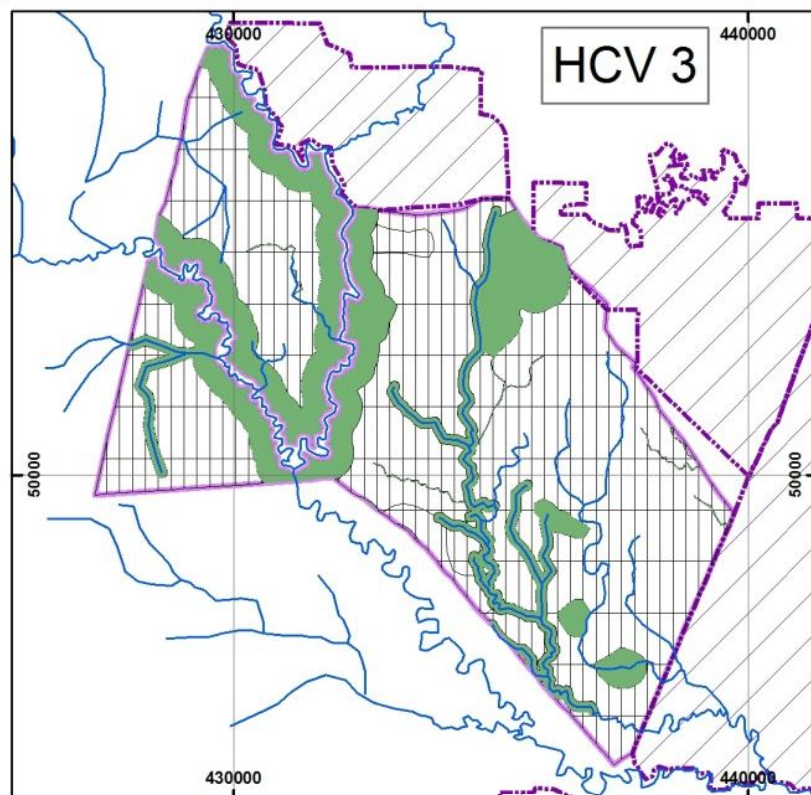
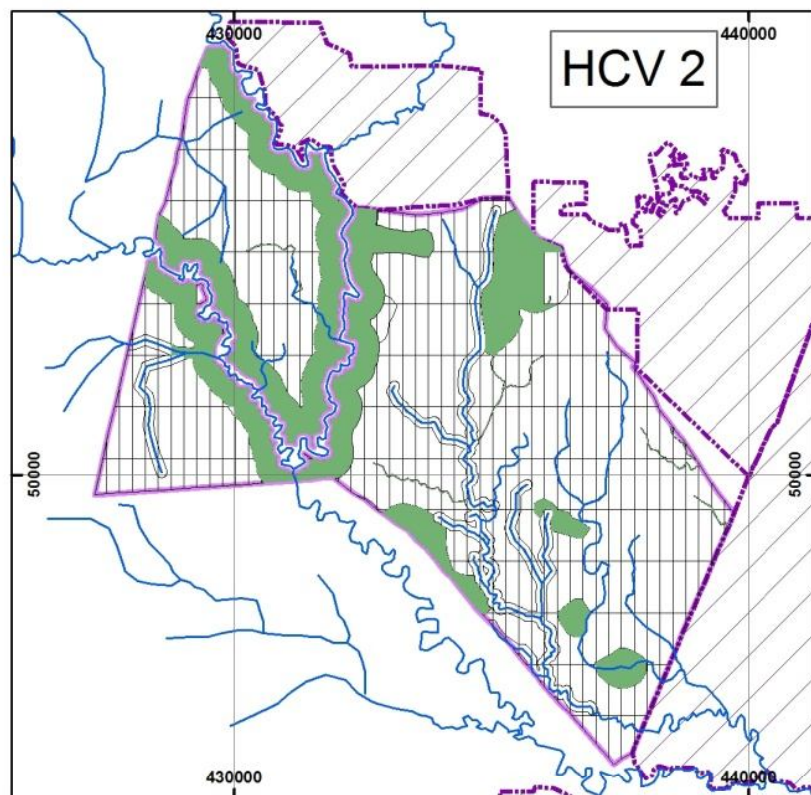
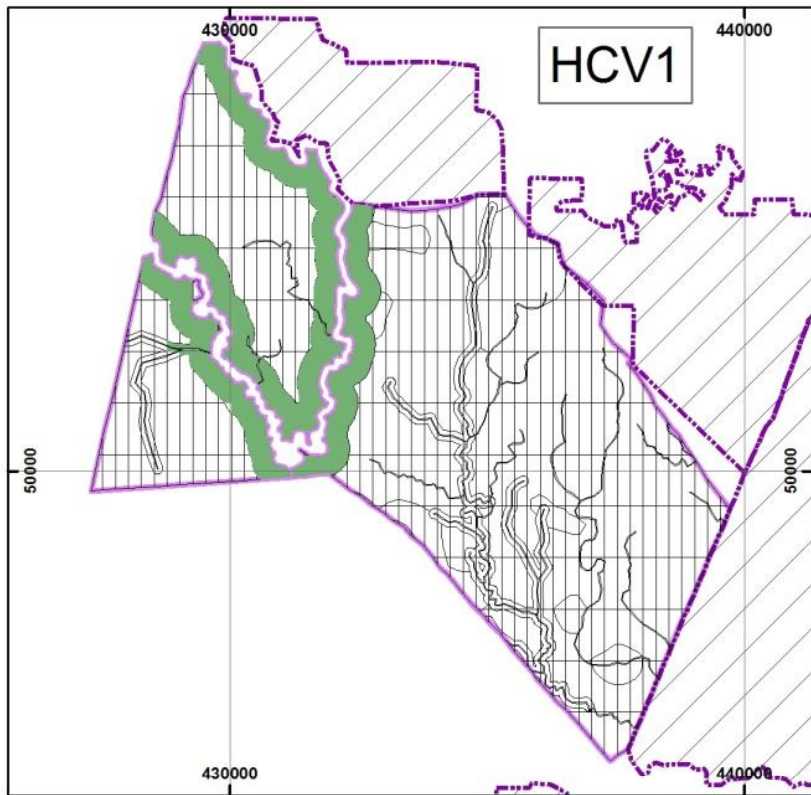
The extent of the potential HCV is presented in **Map 7**. The map records the potential extent of HCV 1-4 and HCV 5&6 are absent. Overlaying of these individual HCV maps has resulted in **Map 8**. This map denotes areas which have HCV 1-4 overlaps. The higher the count, the greater of number of HCV overlaps. There is a maximum of HCV overlaps in this site and thus these sites are relatively more important.

