

# RIMBA RAYA BIODIVERSITY RESERVE PROJECT VERIFICATION REPORT



Document Prepared By: Environmental Services, Inc.

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<b>Client</b>	InfiniteEarth Limited 36/F Tower Two Times Square 1 Matheson Street Causeway Bay, Hong Kong Email: jim@infinite_earth.com
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<b>Prepared By</b>	Environmental Services, Inc. – Forestry, Carbon, and GHG Services Division
<b>Contact</b>	Corporate Office at: 7220 Financial Way, Suite 100, Jacksonville Florida 32256-USA; Phone: 904-470-2200 Fax: 904-470-2112; www.esicarbon.com
<b>Approved By</b>	Shawn McMahon –Lead Verifier & Janice McMahon –Regional Technical Manager
<b>Work Carried Out By</b>	Lead Verifier – Shawn McMahon; Verification Team Members –Richard Scharf, Eric Jaeschke, Aaron Holley, Katie Talavera; Senior Internal Reviewer – Matthew Perkowski; QA/QC – Janice McMahon

## Summary

Environmental Services, Inc., (ESI) was contracted by InfiniteEARTH on 5 October 2017 to conduct the fourth monitoring period verification (01 July 2014 to 22 June 2017) of the *Rimba Raya Biodiversity Reserve Project* [Validated Project Description (PD) dated 15 May 2011]. The Rimba Raya project follows the framework of Reducing Emissions from Deforestation and Degradation (REDD) through Avoided Planned Deforestation (APD). The project is achieving GHG emission reductions through avoiding deforestation and consequent conversion to palm oil plantation.

The project was implemented in response to the on-going loss of national forest cover that has been brought about through clearing of forest areas with fire to open-up land for agricultural use, especially palm oil plantations.

The Rimba Raya Biodiversity Reserve Project, an initiative by InfiniteEARTH, aims to reduce Indonesia's emissions by protecting areas which encompasses tropical peat swamp forest from conversion to oil palm. This area, rich in biodiversity, especially of the endangered Bornean orangutan, was slated by the Provincial government to be converted into four palm oil estates. Located on the southern coast of Borneo in the province of Central Kalimantan, the project is also designed to protect the integrity of the adjacent world-renowned Tanjung Puting National Park, by creating a physical buffer zone on the full extent of the ~90km eastern border of the park. The previously validated PD entitled *Rimba Raya Biodiversity Reserve Project* dated 15 May 2011 describes the general principles of the project.

The Rimba Raya Carbon Accounting Area comprises 47,237 hectares of uninhabited lowland peat swamp forest located in Seruyan Hilir District; Danau Sembuluh; and Hanau, Seruyan Regency; in the province of Central Kalimantan, Indonesia. The Carbon Accounting Area defines the boundary for CO<sub>2</sub> emissions reductions accounting and includes a 3km buffer Project Management Zone that will be protected and managed by the Project.

The project is monitored each year. Annual monitoring activities consist of remote sensing and GIS analysis, routine field patrols, and directed field sampling in areas prioritized by systematic site assessments. A key feature of the Rimba Raya monitoring plan is to employ spatial data and tools to systematically monitor land cover change, forest degradation and carbon pools in the project area and project buffer. This is combined with ground-based surveys to investigate and record information on any activities that affect project carbon stocks and peat emissions (e.g. fire, logging).

The monitoring period verification objective included an assessment of compliance with the validated PD, VCS Version 3, CCB Second Edition, and all associated updates, and the likelihood that implementation of the GHG project resulted in the GHG emission removal enhancements as stated by the project developer (ISO 14064-3:2006). The scope of the verification included the assessment of the VCS Monitoring & Implementation Report and the execution of the GHG project as stated in the validated PD for the 01 July 2014 to 22 June 2017 monitoring period (fourth period).

The monitoring period verification criteria followed the guidance documents provided by VCS and CCB and included the following: VCS Program Guide (21 June 2017, v3.7), VCS Standard (21 June 2017, v3.7), Program Definitions (21 June 2017, v3.7), Agriculture, Forestry and Other Land Use (AFOLU) Requirements (21 June 2017, v3.6), AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016), the previously validated Project PD (dated 15 May 2011), VM0004, v1.0 – Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, and CCBA Project Design Standards (Second Edition, December 2008).

A summary of all findings is included in Appendix A. There are no restrictions of uncertainty. ESI confirms all monitoring period verification activities, including objectives, scope and criteria, level of assurance, monitoring and project documentation adherence to the VCS Version 3 and CCB Second

Edition, as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that The *Rimba Raya Biodiversity Reserve Project* meets VCS Program v3 and CCB Second Edition requirements for the fourth monitoring period including having achieved all requirements for CCB Second Edition Gold Level.

The GHG assertion provided by the project proponent and verified by ESI has resulted in the net GHG emission reduction or removal of 11,121,623 tCO<sub>2</sub> equivalents by the project during the fourth monitoring/verification period (01 July 2014 – 22 June 2017). This value is net of the 10%<sup>1</sup> (1,144,201 tCO<sub>2</sub> equivalents) buffer withholding based on the non-permanence risk assessment tool. In addition, the project has been deemed eligible for a buffer release in the amount of 1,102,111 tCO<sub>2</sub> equivalents.

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<sup>1</sup> The Project has taken the minimum Risk Rating following the VCS Non-Permanence Risk Tool v3.3

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## 1 INTRODUCTION

### 1.1 Objective

InfiniteEARTH Limited (Project Proponent) has commissioned Environmental Services, Inc. (ESI) (Verifier) to conduct the verification of emissions reductions for the Rimba Raya Biodiversity Reserve Project reported for the Verified Carbon Standard, Version 3 under the REDD Methodology VM0004 v1.0 and the Climate, Community and Biodiversity Project Design Standards (Second Edition - December 2008) for the verification period 01 July 2014 to 22 June 2017. This project has undergone the fourth VCS monitoring period verification to ensure the project has been implemented and remains compliant with the *VCS Program Guide*, *VCS Standard*, *AFOLU Requirements*, *Climate, Community and Biodiversity Project Design Standards* (Second Edition - December 2008), and the validated Project Description (PD). The verifier assessed if the Project Proponent adequately addressed increases in project emissions, unplanned reductions in carbon stocks, and any possible leakage outside the project boundary.

### 1.2 Scope and Criteria

The scope of a verification included the review of the GHG project and implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHG's; and time periods covered. The Rimba Raya project follows the framework of Reducing Emissions from Deforestation and Degradation (REDD) through Avoided Planned Deforestation (APD). The geographic verification scope is defined by the project boundary, the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods.

The scope of the project was outlined by the Project Proponent within the Validated Project Description dated 15 May 2011 and is re-defined as follows for the GHG project:

Baseline Scenario	The Rimba Raya Biodiversity Reserve Project, an initiative by InfiniteEARTH, aims to reduce Indonesia's emissions by preserving more than 47,237 hectares (carbon accounting area) of tropical peat swamp forest. This area, rich in biodiversity, including the endangered Bornean orangutan, was slated by the Provincial government and Ministry of Forestry to be converted into four palm oil estates.
Activities/Technologies/Processes	VM0004, v1.0 Conservation – avoided planned land use change in peat swamp forests
Sources/Sinks/Reservoirs	Peat soils Aboveground tree biomass Wood Products
GHG Type	CO <sub>2</sub> , CH <sub>4</sub> , and N <sub>2</sub> O
Time Period (state date, crediting period, verification period)	VCS Fourth Monitoring Period: 01 July 2014 – 22 June 2017  CCB Third Monitoring Period: 01 July 2014 – 22 June

	2017
Project Boundary	Rimba Raya Biodiversity Reserve Project – 47,237 Carbon Accounting hectares; located in the Seruyan Regency, in the province of Central Kalimantan, Borneo.  The Project lies between 112°01'12" - 112°28'12" east longitude and 02°31'48" - 03°21'00" south latitude
Total net VCUs generated during Monitoring Period	11,097,919 tCO <sub>2</sub> e

### 1.3 Level of Assurance

The assessment was conducted to provide *reasonable assurance* that conformance against the verification criteria was within the verification scope. Based on the verification findings, a final evaluation statement reasonably assures that the project GHG representations are materially accurate. Findings are determined by assessment of the project's implementation and monitoring aspects for errors, omissions, or misrepresentations (ISO 14064-3:2006)

### 1.4 Summary Description of the Project

The Rimba Raya Biodiversity Reserve Project was initiated by InfiniteEARTH Ltd to reduce emissions in Indonesia by conserving 47,237 hectares which encompasses large areas of tropical peat swamp forest. Deforestation and land conversion in Indonesia has substantially increased in recent years. The project area was planned for conversion into palm oil plantations by the Provincial government, which would degrade biodiversity and habitat for the endangered Bornean orangutan. Without the Rimba Raya Biodiversity Reserve Project, the project area would be subsequently converted to oil palm plantation from management activities, including logging, burning slash and remaining forest, and comprehensive drainage of the peatlands. The resulting release of millions of tons GHG emissions from above and belowground carbon sources over the lifetime of the project would contribute to local and global environmental concerns. The project is also intended to protect the biodiversity of adjacent Tanjung Puting National Park by creating a physical buffer along the eastern border of the park.

Economic incentives for preservation of the tropical peatland forests are created by InfiniteEARTH – the Project Proponent – using the sale of carbon credits that are generated by the Verified Carbon Standard (VCS). Carbon credits are validated through the Reducing Emissions from Deforestation and Degradation (REDD) and Avoided Planned Deforestation (APD) frameworks. The sustainable revenue stream from carbon credit sales supports local community development, provincial government infrastructure, and project area protection. Community involvement is enhanced through the development of programs to improve quality of life, such as water filtration devices, increased access to healthcare, and early childhood development. Therefore, the overall goal of the project is to demonstrate that protection of endangered peat swamps is advantageous to commercial institutions, social programs, and environmental objectives.

The Rimba Raya Carbon Accounting Area (CAA) consists of 47,237 hectares of lowland peat swamp forest located in Seruyan Hilir District, Danau Sembuluh and Hanau, Seruyan Regency, in

the province of Central Kalimantan, Indonesia. The CAA defines the boundary for CO<sub>2</sub>e emissions reductions accounting and lies within a Project Management Zone (PMZ) that will be protected and managed by the Project. The PMZ lies between 112°01'12"- 112°28'12" east longitude and 02°31'48"- 03°21'00" south latitude and is bounded by Tanjung Puting National Park in the west, the Java Sea in the south, the Seruyan River in the east, and a palm oil concession in the north.

## 2 VERIFICATION PROCESS

### 2.1 Audit Team Composition (*Rules 4.3.1*)

Demonstrate that the team conducting the audit includes expertise in the following areas:

- Proficiency in a relevant local or regional language for the project location.
- Relevant agriculture, forestry and/or other land use experience in the project country or region.
- Relevant social and cultural expertise.
- Relevant ecological and biodiversity expertise.

For VCS/CCB verifications, ESI maintains an experienced internal staff of Lead Verifiers, in addition to Certified Foresters, Registered Professional Foresters, TWS Wildlife Biologists, M.S. and PhD Forest Biometricians, Remote Sensing/GIS Specialists, and VCS approved AFOU Experts in IFM, REDD, and WRC categories. ESI's own Lead Verifiers and Project Specialists (e.g. Trained Soil Scientists) were onsite conducting the field verification activities, and subcontractors included on the audit team were employed for translation services (as applicable). ESI completes all calculation/modeling review in-house with our team of forest biometricians. ESI has been involved in 31 VCS verifications and 15 CCB verification, including a large number of methodology assessments. ESI has a specialist on staff with 20+ years of CCB experience who handles all CCB components for project review. All ESI staff involved in the audit have ecological, biodiversity, natural resources and forestry background to fulfill these requirements.

### 2.2 Method and Criteria

The verification assessed the Project's compliance with the VCS Version 3 and all associated updates, the selected methodology (VM0004, v1.0), and the validated PD. The verification also assessed the GHG emission removals through AFOLU criteria, specifically, REDD-AUD. According to the ISO14064-3, the verification criteria are the "policy, procedure or requirement used as a reference against which evidence is compared." For this project, the verification criteria followed the guidance documents provided by VCS and included the following: VCS Program Guide (v3.7, 21 June 2017), Program Definitions (v3.7, 21 June 2017), AFOLU Requirements (v3.6, 21 June 2017), AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016), and the VCS Methodology VM0004: Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests v1.0 (03 May 2013) and its associated modules and tools.



A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Verification & Sampling Plan methodology was derived from all items in our verification process stated above. Specifically, the sampling plan utilized the VCS guidance documents and ISO 14064-3. Any modifications applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

Field sampling and techniques were based on the project parameters/scope and best professional judgment of the VVB in order to meet a reasonable level of assurance as directed by the professional judgment of the Lead Verifier. Please see Section 2.5 of this report for details on the verification site visit field plan.

Extensive review of all remote sensing data was undertaken of the project region to aid the VVB in establishing a reasonable level of assurance regarding confirming the reported areas of *ex post* land cover change (from the remote sensing analysis) for the quantification of project emissions.

In addition, a risk-based approach was used for the on-the-ground field sampling effort in order to select key areas for direct observation of forest losses, leakage issues, and stated project activities. The most likely access points for anthropogenic fire and deforestation within the Project Area vicinity were toured in order to allow the VVB to establish a reasonable level of assurance regarding the implementation of project activities, and to further confirm the reported areas of *ex post* disturbance. Please see Section 2.5 of this report for more details.

The desktop verification component included a full review of all project documentation and calculations received from the Project Proponent as described below.

During the source of this 4<sup>th</sup> verification VCS/CCBA issued new guidance regarding the rotation of VVB involvement to clarify reporting year as the rotation period with which to follow VCS Rules.

## 2.3 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from, VCS program requirements, CCB program requirements, the methodology (VM0004, v1.0), and the validated PD. Initial review focused on the Monitoring Report (MR) and included an examination of the project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals. Documents reviewed included data from monitoring, carbon rights contracts, economic analysis, maps and aerial images, fire specific monitoring data, biomass and carbon calculation spread sheets, and responses to Non-conformance Requests (NCRs) and Clarification Requests (CLs).

The verification included a review of the validated PD and MR, relative to the field conditions observed and interviews with project management staff. Modifications to the Verification and Sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

The VCS AFOLU Non-Permanence Risk Tool was used by the Project Proponent to assess overall project risk. The VVB reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 10%.

For a listing of all documents received from the client for this verification, please see Appendix A.

