

# **Roundtable on Sustainable Palm Oil**

## **New Planting Procedure Summary Report of Planning and Management**

### **SUNGAI KUBUD ESTATE**

**Lavang Land District Sebauh sub-district, Bintulu, Sarawak,  
Malaysia  
For  
Keresa Plantations Sdn Bhd**

<b>List of Content</b>	<b>Page No</b>
1.0 Executive Summary.....	3
1.1 Summary of Assessment Finding.....	3
2.0 Reference Document.....	6
3.0 Locations Maps.....	6
4.0 SEIA & HCV Management and Planning Personnel.....	11
4.1 Organization Chart.....	11
4.2 Location and Stakeholders Involve.....	12
4.3 Company's Social Impact Management For Social Local Sustainability of Local Communities.....	13
5.0 Summary Of Management And Monitoring Plan (HCV).....	14
5.1 HCV 1.2 Threatened and Endangered Species.....	14
5.1.1 Management Action for HCV 1.2.....	15
5.1.2 Monitoring Action for HCV 1.2.....	16
5.2 HCV 1.3 Endemism.....	16
5.2.1 Management Action for HCV 1.3.....	16
5.3 HCV 3 Ecosystem.....	17
5.3.1 Management Recommendation for HCV 3... 18	18
5.4 HCV 4.2 Erosion Control.....	19
5.4.1 Riparian Buffers.....	19
5.4.2 Management Recommendations for HCV 4. 20	20
5.5 HCV 4.3 Barriers to Destructive Fire.....	21
5.5.1 Management Action for HCV 4.3.....	22
6.0 Summary of the HCV Assessed In Sg. Kubud Estate.....	23
7.0 General Observations.....	24
8.0 Management Recommendations.....	25
9.0 Internal Responsibility.....	26

## **1.0 Executive summary**

### **1.1 Summary of Assessment Finding**

Envirologic Consulting is an approved High Conservation Value (HCV) assessor of the Roundtable on Sustainable Palm Oil (RSPO). Envirologic Consulting has comprehensively assessed 3,558 hectares. At the time of the assessment 1,770 hectares has been planted with oil palm in 2012 and 2013 and known as Sg. Kubud Estate. The other areas were identified as Sg. Kubud Estate Phase 2 covering 1,108 hectares; Sg. Kubud Estate Phase 3: 600 ha. known as Limar 2 division, located in Lavang land district, Sebauh sub-district, Bintulu, Sarawak, Malaysia.

In order to obtain legal document for all areas, Land & Survey team survey the crown land, and followed by the approved NCR land area which is identified prior to 1958, and lastly the additional NCR claimed land identified after 1958. Once the perimeter survey is completed, the Lands and Survey Department, Bintulu will gazette the NCR Land and the communities cooperating with Keresa is expected to receive their official letter from the Land and Survey Department by end March 2014.

This retrospective HCV assessment was carried out using the HCV guidance document for Malaysia: *High Conservation Value Forest (HCVF) Toolkit for Malaysia: A national guide for identifying, managing and monitoring High Conservation Value Forests, October 2009* and general references were made to the global High Conservation Value Forest Toolkit (ProForest, December 2003), where necessary, for the identification of High Conservation Values in the project site and its adjacent land area.

The assessment was carried out for Keresa Plantations Sdn Bhd (an RSPO member), operations in Lavang land district, Sebauh sub-district, Bintulu, Sarawak, Malaysia for compliance with the RSPO New Planting Procedures (NPP) and the National Interpretation of RSPO Principles and Criteria for Sustainable Palm Oil Production. *Final Document (Including smallholder NI Approved by the RSPO Executive Board November 2010, the baseline NI indicators and guidance are as in the approved NI dated 26 April 2008)* RSPO Malaysia National Interpretation Working Group (MY-NIWG). Reference is made to the latest Revised RSPO Principles and Criteria 2013 with special attention to Criterion 5.2 and Criterion 7.3.

This retrospective HCV assessment was commissioned by the holding company, Keresa Plantations Sdn. Bhd. to gather information which is needed by the plantation organisation, in order to make management decisions that have impacts on the high conservation values where and if identified.

At present, the project area contains various land use types, viz. immature oil palm, water bodies which includes rivers, streams, drains, wetlands comprising peat and freshwater swamps, logged over forested areas, riparian vegetation, non-sealed roads, field roads, residential area, site office, agro-chemical stores, oil palm nursery and unplanted area with no vegetation. All of the forests in the project area have been degraded to some extent due to timber removal, shifting cultivation and other non-timber forest products by local people.

From the analysis carried out, there are no primary tropical rain forests in the project area prior to the opening up of the land in the area assessed. Field assessment in this survey proved that the project site did not have any intact primary tropical rain forests as the original forest stand has been disturbed and removed in certain areas over the past many decades and this is further confirmed by the satellite images dated November 2007 and April 2013 and interviews with elders from the various long houses.

Hunting of wild animals is potentially a serious threat in both the forested and non-forested areas as the survey team were made to know that there were at least 50-60 shot guns that are still in possession by the long house communities. It was also mentioned by the villagers, that hunting activities has reduced and no longer carried out like before as forested habitats in the surrounding areas do not harbour significant amount of wild life. The survey team did not encounter any instances of wild meat trade, consumption or sale in the settlements during the survey although evidence of hunting (sighting of shot guns and snares in the forest) cannot discount the fact that the pressure on wildlife hunting is still present.

The observation also shows that the majority of the long house inhabitants obtain their basic needs such as food by purchasing from vendors and nearby shops in Kg. Pandan, Sebauh and Bintulu. There is no comprehensive social impact assessment has been carried out by Keresia Plantations Sdn Bhd although some elements of social assessment are reflected in the Environmental Impact Assessment (2012). Baseline social surveys have also been carried out by independent consultants.

The company has taken an internal initiative to identify small areas of forested areas along water bodies as conservation areas and corridors. However, this needs further enhancement. Wetlands, especially degraded peat swamps which are subject to seasonal inundation are not identified as buffer zones/wetland flood plains. At the time of visit, an area of about 500 ha (predominantly peat) in Phase 2 Selakai area due for 2013 oil palm planting was being cleared. From visual observation, the peat is estimated to be around 1 to 3 meters deep or less observed but not confirmed. However, the land is belongs to the communities who has leased the area to the company for oil palm development. The peat depth is needs further investigation through a detailed soil survey to identify the type, extent and depth of peat. The selection of the identified 'conservation areas' by the company were on the basis of only water logged riparian areas. There is no steep area, categorized as terrain Class IV (slopes exceeding 35 degrees) slopes in the project area which is deemed steep slopes or unsuitable land for oil palm cultivation.

The existing remaining forested areas surveyed for its floral diversity contains approximately 81 Families with about 319 plant species which covers trees, shrubs, palms, orchids, herbs, ferns and fifteen (15) Dipterocarp tree species. A total of fourteen (14) protected plant species (*Ficus*, *Nepenthes*, Orchid, Gaharu) were recorded in the project area. A total of eleven (11) Bornean endemic plants were noted. A total of six (6) CITES listed plants were found (3 Orchids, 1 Gaharu, 1 Ramin, 1 Shorea species).

Despite the fact that the landscape within the project site has been altered over many decades due to shifting cultivation on *temuda* area and timber extraction, there is a reasonably good diversity of wildlife in the area and its vicinity. The wildlife survey methods used include observations during field assessment through direct sighting (visual), indirect sightings (print, pug marks, call, scat for mammals and call for birds),

interviews with Longhouse communities and company staff and literature search. These methods were combined to maximise completeness of wildlife species listing in the short time available. In addition, habitat quality assessment was carried out to find areas that are temporarily used by animals (e.g. birds) such as a feeding or nesting ground area. Within the short period of assessment, the following were noted, 27 mammal species, mostly categorized as HCV1.2 and HCV1.3 species, 79 bird species of which 6 are protected), 11 fish species, 3 snake species and the Asian Brown Tortoise species (EN) was recorded. These numbers represent approximately 15% of mammals, 15% of birds, 2% of snakes of those found in the state of Sarawak. The above mentioned flora and fauna species detected in the project area is threatened due to habitat conversion. From the assessment, it was noted that the wood from selected tree species are sought by local communities for building material for housing and boat construction and as fuel wood, although the latter two are now less of a basic need for local communities.

