# LOSS EVENT REPORT TITLE

Document Prepared By Infinite Earth

| | |
|---|---|
| **Project Title** | Rimba Raya Biodiversity Reserve Project |
| **Version** | V2.0 |
| **Report ID** | 1 |
| **Date of Issue** | 31 October 2013 |
| **Project ID** | 674 |
| **Monitoring Period** | 01 July 2011 to 30 June 2012 |
| **Prepared By** | Infinite Earth |
| **Contact** | InfiniteEARTH<br>Suite-8/A, The Ritz Plaza, 122 Austin Road, Tsim Sha Tsui Kowloon,<br>Hong Kong<br>Contact: Todd Lemons<br>Email: contact@infinite-earth.com<br>Web:www.infinite-earth.com |

## Table of Contents

# 1 LOSS EVENT DETAILS

## 1.1 Summary Description of Loss Event

A loss event in an AFOLU project is defined by the Verified Carbon Standard as the following:

> *'…any event that results in a loss of more than five percent of carbon stocks in pools included in the project boundary but is not planned for in the project description,(eg, harvesting as set out in management plans and described in the project description is not a loss event). Examples include catastrophic events (see definition of catastrophic reversal) as well as human-induced losses such as those caused by poor management, tillage, over harvesting or encroachment by outside actors (eg, illegal logging or fuelwood collection)'*

Between June 2011 – July 2012 emissions from disturbances occurred within the Rimba Raya Biodiversity Reserve Project that constitutes a Loss Event. This disturbance event was the result of Fire within the Project Carbon Accounting Area and Activity Shifting Leakage within the Leakage Belt.

## 1.2 Date of Loss Event

The remote sensing conducted during the second monitoring period indicated that fires and activity shifting leakage occurred on a number of occasions and cumulatively constitute a loss event in the period 1 July 2011 – 30 June 2012. Based on the remote sensing conducted, these disturbance activities occurred on occasions between:

## 1.3 Location of Loss Event

### 1.3.1 Fire

The location and the geographical boundaries of the fire related loss event are presented in Figure 1. Shapefiles of the annual burnt areas are also provided with this report.