## 2.4 Interviews

Interviews were performed during the verification site inspection and as part of the overall verification process which was additional to that provided in the project description, monitoring report and any supporting documents. The ESI verification team met with individuals with various roles in the project. This included a series of interviews with on-site and in-country staff that support the mission of the project and other conservation objectives. Onsite interviews and informal discussions were conducted with project staff, members of Orangutan International, technical consultant ecoPartners, members and leaders of the local communities. The following is a list of the main interviewees:

Individual/Group	Affiliation	Role
Joseph Falmer	Infinite Earth	Managing Director
Dr. Biruté Galdikas	Orangutan Foundation International (OFI)	
Paz Lozano	EcoPartners	Manager, Development Services
Paki	PT. Rimba Raya	Project Staff, GIS
Antonius Jonatan	PT. Rimba Raya	General Manager
Fabriasius	PT. Rimba Raya	Fire Coordinator
Anton Kesaulya	PT. Rimba Raya	Community Activities Coordinator
Tumin	Orangutan Foundation International	Expert
Nan Gunadi	PT. Rimba Raya	Field Staff Coordinator
Melita Ruchyat	PT. Rimba Raya	Communications Coordinator
Jumeri	Villager	School Headmaster

Yudhita Widhiati (Dhita)	PT. Rimba Raya	Director
Nisa Jalil (Chacha)	PT. Rimba Raya	Press releases, market coordinator, public outreach
Faqih Ramlan	PT. Rimba Raya	GIS coordinator
Firnanandez Ngariswara	PT. Rimba Raya	Project Staff
Danny	PT. Rimba Raya	North Unit Manager
Hartanon	PT. Rimba Raya	Assistant Unit Manager, North Unit
Ulak Batu Nursery	Villagers	Nursery Staff
Ika	Ulak Batu villager	Librarian
Titi	Ulak Batu Villager	Librarian
Ulak Batu informal women's group	Villagers	From interviews in library
Kuar Umum Huhlisin	Community Government	Ulak Batu community leader
Desa Anjar Wahyono	Community Government	Ulak Batu secretary
Telaga Pulang Garbage Bank and Handicraft Group	Villagers	Garbage Bank and Handicraft Group Staff
Bupati and Environmental Ministers (Maura Dua meeting location)	Government	Seruyan Regency Lead Official
Masmiyah	Villager	Teacher, Maura Dua
Jumiati	Villager	Teacher, Maura Dua
Maryana	Villager	Teacher, Maura Dua
Jumeri	Villager	Headmaster, Maura Dua Elementary School
Lina	Clinic Affiliate	Nurse
Women's Vegetable Group	Villagers	Maura Dua community

Mentari	PT. Rimba Raya	South Unit Staff
Lia Angola	PT Rimba Raya, Villager,	Community Development, Desa Tanjung
Yahya Stakrra	PT Rimba Raya, Villager	Community Development, Desa Tanjung
Alyas	PT. Rimba Raya staff, villager	Community Development, Desa Baung
Pingki Murul Hikmah	PT. Rimba Raya staff, villager	Community Development, Desa Pematang Limau
Gunadi	PT. Rimba Raya, Villager	Field Staff Coordinator
Indah Berseri Women's Chicken Group Farm (broiler)	Villagers	Women's Chicken Group
Mrs. Luay	Villager	Head of Putri Baung chicken (egg) group
Mrs. Kiti	Villager	Putri Baung chicken (egg) farming group.
Baum Village Leaders	Villagers/Village Leaders	Community
Maura Dua Staff	PT. Rimba Raya/Villagers	Local support staff
Maura Dua Women's Group	Villagers	Womens Vegetable Group
Maura Dua Women's Group	Villagers	Women Group ZUPER shrimp paste
Ruslan	Villager	Maura Dua Firefighter
A. Hasim	Villager	Maura Dua Firefighter
Mayini	Villager	Maura Dua Firefighter
Usman	Villager	Maura Dua Firefighter
Talip	Villager	Maura Dua Firefighter
Roni	Villager	Maura Dua Firefighter
Rano	Villager	Maura Dua Firefighter
M. Firdaus	Villager	Maura Dua Firefighter

Danau Sembuluh Village Leaders	Villagers/Village Leaders	Community
Erham	Villager	Salty Fish Group, Tampudau Hamlet
Murdian	Villager	Salty Fish Group, Tampudau Hamlet
Hamroni	Villager	Salty Fish Group, Tampudau Hamlet
Ardianisyah	Villager	Salty Fish Group, Tampudau Hamlet
Aroani	Villager	Salty Fish Group, Tampudau Hamlet
Yusran	Villager	Salty Fish Group, Tampudau Hamlet
Karni	Villager	Salty Fish Group, Tampudau Hamlet
Tanjung Rangsas	Villagers/Working Group	FISHERY - "Betok"
Siti Khadijar	Villager Leader	Tanjung Rangsas Community
Kurnia	Villager	Tanjung Rangsas Community
Rony	Villager	Tanjung Rangsas Community
Eloy	Villager	Tanjung Rangsas Community
Marciano	PT. Rimba Raya	Project Staff
Nuoliani	Villager	Tanjung Rangsas Community
Devi	Villager	Tanjung Rangsas Community
Rusta	Villager	Tanjung Rangsas Community
Misnawati	Villager	Tanjung Rangsas Community
Saeiah	Villager	Tanjung Rangsas Community
Rasidan	Villager	Tanjung Rangsas Community
Abdul Samad	Villager	Tanjung Rangsas Community

Juhran	Villager	Tanjung Rangas Community
Hidarham	Villager	Tanjung Rangas Community
Danau Samburuh Junior High School Teachers and Students	Teachers, Students in Telaga Pulang	Recipients of Educational benefits

## 2.5 Site Inspections

The verification site visit was a required tool to help the VVB reach reasonable assurance for verification of monitoring period reported elements. It also allowed the VVB to; understand application of the methodology on-site, confirm the implementation of project activities, and to identify possible sources of error to focus desktop verification efforts.

A ground inspection was made of the project area from 01 November 2017 – 08 November 2017 and surrounding areas located at the Seruyan Hilir District; Danau Sembuluh; and Hanau, Seruyan Regency, including a series of drone flyovers to visually review inaccessible areas; in the province of Central Kalimantan, Indonesia. The site visit ground inspection was performed to assess monitoring efforts, including but not limited to; unplanned deforestation activities, unplanned degradation, and community member feedback for the field sampling effort, direct measurement, observation and review of the monitoring period emission reductions in the key areas were determined to be the greatest risk, followed by ground-truthing and review of project activities. Ground-truth plots and/or survey locations were selected and sampled based on access and safety. The sampling activities and features are provided below for each of these key elements:

1. Boundary –
  - a. Reviewed boundaries using GPS and checked boundary demarcation/signage
2. Forest Protection –
  - a. Viewed incursions and mitigations, where applicable.
  - b. Visited highest population density communities in closest proximity to project area to interview individuals who travel into project area
  - c. Field patrol SOPs review
  - d. Reviewed monitoring survey and patrol activities in the Project Management Zone during the monitoring period including directed field surveys, expedition patrols and regular patrols by RRC, OFI and stakeholder field teams.
3. Review and observation of carbon losses in high risk areas –
  - a. Aboveground biomass/Peat burns- visited accessible areas of reporting period burns evidence (2016-2017)

- b. Discussion of data collection methods in conformance with the stated SOPs for monitoring
  - c. Confirmation of MODIS hotspot detection
  - d. Confirmation of Landsat burnt area delineation using GPS as able
  - e. Measured depth of peat burns for intensive burns
  - f. Current landcover conditions including clearing, degradation, drainage, etc. (post-fire)
4. Peat damage
- a. Visited several man-made canals, anecdotal observations:
    - i. Average depth of canal
    - ii. Area and extent impacted by peat damage
  - b. Timber extraction- visited reporting period evidence of logging (degradation and deforestation) at southern boundary, followed field SOPs and reviewed Logging Gap Field Report - compared to on- site conditions
5. Land cover change and classification –
- a. Checked current vegetative cover classification by taking waypoints, georeferenced photos, and notes through direct observation with handheld GPS, maps and drone observations
  - b. Assessed classification changes over the monitoring period during field trip travels – “Transitioned” areas to include areas now peat or no longer peat. Including deforestation as a result of land use/land cover changes- visited areas as able to check reporting period changes
6. Drone flyovers to visually review inaccessible areas and confirm the reported areas of ex post disturbance resulting in carbon stock losses (if available)
7. Reviewed overall monitoring, operational and data collection procedures
- a. Operational and data collection procedures were implemented in accordance with the SOP's as defined in project materials
  - b. Tracing of the collection, collation and reporting chain for monitored parameters
  - c. Confirmation that the quality control and quality assurance procedures are in place
  - d. Monitoring was conducted in accordance with the validated PDD and the requirements of the validated monitoring plan

## 2.6 Resolution of Findings

During the verification process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included: notifying the client of the issue(s) identified, and expanding our review to the extent that satisfied the Lead Verifier's professional judgment.

The process of resolution of findings involved one formal round of assessment by the VVB. Findings were resolved during the verification by the Project Proponent implementing corrective actions such as amending the Monitoring Report and calculations, as well as and providing written responses. This resulted in project documentation that was in conformance with the requirements of the VCS Standard for GHG projects.

Findings were characterized in the following manner:

**Non-Conformity Reports (NCRs)** were issued as a response to material discrepancies in a part of the project and generally fell into one category:

- Non-conformity to a VCS guiding document listed in Section 2.2 above
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the VVB to confirm reasonable assurance for compliance

**Clarifications (CL)** were issued when language within a project document needed extra clarification to avoid ambiguity.

**Opportunities for Improvement (OFI)** were issued to the Project Proponents when an opportunity for improvement was identified.

During the verification, thirty (30) essential findings were identified. Detailed summaries of each finding, including the issue raised, responses, and final conclusions, are provided in Appendix B. All NCRs/CLs were satisfactorily addressed.

### 2.6.1 Forward Action Requests

Provide details of any outstanding forward action requests raised during the verification, for the benefit of subsequent project audits.

At this verification a forward action request is issued for fire risk as the proponent has elected to apply a "insignificant" significance score (less than 5% loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event). The verification team understands that fire significance is based on an average loss event compared against the total stocks in the project area available to be emitted. For this monitoring period the proponent demonstrated that quantified significance score is less than 5% using average loss event



emissions and total baseline emissions for the project area. The 2015 fire year was the largest in magnitude and frequency since project start. The verification team recommends that future verification efforts focus on fire significance, including anthropogenic factors to appropriately account for fire risk.

## 2.7 Eligibility for Validation Activities

Validation activities were not undertaken as part of the second monitoring period verification.

## 3 VALIDATION FINDINGS

### 3.1 Participation under Other GHG Programs

The verification team is not aware of project involvement in other forms of environmental credits from its activities. The project has not been registered, and is not seeking registration, under any other GHG programs. The Rimba Raya Biodiversity Reserve Project currently only seeks carbon credits under the VCS program. This was confirmed through a risk-based internet review.

### 3.2 Methodology Deviations

There were two methodology deviations this period; for annual landcover classification by monitoring period and alternative monitoring methods for logging gap detection. A detailed description of the methodology deviations can be found in Section 2.2.2 of the Monitoring Report.

Verifiers agree with the assertions by proponents that monitoring for the land cover type change assessment effort can be guided by the monitoring period instead of annually. This deviation is permissible as it represents a deviation from the criteria and procedures relating to monitoring or measurement. This deviation also does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals. The methodology deviation is described sufficiently within the Monitoring Report.

Verifiers agree that logging gap detection is difficult with the generally available medium to high resolution imagery. Ultra high-resolution drone footage can be used to detect logging gaps but verifiers recognize the challenges in obtaining drone data. Using community outreach and foot patrols is an acceptable deviation and is permissible as it represents a deviation from the criteria and procedures relating to monitoring or measurement. This deviation also does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals. These two methodology deviations are valid in meeting the requirements of Section 3.5 of the VCS Standard v3.7.

### 3.3 Project Description Deviations (*Rules 3.5.7 – 3.5.10*)

Three (3) PD deviations are described in the MR Section 2.2.4.1 for this monitoring period. The PD deviations are related to; a) Update of parameters used in quantifying GHG emissions and reductions, specifically global warming potentials (GWP) for N<sub>2</sub>O and CH<sub>4</sub>. b) Update the ex-post peat burn depth value in the accounting from a literature value to a value measured within the

project area c) The monitoring of land cover change is completed for the length of the monitoring period rather than annually.

1. Following the VCS Standard v3.7 “Main Updates” it is permissible for the project to update to newer IPCC default values for global warming potential. VM0004 Section 17 also for updates to baseline calculations for these newer IPCC default values.
  - The deviation does not impact the applicability of the methodology as the intent is to improve accuracy
  - Project additionality is not impacted
  - The baseline scenario of peat conversion remains unaffected
  - Project remains in compliance with the methodology as stated in Section 17 of VM0004. "Baseline carbon stock changes do not need to be monitored after the project is established, because the accepted baseline approach assumes continuation of existing changes in carbon pools within the project boundary from the time of project validation. However, technical progress and an increase in data availability may occur, allowing for altered baseline estimates."
2. For ex-post burn scar depth, ESI confirms that the deviation from previously verified/validated literature based values to newer literature based values is appropriate. The methodology allows for the use of literature values which are confirmed using field measurements. Verifiers note that field measured burn scar depth values differ considerably from literature values in addition to differences in measurement methods, including depth of peat prior to burn. The literature values chosen have a good basis in the scientific research, please see Item numbers 15, 16, and 28 in Appendix B.
  - The deviation does not impact the applicability of the methodology as the intent is to improve accuracy through use of field-checked literature values.
  - Project additionality is not impacted
  - The baseline scenario of peat conversion remains unaffected
  - Project remains in compliance with the methodology VM0004 through implementation of the new literature based burn scar depth values as confirmed this verification
3. The project has elected to monitor land cover change by period (monitoring period) instead of annually as prescribed by VM0004. Verifiers agree with the assertions by proponents that monitoring efforts can be guided by the period instead of annual as the effects on monitoring results are minimal.
  - The deviation does not impact the applicability of the methodology as the intent is to improve accuracy

- Project additionality is not impacted
  - The baseline scenario of peat conversion remains unaffected
  - Project remains in compliance with the methodology VM0004 through implementation of LULC analysis steps as confirmed this verification
4. The project has estimated the number of logging gaps differently than methods as described in the validated PD and MR. Observed logging activity area was divided by the average area of one logging gap to determine the number of logging gaps where field measurement or aerial imagery was unable to assess. Verifiers agree that this results in a conservative estimate of the number of logging gaps.
- The deviation does not impact the applicability of the methodology as the intent is to improve accuracy
  - Project additionality is not impacted
  - The baseline scenario of peat conversion remains unaffected
  - Project remains in compliance with the methodology VM0004 through implementation of the steps taken to account for logging gaps as confirmed this verification

The project remains in compliance with the VCS Standard, Section 3.6.1 where Project Description Deviations are permissible at verification if the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology. Further, the project has not applied any CCB (Rules 3.5.7) project description deviations for any of the listed situations.