At the time of assessment in November 2013, land clearing activity was being carried out in the south and south western part of the project area land in the flood plains of Sg. Kubud. This area known as Phase 2 Selakai is predominantly disturbed secondary swamp forests. The above mentioned areas that are being cleared do contain *Shorea albida*, HCV1.2, Light Red Meranti, Alan Batu (Dipterocarpaceae), an Endangered species categorised under IUCN as CR A1cd+2cd ver2.3, which is a large timber tree restricted to Sarawak, Brunei and West Kalimantan ([www.iucnredlist.org](http://www.iucnredlist.org) accessed on 1 December 2013). This Endangered Dipterocarpaceae species is also found in the area north of Sg. Sujan and Rumah Iba longhouse in the peat swamps which is a characteristic component of the threatened peat-swamp forests, sometimes occurring locally on podzolic soils in heath forest. At least four tree species documented in the project area, viz. *Hopea pentanervia*, *Parashorea lucida*, *Shorea pubistyla* and *Shorea seminis* are listed as Critically Endangered (CR) tree species and are categorized as HCV1.2.

Social surveys conducted revealed that the local people/community from the four longhouses in this area does not depend on the forest for their basic needs. The main livelihood and income generating activities here are agricultural occupation (oil palm smallholding blocks, rubber small holdings, subsistence farming and rice cultivation), fisheries, firewood collection and labor in oil palm plantations. The money they acquire is mostly spent on basic needs such as rice, protein, fruits, household materials, children's education, transportation costs and medicine.

The assessment revealed that HCV 1.2 is present in the form of several flora and fauna species and the presence of Bornean Yellow Muntjac qualifies it as HCV1.3 as an IUCN Endemic species. The HCV 1.4 is potentially present as the wetlands (rivers and streams) are potentially used by migratory birds. HCV3 is present in the form of two priority habitats for Sarawak, viz. Peat swamp forests and Heath forests (Kerangas). For erosion control, the presences of fragmented riparian vegetation which are not legally gazetted were noted along the major rivers draining the project area and flowing through the plantation area. These forests are significant in the long term to enhance wildlife corridors and minimize stream bank erosions and sediment load of the rivers (potential HCV4.2). Areas that are prone to fires during prolonged drought are the drained peat swamps and *Acacia mangium* plantations of Grand Perfect Sdn Bhd, bordering the project area in the south west (potential HCV4.3).

HCV 2, HCV 5 and HCV 6 were not identified although a graveyard was noted by an individual from Rh. Iba longhouse as a Penan graveyard, which does not have any significant historical and cultural value for the locals.

## **2.0 Reference Documents:**

- i. DTCP (2005). National Physical Plan. Department of Town and Country Planning (DTCP), Kuala Lumpur, Malaysia.
- ii. IUCN Red List (2010) The IUCN Red List of Threatened Species. <http://www.iucnredlist.org/>
- iii. IUCN (2004) The IUCN/SSC Red List of Threatened Species. IUCN Gland.
- iv. National Interpretation of RSPO Principles and Criteria for Sustainable Palm Oil Production, *Final Document (including smallholder NI Approved by the RSPO Executive Board November 2010, the baseline NI indicators and guidance as in the approved NI dated 26 April 2008)*.
- v. The High Conservation Value Forest Toolkit (Edition 1, Dec 2003) prepared by ProForest.
- vi. The High Conservation Value Forests Toolkit for Malaysia (October 2009) prepared by WWF-Malaysia.
- vii. Revised RSPO Principles and Criteria 2013
- viii. National Interpretation of RSPO Principles and Criteria for Sustainable Palm Oil Production. *Final Document (including smallholder NI Approved by the RSPO Executive Board November 2010, the baseline NI indicators and guidance as in the approved NI dated 26 April 2008)*
- ix. National Conservation Strategy (1992) Economic Planning Unit, Prime Minister's Department, Malaysia.

At present, the entire project area is claimed as Native Customary Right (NCR) land by the local villagers from Rumah Iba and Rumah Lawai. The project area is under NCR land which is being verified by the government. There are two Memorandum of Agreement documents for a 30 year lease period, signed between the two long houses mentioned above with Keresa Plantations Sdn Bhd dated December 2011 and August 2012. Keresa Plantations Sdn Bhd has the following list of legal documents related to the area assessed:

- a. Environmental Impact Assessment: The Proposed Sg. Kubud Estate, Lavang land district, Sebauh sub-district, Bintulu, Sarawak. June, 2012
- b. Memorandum of agreement doc with the 2 long houses dated December 2011 and August 2012.

## **3.0 Location Maps**

The scope of this assessment covers a total of 4,878 hectares of the plantation licence area and its adjacent land-use covering 4 villages in Bintulu District, Sarawak, Malaysia. The assessment was carried out from 24 November 2013 to 1 December 2013 by a team of five ecological and social experts focussing on all six HCVs

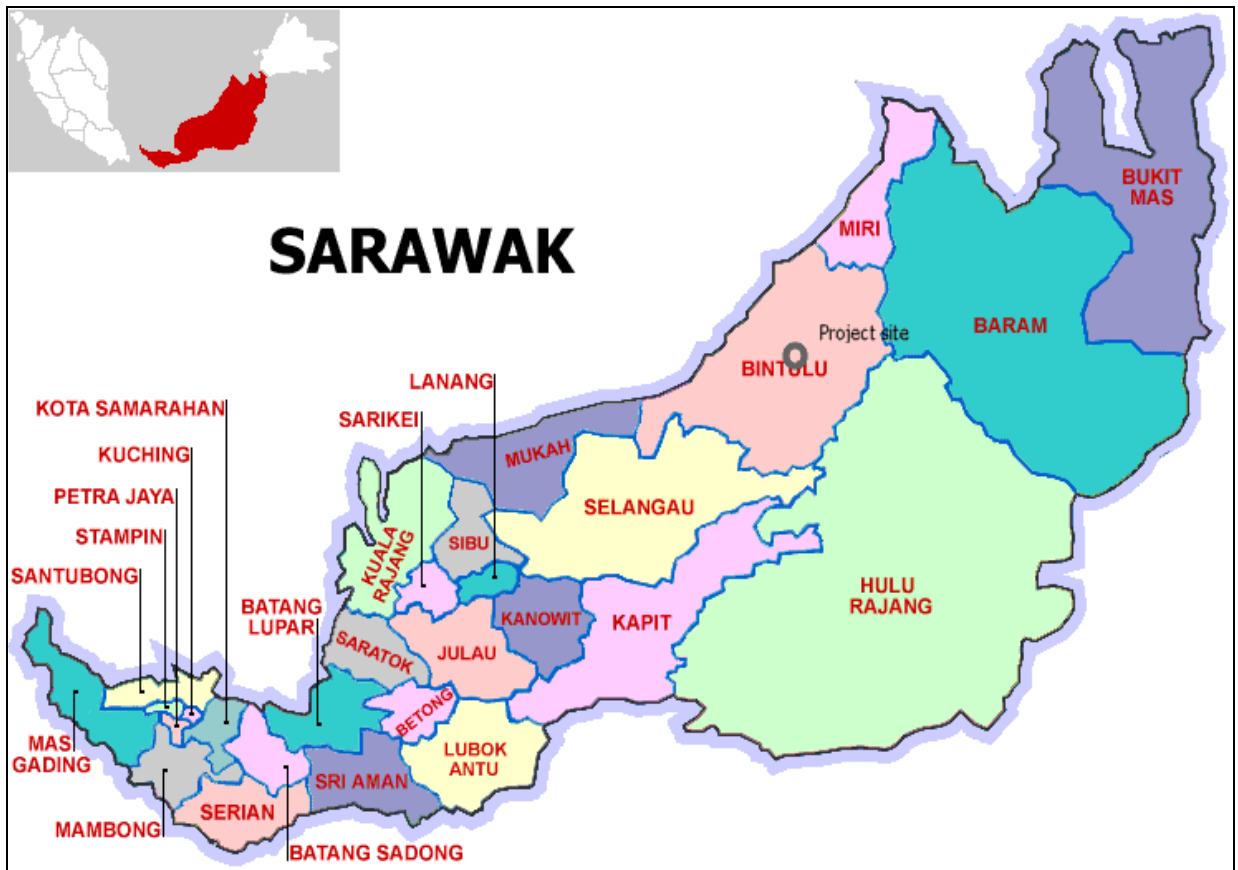


Figure 1: Location of the projects site in Sarawak, Malaysia.