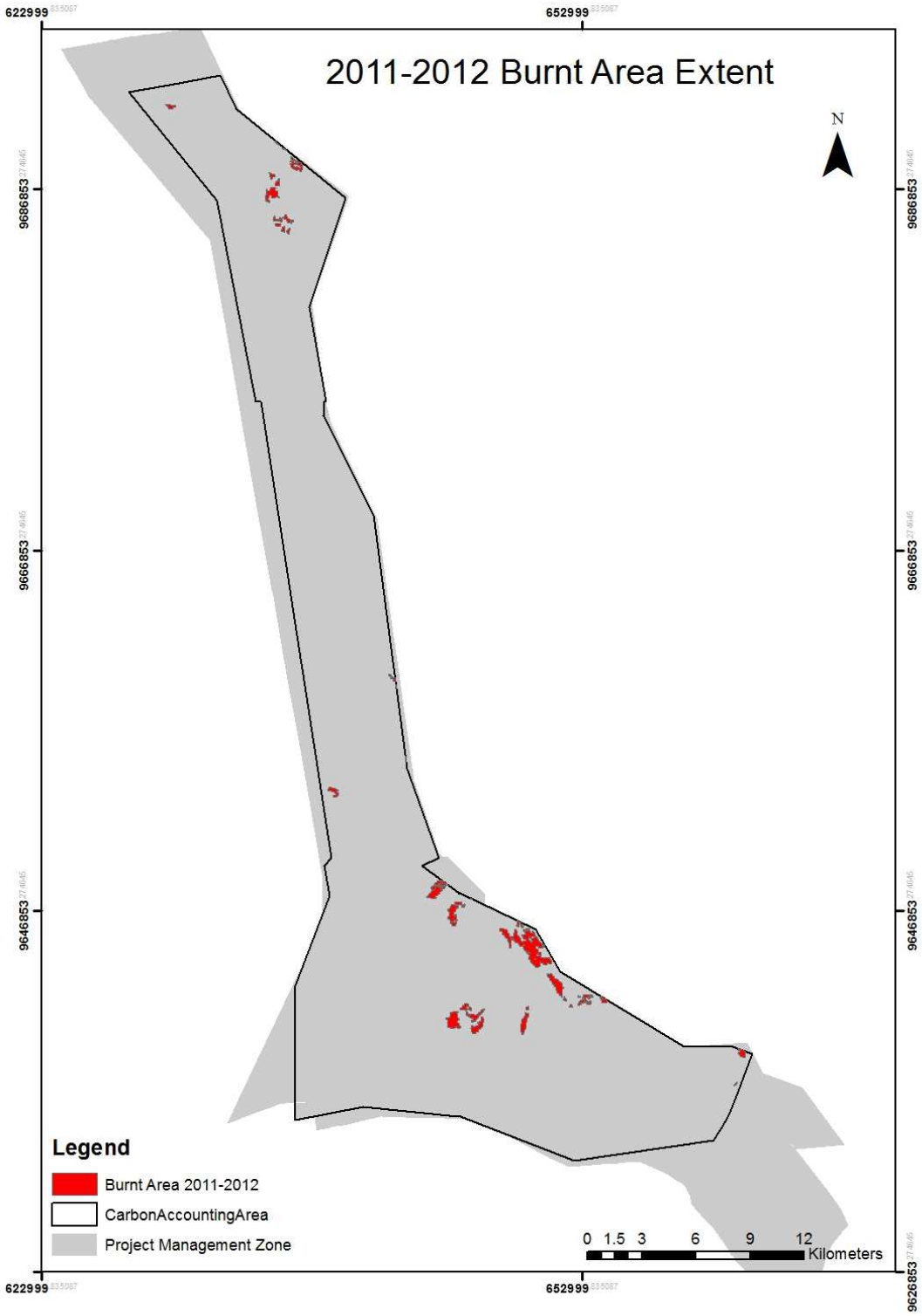


**Figure 1: 2011-2012 Burnt Area Extent**

### 1.3.2 Activity Shifting Leakage

The location and the geographical boundaries of the activity shifting leakage related loss event are presented for the period 2010-2011 in Figure 3. This represents the total area of activity shifting leakage related to the agent of deforestation detected between July 2010 - June 2012.

Shapefiles of the Activity Shifting Leakage area are provided with this report.