### 3.4 Minor Changes to Project Description (*Rules 3.5.6*)

The project for this monitoring period did not experience any changes (minor or significant) to the project's validated design and remains on compliance.

### 3.5 Monitoring Plans (CL3.2, CM3.3, B3.3)

All of the climate, community or biodiversity impact monitoring plans have previously been validated against the Climate, Community & Biodiversity Standards therefore this section is not applicable.

## 4 VERIFICATION FINDINGS

### 4.1 Public Comments (*Rules 4.6*)

No public comments were received for this project as confirmed by an email from VCS on 28 November 2017, the same date the CCB public comment period expired.

## 4.2 Summary of Project Benefits

Please see Section 1.4 of this report for a summary description of the Rimba Raya Biodiversity Reserve Project.

The project seeks to reduce emissions in Indonesia by conserving 47,237 hectares encompassing tropical peat swamp forest. Deforestation and land conversion in Indonesia has substantially increased in recent years. The project area was planned for conversion into palm oil plantations by the Provincial government, which would degrade biodiversity and habitat for the endangered Bornean orangutan. Without the *Rimba Raya Biodiversity Reserve Project*, the project area would be subsequently converted to oil palm plantation from management activities, including logging, burning slash and remaining forest, and comprehensive drainage of the peatlands. The resulting release of millions of tons GHG emissions from above and belowground carbon sources over the lifetime of the project would contribute to local and global environmental concerns.

Verifiers were able to substantiate through site visit observations, interviews and document review that during this monitoring period, Rimba Raya has shown substantial climate benefits from avoided emissions. Verifiers were also able to confirm that the project has demonstrated that the rights and needs of local communities have been appropriately addressed as well as important biodiversity conservation issues.

## 4.3 General

### 4.3.1 Implementation Status (G3.4, CL1.5)

The project activities and Monitoring Plan, as described in the validated PD, have been fully initiated. There are no remaining issues from the validation. As this is the fourth verification, most activities have been implemented, and verifiers observed much progress during the verification site visit compared to the fourth verification.

Verifiers requested to visit examples of all activities during the various Site Inspections and subsequently confirmed the initial implementation of all items related to climate, community, and biodiversity. Climate objectives are avoiding the 130 million tonnes of CO<sub>2</sub>e that would have been emitted in the 'without project' scenario, and to pose as a physical barrier between oil palm plantations and Tanjung Puting National Park, to protect the hydrological integrity of the park and avoid emissions from drained peat swamp.

Biodiversity objectives are to expand the contiguous habitat of the national park all the way to the Seruyan River, to the east of the park, providing a physical boundary, and supporting the work of Orangutan Foundation International and Dr. Birute Galdikas with project activities aimed at extending the organization's conservation, rehabilitation and environmental education programs.

Community objectives are to engage with the communities in the project zone to improve access to healthcare, education and governmental services, and to ensure food security, access to employment and capacity building opportunities.

The steps taken by verifiers to confirm the implementation status of the project include, for instance. The existence of any material discrepancies between project implementation and the project description was confirmed through the overall audit process including interviews and documentary review. The implementation status of the monitoring plan and the completeness of monitoring, including the suitability of the implemented monitoring system was confirmed through review of VM0004 adopted procedures and comparison of monitoring results against the validated project design. Implementation status of individual elements are summarized below:

- The primary project activity, establishing the Rimba Raya Reserve, achieves most biodiversity goals
- Hiring of local guards/field crews is providing income opportunities in local communities. A number of people were hired for guarding/patrol and fire brigades during the monitoring period as part of ongoing and regular hiring practices. Three new guard posts were constructed during the period
- Fire response system – not completely in place during the monitoring period, but additional people have been hired and training has been commencing for fire protection activities. Full field crews were confirmed in place for fire fighting
- Monitoring plan – biodiversity impacts obvious
- Replanting/enrichment – about 180,000 seedlings were planted in formerly forested areas in the project area (not for C accounting purposes), providing income to local community members. Extensive replanting operations were being conducted during the site visit
- Cash crop agroforestry activities – nurseries established, plantings begun. Provides income, food sources for communities
- OFI funding – biodiversity clearly benefits
- Co-management of TPNP – still in planning stage, this activity will provide needed resources to the underfunded park, benefiting biodiversity and communities through employment opportunities
- Social buffer – the goal is to surround the project with communities in favor of the project, who understand and buy into the project and its goals. A key to this is economic development. While limited activity took place in this regard during the monitoring period, education, hiring and training in regard to the project and project supported activities was clearly in evidence during the site visit
- Community centers – stimulus fund established, some centers built. Multiple positive impacts for communities and biodiversity
- Agricultural training is in progress – community impacts clear, potential biodiversity impacts are obvious

- Clean water systems – ceramic water filter devices were distributed and were in use during the monitoring period. Subsequent inquiries revealed some towns had pre-existing water systems, which have now be repaired and a system put in place to provide maintenance
- Fuel efficient stoves – so far, pilot programs for efficient stoves have met limited success, but efforts are continuing to provide stoves desired by community members
- Biochar – no activity commenced thus far.
- Small scale solar lighting – solar lanterns and limited numbers of solar panels have been distributed
- Micro-credit – no activity commenced thus far
- Sustainable healthcare – the project has started collaboration with a health care program group to develop a strategy to deliver health care in project zone communities. Water filters were distributed and a clean water system was installed in the village of Baung
- Floating clinic – in early planning stages
- Capacity building programs – some capacity building related to agricultural education and other general subject areas for high school and middle school students is underway in Telaga Pulang. Classes observed and students interviewed during site visit

The Project Proponents' efforts were dominated by the establishment and protection of project boundaries during the monitoring period, but the establishment and protection of the project area is key to most biodiversity goals and many community goals. Some community related activities commenced during the monitoring period (agricultural education in particular), but in the months between the end of the monitoring period and the site visit, many project activities were initiated and are in operation today.

Several new methodology deviations relating to monitoring and/or measurement of GHG emission reductions or removals were applied by the project developer/identified by ESI during this fourth monitoring period verification. Please see Section 3.2 of this report. The GHG emission reductions generated by the project have not become included in an emissions trading program other than the VCS program and it has not received or sought any other form of environmental credit as confirmed through a risk-based review by the verification team.

Sustainable development contributions are applicable to this project although Indonesia has achieved many Sustainable Development Goals. The project was confirmed to be actively supporting many UN SDGs as reported in Table 2 of the monitoring report through the site visit interviews and document review as part of the verification. The goals of the project activities, providing income, increasing forest cover and crop diversity, are clearly and directly related to increasing the well-being of the local communities. Verifiers can conclude that the project has been implemented as described in the validated project description.

#### 4.3.2 Risks to the Project (G3.5)

The MR describes the natural and human-induced risks to be continued pressure from oil palm expansion at the northern boundary, and from fires lit by bordering communities for agricultural or other purposes. The project is expanding patrols, has established fire towers and has installed permanent guard posts. The MR refers to eventually permanently marking project boundaries. This was completed around the time of the site visit, with concrete posts spaced around the concession perimeter.

The MR also states the project will continue to seek ways to expand the income of local community members, reducing pressure on the project area lands. The site visit confirms that the project remains under pressure from an oil palm plantation seeking to expand at its northern boundary, but that the line is being held in a contested area near Ulak Batu. Burning pressures from surrounding communities also appear to be risks.

Since the end of the monitoring period, many of the fire/monitoring teams have been hired from local communities. Temporary tree planters and seedling growers have derived income through the project. It is clear that the Project Proponents have taken strong steps to reduce the most pressing risks.

#### 4.3.3 Enhancement of High Conservation Values (G3.6)

The MR explains that the HCVs identified for the project area are dependent upon the area remaining undrained and undeveloped. The main project activity and project goal – protection and enhancement of the project area – enhance the HCVs. Measures to maintain HCVs are listed appropriately in the MR and details of risk management for HCVs are described above in Section 5.2.

#### 4.3.4 Benefit Permanence (G3.7)

The MR states that the Project Proponents have had carbon revenues since 2013 through several sales and that sufficient funds are available to conduct the project. A detailed financial analysis was provided as evidence to support the assertion of adequate funds and a sufficient cash flow to continue project activities through the next year, even with the current low price of voluntary carbon offset credits. The creation of the project area, as well as the revenue made from the sale of carbon credits, as explained by the proponent, will continue to fund community-based action so that benefits are experienced during the lifetime of the project and that they positively impact future generations of the community

#### 4.3.5 Stakeholder Engagement (G3.8 – G3.9)

The MR states that a summary of this monitoring report was distributed in the project zone in all villages and sub-district seats. Notices were also placed on village bulletin boards and distributed by world education.



During the site visit, messages regarding the scheduling of the auditor site visit and contact information for the auditing team and for filing comments with VCS/CCB were seen on community bulletin boards, in the local language.

Formal and informal meetings with public officials and community members revealed regular contact between stakeholders and project management, and regular updates. Communications between project management and the community was described as suitable by several parties.

The auditors found that regular, nearly constant communications exist between the project and community members, traditional and official leaders, and other stakeholders. Managers are stationed in villages in the project zone, with locally hired staff. Regional government officials are in regular contact with management. The Jakarta staff is in daily contact with relevant national government officials, as their offices are within the Ministry of Forestry offices. Communications between the project and stakeholders is effective and nearly constant in many ways.

Conflict resolution process remains the same from the previous verification. World Education will serve as the third-party mediator, should that become necessary.

#### **4.3.6 Stakeholder Grievance Redress Procedure (G3.10)**

A grievance/conflict resolution process is in place where World Education serves as the third-party mediator, should that become necessary. It has changed slightly since the third verification, in that it is managed by a third party to include local villagers hired as community development staff and trained as facilitators. During the verification site visit the grievance process SOP was reviewed and the grievance process involvement of local community was confirmed to be publicized and practiced as originally intended. The grievance redress procedure was also observed during the site visit and discussed and all elements found to have been needed in the process were included to make sure it meets with standard conflict resolution protocols. The full grievance/conflict resolution process is provided in the monitoring report Section 2.3.4.

#### **4.3.7 Worker Relations (G4.3 – G4.6)**

Plans for training and capacity building of project employees have been in place since the first CCB verification. The monitoring report further describes training that occurred during the monitoring period, including; Rapid assessment training, Firefighting and prevention training for fire brigades, Wildlife monitoring, Agro-forestry/ecosystem restoration and HCV training, Small business development (particularly targeting women). A firefighting drill/demonstration was carried out during the site visit.

Interviews during the site visit confirmed employees were trained and well-versed in the skills needed to do their jobs. Women involved in chicken meat and egg enterprises were trained and using the skills they learned. The monitoring report describes the policy for hiring employees. Jobs are announced on village bulletin boards, in village offices and mosques. Members of project zone communities are given priority for all positions. Women and minority group members were said to be adequately represented in this process. 52 new personnel were hired during this monitoring period, of which 11 are women. 18 of the 73 staff members are women. Women were



also the beneficiaries of the micro-credit program, in income producing activities, like shrimp paste production, chicken meat and egg production.

The monitoring report provides a comprehensive list of laws that govern relations between workers and employers. All employees have signed employment agreements and provided a copy of regulations so they are aware of their rights. An updated health and safety SOP was provided to verifiers. Responsibilities, use and care of PPE are described, and it is compatible with the description of the safety training process described in the monitoring report. Details of safety SOPs and related were observed during the site visit, workers interviewed were confirmed to have been informed of risks and verbally instructed how to minimize them, at the time new employees are hired.

#### **4.3.8 Technical and Management Capacity (G4.2, G4.7)**

The monitoring report states that the technical skills of the project proponent and other partner organizations were maintained and that project activities were implemented successfully. ecoPartners, LLC, was used for monitoring and GHG emissions quantification reductions. It is a well-known consulting company for carbon offset projects, and provided technical input with remote sensing and provides support for guidance through verification. Key skills include supervision of physical assets, administration, logistics, budgets, human resources, certification of carbon credits and management and monitoring of wildlife habitat and wildlife populations. InfiniteEARTH and OFI have this expertise, which is further explained, in detail, in the monitoring report.

The monitoring report states that the project has had revenues since a large sale of credits was made. Since that time, several million more credits were sold. It further states that both the project and InfiniteEARTH have funds available to manage the project operations, and that further proprietary information can be made available to the verification body. The Project provided verifiers with an updated budget and cashflow worksheet. The Project's breakeven point was confirmed to be in 2018, which is less than 1 year from the current risk assessment. The project was also confirmed to have secured 144% of the funding needed to cover the total cash out before the project reaches breakeven, as seen in the confidential budget and cashflow model that was provided to the verifiers. The project has the technical, management and financial capacity to implement the project in accordance with the validated project design.

#### **4.3.9 Legal Status (G5.1)**

The national and local laws listed all pertain to labor. (see G4.5 under Section 4.3.7 above)). In Indonesia, the government owns all land and grants rights of use. The government of Indonesia began formally regulating REDD projects in 2009. The MR states all laws will be followed or exceeded. Employees will be informed of their rights upon hiring. Indonesia is not a party to any emissions limiting treaties or regulations.

#### **4.3.10 Rights Protection and Free, Prior and Informed Consent (G5.3-G5.5)**

The monitoring report states that the project does not encroach on private, community or government property. No one lived on project lands before the project start date. Local

community members may still use project lands for fishing, collecting of forest products and small-scale removal of trees. The project has signed agreements with 8 of the 14 communities around the project area as observed during the site visit, and continues to seek agreements with the rest. The project developers are not encroaching on private or community property. Land in Indonesia is owned by the government, and rights to manage the land are granted. The project received the needed grants and approvals from government officials, and has extensively consulted with local community leaders and members.

Further, the report states that the project has not required anyone to relocate and has preserved the right to access the project area for fishing, small scale removal of trees and non-timber forest products. The project pledges never to relocate any people who could conceivably encroach on project area lands. It has been suggested to one community, Ulak Batu, that they consider moving due to increased flooding in recent years, which has caused two years of crop failure. At the time of the site visit, the community was not interested in relocating.