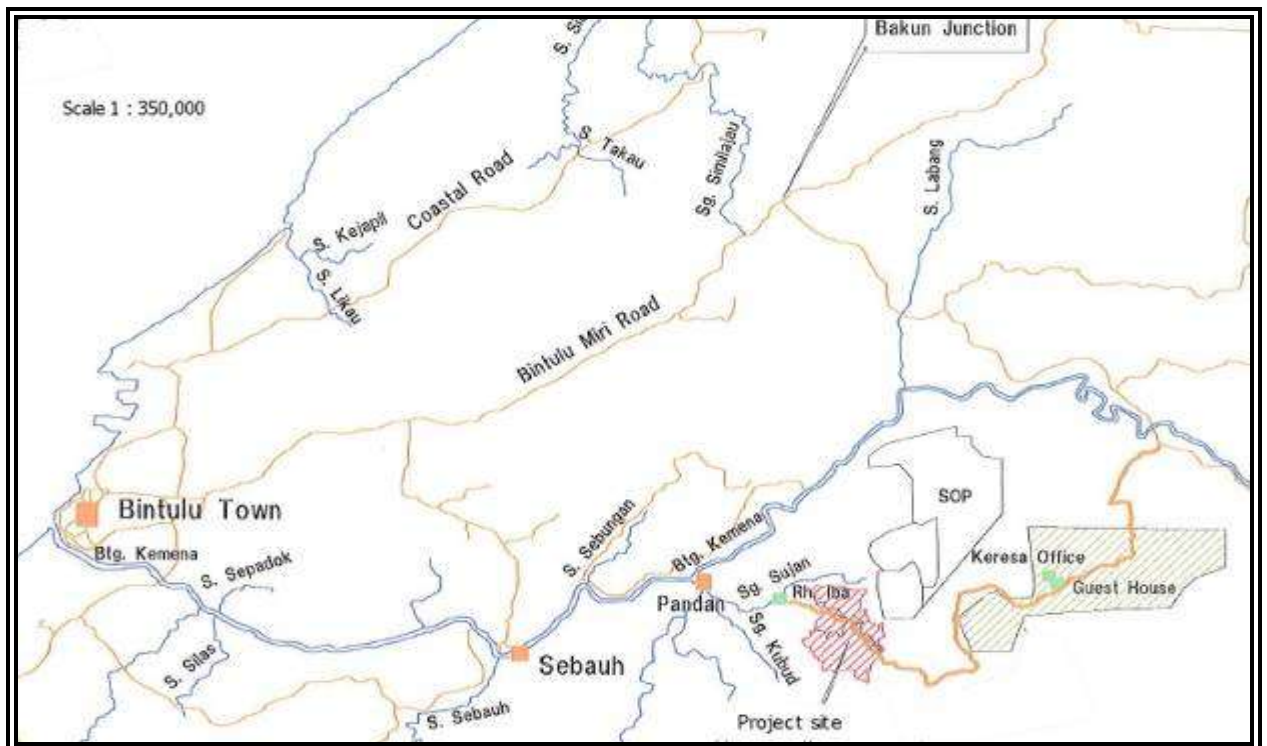
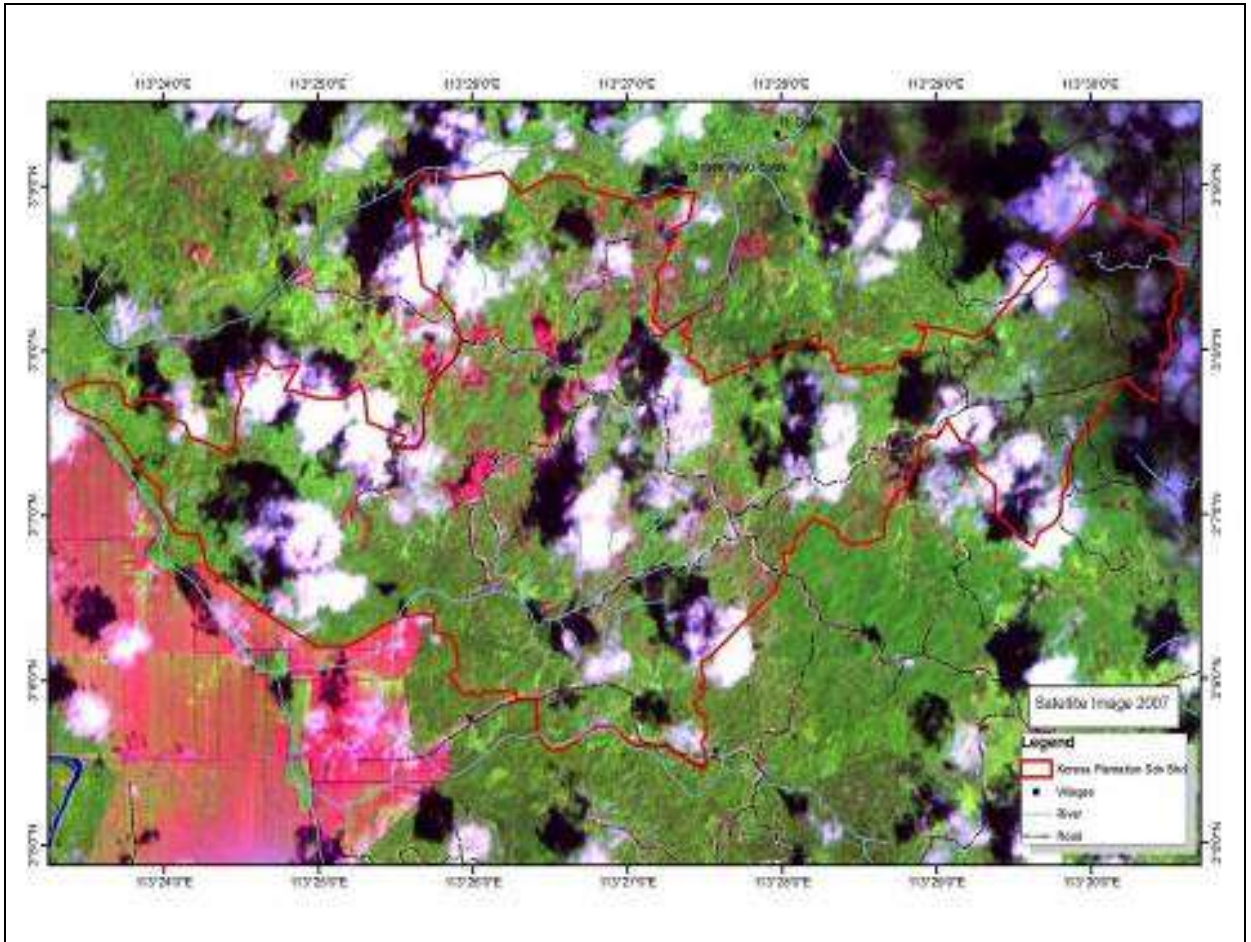
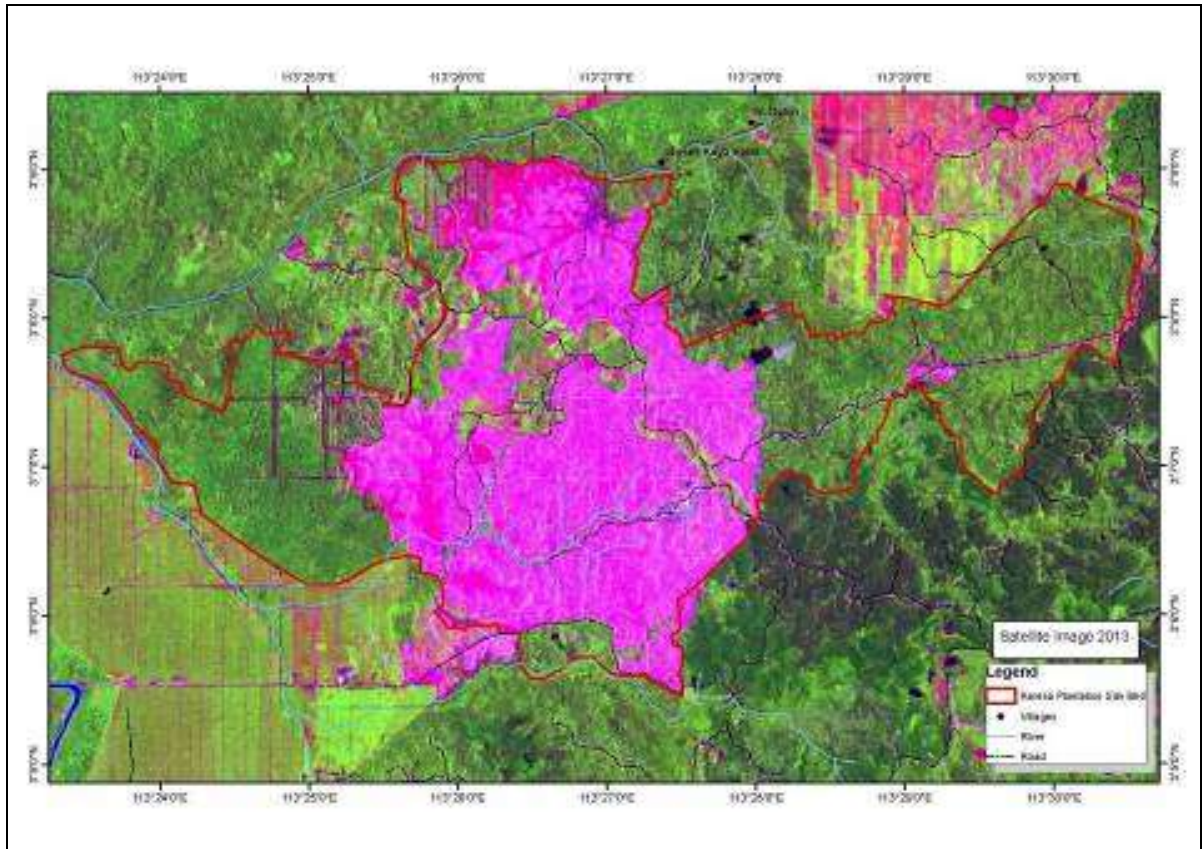


Figure 2: Map of Bintulu district, Sarawak and Sungai Kubud Estate (project site) in relation to adjacent land features.