To make the HCV area design more practical for implementation on the ground, the boundary of the HCVs has been locally adjusted to better conform with the model block design. The model plan follows the usual practice for estates on flat land in Indonesia with north/south oriented blocks of 100 by 250 m giving an area of 25 ha each. This is illustrated in **Map 8**. Out of a total area of 7420.5 ha, as measured on the GIS map model, the area without HCV and thus available for palm cultivation is 5,393.2 ha, with 2,027.3 ha being set aside for HCV management.

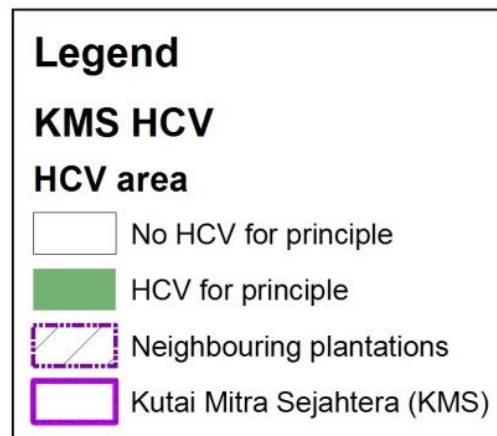
Note: The HCV count map was modified after the second phase of verification. The original extent of the site has been reduced as the site has been highly disturbed and the small limestone outcrop destroyed (illegally quarried for road building material).

Table 3: Summary of extent of areas for palm oil production area and HCV management