The monitoring report lists encroachment by palm oil plantations, illegal logging and resource use by surrounding communities as three illegal activities that can impact the climate, community and biodiversity goals of the project. Guard posts were built along the northern boundary of the project area, as that was found to be vulnerable to palm oil plantation encroachment. A pineapple plantation was planted between the palm oil operations and the project. Work toward better relations between palm oil plantations and the project has been going on.

Guard posts have also been built in other parts of the project area and patrols are ongoing for fires, illegal logging and hunting. The project partnered with World Education to help surrounding communities to become more self-sufficient in food production to reduce the need to use the project area for resource extraction and causing fires. Based on site visit observations and document review verifiers can conclude that the project has protected the rights of Indigenous Peoples, communities and other stakeholders in accordance to the *Climate, Community & Biodiversity Standards* and the validated project design

#### 4.3.11 Identification of Illegal Activities (G5.5)

The monitoring report lists encroachment by palm oil plantations, illegal logging and resource use by surrounding communities as three illegal activities that can impact the climate, community and biodiversity goals of the project. Guard posts were built along the northern boundary of the project area, as that was found to be vulnerable to palm oil plantation encroachment. A pineapple plantation was planted between the palm oil operations and the project. Work toward better relations between palm oil plantations and the project has been going on.

Guard posts have also been built in other parts of the project area and patrols are ongoing for fires, illegal logging and hunting. The project partnered with World Education to help surrounding communities to become more self-sufficient in food production to reduce the need to use the project area for resource extraction and causing fires.

## 4.4 Climate

### 4.4.1 Accuracy of GHG Emission Reduction and Removal Calculations

ESI conducted an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS and CCB standards, the validated project PD and the methodology. Further, ESI reproduced calculations for selected samples to ensure accuracy of the results. Samples of data with associated conversion factors, formulas, and calculations were provided by the project proponent in spreadsheet format to ensure all formulas were accessible for review. The verifier recalculated subsets of the analysis to confirm correctness. The Project Proponent also provided a step-by-step overview of calculations as needed to ensure ESI understood the approach and could confirm its consistency with the methodology and PD.

ESI also reviewed a comprehensive assessment of data collection and storage procedures to ensure all opportunities for error in transposition of data between data were minimized. Uncertainty was assessed as required. Verifiers recalculated the statistics independently to confirm the accuracy of the reported precision.

Field data collection utilized appropriate principles of forestry data collection, including appropriate tools and methods. Collected data was handled appropriately, including a structured process for QA/QC. Analysis of collected data used appropriate formulas, conversions, and parameters, supported by scientific literature. Where ranges of parameters exist, or other types of formulaic uncertainty, appropriately conservative values were used in data analysis.

For this period no leakage monitoring is required following VM0004, please see Item Number 5 in Appendix B.

Based on the above, verifiers can conclude that GHG emission reductions and removals have been quantified correctly in accordance with the project description and applied methodology.

### 4.4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

During ESI's verification, the evidence provided by the project proponent was more than sufficient in both quantity and quality to support the determination of GHG emission removals reported by the project. Throughout the verification, the Project Proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided. Interviews conducted (oral evidence) are outlined in Section 2.4, and the final documents received from the Project Proponent supporting the determination of GHG removals can be viewed in Appendix A.

### 4.4.3 Non-Permanence Risk Analysis

The *Rimba Raya Biodiversity Reserve Project Monitoring Report* utilized the non-permanence risk analysis tool, AFOLU Non-Permanence Risk Tool v3.3, to assess risk according to internal risk, external risk, natural risk, and mitigation measures for minimizing risk. The verification team reviewed the Non-Permanence Risk Report following VCS AFOLU Requirements Section 3.7.3

and confirmed that the project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. At all levels, the verification team evaluated the rationale, appropriateness, and justifications of risk ratings chosen by the project proponent. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B.

The final score was calculated to be 6% and thus the project is able to take the minimum risk rating of 10%. A brief review of each factor is found in the table below:

Risk Factor	Rationale & Quality	Conclusion
<b>Internal Risks</b>		
Project Management	The management team includes individuals with skills necessary to undertake all project activities. Project proponents and technical consultants have experience in the development of carbon projects with the same project activities thus also lowering overall internal risk. Other project management components were confirmed to have been applied during the site visit.	A risk rating of <b>-2</b> is appropriate given the rationale provided and all statements made are substantiated.
Financial viability	Project proponents provided the verification team appropriate and verifiable documentation to prove project financial breakeven is less than 1 year from this risk assessment. Items presented to the verification team by project proponents give reasonable assurance that the risk rating for financial viability is appropriately set. Values were sourced from reputable sources and calculations were confirmed correct through data checks.	A risk rating of <b>0</b> is appropriate given the rationale provided and all statements made are substantiated.
Opportunity Cost	A comprehensive NPV analysis was provided to substantiate the most profitable alternative (oil palm plantation) is like the project scenario. The project applied the highest and most conservative based on the results of the NPV analysis which showed that the NPV of oil palm production was 200% more than the project activity. The financial model was confirmed through review of materials that substantiate NPV assumptions including but not limited to; literature sources, carbon credit value estimates and commodity price changes. Literature sources were found to be reputable (The World Bank). Verifiers traced key values in the NPV calculations worksheet to confirm their source and correctness. The project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity) allowing for a -2 mitigation score.	A risk rating of <b>6</b> is appropriate given the rationale provided.

Project Longevity	Legal contractual agreements to address enforceability of carbon stock protection for the project exist as the project holds licenses that cover the entire project lifetime. As such, the value applied was appropriate.	A risk rating of <b>0</b> is appropriate given the rationale provided.
<b>Total Internal Risks</b>		<b>4</b>
<b>External Risks</b>		
Land Tenure	For this Indonesian project the ownership and resource access/use are held by different entities. The government owns the land and the project retains ownership rights.	A risk rating of <b>2</b> is appropriate given the rationale provided.
Community Engagement	Extensive stakeholder consultation and community institution building was confirmed during the site visit. Consultation on community needs was confirmed for those communities visited that are close to the project area. The project, through partnerships (e.g. World Education), has strong intentions to improve the social and economic well-being of local communities.	A risk rating of <b>-5</b> is appropriate given the rationale provided.
Political Risk	Verification Team confirmed the political risk to be rated correctly for the average governance score from the World Bank. Central Kalimantan, Indonesia participates in the Governors' Climate and Forest Taskforce and Indonesia is working on REDD+ Readiness activities as confirmed through an internet search. Note the total may not be less than zero.	A risk rating of <b>0</b> is appropriate given the rationale provided.
<b>Total External Risks</b>		<b>0</b>
<b>Natural Risks</b>		
Natural Risk	<p>The risk rating was taken for Natural Risks Fire and Extreme Weather. Natural fire incidence is low as the elevated water table in undrained peatlands prevents spreading. Previous fires in drained areas visited during the site visit were confirmed to be anthropogenic. The verification team agrees with this assessment as being appropriate.</p> <p>Verification Team agrees that the forests of the project area have a high species diversity and therefore resistant to catastrophic disturbance caused by insect pests or forests diseases.</p> <p>Project proponents appropriately base risk of extreme weather risk rating from the likelihood</p>	A combined natural risk rating of <b>2.0</b> is appropriate given the rationale provided and all statements made are substantiated.

	<p>of wind disturbance which could influence carbon stocks.</p> <p>Local geology (i.e. volcanos, fault lines) are not active in the project area and the risk rating was appropriately given as zero.</p>	
<b>Total Natural Risks</b>		<b>2.0</b>
<p><b>Overall Risk Rating = 6%</b> <b>Non-Permanence Risk Rating = 10%</b></p>		

In summary, project proponents have accounted for risk factors in a reasonable manner and have reached an overall risk rating that encompasses all risks of non-permanence. The project has applied the minimum Non-Permanence Risk Rating of 10%. As required, risk will be reassessed and given risk scores at each verification period.

The project has undergone verification for five (5) continuous years and is therefore eligible for release of buffer credits following VCS Registration and Issuance Process Document 21 June 2017, v3.8. Verifiers noted that the first monitoring period verification report on the VCS website was dated 22 May 2013 for issuance of credits and the project requested buffer release for years 1-5. The VCS Registration and Issuance Section 6.2.2 includes several references which indicate the project is eligible to receive a buffer release of credits on 22 May 2018 after the ending of this verification.

#### **4.4.4 Dissemination of Climate Monitoring Plan and Results (CL3.2)**

The monitoring report describes dissemination of project materials in Section 2.3.3. A summary of the monitoring report and the monitoring results copied for distribution on the community information board in all of the villages within the Rimba Raya operational area as well as district and sub-district seats. This was confirmed during the site visit. Notices were observed to have been placed on the community information boards within villages about the availability of any summary or important project documentation. World Education and Rimba Raya office locations were observed to have copies of the monitoring report and other relevant project documentation to distribute to community members that make requests and made available in the local language.

#### **4.4.5 Optional Gold Level: Climate Change Adaptation Benefits (GL1.4)**

The primary drivers of environmental degradation due to climate change in the region of the project area is drought and associated fires. Fire patrols, patrol stations and firefighting brigades have been set up and trained by the project. Reforestation, agroforestry, and protecting large patches of forest are also designed to mitigate environmental degradation. Activities to mitigate threats to food security include fire suppression, reforestation and agroforestry, soil enrichment with biochar and crop diversification. Activities to mitigate threats to income include fire suppression, education and the planned floating clinic



## 4.5 Community

### 4.5.1 Community Impacts (CM1.1)

The monitoring report states that community impacts of the project were evaluated through the Theory of Change framework. In comparison with the 'without project' scenario, the most obvious benefits are that the project lands remain intact, and continue to deliver the ecosystem services often taken for granted, like clean water, flood mitigation, fish populations and the continued availability of non-timber forest products.

The original promise of palm oil production assumed that it would mostly be produced by small holders. The reality is that most palm oil is produced by large plantations, often installed without consulting local communities. Wages are low because there are few other income producing opportunities and workers are often imported from other islands.

The monitoring report goes on to compare the project benefits and goals with what would become of those goals if the project area was converted to a palm oil plantation, as originally planned. None of the benefits or goals would be achieved, as they are not the interests of the palm oil industry. Palm oil interests do occasionally provide communities with money for holiday celebrations and other purposes.

The report concludes that the community benefits are positive for the 'with project' scenario compared with the 'without project' scenario. The site visit interviews with community members and leaders demonstrated that communities were receiving benefits they would not otherwise have received in the absence of the project. Jobs were created and other income-producing opportunities were made available, and have included the poorest people and women.

### 4.5.2 Net Positive Community Well-being (CM1.1)

The site visit interviews with community members and leaders demonstrated that communities were receiving benefits they would not otherwise have received in the absence of the project. Jobs were created and other income-producing opportunities were made available, and have included the poorest people and women. All evidence indicates that project benefits have reached essentially all households in the communities.

Some community leaders were unsatisfied and freely expressed their dissatisfaction at site visit meetings. The complaints were related to miscommunication, poor communication and/or unrealistic expectations or a misunderstanding about the goals of the project. While communications with certain communities could be improved, this does not change the view of the verifiers that the project has produced net positive benefits to all community members. Verifiers can confidently conclude that the net impact of project activities on community groups is positive.

### 4.5.3 Protection of High Conservation Values (CM1.2)

The community-related HCVs provided by the project area include:

- 4.1 Areas or ecosystems important to the provision of water and prevention of floods for downstream communities.
- 4.3 Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire.
- 5 Natural areas critical for meeting the basic needs of local people.
- 6 Areas critical for maintaining the cultural identity of local communities.

Project activities are discussed in detail. The threats of the 'without project' scenario to these HCVs are discussed, and management activities to reduce or prevent those threats are listed. None of the project activities have had, nor are likely to have, a negative impact on community-related HCVs. They are designed to either protect or enhance existing HCVs

#### 4.5.4 Other Stakeholder Impacts (CM2.2-CM2.3)

The project developers identified potential impacts to:

- Subsistence livelihoods
- Hunting
- Forest harvesting
- Employment

While this is a reasonable list of potential impacts, the potential for these impacts to be serious are low. This was confirmed through interviews and observations during the site visit.

The monitoring report states that there has been no imposition on traditional hunting and harvesting, because the project doesn't seek to curtail them and they add little to local economies. Negative impacts from hunting are limited, as one of the key game animals is the wild hog, which are not eaten or hunted by local Muslims. Some deer are occasionally harvested. Project activities enhance fishing opportunities.

According to surveys, local communities are not actively engaged in logging, beyond simple usage. As a means to mitigate loss of income from logging, other revenue sources were introduced, including a pineapple plantation, chicken farm development. In addition, the project is actively planting tree seedlings within the project buffer area. Seedlings are purchased from local community nurseries and planted by temporary employees of the project, who are from the communities.

Employment in local communities has not been greatly impacted, because palm oil plantations prefer to hire workers from other islands. Some employment and income producing opportunities have been created by the project. Using the theory of change framework and results from monitoring, project developers have determined the project has a net positive impact on all stakeholder groups. This analysis is further described in a table in section 4.2.1. All off-site



stakeholders with negative impacts as a result of the project were either the displaced palm oil plantations or people engaged in illegal activities. Others have benefited from the maintenance and improvements in ecosystem services, or have received the benefits of social and economic programs.

The negative impacts of the project to people involved in illegal activities or the identified agents of land degradation are unavoidable. The net impacts to all other stakeholders are clearly positive.

#### **4.5.5 Community Monitoring Plan (CM3.1, CM3.2, GL2.5)**

A plan for monitoring community variables was developed early in the project lifetime and successfully validated. Results of the most recent monitoring are included in Table 27 of the MR. Additional monitoring variables have been identified over the lifetime of the project. Through document review and the site visit verifiers confirmed the monitoring plan is in place and monitoring is going on.

The HCVs related to community well-being are conserved by conserving the natural landscape and preventing its drainage and conversion to oil palm plantation.

Monitoring has been able to show that monitoring will be able to identify positive and negative impacts on the more vulnerable people in the communities. Livelihoods were found to be dependent on fishing and farming, with productivity in decline and project activities were designed to enhance these activities. Survey questions were provided to verifiers and they directly address whether the survey subjects have benefited from the project and their attitudes and expectations toward the project and other aspects of life in the community. New questions for future interviews were also provided, several of which request more in-depth information and descriptions from the subjects.

Verifiers conclude the community monitoring plan was carried out in accordance to the validated project design.