*Figure 3: Satellite map of Sungai Kubud Estate (top year 2007, bottom year 2013)*



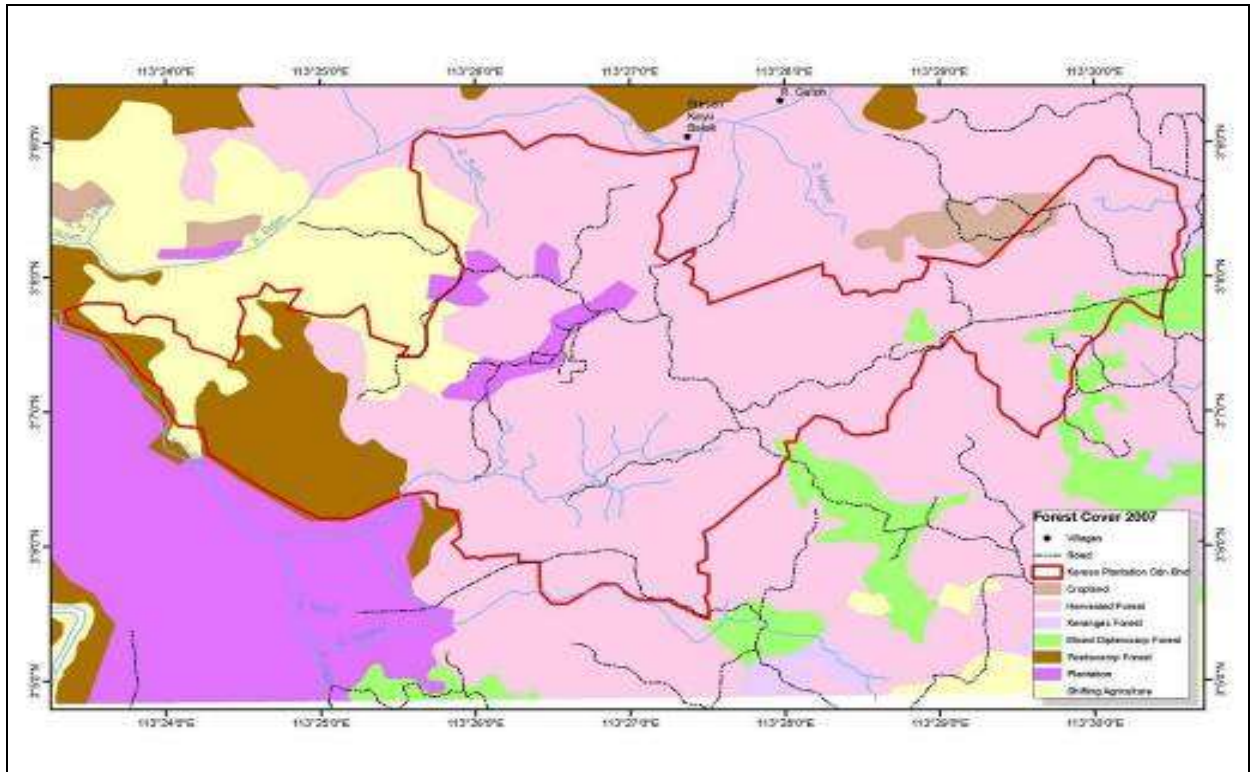


*Figure 4: Satellite map of Sungai Kubud Estate year 2013*

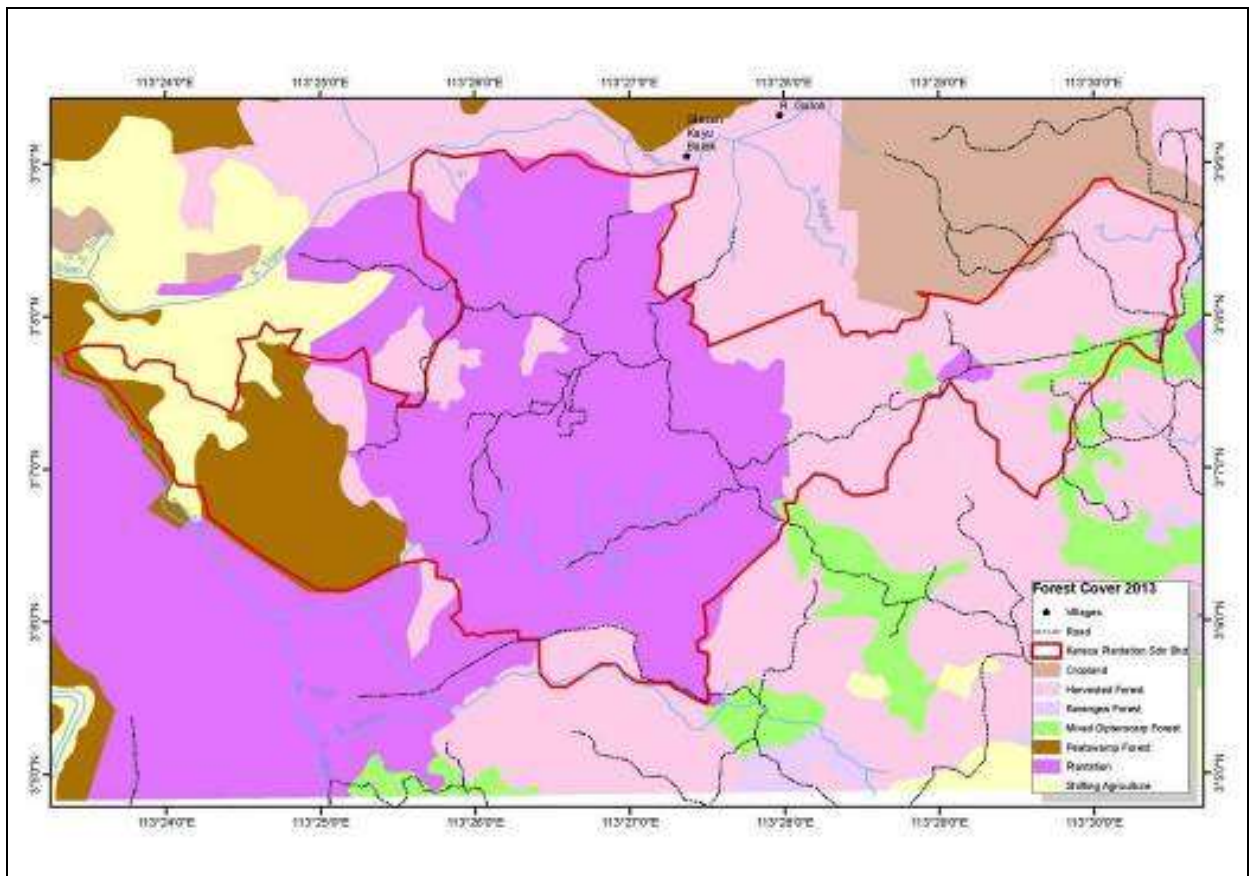


*Figure 5: SPOT 5 image, 2.5 m resolution, March 2013*

Based on the satellite maps obtained, analysis was done to interpret the extent of land use cover. The results of the analysis are presented below.



*Figure 6: Analysis of land use based on 2007 satellite imagery*



*Figure 7: Analysis of land use based on 2013 satellite imagery*

## 4.0 SEIA and HCV Management and Planning Personnel

### 4.1 Organization Chart

The project site, Sungai Kubud Estate is managed by a Senior Estate Manager who is responsible for the daily operations supported by a Senior Assistant Manager and two Assistant Managers. For the Office operations, one Estate Office clerk reports directly to the Estate Manager.