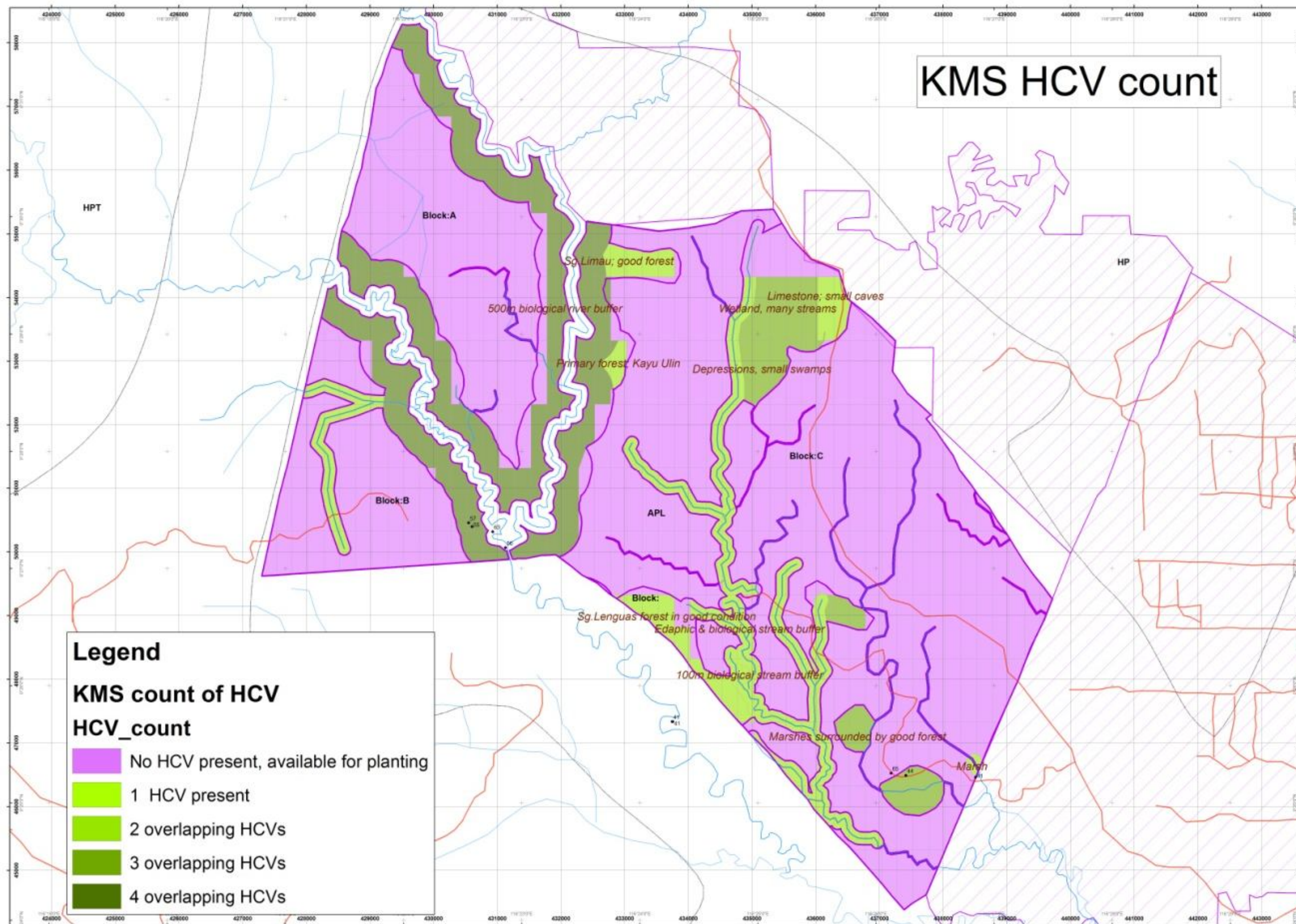
	Production	Conservation management												
HCV1														
HCV2														
HCV3														
HCV4														
HCV5														
HCV6														
Block	Palm oil production	500m biological river buffer	Depressions, small swamps	Edaphic & biological stream buffer	Wetland, many streams	Marshes surrounded by good forest	Sg.Lenguas forest in good condition	Sg.Limau; good forest	Marsh	Primary forest; kayuUlin	100m biological stream buffer	Limestone; small caves	Subtotal conservation.	Total
Land Parcels														
A	1,000.2	510.6	-	10.6	-	-	-	-	-	-	0.0	-	521.2	1,521.4
B	646.2	220.1	-	9.5	-	-	-	-	-	-	75.6	-	305.2	951.4
C	3,746.7	231.1	39.9	108.3	131.7	111.7	81.1	48.6	5.2	17.7	381.8	43.8	1,200.9	4,947.7
Grand Total	5,393.2	961.8	39.9	128.3	131.7	111.7	81.1	48.6	5.2	17.7	457.5	43.8	2,027.3	7,420.5



HCV assessment of the KMS project site based on the guidelines set out in: the 'Toolkit for Identification of High Conservation Values in Indonesia, June 2008'.



Map 7: HCV maps for KSM

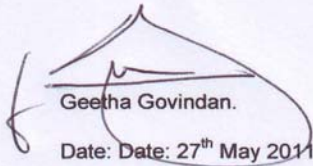


Map 8: Site HCV areas adjusted to conform with model block plan

6. Internal responsibility

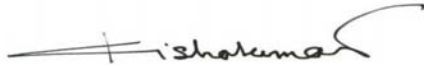
On behalf of the company, I acknowledge the responsibilities of the company to implement the management and mitigation plans which are principally to ensure that the conservation areas are fully identified prior to land clearance and that they are fully monitored and protected after planting.

Signed on behalf of Company:


Geetha Govindan.
Date: Date: 27th May 2011

On behalf of the assessment team, I acknowledge that the assessment was done independently and all potential HCV sites have been identified and mapped. A pre cautionary approach has been taken and management and monitoring guidelines have been provided to enable the company to undertake site management. The assessment is subjected to the following constrains, remoteness, data availability and time allocated.

Signed on behalf of Assessment team:



Kishokumar Jeyaraj

Date: 1st June 2011