#### **4.5.6 Community Monitoring Plan Dissemination (CM3.3)**

The commitment was made long ago, and the monitoring plan has been in place for years. Reports are compiled and are available to anyone, on request. It is clear to verifiers that project developers have met their commitment to developing a monitoring plan and are implementing. Please see Section 4.4.4 above for further details.

#### **4.5.7 Optional Gold Level: Barriers to Benefits (GL2.3)**

The main barriers or risks that might prevent project benefits from reaching the poorer households were identified as:

1. Communications on program opportunities are restricted, intentionally or unintentionally, from poorer households.

2. Communities being provoked by opponents of the project to reject the project by spreading misinformation.

These barriers and risks are mitigated through direct communications with target households, identified during community surveys. The project was confirmed to communicate directly with community members, during surveys and at other times during the project. Much of the work provided by the project is done by poor members of the community. Verifiers can conclude that project activities have tended to increase the flow of benefits to poorer households

#### **4.5.8 Optional Gold Level: Protections for Poorer and the more Vulnerable (GL2.4)**

The project has been able to demonstrate that measures have been taken to identify poorer and more vulnerable households and individuals whose well-being or poverty may be negatively affected by the project. Surveys were conducted to identify the poorest households and their well-being. A supplemental survey was conducted in 2017 to assess the positive and negative impacts of the project on poor and vulnerable groups, including women.

The surveys (also provided to verifiers) indicated the poorest quartile of households benefitted substantially from access to clean water, healthcare, education, libraries, training, credit and employment opportunities. It is extremely likely that the poorest households benefitted from project activities. Many, including healthcare, clean water and libraries, are available to all, whether or not they receive employment with the project. Impacts are unlikely to be negative to vulnerable groups. The steps taken by the project support an overall conclusion that the project fulfilled the requirements of GL2.4 of the *Climate, Community & Biodiversity Standards*.

### **4.6 Biodiversity**

#### **4.6.1 Biodiversity Changes (B1.1)**

The monitoring report states that the net biodiversity impacts are positive. Metrics include the number of hectares significantly better managed for biodiversity in comparison with the 'without project' scenario, and the increased number of critically endangered species that benefit from reduced threats. Verifiers conclude that the 'with project' scenario preserves habitat for rare, endangered and endemic species and the 'without project' scenario eliminates that same habitat.

#### **4.6.2 High Conservation Values Protected (B1.2)**

The monitoring report states that no planned project activities negatively impacted HCVs in the project zone, and goes into detail. The primary purpose of the project has always been to protect the biodiversity-related HCVs of the project area. Threats to these HCVs are listed in table 31 of the MR, along with the activities, suggested and implemented, to address the threats.

Threats and impacts of the project on each HCV is further detailed. In each case, the conclusion was that the project has produced net positive impacts.

#### **4.6.3 Invasive Species (B1.3)**

The monitoring report provides a list of species used in replanting, in table 23. All are native and not considered invasive. The species listed are not invasive in Borneo. This conclusion was substantiated by observations of tree planting efforts during the site visit.

#### **4.6.4 Impacts of Non-native Species (B1.4)**

No non-native species are used by the project. The monitoring report provides a list of species used in replanting, in table 23 of the MR. All are native and not considered invasive. The species listed are not invasive in Borneo. This conclusion was substantiated by observations of tree planting efforts during the site visit.

#### **4.6.5 GMO Exclusion (B1.5)**

The monitoring report includes this guarantee that no GMOs are used to generate GHG emission reductions or removals. Verifiers believe this to be reasonable based on the project characteristics and goals.

#### **4.6.6 Negative Offsite Biodiversity Impacts and Mitigation (B2.2)**

The monitoring report states that the project proponent is monitoring the movements and business activities of oil palm companies that are planning to retire their licenses as a result of project activities. They are also monitoring illegal logging activities in the project zone. Some alternative job opportunities for illegal loggers are being created. It is reasonable to monitor the agents of deforestation in determining activity displacement leakage. Providing job opportunities to former illegal loggers is a reasonable mitigation measure to prevent activity leakage of this sort.

#### **4.6.7 Net Biodiversity Benefits (B2.3)**

The monitoring report states, "It should be noted, finally, that any potential off-site negative impacts to biodiversity have been more than offset by the project's role as a physical buffer to TPNP and the protection that the project has already offered to the park's biodiversity." It further discusses the potential for activity displacement leakage.

Palm oil production and illegal logging is expanding, regardless of project activities, according to current land use planning in Kalimantan, and demand for palm oil is increasing. It concludes that, in light of planned expansion and demand for oil, the incremental impact of the project is likely to be small. It is unlikely that the permanent preservation of habitat in Kalimantan will ultimately result in an equal or greater amount of habitat destruction, elsewhere. In light of current land use plans and palm oil demand, it is reasonable to assume the net biodiversity benefit of the project will be positive.

#### **4.6.8 Biodiversity Monitoring Results (B3.1, B3.2)**

A full biodiversity monitoring plan was developed and is in operation. An initial plan was developed and included in the project PD and the previous monitoring report. It is not mentioned in the current monitoring report. During this monitoring period, biodiversity monitoring was

incorporated into rapid assessment activities. Monitoring report details are described in table 34 of the MR.

#### **4.6.9 Biodiversity Monitoring Plan Dissemination (B3.3)**

The full monitoring plan was developed and is available on the VCS/CCBA website. The monitoring report states that field monitoring is ongoing and a summary is produced by the Sampit office monthly. A monthly report is produced and sent to InfiniteEARTH and RRC. Reports are available to anyone, on request. Summaries of monitoring reports are available on community bulletin boards and are disseminated to all stakeholders.

The biodiversity monitoring results were included in table 34 of the monitoring report. The project developed a full biodiversity monitoring plan early in the project's history, and has been actively monitoring for biodiversity. Results are available within this monitoring report.

#### **4.7 Additional Project Implementation Information**

No additional project implementation is relevant for reporting here as details on project implementation are included in preceding sections.

#### **4.8 Additional Project Impact Information**

The project has been able to demonstrate impacts to all CCB indicators as mentioned throughout this report in addition to achieving CCB Gold Level. No further steps to verify additional monitoring were warranted. The reported project impact information was sufficient and suitable for the verification of the project's CCB impacts.

### **5 VERIFICATION CONCLUSION**

After review of all project information, procedures, calculations, and supporting documentation and site visits, ESI confirms that the monitoring conducted by the Project Proponent, along with the supporting Monitoring & Implementation Report, are accurate and consistent with all aforementioned VCS Version 3 and CCB Version 2 criteria, the validated PD, and the selected methodology (VM0004 v1.0). ESI confirms that the Rimba Raya Biodiversity Reserve Project, Monitoring & Implementation Report (Version 1.65 dated 21 March 2019) has been implemented in accordance with the validated PD including any validated changes as applicable.

ESI confirms all verification activities, including objectives, scope and criteria, level of assurance, monitoring and project documentation adherence to VCS Version 3 (and all associated updates), and CCB Project Design Standards (Second Edition), as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that the Rimba Raya Biodiversity Reserve Project (15 May 2011), meets the requirements of VCS Version 3 (and all associated updates) and CCB Project Design Standards (Second Edition) for the fourth monitoring period. The project is achieving the climate, community, and biodiversity benefits, including Gold Level Climate Change Adaptation, Exceptional Community, and Exceptional Biodiversity Benefits as described in the Monitoring & Implementation Report Version 1.65 dated 20 March 2019.

The GHG assertion provided by the project proponent and verified by ESI has resulted in the net GHG emission reduction or removal of 11,121,623 tCO<sub>2</sub> equivalents by the project during the fourth monitoring/verification period (01 July 2014 – 22 June 2017). This value is net of the 10%<sup>2</sup> (1,144,201 tCO<sub>2</sub> equivalents) buffer withholding based on the non-permanence risk assessment tool. In addition, the project has been deemed eligible for a buffer release in the amount of 1,102,111 tCO<sub>2</sub> equivalents.

Verification/monitoring period: From 01 July 2014 to 22 June 2017

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO <sub>2</sub> e)	Project emissions or removals (tCO <sub>2</sub> e)	Leakage emissions (tCO <sub>2</sub> e)	Net GHG emission reductions or removals (tCO <sub>2</sub> e)
2014-2015	5,069,617	648,737	93,537	4,327,344
2015-2016	4,279,896	650,514	93,537	3,535,845
2016-2017	4,036,912 <sup>3</sup>	645,155	91,230	3,300,526
<b>Total</b>	<b>13,386,425</b>	<b>1,944,407</b>	<b>278,304<sup>4</sup></b>	<b>11,163,715</b>

<sup>2</sup> The Project has taken the minimum Risk Rating following the VCS Non-Permanence Risk Tool v3.3

<sup>3</sup> Adjusted value to account for less than a full year as the verification/monitoring period goes until 22 June and not 01 July.



<sup>4</sup> Leakage not accounted for this verification/monitoring period. Please see Item Number 5 in Appendix B.

Year	Net GHG Emission Reductions or Removals (tCO <sub>2</sub> e)	Annual Buffer Allocation (tCO <sub>2</sub> e)	Buffer Release <sup>5</sup> (tCO <sub>2</sub> e)	Net GHG emission credits (tCO <sub>2</sub> e)
2014	2,181,455.61	(222,860.80)	138,896.31	2,097,490.61
2015	3,913,810.89	(400,696.20)	412,159.19	3,925,272.89
2016	3,431,749.31	(352,450.37)	414,423.81	3,493,722.24
2017	1,636,699.19	(168,193.63)	136,631.69	1,605,137.26
<b>Total</b>	<b>11,163,715.00</b>	<b>(1,144,201.00)</b>	<b>1,102,111.00</b>	<b>11,121,623.00</b>

#### Submittal Information

Report Submitted to:	<p>Verified Carbon Standard Association 1730 Rhode Island Ave. NW, Suite 803, Washington, D.C. 20036</p> <p>InfiniteEarth Limited 36/F Tower Two Times Square 1 Matheson Street Causeway Bay, Hong Kong Contact- jim@infinite_earth.com</p>
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<sup>5</sup> Note the tCO<sub>2</sub>e constitute the total eligible buffer release for this verification/monitoring period in addition to five (5) previous verification/monitoring years 2009-2014.

Report Submitted by:	Environmental Services, Inc. -Corporate Office 7220 Financial Way, Suite 100 Jacksonville, Florida 32257
ESI Lead Verifier Name and Signature	  Shawn McMahon Lead Verifier
ESI Division Regional Technical Manager Name and Signature	  Janice McMahon Vice President and Forestry, Carbon and GHG Division Regional Technical Manager
Date:	21 March 2019

EJ/SMM/JPM/047-RimbaRaya\_CCB\_VCS\_4th\_Monitoring\_Period\_Verification\_Report\_Final\_V4.doc  
K pf 03/21/19f

## APPENDIX A: DOCUMENTS RECEIVED/REVIEWED

Documents received 17 October 2017

- CCB\_VCS\_Monitoring\_Report\_v1.38.docx
- Supporting documents
  - SOP\_OSHE\_Worker Safety.pdf
  - Confidential
    - Rimba Raya\_2014\_2017V1.11.xlsx
  - Government Regulations
    - For Manpower
      - 15122015\_104556\_PP 45 Tahun 2015-Pension.pdf
      - 15122015\_104556\_PP 46 Tahun 2015-JHT.pdf
    - Social Forestry
      - Peraturan Tentang Hutan Kemasyarakatan No. P.88 year 2014.pdf
  - Project Activity Monitoring
    - Participatory Mapping
      - 7-Muara Dua\_Pemetaan Partisipatif 1.jpg
      - 1-Ulak Batu\_Pemetaan Partisipatif 1.jpg
      - 4-Telaga Pulang\_Pemetaan Partisipatif 1.jpg
      - 5-Baung\_Pemetaan Partisipatif 1.jpg
      - 5-Baung\_Pemetaan Partisipatif 2.jpg
      - 6-Jahitan\_Pemetaan Partisipatif 1.jpg
      - 6-Jahitan\_Pemetaan Partisipatif 2.jpg
      - 6-Jahitan\_Pemetaan Partisipatif 3.jpg
      - 6-Jahitan\_Pemetaan Partisipatif 4.jpg
    - 20170911 draft laporan COMDEV\_Audit 2017 REVISI-OK.docx
    - Basic Information - Audit 2017 (poin8)\_FBS-ENG.doc
    - Basic Information - Audit 2017 (poin6)-BA.doc
    - Basic Information - Audit 2017 (poin8H)-MR.doc
    - Basic Information - Audit 2017\_5.doc
    - CCB\_VCS\_MIR\_MonitoringResults\_BIODIVERSITY\_v1.xls
    - CCB\_VCS\_MIR\_MonitoringResults\_COMMUNITY\_v1.0.xlsx
    - Environmental Education Program -Sep 2017 ENG.docx
    - FIRE EQUIPMENT LIST - RRC 2017.xlsx
    - Orang Utan Release 2017.docx
    - Rekapitulasi Hasil Distribusi Sollar Lantern\_.xlsx
    - TOR FLOATING CLINIC.docx
    - Water filter 2014-2017.xls
  - accuracyassessment\_2010-2017\_final.xls
  - Burn Impact Survey.pdf
  - Capacity Building for comdev Staff 2016.docx
  - Emergency Procedure\_Bahasa\_V1.docx
  - Geospatial Data.zip
  - Illegal Logging\_2014\_2017.xlsx
  - Sertifikat GanisPHPL Binhut Hairudin.jpg
  - Sertifikat GanisPHPL Canhut Karno.jpg
  - SOP - Handling Conflicts and Grievances .docx

Documents received 02 November 2017

- VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.5.doc
- LULC Change Report 2017 v1.2.docx

Documents received 05 December 2017



- VO17047\_RimbaRaya\_4thverif\_NCRs\_Rd1\_Final\_20171130\_Tentative Questions and Responses v1.1.xlsx
- PlanetLabs\_Imagery\_Part01.zip
- PlanetLabs\_Imagery\_Part02.zip
- PlanetLabs\_Imagery\_Part03.zip
- PlanetLabs\_Imagery\_Part04.zip
- PlanetLabs\_Imagery\_Part05.zip
- PlanetLabs\_Imagery\_Part06.zip
- PlanetLabs\_Imagery\_Part07.zip
- PlanetLabs\_Imagery\_Part08.zip
- PlanetLabs\_Imagery\_Part09.zip
- PlanetLabs\_Imagery\_Part10.zip
- PlanetLabs\_Imagery\_Part11.zip
- PlanetLabs\_Imagery\_Part12.zip
- PlanetLabs\_Imagery\_Part13.zip
- PlanetLabs\_Imagery\_Part14.zip