The management organization chart of Sungai Kubud Estate is presented in Figure 8. The Sungai Kubud Senior Estate Manager in turn reports to the Assistant General Manager and the General Manager of Plantations and Mill of Keresa Plantations Sdn. Bhd. The Estate is responsible for planning of the various estates operations under Keresa Plantations Sdn Bhd. The organisational structure includes officer in-charge of HCV management and monitoring, Environmental, Social and Health and Safety.

All information pertaining to this HCV assessment should be addressed to:

<i>Details</i>	<i>Particulars</i>
<i>Contact person</i>	Mr. A.K. Kumaran
<i>Position</i>	General Manager
<i>Organization name</i>	Keresa Plantations Sdn Bhd
<i>Address</i>	P.O. Box 2607, 97008 Bintulu,
<i>City, Postal code</i>	97008 Bintulu,
<i>State, Country</i>	Sarawak, Malaysia
<i>Telephone No</i>	+6086 336 725
<i>Fax No</i>	+6086 336 724
<i>Email</i>	<a href="mailto:kumaran@keresa.com.my">kumaran@keresa.com.my</a>
<i>Website</i>	<a href="http://www.keresa.com.my">http://www.keresa.com.my</a>

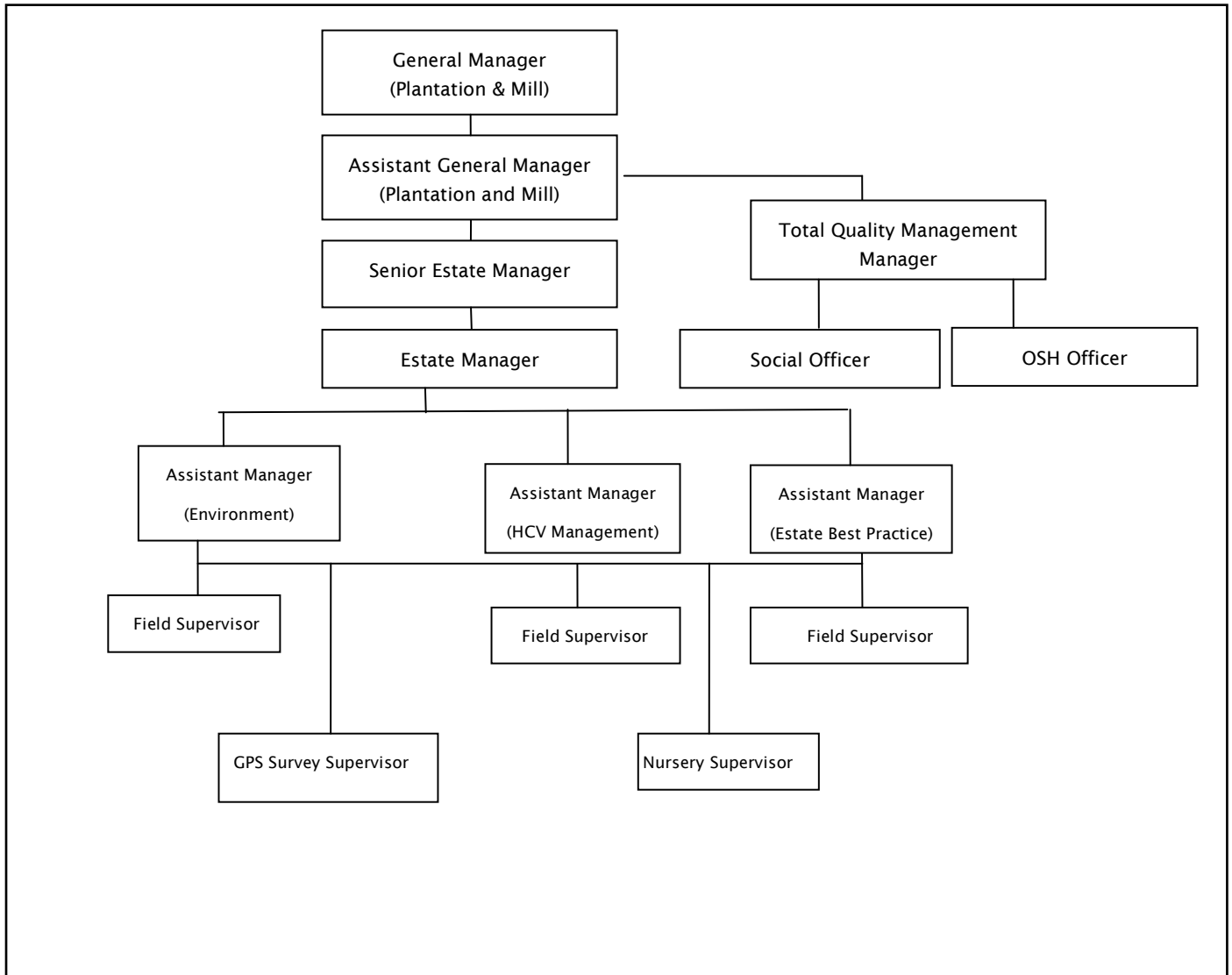


Figure 8: New project site management organisational chart

## 4.2 Location and Stakeholders involved

The project site is located in Bintulu District of Bintulu Division in the Sebauh sub-district. The plantation area of Sungai Kubud Estate is situated approximately 85 km from Bintulu town. Access to the plantation is via sealed road from Bintulu on the Bintulu-Miri Road heading north east. At the Simpang Bakun junction, the road then heads in the south easterly direction until the turning to the plantation followed by estate road which is maintained by the plantation. The current access is via Keresia Plantations Sdn Bhd, viz Sujan Estate and Jiba Estate.

The project site is bordered stakeholders in the north with Sarawak Oil Palms Berhad Plantation, and in the south west with Jendela Padu Sdn Bhd oil palm plantation, in the south east with *Acacia mangium* plantations. Long houses which are located in the north of the project site is Rumah Iba and Rumah Lawai, while Rumah Majang and Rumah Desmond is generally located in the south of the project area. The land area of the project site of Sungai Kubud Estate is approximately located between longitudes 113° 24.00' E – 113° 30.00' and longitudes 3° 05.600' N – 3° 08.800'N of the equator.

### **4.3 Company's Environmental and Social Impact Management for Social Sustainability of Local Communities**

The land area of Sungai Kubud Estate is located on the east of Pandan and Sebauh, townships along the Batang Kemena which flows towards west and to Bintulu town, Sarawak. The estate is located in the Lavang land district. The economic developments in these areas are similar; which includes shifting agriculture, plantation agriculture, small holder oil palm and rubber blocks and orchards surrounding the project area.

The expected outcome would be a participatory social assessment for each of the 4 blocks of land area:

- Oil palm planted area of 1,770 hectares (Sg. Kubud Estate),
- Sg. Kubud Estate Phase 2 covering 1,108 hectares,
- Sg. Kubud Estate Phase 3: 600 ha., also known as Limar 2 division

All of the above land is on Native Customary Reserve (NCR) land, which is belongs to the local villagers of the adjacent long houses.

The longhouses covered in this assessment are:

- Rumah Iba
- Rumah Lawai
- Rumah Desmond
- Rumah Majang

Social survey was conducted in the above mentioned four longhouses which are adjacent to land concession. The majority of local community in these longhouses are of Iban ethnicity; with are mostly similar background in tradition and economic value.

In total, 100% of basic needs such as protein, water, materials for construction and medicine are bought [purchased]. In terms of cultural dependency on forest resources, the survey found the villagers do not have any cultural dependence of such.

The primary means of earning a living in these villages are from external source, for example working in nearby logging company, plantation and in their own rubber holdings. The villagers are enjoying the fruits of their labour through the use of their land. Paddy cultivation, very small scale livestock and fruit farms offer subsistence income for the villages, but can be considered as minor. From the assessment, the local communities do not depend on natural resources for their basic needs. Their basic needs are fulfilled through purchasing. Much of the money is spent on basic needs such as rice, protein and fruits, household materials, educating their children, purchase of fuel for vehicles (transportation cost) and medical costs.

The villages have moderate unpaved road access, and are located close to Keresia Plantations and river access, and are located close to the market, mainly in Sebauh [a nearby small town] and Bintulu town. The basic needs of the villages are also obtained from traders who come from surrounding towns. During this survey, no direct sales of wild meat were observed in the market place in the villages.