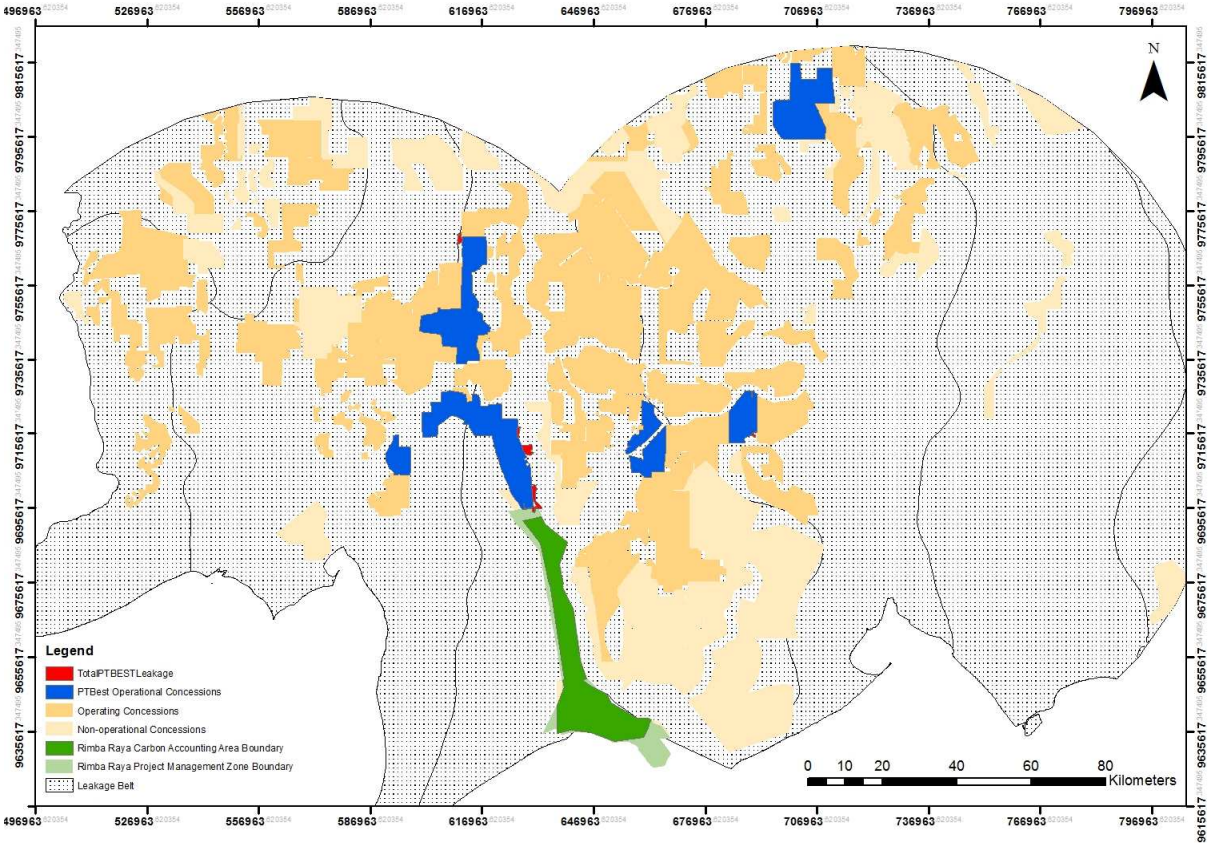


**Figure 2: Areas of Activity Shifting Leakage 01 July 2010 – 30 June 2012**

## 2 DATA AND PARAMETERS

### 2.1 Data and Parameters Monitored in Affected Area

#### 2.1.1 Fire Related Data and Parameters

| | |
|---|---|
| Data Unit / Parameter: | $A_{B,burn,it}$ |
| Data unit: | Ha |
| Description: | Area of peat burned under the baseline scenario in stratum i at time t; |
| Description of measurement methods and procedures to be applied: | Analysis of LandSAT remote sensing images |
| Frequency of monitoring/recording: | Fire was monitored in once only since July 2010 as the Project did not receive the user rights until July 2013. Therefore the frequency of fire monitoring using remote sensing was every three years (which represents a deviation from the verified monitoring plan). The project will resume to annual monitoring of burnt areas now that the Project has secured the user rights. |
| Value Monitored: | Area (ha)<br>2010 – 2011 – Total burnt area 2789 hectares<br>2011 – 2012 – Total burnt area 664 hectares |
| Monitoring Equipment: | LandSAT images and semi-automated analysis techniques consistent with GOFC-GOLD good practice approaches. |
| QA/QC procedures to be applied: | The GOFC-GOLD sourcebook is used as the approach for remote sensing techniques. A number of locations were visited in the field to confirm burnt areas and the subsequent accuracy assessment was 100%. |

| | |
|---|---|
| Data Unit / Parameter: | $D_{B,burn,it}$ |
| Data unit: | cm |
| Description: | Depth of peat burned under the baseline scenario in stratum i at time t; |
| Description of measurement methods and procedures to be applied: | Literature value: Couwenberg et al. (2009) cited in the methodology p. 36 |
| Frequency of monitoring/recording: | At each verification event; changes have been made to the Project Monitoring Plan to measure peat burn depth and more regular intervals. |
| Value Monitored: | 55cm |
| Monitoring Equipment: | Handheld GPS, measuring tape. |
| QA/QC procedures to be applied: | The methodology allows the default factor to be used. The Project has opted for this approach. This factor was checked for conservativeness with a limited number of points (i.e. 6) where burn depth was recorded in the field. Burn depth was found to be between 10 and 20cm at these locations, demonstrating that applying a 55cm burn depth was conservative. |

### 2.1.2 Activity Shifting Leakage Data and Parameters

| | |
|---|---|
| Data Unit / Parameter: | $A_{defLK,it}$ |
| Data unit: | Ha |
| Description of measurement methods and procedures to be applied: | Monitoring of newly allocated conversion concessions to the agent of deforestation within the leakage belt.<br><br>Monitoring using remote sensing of land use change outside of allocated concessions and confirmation if that activity was of the agent of deforestation. |
| Frequency of monitoring/recording | Analysis of remote sensing data and/or legal records and/or survey information for lands owned or controlled or previously owned or controlled by the baseline agent of deforestation |

| | |
|---|---|
| Value Monitored: | 1947.5 ha |
| Monitoring Equipment: | Legal records will include government permits to deforest including concession licenses.<br>LandSAT images covering the leakage belt |
| QA/QC procedures to be applied: | The GOFC-GOLD sourcebook is used as the approach for remote sensing techniques. Where possible locations were visited in the field to confirm the agent. |

## 2.2 Description of Impact on Project Activities and Monitoring Plan

As a result of the Loss Event the Project has put (or has plans to put) in place a number actions aimed at reducing the incidence of fire:

1. The scheduled fire education in neighboring villages will be prioritized over 2012/2013 in an attempt to reduce the agent of fire (i.e. local fisherman and gardeners).

2. The Project will increase its presence in the villages with the help of World Education and re-engage with fire training to provide the villages with the skills and resources to fight fires when they occur.