Documents received 29 December 2017

- Accounting and Carbon Stock Estimates
  - Project Emissions Factor in Forested Peatland v1.2.docx
  - Rimba Raya Baseline Report\_2011.05.15\_Final.doc
  - Rimba Raya\_2014\_2017V1.34.xlsx
  - Tally Sheet Burn Impact v1.1.xlsx
  - AB Burn Biomass Rapid Plots Treelist v1.7.xlsx
  - Baseline Calculations for Rimba Raya\_2011.05.15\_Final\_GWP Updates.xlsx
  - MarcelSilvius\_Opinion.docx
- Community Documents
  - 20171014 Hasil MONITORING SURVEY - English v1.0.xlsx
  - Impact\_Survey\_v1.1.xlsx
- Confidential
  - Rimba\_Raya\_budget\_and\_cashflow\_breakeven\_v1.xlsx
- Geospatial
  - AG\_Burned\_Biomass\_Rapid\_Assessment\_Plots\_41\_points.shp
  - BurnPoints\_BurntImpactMonitoring\_674\_2015\_v2.shp
  - Logging\_Gaps.shp
  - LULC\_AccuracyAssessment\_AllStrataSamplePoints.shp
  - LULC\_AccuracyAssessment\_IndependentInterpretation.shp
  - LULC\_Data\_2014-2017\_v10.shp
  - LULC\_Ground\_Checks\_53\_points.shp
- Logging and Fire Monitoring
  - Archive
    - Illegal Logging\_January 2017.doc
    - Illegal Logging\_May 2017.docx
  - Fire recap 2015.xlsx
  - Fire Report Year 2014.pdf
  - Fire Report Year 2016 Compilation - eng.pdf
  - Fire Report Year 2017 - engl.pdf
  - Illegal Logging\_2014.pdf
  - Illegal Logging\_January 2017.pdf
  - Illegal Logging\_June 2015.pdf
  - Illegal Logging\_May 2017.pdf
  - Logging\_Gaps.rar
  - Logging\_gaps\_aerial\_photos.zip
- LULC Monitoring & Accuracy

- LULC Change Analysis SOP 2017 v1.8.docx
- LULC Change Report 2017 v1.3.docx
- LULC Ground Check Accuracy Assessment v1.6.xlsx
- Accuracy Assessment\_2010-2017\_final\_v1.3.xls
- Landcover Accuracy Assessment 2017 v1.7.docx
- LULC 2017 Classification Accuracy Assessment v3.xlsx
- Non Permanence Risk
  - Buffer Release Calculation Example\_VCS Guidance.xlsx
  - Ecopartnersllc Mail - VCS Buffer Release Calculations.pdf
  - Monitoring Plan\_2017 v1.1.doc
  - VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.8.pdf
- proof of compliance
  - Approval for General WP 10 yrs, annual WP2017, Boundary
    - Approval annual work plan16-17.pdf
    - Approval management plan (10 years) 2016 - 2025.pdf
    - Approval page for Boundary.pdf
  - Decree 146 Year 2013
    - APPENDIX DECREE 146.docx
    - DECREE RRC 146 YEAR 2013.doc
    - Peta SK 146 Menhut ok.jpg
    - SK146 ORI.PDF
  - Decree 735 Year 2013
    - DECREE 735 25OCT2013-free translation.docx
    - scan0002-peta sk 735.jpg
    - SK 735.pdf
  - Payment for 60 year dues
    - Pelunasan IUPH RRC SK 735 MOF 221113.jpg
    - spp sk 146.jpg
- Updated SOPs
  - Community Messaging and Information Transmission SOP\_v1.2.pdf
  - QA QC Plan\_v 1.3.docx
  - SOP Fire Field Measurement.docx
  - SOP Rimba Raya Bilingual 2017-Field Ops\_v1.2.docx
  - SOP Worker Health and Safety v1.1.pdf
- 047\_Rimba\_Raya\_CCB\_NCRs\_Round1\_Final\_Response1.docx
- CCB\_VCS\_Monitoring\_Report\_Summary\_v1.38\_BAHASA.pdf
- CCB\_VCS\_Monitoring\_Report\_v1.56.docx
- VO17047\_RimbaRaya\_4thverif\_NCRs\_Rd1\_Final\_Responses1 v1.8.xlsx

Documents received 29 December 2017

- Accounting and Carbon Stock Estimates
  - Project Emissions Factor in Forested Peatland v1.2.docx
  - Rimba Raya Baseline Report\_2011.05.15\_Final.doc

Documents received 24 January 2018

- polygon logging gap
  - logging\_gap.dbf
  - logging\_gap.prj
  - logging\_gap.sbn
  - logging\_gap.sbx
  - logging\_gap.shp
  - logging\_gap.shx

Documents received 2 February 2018

- Accuracy Assessment\_2010-2017\_final\_v1.4.xls

- CCB\_VCS\_Monitoring\_Report\_v1.60.pdf
- Rimba Raya\_2014\_2017V1.45.xlsx
- VCS Guidance on Buffer Release - Rimba Raya.pdf
- VCS Guidance on Natural Risk Significance - Rimba Raya.pdf
- VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.9.pdf
- VO17047\_RimbaRaya\_4thverif\_NCRs\_Rd2\_Final\_Responses\_v1.10.xlsx
- Confidential - Financial Information
  - agreements2ndemail.zip
  - IE Ltd 2008 - 2016 Financial Statements Full Assorbtion Accounting Final.pdf
  - Project Expenses 2014 - 2016.xlsx
  - Rimba\_Raya\_budget\_and\_cashflow\_breakeven\_v1.1.xlsx
  - Sales Cash Flow Planner\_2017.12.18.pdf"
  - salesagreements.zip
  - Signed VCU Single Trade Agreement - Allianz.pdf
- Geospatial
  - BurnHistory\_with\_LULC.dbf
  - BurnHistory\_with\_LULC.prj
  - BurnHistory\_with\_LULC.sbn
  - BurnHistory\_with\_LULC.sbx
  - BurnHistory\_with\_LULC.shp
  - BurnHistory\_with\_LULC.shp.xml
  - BurnHistory\_with\_LULC.shx
  - LULC Change Report 2017 v1.3.docx
  - LULC\_Data\_11.dbf
  - LULC\_Data\_11.prj
  - LULC\_Data\_11.sbn
  - LULC\_Data\_11.sbx
  - LULC\_Data\_11.shp
  - LULC\_Data\_11.shp.xml
  - LULC\_Data\_11.shx
  - MODIS Data
    - AllMODISBurnDataSummed\_ClippedToPA.dbf
    - AllMODISBurnDataSummed\_ClippedToPA.prj
    - AllMODISBurnDataSummed\_ClippedToPA.shp
    - AllMODISBurnDataSummed\_ClippedToPA.shp.xml
    - AllMODISBurnDataSummed\_ClippedToPA.shx
    - Downloaded HDF Files
    - Reclassified TIF Files
- Literature
  - Carbon\_Emissions\_from\_Drained\_and\_Degraded\_Peatland\_in\_Indonesia\_Hooijer\_2014.pdf
  - harmon\_2011.pdf
  - Konecny 2015 Variable carbon losses from recurrent fires in drained tropical peatlands.pdf

Documents received 06 February 2018

- Eq 121.JPG
- Eq 91.JPG
- Eq 109 pg1.JPG
- Eq 109 pg2.JPG
- Eq 109 pg3.JPG

Documents received 13 February 2018

- Rimba\_Raya\_budget\_and\_cashflow\_breakeven\_Final.xlsx

Documents received 27 February 2018

- Rimba Raya\_2014\_2017V1.48.xlsx

Documents received 05 March 2018

- AB Burn Biomass Rapid Plots Treelist v1.8\_Chao\_2008.xlsx
- Rimba Raya\_2014\_2017V1.49.xlsx
- CCB\_VCS\_Monitoring\_Report\_Summary\_v1.63\_BAHASA.pdf
- CCB\_VCS\_Monitoring\_Report\_v1.63.pdf
- Chao KJ et al CJFR 2008.pdf
- VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.10.pdf

Documents received 08 May 2018

- VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.11.pdf
- Baseline Calculations for Rimba Raya\_2011.05.15\_Final\_GWP Updates\_v1.xlsx
- CCB\_VCS\_Monitoring\_Report\_Summary\_v1.64\_BAHASA.pdf
- CCB\_VCS\_Monitoring\_Report\_v1.64.pdf
- Rimba Raya\_2014\_2017V1.50.xlsx

Documents received 24 May 2018

- VCS Non-Permanence Risk Report M4\_2014\_to\_2017\_v1.11.pdf
- CCB\_VCS\_Monitoring\_Report\_Summary\_v1.64\_BAHASA.pdf
- CCB\_VCS\_Monitoring\_Report\_v1.64.pdf

Documents received 20 March 2019

- CCB\_VCS\_Monitoring\_Report\_v1.65.pdf

## APPENDIX B: VCS NCRS/CLS/OFI SUMMARY

<b>Item Number</b>	1
<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements</b> <b>Document</b> <b>21 June 2017, v3.7</b> <b>(Section)</b>	Main updates (all effective on issue date, unless otherwise stated):
<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements</b> <b>Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	5) Updated required source of global warming potentials from the IPCC's Second Assessment Report to the IPCC's Fourth Assessment Report (Sections 3.15.3 and 4.8.3). Projects may optionally transition to the updated global warming potentials immediately via a project description deviation. Projects shall transition to the updated global warming potentials at their project crediting period renewal.
<b>Applicability to Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 3.1, 2016 monitoring calc file
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	As noted in the criteria the project has an opportunity to update parameters for GWP through a PD deviation, otherwise this change to be implemented at crediting period renewal. Verifiers note that GWP values for N <sub>2</sub> O and CH <sub>4</sub> were correctly (and conservatively) updated based on the 2014 IPCC report but no other IPCC values could be found to have changed. GWP values for N <sub>2</sub> O and CH <sub>4</sub> were incorrectly reported in the MR Section 3.1.1. Further, a PD deviation describing the transition and following Section 3.6 of the VCS Standard could not be found in Section 2.2.4 of the MR.
<b>Round NCR/CL/OFI</b>	1 CL: Please address the findings and; clarify which IPCC default values were updated this period, report correct IPCC GWP values in the MR, and describe the PD Deviation in the MR following Section 3.6 of the VCS Standard.

<b>Round 1 Response from Project Proponent (29 December 2017)</b>	<p>GWP values for N<sub>2</sub>O and CH<sub>4</sub> have been corrected in MR Section 3.1.1, and updated in both the baseline model and current accounting model, to reflect values from IPCC 5th Assessment Report. The original baseline values were kept for years 1-5 of the accounting model, but the updated GWPs were applied to all subsequent years of the baseline model, as seen in (Baseline Calculations for Rimba Raya_2011.05.15_Final_GWP Updates.xlsx). The baseline model in current accounting model was updated to reflect these changes. Both AGB burn and Peat burn tabs were updated with the most recent GWPs.</p> <p>(No language could be found in the VCS Standard or AFOLU requirements that prohibits updates to the baseline if the methodology allows for it.) Justification for updating these data used in the baseline model can be found in Section 17 (pg 69 - 70) of the VM0004 methodology, where it states "Baseline carbon stock changes do not need to be monitored after the project is established, because the accepted baseline approach assumes continuation of existing changes in carbon pools within the project boundary from the time of project validation. <b>However, technical progress and an increase in data availability may occur, allowing for altered baseline estimates.</b>"</p>
<b>ESI Findings - Round 2 (16 January 2018)</b>	The MR was confirmed to report the correct updated IPCC default values as requested. Per the proponent, it is permissible following VM0004 for updates to baseline calcs for these newer IPCC default values. However, in the newest submitted version of the monitoring calc worksheet the GWP values have been revised and now appear to be incorrect.
<b>Round 2 NCR/CL/OFI</b>	CL: Please fix the incorrect GWP values used for AGB burn and peat burn calculations. In responding to this finding please also cite the source of the GWP values.
<b>Round 2 Response from Project Proponent (02 February 2018)</b>	GWP values have been corrected in the monitoring calc worksheet, where used in AGB burn and peat burn calculations. The source for new GWP findings is in the AR5 Synthesis Report, page 87 Box 3.2, Table 1
<b>Round 3 ESI Findings (16 February 2018)</b>	The correct GWP values were confirmed applied in calculations and reported in the MR. The item is addressed.

<b>Item Number</b>	2
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)</b>	3.6 PROJECT DESCRIPTION DEVIATIONS
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	3.6.1 Deviations from the project description are permitted at verification. The procedures for documenting the deviation depend on whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario. Interpretation of whether the deviation impacts any of these shall be determined consistent with the CDM Guidelines on assessment of different types of changes from the project activity as described in the registered PDD, mutatis mutandis. The procedures are as follows:

<b>Applicability Project (Y or N/A)</b>	to Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 2.2.4
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Two PD deviations are described in the MR Section 2.2.4. Monitoring efforts for burn depth and image classification are not in agreement with the validated monitoring plan therefore they are described as PD Deviations. Verifiers agree that image classification is eligible to be considered a PD deviation as it does not affect the applicability of the methodology, additionality or the appropriateness of the baseline scenario. However, the descriptions are incomplete according to the criteria in this section, "this shall include a description of when the changes occurred." Also, though the PD deviations were confirmed to "not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology," a full description of these elements is lacking from the MR.</p> <p>Please see finding under VM0004 for parameter DP, burn, it where it is evaluated for eligibility to be a PD deviation.</p> <p>The file "LULC Change Protocol v1.1.docx" was quoted in Section 2.2.4 of the MR but could not be found in materials submitted for verification.</p> <p>The MR template states, "Describe and report on any project description deviations applied in previous monitoring reports." Only current proposed PD deviations are included.</p> <p>Please see distinct findings under VM0004 19.2.2 (burning) and 19.2 (LULC change sections)</p>
<b>Round 1 NCR/CL/OFI</b>	CL: Please further describe the PD deviations in the MR as noted in the finding. Please provide "LULC Change Protocol v1.1.docx." Finally, please also report any previous PD deviations applied in previous monitoring reports.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	The findings have been addressed by providing further justification and clarification of PD deviations within section 2.2.4 of the monitoring report for all applied deviations. Dates for these changes have also been provided and since they're both monitoring and accounting related they did not have an impact on project activities. Previous project description deviations were also added to this section. LULC Change Protocol v1.1 was sent later as a follow-up document, but has been re-sent to the verification team.
<b>ESI Findings - Round 2 (16 January 2018)</b>	Section 2.2.4 of the MR was reviewed where PD deviations are now fully described as requested. LULC Change Analysis SOP 2017 v1.8.docx was received. The item is addressed.