The primary means of earning a living in these villages are from external source, for example, working in own land, income earned by their family members from nearby towns, and odd jobs. Majority of the people presently living in the long houses are the village elders and a handful of children. The middle age working population are not living permanently in the long houses as many are gainfully employed in nearby towns such as Sebauh, Bintulu and Kuching. That is why the employment of long house inhabitants in Keresu is limited, as the main labours are Indonesian foreign workers.

Paddy cultivation, some minor livestock and fruit farms also do offer subsistence income for the villagers, but forms a minor proportion. From the assessment, the local communities do not depend on natural resources for their basic needs. Their basic needs are fulfilled through purchasing. Much of the money is spent on basic needs such as rice, protein, fruits, household materials, educating their children, purchase of fuel for vehicles (transportation cost) and medical costs.

## 5.0 Summary of Management and Monitoring Plans (HCV)

### 5.1 HCV 1.2 Threatened and Endangered Species

The aim of this HCV is to identify any species categorised as either Critically Endangered (CR), Endangered (EN) or Vulnerable (VU) on the IUCN Red List, Appendix I of CITES or listed as protected under Malaysian legislation (federal or state). This does not mean that other taxa are unimportant, and wherever possible, if the expertise and survey protocols are available, these should be covered too. It is also recommended to cross-check the IUCN Red List with the Malaysian Red Data Book, once that is available. Where there may be differences between the Malaysian Red Data Book and the IUCN Red List, the Malaysian Red Data Book should always take precedence.

#### Assessment findings

HCV	Key concern	Assessment finding
1.2	Is the license area or the adjoining landscape known to contain species of flora and/or fauna categorised by IUCN as CR, EN or VU, CITES Appendix 1 or any species protected under Malaysian legislation?	Presence of the following species were noted: Sun bear Sambar deer Asian Brown Tortoise <i>Anisoptera marginata</i> <i>Hopea pentanervia</i> <i>Parashorea lucida</i> <i>Shorea albida</i> <i>Shorea macrophylla</i>  <i>Shorea pubistyla</i>  <i>Shorea seminis</i>

The licence area of the plantation area lies within a landscape that has been altered due to anthropogenic activities such as shifting cultivation, logging, clear felling, paddy cultivation, fires, village oil palm and orchards for at least four to five decades. Despite the above mentioned changes to the natural landscape, the discovery of Threatened or Endangered species did not come as a surprise as some of the wildlife species do thrive and depend on altered ecosystems for nesting, resting and feeding grounds. The species,

flora and fauna that are found in the Sungai Kubud Estate landscape are mainly of disturbed environment, commonly found in any plantation or garden landscape. However, a number of Threatened and Endangered species were noted. Therefore, HCV 1.2 is identified in Sungai Kubud Estate licence area.

**(a) Fauna survey**

Of the 173 faunal species recorded, a total of 28 mammal species, 19 bird species and 3 reptile species that are known to occur in the Sungai Kubud land area are documented under the IUCN Red List (Near Threatened, Vulnerable, Endangered and Data Deficient). This indicates that about 30% of these threatened and endangered species rely partly on secondary forests for its habitat including the Sungai Kubud land area. The species under NT, LC and DD are listed as ‘Totally Protected’ or ‘Protected’ under Sarawak Wildlife Protection Ordinance 1998. In addition, species recorded from local sightings and the EIA reports for Keresas are summarized in the Table below.

**(b) Flora survey**

The floral survey results for protected and threatened species are presented in Table 9. Out of a total of about 320 floral species, 42 protected and threatened plant species were found at Sungai Kubud estate land area and adjacent Seberang Sujan land area earmarked for plantation development. The sites surveyed in the table above are recommended for remediation to address HCV1.2 for floral species. Refer to the Master Plan for Remediation.

**5.1.1 Management Action for HCV 1.2**

- Hunting and possession of listed species to be strictly banned. Preventative punitive measures should be implemented for all employees of Keresas Plantations Sdn Bhd.
- Locals living around Keresas Plantations should be discouraged from hunting and possessing any of the listed species. Locals having a direct stake in Keresas Plantations Sdn Bhd can be informed of the business risks associated with damage to protected species.
- Regular patrolling of the area to ensure no encroachment of the forests is carried out. Records of patrolling and reports of peculiar activities (e.g. removal of timber, poaching, etc) must be followed by strict actions by the management. Security patrols along wildlife hotspots should be carried out to deter hunters and poachers from entering Keresas Plantations Sdn Bhd.
- Conduct awareness program for the villagers and staff members on the importance of conserving forests, species and key habitats.
- No further planting of oil palm in the forest and wildlife corridors along riparian areas and those bordering to forested land areas
- Maintenance of adequate (at least 50m) of riparian buffers along permanent flowing streams
- Suitable habitat for the listed species to be set aside and/or restored, if previously removed. Suitable wildlife corridors for the listed species to be set aside and/or restored, if previously removed.

- These corridors should aim to connect existing habitats to ensure continued access to life-supporting resources. Recommended width for wildlife corridors: 100-400m.

### 5.1.2 Monitoring action for HCV 1.2

- A detailed record of species sightings, its exact location and time of sighting should be maintained to document species presence. This should aid in future conservation management efforts.
- Monitoring of habitat loss and poaching of the wildlife species through close consultation with local people.
- Security patrols along wildlife hotspots should be carried out to deter hunters and poachers from entering Keresa

## 5.2 HCV 1.3 Endemism

The aim of HCV 1.3 is to identify any forest containing endemic species as identified by FRIM, MNS, SFC, Forestry Departments and published literature, particularly in high concentrations or highly restricted distribution.

In the assessment of this HCV, determination of forest area that contains endemic species of flora or fauna through the verification of list of endemic tree and mammal species, published guides, reports, peer-reviewed journals and current expert opinion is a requirement.

### Assessment findings

HCV	Key concern	Assessment finding
1.3	Determine if the license area has forest area that contains endemic species of flora or fauna.	Presence of the following species were noted: Bornean Yellow Muntjac

Based on the assessment, in the project area the only faunal endemic species found in or near Keresa was recorded by camera traps set up by a research project in collaboration with the plantation management. The species is the Bornean Yellow Muntjac (*Muntiacus atherodes*) and it is endemic to Borneo.

For the floral survey, a total of 16 species that are endemic to Borneo were found in Keresa and Seberang Sujan. Therefore, HCV 1.3 is identified.

### 5.2.1 Management recommendations for HCV 1.3

Same as for HCV 1.2 and additionally:-

- Reforestation efforts need to include the list of protected and threatened floral species as above.



### 5.3 HCV 3 Ecosystem

Any forest area that contains an ecosystem/habitat type identified as a priority for protection by the National Conservation Strategy (NCS), PERHILITAN Ecosystem Assessment report, Forestry Departments, FRIM, and/or is confirmed as such by current expert opinion, is HCV 3. Some ecosystems are naturally rare, but some others are becoming increasingly threatened by pressure from human activities. Due to rapid changes, existing data may be outdated and some particularly threatened ecosystems may already need to be considered as Top Priority. A good example of this would be lowland dipterocarp forests, peat swamps and limestone habitats.

The definition of ecosystems, mainly forested areas, important for the protection and considered HCV 3 as defined in the Malaysia HCVF Toolkit are:

- Extreme lowland
- Lowland Dipterocarp
- Hill Dipterocarp
- Upper Dipterocarp
- Montane Oak
- Montane Ericaceous
- Heath
- Limestone
- Ultrabasic
- Quartz ridge
- River (montane)
- River (Sarace)
- River (Neram)
- River (Rasau)
- Freshwater swamp
- Peat swamp
- Mangrove
- Nipah
- Lake

#### Assessment findings

<i>HCV</i>	<i>Key concern</i>	<i>Assessment finding</i>
3	Does the licence area contain or is part of a threatened or endangered ecosystem?	Peat swamps forests & Heath forests (Kerangas)

Within the project area of Sungai Kubud Estate and also in the adjacent land area, there are pockets of peat swamp forests and heath forests. Both the peat and heath ecosystems found in the project area of Sungai Kubud Estate has been disturbed and can be categorized as having degraded above ground biomass. These ecosystems are naturally rare and have to be conserved as mentioned earlier. There is no soil survey carried out in the estate to determine the extent, depth and type of peat in the area.