3. The Project will monitor (using remote sensing) on an annual basis to report and account for fires more frequently.

4. The Project will continue patrols and the establishment of fire monitoring stations will commence construction in 2013 to assist in achieving an early response to fires.

5. Finally the Project is committed to monitoring burn depth so that a more accurate estimate of the emissions from fire can be reported. At the moment a conservative default value of 55cm is being used. Preliminary research into peat burn depth in the Project Area suggests a figure of 20cm is more representative.

Additionally the VCS Risk profile in relation to Natural Risk (Fire) has been increased and as such the Projects Risk Buffer contribution has increased.

In relation to activity shifting leakage, the Project will increase its patrol presence and demarcation of its border at the northern boundary. The Project has also begun working with the neighboring communities to rehabilitate this area and generate cash crops for them to manage. Enhancing a positive relationship with the communities will assist with the ongoing protection of the area and will act as a deterrent to the agent of deforestation in the immediate vicinity of the Project.

Impacting activity shifting leakage in other more distant areas is more problematic, however the Project will continue with its commitment to regularly monitoring activity in the leakage belt and carry out its due diligence assessment with agencies to identify if it is the activity of the agent of deforestation.

# 3 QUANTIFICATION OF ESTIMATED LOSS

## 3.1 Carbon Stock at Previous Verification

The first verification event was completed in June 2013. This verification covered the monitoring period 2009 -2010. The summary reported in the verified Monitoring Report (Table 28) is repeated here.

**Table 1: Yr1 Avoided Carbon Emissions (copy of Table 28 of Yr1 Monitoring Report)**

| **Year-1** Avoided Carbon Emissions | |
|---|---|
| **Factor** | **Value** |
| **Expected Emissions** | |
| Year-1 Baseline Carbon Emissions | **2,462,212** |
| **Observed Emissions** | |
| Emissions from Fire | |
| Aboveground Biomass | **23,211** |
| Belowground Biomass | **15,057** |
| Emissions from Land Use / Land Change | **0** |
| Emissions from Logging | **220** |
| Emissions from Leakage | 0 |
| **Total Year-1 Emission Reduction** | **(38,488)** |
| **Net Year-1 Carbon Stocks** | **2,423,725** |
| **Buffer Allocation (10%)** | **242,373** |
| **VCU Allocation** | **2,181,352** |

## 3.2 Carbon Stock after Loss Event

The carbon stock of the project following the loss event is presented in Table 2. Particular attention should be paid to the column headed $C_{REDD}$ which represents the carbon stock (i.e. the difference between the projected baseline avoided emissions and the net avoided emissions following the disturbance event) within the Project following the loss event.

The emissions from the loss event have been calculated in accordance with the Projects methodology VM004 and include emissions resulting from burning of aboveground biomass and where applicable burning of peat soil to a default depth of 55cm.

**Table 2: Summary of Carbon Stock after the Loss Event ($C_{REDD}$) and anticipated VCU following the Risk Buffer Deductions**

| Year | Baseline Emission Avoidance | Fire Event $CO_2e$ Deductions from Emissions and Δ in Carbon Stocks | Activity Shifting Leakage Event $CO_2e$ Deductions from Emissions and Δ in Carbon Stocks | CREDD (Net Reduced emissions) $tCO_2$-e |
|---|---|---|---|---|
| 2011-2012 | 3,592,610 | -162,662 | -49,240 | 3,297,928 |

Therefore the total emissions from the Loss Event equal **211,902 $tCO_2$-e which is equivalent to 5.9% of the ex-ante estimated baseline emissions avoided** and therefore triggering the 5% Loss Report threshold requirement.

### 3.3 Summary of Estimated Loss

In 2013 the Project achieved verification for the 2009-2010 monitoring period as such received **2,181,352 VCUs**.

The net loss of carbon stock on which GHG credits have previously been issued to the project is therefore:

VCUs Already Issued – Loss Event Emissions = Net VCUs

2,181,352 – 211,902 = **1,969,450 VCUs**

Therefore due to the Loss Event the Project **has lost 9.7% of the already issued VCUs** which is approximately equivalent to the 10% held in the non-permanence risk buffer**.**

It should be further noted that these emissions are currently accounted for in the Projects second monitoring report which covers the period June 2010 – July 2013 and is currently undergoing verification.

## 4 ADDITIONAL INFORMATION

The following supporting information is provided with this report:

1. Shapefiles of the fire scars and Land Classification
2. Shapefiles of the Leakage Areas
3. The calculation spreadsheet which demonstrates the application of the VM0004 methodology equations
4. The Monitoring Report for the Second Monitoring Period which is currently undergoing verification.