<b>Item Number</b>	3
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<b>VCS Requirements</b> 21 June 2017, v3.6 (Section)	<b>AFOLU</b>	4.7 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS
<b>VCS Standard</b> VCS Version 3 <b>Requirements Document</b> 21 June 2017, v3.7 (Description)		* Where the net change in carbon stocks is not a whole number, round the calculated VCU and buffer credit volumes down to the nearest whole number. Where the net change in carbon stocks is a whole number, round the calculated buffer volume up, and the VCU volume down, to the nearest whole number.
<b>Applicability to Project</b> (Y or N/A)	to	Y
<b>Requirement Met</b> (Y, N or Pending)		Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)		MR Section 3.2.4; monitoring calc worksheet
<b>ESI Findings - Round 1</b> (29 November 2017)		The VVB noted in review of the final estimated VCU and buffer reporting that this decimal guidance was not followed.
<b>Round NCR/CL/OFI</b>	1	CL: Please address the findings and correctly report the final buffer amount following this requirement.
<b>Round 1 Response from Project Proponent</b> (29 December 2017)		The accounting model has been updated to round down for both the VCU estimate and the buffer credit estimates. The monitoring report and non-permanence risk reports have been updated to reflect changes in VCU estimates and buffer credits due to this rounding update.
<b>ESI Findings - Round 2</b> (16 January 2018)		VCUs and buffer amounts are now correctly rounded following this requirement. The item is addressed.

<b>Item Number</b>	4
<b>Approved VCS Methodology</b> VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)	1. Sources
<b>VCS Standard</b> VCS Version 3 <b>Requirements Document</b> 21 June 2017, v3.7 (Description)	VCS Tool for Non-Permanence Risk Analysis and Buffer Determination

<b>Applicability to Project</b> (Y or N/A)	Y
<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR General
<b>ESI Findings - Round 1</b> (29 November 2017)	The verifiers noted that the Monitoring Report incorrectly refers to a previous version of the risk tool (v3.2).
<b>Round 1 NCR/CL/OFI</b>	CL: Please report the latest version of the risk tool throughout the monitoring report.
<b>Round 1 Response from Project Proponent</b> (29 December 2017)	All mentions of the Risk Tool have been updated to v3.3 in the Monitoring Report
<b>ESI Findings - Round 2</b> (16 January 2018)	These corrections have been confirmed made to the MR. The item is addressed.

<b>Item Number</b>	5
<b>Approved VCS Methodology</b> VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)	10.2 Activity Displacement Leakage
<b>VCS Standard</b> <b>VCS Version 3 Requirements Document</b> 21 June 2017, v3.7 (Description)	The area of activity shifting leakage shall be assessed for five full years beyond the date at which deforestation was projected to occur in the baseline. However, emissions resulting from activity shifting leakage shall be tracked beyond the initial year of clearing where applicable to account for emissions from peat and mineral soils that continue after the initial year of clearing.
<b>Applicability to Project</b> (Y or N/A)	Y
<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR Section 3.2.3

<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>The project states in Section 3.2.3 of the MR that leakage monitoring is no longer required following this requirement. However, verifiers understand that baseline deforestation was projected to occur through 2014 (as reported by PP in MR, or 2013 per baseline deforestation exclusively) which includes leakage assessment and accounting for this monitoring period, "beyond the date at which deforestation was projected..." Leakage is included in accounting, where the 2014 period value is applied to each year for this monitoring period.</p> <p>Verifiers also note that the leakage assessment under this requirement suggests an alignment with 10 year baseline reassessment per VCS rules (i.e. continuous leakage accounting).</p> <p>The PP has previously relied on the allowed alternative option of tracking and reporting new land use designations of the agent of deforestation instead of management plan documentation.</p>
<b>Round 1 NCR/CL/OFI</b>	NCR: Please address the findings and assess leakage for the monitoring period following this requirement.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	<p>The project proponent's assessment of the methodology has shown that the project is not required to monitor leakage for this monitoring period and all future monitoring periods. While the exact language that the verifier is referring to might leave room for misinterpretation, the requirement states "The area of activity shifting leakage shall be assessed for five full years beyond the date at which deforestation was projected to occur in the baseline." A more appropriate wording for this requirement would have been to replace "occur" with "start". A description of the calculation of activity shifting leakage in section 10.2.1 of VM0004 shows this interpretation of 5 years from the projected start date of deforestation when it states that activity shifting leakage is calculated as "the difference between the expected area of deforestation in year t under the no leakage scenario and the observed area of deforestation over each of the first five years after project implementation results in the area of leaked deforestation." At a later point in the methodology (Step 3) it states "All areas deforested by the baseline agent should be monitored through the first five years in which planned deforestation was forecast to occur."</p>
<b>ESI Findings - Round 2 (16 January 2018)</b>	Verifiers agree with assertions by the proponent that for this period no leakage monitoring is required following VM0004. Leakage monitoring is expected to occur next at the baseline renewal every 10 years as required by VCS. The item is addressed.

<b>Item Number</b>	6
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	10.2 Activity Displacement Leakage

<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	At each verification, documentation shall be provided covering the other lands controlled by the baseline agent where leakage could occur, including, at a minimum, their location(s), area and type of existing land use(s), and management plans. It must also be demonstrated that the total area of government permits (for deforestation activities) that have been granted to the baseline agent of deforestation has not increased due to the implementation of project activities.
<b>Applicability to Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 3.2.3
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	The PP has previously relied on the allowed alternative option of tracking and reporting new land use designations of the agent of deforestation instead of management plan documentation to satisfy this requirement. In previous verifications to verify that no new permits on peat soils have been allocated to the identified agent of deforestation the latest concession shapefiles were sourced from the Forest Service of the Seyryan District and provided for the verification team.
<b>Round NCR/CL/OFI</b> <b>1</b>	CL: Please provide leakage documentation following this requirement.
<b>Round 1 Response from Project Proponent</b> <b>(29 December 2017)</b>	During previous verifications, shapefiles were provided for the agent of deforestation's land classification, to observe if any displacement leakage had occurred. However, as was noted in the previous finding and response, as of July 2014, the beginning of this monitoring period, it was no longer necessary to monitor activity displacement leakage. While the methodology does state that documentation should be provided regarding leakage from the baseline agent 'at each verification', this language is directly following the previous paragraph in which the methodology states the duration of leakage monitoring. This language from the methodology isn't entirely clear, but from this context, it can be interpreted as the project needing to provide documentation 'at each verification that activity displacement leakage is to be monitored'. The methodology is very explicit elsewhere that 'All areas deforested by the baseline agent should be monitored through the first five years in which planned deforestation was forecast to occur.' Since this current monitoring period is beyond the 5-year window it is no longer necessary to monitor this leakage area. Additionally, since Activity Displacement Leakage emissions are calculated using solely these areas that are no longer required to be monitored (see equations 69 and 70 of the methodology), this documentation would have no impact on the carbon accounting. Language in section 3.2.3 of the monitoring report has been updated to clarify that these parameters were not monitored and do not need to be monitored any longer.

<b>ESI Findings - Round 2 (16 January 2018)</b>	Verifiers agree with assertions by the proponent that for this period no leakage monitoring is required following VM0004. Leakage monitoring, to include periodic documentation submittal, is expected to occur next at the baseline renewal every 10 years as required by VCS. The item is addressed.
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<b>Item Number</b>	7
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	15. Monitoring of Project Implementation
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	•Field (or aerial) surveys concerning the actual project boundary within which baseline activities have been prevented;
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 3.1.3
<b>ESI Findings - Round 1 (29 November 2017)</b>	The MR Section 3.1.3.4 mentions annual field surveys for multiple monitoring components. As field surveys are a monitoring element in conjunction with the remote sensing effort, evidence of the field surveys including for fire, logging and land use change is requested for all years of the reporting period.
<b>Round NCR/CL/OFI 1</b>	CL: Please address the findings provide evidence of the field surveys following the described monitoring components.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Field patrols have occurred consistently during this monitoring period, especially for detection of logging gaps and burn areas. Reports for all logging gaps detected from each year within the project management zone have been shared with the verification team, as well as annual fire reports. Through the review of the logging gap data (see attached shapefile), it was found that only one logging gap identified fell within the CAA. The accounting model has been updated to reflect this information for the sake of accuracy, and the reports and geospatial data have been provided to auditors for confirmation.

<b>ESI Findings - Round 2 (16 January 2018)</b>	Verifiers reviewed the logging gap field patrol reports and logging gap shapefile for gaps detected during the period. According to the logging gap shapefile it appears no gaps occurred in the carbon accounting area. The fire and logging field reports provided adequately meet the requirement here.
<b>Round 2 NCR/CL/OFI</b>	CL: Please clarify whether any of the logging gaps occurred in the carbon accounting area, revising accounting as needed.
<b>Round 2 Response from Project Proponent (02 February 2018)</b>	<p>There was one gap in 2017 near the Southern border of the Carbon Accounting Area. In the shapefile shared it has the FID of 5. Verifiers noted that the area in the shapefile of this logging gap was much larger than the average logging gap size determined by the logging gap study. It was clarified with field crews that this area was indeed a collection of logging gaps, however, field crews were unable to determine the total number of gaps within the impacted area. For this reason, the project proponent has decided to conservatively estimate the number of logging gaps within the 21 hectare area by dividing it by the average logging gap size of 93 square meters. This gives an estimate of 2,258 logging gaps contained within this area of impact. This is certainly an over-estimate of the amount of timber being collected from this area, however, since the field crews were unable to thoroughly examine the site for the number of trees felled, this is the most conservative approach to determining the impact.</p> <p>A project description deviation was added to section 2.2.4 for the estimation of logging gaps using this method.</p>
<b>Round 3 ESI Findings (16 February 2018)</b>	Verifiers reviewed the revised quantification approach to determine number of logging gaps this monitoring period. Using average logging gap size from the validated study (Mawas) was deemed a suitable and conservative approach in the absence of more detailed data. The PD Deviation was confirmed to be sufficiently reported in the MR. No further action is needed. The item is addressed.

<b>Item Number</b>	<b>8</b>
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	16.1 Monitoring of strata:

<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	If one or more of the above conditions occur, ex post stratification may be required. The possible need for ex post stratification shall be evaluated at each monitoring event and changes in the strata should be reported to the verifier. Monitoring of strata shall be done using a Geographical Information System (GIS), which allows for the integration of data from different sources (including GPS coordinates and remote sensing data).
<b>Applicability to Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	Monitoring calc worksheet; LULC shapefile
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	<p>Vegetation boundaries have been updated ex post for each monitoring event including this fourth. Stratification changed in all years. The MR Section 2.2.4 states, "Land use land cover change was estimated through direct digitization of change areas." The result of this analysis was provided to verifiers as LULC shapefile from 2014 to 2017.</p> <p>The LULC shapefile was noted to contain topological errors for overlap resulting in discrepant hectares used in carbon accounting.</p> <p>Verifiers noted that fire represents the large portion of monitoring emissions which is dependent on the stratification LULC results. The project accounts for burnt peat on shrubland and peatland swamp forest cover types, and aboveground biomass burnt on select cover types (dependent on chosen change in biomass values - see finding for Equation 114). Combined peat soil cover type areas for this period were found to be on average 8% less than previous monitoring periods, resulting in disproportionately lower peat burn emissions for carbon accounting. Verifiers note that several cover classes are close in spectral characteristics in Landsat imagery, including shrubland and wetland for instance.</p> <p>Riparian cover type was also notably absent from end of period (2017) cover type analysis results.</p> <p>Note this is pending receipt of LULC Change Protocol v1.1.docx</p>
<b>Round NCR/CL/OFI</b> <b>1</b>	<p>NCR: Please correct the topological overlap errors in the LULC shapefile used for carbon accounting.</p> <p>Please explain the reason for disparities among the LULC stratification results, specifically the reduction for this period of peatland soil types applied to peat burn emission calculations. Please also clarify the absence of riparian forest cover type this period.</p>



<b>Round 1 Response from Project Proponent (29 December 2017)</b>	<p>Topological errors have been updated and overlap removed. The disparities between LULC stratification results, specifically the reduction of peatland soil areas, was due to accidentally sharing an intermediate shapefile with the auditors instead of the final product. This incorrect shapefile had LULC classes from an earlier stage of the process. The proper shapefile has now been provided to auditors with the correction for topological errors (see LULC_Data_2014_2017v10). There may still be slight differences in soil areas due to Cloud Gap over Peat Swamp Forest or Shrublands, however, the peat areas should remain largely unchanged in the latest version shared with auditors.</p> <p>The absence of riparian forest cover is due to the complete transition of the cover class within the monitoring period.</p>
<b>ESI Findings - Round 2 (16 January 2018)</b>	<p>The revised LULC shapefile was reviewed and topological discrepancies were confirmed fixed. However, verifiers note that topological overlap errors within the burnt area shapefile (BurnArea_2014_2017_ep_v4_CarbonAccountingArea) appear to have carried over to the LULC shapefile during analysis. Some hectares appear to have been misallocated for burnt areas as a result. Further, the LULC Change report v1.3 contains incorrect hectares reported in Table 3. The biomass burnt and peat burnt calculations use differing hectares.</p>
<b>Round 2 NCR/CL/OFI</b>	<p>CL: Please ensure the LULC shapefile is reflective of topologically correct inputs. Please also report correct values in reporting documentation including addendums.</p>
<b>Round 2 Response from Project Proponent (02 February 2018)</b>	<p>The LULC shapefile is topologically correct, and the referenced burnt area shapefile (BurnArea_2014_2017_ep_v4_CarbonAccountingArea) is an obsolete shapefile previously unioned with an LULC shapefile to create a master LULC shapefile with LULC attributes as well as peat and burnt area attributes.</p> <p>When the topology errors in this master LULC shapefile were identified, they were also identified in the referenced burnt area shapefile. The topology issues were corrected directly in the referenced burnt area shapefile, and this fixed shapefile was used to apply fixes to the master LULC shapefile. The referenced burnt area shapefile was then archived and has not been used since.</p> <p>The previous master LULC shapefile contained the LULC attributes, as well as the peat attributes and burnt area attributes. To clarify this issue, we have split the master LULC shapefile into three separate shapefiles:</p> <p>LULC_Data_11.shp , containing the LULC attributes. Peat_Data_11.shp , containing the peat attributes. BurnHistory_with_LULC.shp , containing the burnt area attributes, as well as the LULC data for the burnt areas.</p> <p>Additional burn data has been included in the BurnHistory_with_LULC.shp shapefile. The number of recorded burns per feature has been summed, and burnt areas from 2000 - 2009 have been included using the MODIS MCD64A1 burnt area data product. The methodology for this analysis has been described in the LULC Change Report.</p>

<b>Round 3 ESI Findings (16 February 2018)</b>	Verifiers re-reviewed the LULC shapefiles provided in response to the finding and the understanding of the workflow was confirmed. No action is needed as hectares remain topologically correct. The item is addressed.
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<b>Item Number</b>	9
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	16.3 Monitoring frequency
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Monitoring shall occur annually.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR General
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Verifiers noted that the LULC change analysis effort for this monitoring period were performed for the actual period (01 JULY 2014 – 22 JUNE 2017) and not annually as required by the methodology. An annual temporal unit is relevant for this monitoring period as it does not fall evenly on the calendar and spans multiple years. Further, detection of monitored elements (e.g. fire presence) is dependent on remote sensor availability which may or may not coincide with the monitoring period.</p> <p>Other components of the monitoring effort (e.g. accuracy assessments) were also not performed annually.</p>
<b>Round NCR/CL/OFI</b>	1
	CL: Please justify the appropriateness of performing monitoring activities for the monitoring period in entirety and not breaking out elements annually. If needed, please describe this deviation following the requirements in the VCS Standard.