From the assessment, there are at least two (2) priority ecosystems (National Conservation Strategy, 1992) for Sarawak that is found at Sungai Kubud Estate:

- Peat swamp forest (Priority 1)
- Heath or Kerangas (Priority 1)

Part of the degraded peat area has been cleared of the biomass and is currently being planted with oil palm (2013 planting). Due to seasonal flooding of certain sections of the plantation land area in Sungai Kubud Estate, some areas of oil palm field OP2013 was inundated several times in 2013. A proper water management plan together with implementable procedures needs to be in place. These SOPs in turn will form the basis for documented operational procedures that auditors will use to determine Keresa Plantations Sdn Bhd's action steps to maintain and/or enhance HCVs (potentially present and/or present) within the plantation land area.

Some of the degraded peat swamp forests are being cleared with about 14 heavy machines (excavators, trucks) at the time of assessment. Drains have been constructed in these areas and bunds built to prevent in-flow of water from adjacent river(s). However, there is no water management plan available.

Keresa is urged to seek immediate consultations with RSPO to initiate necessary actions and procedures to safeguard its certification relevant to the clearance of the peat area although it is belongs to the community leased the land to Keresa Plantation. Keresa Plantation is also take initiative to refer to "*RSPO Manual on Best Management Practices (BMPs) for existing oil palm cultivation on peat*", dated June 2012.

All of the above is not only applicable to peat, but also to heath (Kerangas) areas. There could be substantial loss of both these priority ecosystem in the Sungai Kubud Estate. Keresa Plantations Sdn Bhd must first build up Sungai Kubud Estate and develop the in-house capacity of the staff members in developing and implementing specific Standard Operating Procedures (SOP) for peat management, fire hazards and water management as outlined in the Standard Operations and Procedures of Keresa Plantations Sdn Bhd. For this plantation, special emphasis is needed for protection of water courses (canals) and its buffer zones maintenance and rehabilitation.

Based on the assessment, there is presence of threatened or endangered ecosystem present in the project area of Sungai Kubud Estate and its adjacent landscape. The original above ground vegetation of the project area in the peat and heath ecosystem has been disturbed in the past due to shifting cultivation, removal of timber for building material, etc in the past. As such, HCV 3 is present.

### **5.3.1 Management recommendations for HCV 3**

- Consult RSPO immediately to initiate discussion for any compensation issues for developing the peat area belongs to the communities through the cooperative agreement.
- Carry out a detail soil investigation of the entire project area to determine the extent of fragile soils, such as peat and its type and depth

- Develop a fire hazard response plan, including erecting a fire watch tower
- Develop a water management plan for the peat areas and include this in the SOP
- Map out the area of peat and heath that needs to be rehabilitated
- Develop specific SOP on peat management, fire hazards and water management

## 5.4 HCV 4.2 Erosion control

HCV 4.2 includes forest areas that have been legally gazetted for soil protection or conservation under federal and state laws e.g. the National Forestry Act 1984 (Peninsular Malaysia), forest areas which lie on slopes over 25 degrees (Sabah), areas classified as Terrain 4 in First Schedule: Forest Management Plan, Forest Timber License (Sarawak), and riparian areas covered under the DID guidelines.

### Assessment findings

HCV	Key concern	Assessment finding
4.2	Determine if forest contains riparian area covered under DID guidelines. For Peninsular Malaysia: Determine if steep forest area has been officially classified as soil protection forest.	All buffer zones along rivers. Vegetation riparian buffer reserves along rivers are intact with varying width and quality along the oil palm blocks.

### 5.4.1 Riparian buffers

All riparian reserves in permanent flowing streams and rivers that feed in to the project area or drain the project area are significant for soil protection and conservation. At present, some efforts have been made by the management of Keresa Plantations Sdn Bhd to maintain riparian reserves as per below.



Signage along a river in Keresa Plantations

The riparian buffers are present along the Sungai Sujan, Sungai Selakai, Sungai Kubud, Sungai Tebusang, Sungai Apun and Sungai Mapo in the surveyed area. Riparian vegetation along rivers and buffers around permanent flowing tributaries ought to be given sufficient protection. The presence of riparian buffer zones within the plantation area will enhance bird diversity; enhance wildlife corridors to connect riparian areas with other natural habitats (Gervais, et. al., 2012).

It is observed that the Sungai Selakai area constitutes a floodplain whose hydrology may have been altered by the removal of surrounding vegetation for oil palm plantings. A ordinary rainfall event was observed to result in inundation and back-flow from Sg Selakai, possibly due to rising waters in Sg Sujan. Further investigation on the hydrology of the area is needed.

In the project area, there are no forest areas that have been legally gazetted for the purpose of soil protection and conservation. For the gazetted protected areas, the guidelines for land use activities in these areas should adhere to the restrictions outlined in the respective ordinances and the gazette notice. For other areas, land use activities should be restricted to prevent any disturbance to the vegetation in order to maintain the high quality of the water from these areas. Buffer zones along permanently flowing streams also fall under this category. The requirements of the Land Code are that a 20m river reserve be maintained for all development along rivers. This allowance is seen in some instances too little (for large rivers) and too much (for small streams). Alternative recommendation for riverine buffer strips has been proposed in many of the EIA reports and this information has been collated into Table below.

**Recommended Buffer Zone Widths**

Width of Permanently Flowing Water Course	Minimum Buffer on either side of Water Course
> 40m	50m
20 - 40m	40m
10 – 20m	20m
5 – 10m	10m
< 5m	5m

Therefore, HCV 4.2 is potentially identified.

**5.4.2 Management recommendations for HCV 4.2**

In some locations, gaps and oil palm have been recorded within less than five meters of the riparian reserves of the river banks.

Systematically these riparian reserve areas have to be rehabilitated to its original stand of vegetation. It is recommended that the planted oil palm stand be removed and replaced with suitable tree species originally found along the rivers. Rehabilitation of the area with mixed species is strongly recommended as listed below.

In the process of conserving the riparian buffers, management options should include no slashing of existing vegetation, taking a precautionary approach to application of agrochemicals (fertilizers, herbicides, pesticides) in the riparian buffer zones and no alteration/damming of the river channel.

The selection of indigenous species following the vegetation structure of the natural habitat should be prioritized in rehabilitation and replanting efforts. The establishment of a tree nursery close to the river buffer will be required to produce highly adaptive seedling. At present, there is very little information and literature available on the propagation technique of some forest tree species and therefore, it may be prudent to source for some of the seedlings from established tree nurseries in nearby towns.

Establishment of permanent vegetation sample plots (50m x 50m) at strategic locations in the various conservation areas is needed to monitor the existing vegetation stand and the growth of newly planted seedlings.

Tree seedlings to be raised in the nursery (on-site) similar to the existing targeted area will increase the planting success and decrease the cost. Below are recommended species for replanting and enrichment of the riparian buffer zones:

1. *Ficus* spp ( Kayu ara /Kayu beringin) The list of *Ficus* species is given below.

1. *Ficus Benjamina* L

Main Character : Large Hemiephyte becoming free standing tree , roots large compared to host tree.

Habitat : Alluvial Bench

Locally known as common Pohon Beringin throughout Kalimantan.

2. *Ficus tarenifolia* Corner

Main Character : Small size tree

Habitat : River banks in alluvial bench forest .

3. *Ficus stonolifera* King.

Main Character : Small - Medium size tree

Habitat : Alluvial Bench.

4. *Ficus punctata* Thunb.

Main Character : Climber reach up to upper canopy

Habitat : Alluvia bench .

2. *Dipterocarpus oblongifolius* (Keruing)
3. *Pometia pinnata* (Kasai)
4. *Shorea seminis* (Borneo Tallow Tree)
5. *Shorea macrophylla* (Light Red Meranti)
6. *Gluta renghas* (Rengas)
7. *Intsia bijuga* (Merbau)
8. *Octomeles sumatrana* (Binuang)

## 5.5 HCV 4.3 Barriers to Destructive Fire

Any specific areas that can act as barriers to provide protection of forests, especially forests with high conservation values, from fire, in areas that are generally fire-prone and where the consequences are potentially severe, can be considered HCV 4.3.

### Assessment findings

<b>HCV</b>	<b>Key concern</b>	<b>Assessment finding</b>
<b>4.3</b>	<ul style="list-style-type: none"><li>• Determine if area is prone to fire e.g. peat swamps and forest areas which have been subject to fire previously. Include other examples of fire-prone areas (e.g. podzolic or edaphic soils)</li><li>• Determine if area is adjacent to any forests containing any other HCVs.</li><li>• Determine if forest area is adjacent to plantations (any plantation-forest edge is susceptible to fire during long dry periods) or settlements (Sarawak: ‘temuda’).</li></ul>	Areas that are prone to fires, e.g. peat swamps and oil palm blocks bordering to <i>Acacia mangium</i> plantations

Within Sungai Kubud Estate, there is no indication of areas that are vulnerable and susceptible to fire except for the areas that may become prone to fires during prolonged droughts. These areas are the peat swamps in Selakai region and the oil palm blocks bordering to *Acacia mangium* plantations of Grand Perfect Sdn Bhd. However, it is not possible to delineate the actual boundaries of such areas.

Also, there are no records of large ground fires since November 1995 based on queries of an online hot spot database (ATSR Fire Atlas 1995-2012). However, although there is no objective evidence of specific areas that can act as barriers to fires and also the presence of peat and *Acacia mangium*, both of which are fire prone, HCV 4.3 is potentially present.

#### **5.5.1 Management action for HCV 4.3**

- It is recommended that the drained peat swamp areas at the Sg Kubud area will now need to be managed against fire by implementing a suitable water table management plan. This should avoid draining the water table to excessively low levels that promote complete drying out of the peat soils.
- It is recommended that a detailed hydrological study be conducted to ascertain the nature and extent of the water table management intervention required. General RSPO guidelines for 4.3.4 for minimization of subsidence of peat soils recommends maintaining an average water table depth of 60cm below ground surface as measured in water collection drains, through a network of appropriate water control structures e.g. weirs, sandbags, etc, in fields, and water gates at the discharge points of main drains (Criteria 4.4 and 7.4).
- The remnant forest in the “Lawai Division” bordering the *Acacia mangium* plantation of Grand Perfect should be left to act as a natural fire barrier. The recommended width is 100-400m to also serve as a wildlife corridor.

## 6.0 Summary of the HCV Assessed In Sg. Kubud Estate

**Table 1: Summary of the HCV assessed in Sg. Kubud Estate, Bintulu, Sarawak using HCVF Toolkit for Malaysia**

HCV	Sub-HCV	Present	Potentially Present	Absent
HCV 1 Biodiversity Values	1.1 All forest areas that have been legally gazetted as Protected Areas under Malaysian legislation (either federal or state).			Not identified
	1.2 Any species categorised as either Critically Endangered (CR), Endangered (EN) or Vulnerable (VU), on the IUCN Red List, Appendix I of CITES or listed as protected under Malaysian legislation (federal or state).	Presence of the following species were noted: Sun bear Sambar deer Asian Brown Tortoise Light Red Meranti		
	1.3 Any forest containing endemic species as identified by FRIM, MNS, SFC, Forestry Departments and published literature, particularly in high concentrations or highly restricted distribution.	Presence of the Bornean Yellow Muntjac noted		
	1.4 Any forest area which is important to wildlife for feeding, nesting, roosting, migration or contains saltlicks		Presence of migratory birds	
HCV 2 Landscape Level Forests				Not identified as the plantation is located surrounded by industrial tree plantation, oil palm plantations, logged over forest areas
HCV 3 Ecosystem	Any forest area that contains an ecosystem/habitat type identified as a priority for protection	Peat swamp forests and Heath forests (Kerangas)		
HCV 4 Services of Nature	4.1 Dam catchment areas and any forest area legally gazetted as a Protection Forest for water catchment under the National Forestry Act 1984			Not identified
	4.2 Forest areas that have been legally gazetted for soil protection or conservation under federal and state laws		All buffer zones along rivers. Vegetation riparian buffer reserves along rivers are intact with varying width and quality along the oil palm blocks.	
	4.3 Any specific areas that can act as barriers to		Areas that are prone to	

HCV	Sub-HCV	Present	Potentially Present	Absent
	provide protection of forests, especially forests with high conservation values, from fire		fires, e.g. peat swamps and oil palm blocks bordering to <i>Acacia mangium</i> plantations	
HCV 5 Basic needs of local communities.	Rh. Iba Rh. Lawai Rh. Majang Rh. Desmond			The longhouse communities are not forest dependent for basic subsistence or health needs
HCV 6 Cultural identity of local communities	Rh. Iba Rh. Lawai Rh. Majang Rh. Desmond			The longhouse communities are not use the forest for their cultural, or religious activities

## 7.0 General Observations

- A declaration/statement in the form of Environmental Policy indicating the commitment from the Management at the highest level down to the operations at the plantation level on sustainable management and responsible oil palm production is available.
- At the time of assessment, there were no records of land conflicts and land ownership claims by any party with the plantations and outside plantation.
- It was also noted that there were no land tenure disputes with the plantation.
- Too many entry and access points into the plantation, which leads to unauthorized people entering the plantations, especially for fishing in the canals both for supplementary source of protein and as recreation may be viewed as a threat as well as an opportunity.
- At present there are no rules to prevent unauthorized people (outsiders) from entering the plantation land area, except for cross-bars.
- It is essential that field operation maps be developed from the plantation surveyed map, done by qualified surveyors. The field block maps provided were not to scale. Alternatively, the estate can be mapped using global positioning system (GPS) which is cheaper, easier and faster to be implemented.
- There were no signs of burning or traces of old burnt residues in the recently (2010 plantings onwards) planted oil palm fields indicating that actions to put in place zero-burn policy is in effect.



- The land area is predominantly flat with some areas being inundated during prolonged rainfall periods, especially towards the year end. The Management has decided not to plant cover crops *Mucuna* instead planted other types of cover crop *Pueraria javanica*. The estate has taken some efforts to propagate beneficial plants such as *Tunera* sp. in areas along bunds and roads which serve as hosts for useful insects and to create greater insect diversity. The establishment considerably well managed.
- At present there are Standard Operating Procedures (SOPs) for protection of water courses and soil conservation within the plantation development area.
- Generally the manager, staff and workers were receptive to the ideas discussed in the field on matters related to conservation indicating that the awareness and understanding of RSPO P&C.
- Some areas of the river/drain reserves along the water courses close to the plantation boundaries. These areas that are already planted up to the edge of the river/drain banks fall under the Department of Irrigation and Drainage policy as reserve areas. Management for these reserves (ranging from 2.5m to 25 m from the river/drain bank) is to be carried out through a precautionary approach. No herbicide or pesticide spraying. Only manual circle weeding and slashing of weeds is allowed. Signage erected to indicate Buffer Zones of water ways. In the SOP, there is mentioned that no development is allowed in the buffer zone area for either replanting or new planting and only selective weeding is allowed in this area.
- The plantation does not have a policy regarding retaining/maintaining trees in designated areas within the plantation. During the field visit it is observed that there is possibility of leaving some areas with tall standing trees in the new planting of the vacant area scheduled for 2014. The existing trees within the present vacant area may play an important role by supporting wild life movement across the plantation. However, the policy still can be improved by assuring that the new planting plan includes clear instruction to maintain at least one big size tree with diameter size > 25 cm in every 10 ha of the plantation and restrict any planting within 15 meters around the tree.
- Improvement on water management plan is essential for the plantation area, considering that the entire plantation landscape is on a low lying to undulating terrain.

## **8.0 Management Recommendations**

- Considering the close proximity of several villages to the development area, there is a need to continue with the awareness programs on the importance of conservation of species, particularly protected species among all the villagers identified as stakeholders. A message of No Hunting is to be propagated.

- Awareness programs targeted to staff and workers to be continued on the significance of no hunting, poaching – who to alert, dos and don'ts in the licence area.
- Greater attention is needed to have adequate buffer areas along rivers/drains inside the plantation, which at present is devoid of riparian vegetation along some blocks of the licence area.
- Detail soil survey and soil map be produced for the plantation land area.
- Riparian reserves along rivers that are close to the plantation boundaries needs to be better managed. Management for these riparian reserves (2.5m-25m from the river/drain bank) is to be carried out through a precautionary approach. No herbicide or pesticide spraying. Only manual circle weeding and slashing of weeds is allowed. Signage erected to indicate protection of water courses. Natural growth along the palm rows is to be encouraged. Planting of native tree species in the inter-rows of palms is encouraged.
- Water Management Plan to be developed for the plantation to ensure that the water tables are maintained throughout the year.
- Leave tall standing trees in vacant area due for new planting in 2014. Focus is to maintain beneficial trees such as fruiting trees, Ficus, flowering trees that encourage diversity of species.
- Fires. During prolonged dry seasons, unauthorized parties within the plantation may also be a threat to the start of fires. A fire management plan together with tight security control of access and sharing of resources (e.g. roads) must be developed.

### 9. Internal responsibility

We hereby sign off on the above Summary Report of Planning and Management. The above may be amended and clarified for improvement during the development and management of the plantation but it will remain in accordance with RSPO Standards and Principles.

On behalf.  ESOK ENTISA

.....  
 Stephen Lawai Ngang Lisp  
 Senior Plantation Manager  
 Signed: 10 December 2013

  
 .....  
 Abdul Aziz  
 Assistant General Manager