<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Verifiers have noted that the LULC analysis was only completed for the entire period from 01 July 2014 to 22 June 2017 and this differs from the annual monitoring required by the methodology. The MIR has been updated to reflect this as a deviation in section 2.2.2. This is an acceptable deviation according to Section 3.5.1 of the VCS Standard v3.7, which states that "Deviations from the applied methodology are permitted where they represent a deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology". Additionally, this deviation does not impact the conservativeness of monitoring of fire events or logging gaps. Fire events were detected using a combination of field surveys, MODIS data, and satellite imagery, which when combined, provide strong evidence as to where burns occurred. Additional satellite imagery from the years 2014-2016 were used to supplement the identification of burn areas during this monitoring period. Logging gaps were detected through field surveys in accordance with the methodology, rather than through the use of satellite imagery due to difficulties in the detection of logging gaps with satellite imagery.
<b>ESI Findings - Round 2 (16 January 2018)</b>	Verifiers agree with the assertions by proponents that monitoring efforts can be guided by the period instead of annually. The methodology deviation is described sufficiently within the MR. No further action is needed. The item is addressed.

<b>Item Number</b>	10
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2 Estimation of emissions occurring during project activities (CPRJ)
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Monitoring land use change within the project boundary must occur to ensure that any GHG benefits achieved by project activities during the crediting period are real, permanent and secure. Within the project boundary, three sources of emissions will lead to significant reductions in project benefits (Eq. 89 & 90):
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	Carbon calc worksheet v1.11

<b>ESI Findings - Round 1 (29 November 2017)</b>	These equations were correctly applied. However, verifiers noted that due to the monitoring period end date (22 June 2017) being 8 days short (30 June 2017) of a full three years a proportion is being computed and applied to parameters in Equation 90. The proportion is incorrect as computed for the third year. Further, this proportion is applied to project-case emissions but not baseline values which align with full years from initial verification.
<b>Round 1 NCR/CL/OFI</b>	CL: Please correct the discrepant monitoring period length adjustment as noted in the finding. Please also clarify the appropriateness of having different monitoring period lengths for carbon accounting in the baseline and project cases, revising calculations as needed and providing justification in response to this finding as well as in reporting documentation.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	The discrepancy in the monitoring period length has been corrected by switching the number of days in 2016-2017 to 356 and the number of days in 2015-2016 to 366, which includes the addition of a leap day in 2016. Project emissions were multiplied by these fractions where necessary. The baseline emissions were also corrected to account for this monitoring period length by multiplying the emissions in the baseline scenario by the proportion of days in the monitoring period year 2016-2017. This correction can be found in cell J12 of the worksheet Summary Project Emissions in the accounting model.
<b>ESI Findings - Round 2 (16 January 2018)</b>	These corrections were confirmed to have been made and derivative calculations correctly updated. No further action is needed. The item is addressed.

<b>Item Number</b>	11
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.1.2 Estimation of Tree Gaps in project area.
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	At each monitoring event, use aerial photographs or other aerial imagery or high resolution remote sensing data to monitor the number of tree gaps present in the project area. Imagery should be collected annually. At the time the imagery is collected, it is conservative to overestimate the number of gaps by assuming that all gaps are caused by commercial logging and not by natural treefall. The canopy gaps detected during each monitoring event will most likely be from the past year's logging activities; if there is uncertainty about whether a gap was formed during the year the monitoring is taking place or from a previous year, this gap should be included in the count because it is conservative to overestimate the number of trees logged.

<b>Applicability to Project</b> (Y or N/A)	Y
<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR Section 3.2.2.1
<b>ESI Findings - Round 1</b> (29 November 2017)	<p>The logging gaps detected in this monitoring period were detected via field monitoring as described in MR Section 3.2.2.1. However, VM0004 also calls for aerial photos, imagery or RS data to be used at each monitoring event to detect all logging gaps. Shapefiles or similar from logging gaps detected by imagery in the current monitoring period were not provided. Verifiers understand that evidence of new logging gaps is difficult to impossible to discern from medium resolution imagery.</p> <p>During the site visit verifiers had an opportunity to observe drone flyovers used in detection of small scale logging.</p>
<b>Round 1 NCR/CL/OFI</b>	CL: Please explain whether field patrols are capable enough and would be able to comprehensively detect logging gaps more accurately than imagery. Please provide results of remotely sensed monitoring (drone flyovers) or similar for logging gap detection during the period, if available.
<b>Round 1 Response from Project Proponent</b> (29 December 2017)	<p>Due to the high degree of difficulty and high costs associated with detecting logging gaps using imagery, field patrols were utilized for the detection of logging gaps for the majority of this monitoring period. A drone has more recently been acquired by the project team (early 2017), but it was unavailable for the majority of this monitoring period. The difficulty of logging gap detection can be seen when reviewing the LoggingGaps shapefile (provided to auditors) over top of the high resolution imagery or landsat imagery. It is nearly impossible to detect the gaps even when looking at locations with verified logging, meaning it would be impossible to detect them throughout the project area without teams on the ground. Going forward, the drone flyovers will assist field teams in the identification and delineation of logging gaps, however it will not become a full substitute for field crews. One example of a logging gap detected in 2017 shows the use of drone imagery in the detection of the gap, which is still lacking in comparison to on-the-ground data collected by field teams with GPS units (see <a href="#">Logging_gap_aerial_photos.zip</a>).</p> <p>Forest patrols are also from neighboring communities and are able to gather information from local villagers that would help inform Rimba Raya staff of any known logging within the project area that is being carried out by a member of the community. Because the methodology requires the use of remote sensing data in the detection of logging gaps, a deviation has been added to section 2.2.2 of the MIR .</p>

<b>ESI Findings - Round 2 (16 January 2018)</b>	Verifiers agree that logging gap detection is difficult with the generally available medium to high resolution imagery. Ultra high-resolution drone footage can be used to detect logging gaps but verifiers recognize the challenges in obtaining drone data. Using community outreach and foot patrols is an acceptable deviation and is permissible as it represents a deviation from the criteria and procedures relating to monitoring or measurement. This deviation also does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals. The item is addressed.
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<b>Item Number</b>	12
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.1.3 Estimation of GHG emissions from peat caused by canal construction
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Step 5. Independently consult with at least two peat experts to estimate conservatively the distance of impact of small, hand-dug canals constructed for logging activities. These estimates shall be estimated from field measurements <sup>46</sup> or output from validated hydrological models.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	M4 monitoring report

<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	<p>Peat expert opinions indicated 500 m hydrologic impact in previous verification. The current monitoring report states "The emissions from peat drainage were based on the tracklogs of travelling the extent of the canals in 2014 (during the previous monitoring period) combined with the applied buffer of 500m to determine the area of impact from the peat drainage."</p> <p>However, during the site visit the client discussed a desire to change the buffer for the existing canals to reduce this width down from the 500 m. This would need to be supported field measurements or a validated hydrologic model and by consultation/support from a minimum of two peat experts. Additionally, it's possible approval from VCS will be needed as it will be a modification of an existing verified element if applied historically.</p>
<b>Round 1</b> <b>NCR/CL/OFI</b>	NCR: Please address the finding to provide the evidence required in step 5 and all subsequent steps.
<b>Round 1 Response</b> <b>from Project</b> <b>Proponent</b> <b>(29</b> <b>December 2017)</b>	<p>The area of peat impact of 500 m was found to be previously determined due to a conservative estimate from peat experts consulted in 2013. The project is not seeking to adjust the area of impact, however, the project is seeking to adjust the associated emissions factor from drainage due to logging canals. A review of literature was conducted that determined several papers which estimate the emissions from drained natural forest. The project is currently estimating emissions using an emissions factor established for drained plantation areas, which produce significantly more emissions than areas of natural forest impacted by peat drainage. The median value of emissions due to peat drainage in natural forest from three different studies was found to be 39.53 t CO<sub>2</sub>e/ha. Because these literature estimates of emissions due to drainage in natural forest are still estimates for impacts due to canals built for palm oil plantations, this estimate of emissions, while lower than the original emissions factor is justifiably conservative. Please see "Projected Emissions Factor in Forested Peatland v1.2" for a full justification of the emissions factor applied.</p>
<b>ESI Findings - Round 2</b> <b>(16 January 2018)</b>	<p>This finding now pertains to parameter MELogging "mean CO<sub>2</sub> emissions from drained peat in stratum i, time t; t CO<sub>2</sub> ha<sup>-1</sup>" where the proponent has elected to revise this default value down, resulting in an approximately 50% reduction in estimated GHG emissions due to logging in the project area. The previous value was validated in the PD. The write up for the revised emissions factor at drained peat was reviewed. Verifiers do not believe the median value proposed from the 3 studies to be appropriate. Parameter MELogging dd,it is a stratum i parameter, the proponent has not distinguished stratum. The proposed emission factor appears to be based on a different forest type from the project area. it is not clear if the studies were based on dry season water table depth following parameter Dlogging drain,it.</p> <p>Verifiers note VCS principles include Accuracy and Conservativeness, Conservativeness is quoted as being a moderator to accuracy</p>
<b>Round 2</b> <b>NCR/CL/OFI</b>	CL: Please address all findings and revise the emission factor (MELogging dd,it) to reflect VM0004 requirements.



<b>Round 2 Response from Project Proponent (02 February 2018)</b>	<p>Instead of justifying the use of literature-based emissions factors for impacts on peat due to logging canals, the project proponent has opted to use the more conservative default value of .91 proposed by the VM0004 methodology in section 19.2.1.3 (pg. 78). As this is the default value provided by the methodology for estimating the emissions due to logging drainage, and it is a higher emissions factor than can be found in relevant literature, it is a justifiably conservative value.</p> <p>The project proponent also agrees that the variable MElogging is a stratum i parameter. Specifically, the VM0004 methodology defines MElogging as “mean CO2 emissions from drained peat in stratum i, time t.” This means that the emissions from drained peat should only be applied to the strata that contain peat soils. The project proponent had previously overestimated emissions due to logging drainage by misapplying MElogging to all strata with a defined area “A logging peat impact, it.” The area of impact buffered along the canals contained strata with no peat soils (including water), for which emissions were previously being calculated. This accounting error has been updated to reflect the accurate accounting of emissions as defined by the VM0004 methodology in section 19.2.1.3.</p>
<b>Round 3 ESI Findings (16 February 2018)</b>	Verifiers confirmed that updates to calculations for logging drainage in the project area's three (3) canals are correct. Verifiers also confirm the proponents understanding that the emissions factor is only applied against peat stratum. The item is addressed.

<b>Item Number</b>	13
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.2 Estimation of GHG emissions due to fire
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	If burned areas are detected within the project boundary or within a 1 km buffer of the project boundary in the monitoring year, then georeferenced, high resolution aerial imagery or georeferenced ground measurements shall be collected over these areas and the location and area of all fire scars shall be calculated and recorded. The area of burning should be tracked directly using an accuracy assessment criterion of 80% or more.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y

<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	burned 2014-2017 shapefiles
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Burned areas were detected this period. Verifiers note that the speed of vegetation reestablishment post-fire on peat is fast, and ensuring timely detection from limited imagery is difficult.</p> <p>Verifiers reviewed materials submitted (accuracyassessment_2010-2017_final.xls) for an accuracy assessment of stratification of land cover types. 375 ground reference points were taken over the CCA and buffer area. However, this requirement is for an accuracy assessment specific to where the burnt areas occurred during the monitoring year.</p> <p>Please note this finding applies to the VM0004 accuracy assessment required for here (burning), deforestation, and peat drainage (land cover change).</p> <p>LULC Change Protocol v1.1.docx not yet received.</p>
<b>Round 1 NCR/CL/OFI</b>	CL: Please provide the accuracy assessment to meet this requirement for burnt area detection during the monitoring period. Please provide the high-resolution imagery and any supporting materials used for the accuracy assessment effort.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Field crews visited a subset of plots in burn areas in order to assess the accuracy of classification of burn areas as well as collect data for aboveground carbon stocks in post-burn areas. Of the 53 plots in LULC change areas visited by ground crews, 85% of the plots were accurately classified as having experienced land cover change. Field crews provided ecoPartners with georeferenced data to confirm the accuracy of the burn delineation. Please see LULC Ground Check Accuracy Assessment.xlsx for the full data.
<b>ESI Findings - Round 2 (16 January 2018)</b>	<p>Proponents combined the ground based accuracy assessment for deforestation with this accuracy assessment for burnt areas. 12 points were noted not to fall within the burnt area shapefile, it appears these plots were visited though no fire was detected during the period. The accuracy assessment for burnt areas to meet this requirement was found to be reasonable.</p> <p>However, 150ha topology overlap exists in the burn area shapefile, please see finding for topology errors within LULC shapefile. The item is addressed.</p>

<b>Item Number</b>	14
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<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.2 Estimation of GHG emissions due to fire
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	If no field measurements are available of carbon stocks in stratum i after burning, then the CO <sub>2</sub> emission factor for biomass burning in stratum i should be conservatively estimated as the CO <sub>2</sub> equivalent of the mean baseline aboveground carbon stock of the stratum in which fire was detected (Eq. 114, 115 & 116).
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 3.2; Carbon calc worksheet v1.11
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Verifiers checked the calculation for Equation 114 and are unclear on several elements. The approach for this period differs from previous monitoring periods where the proponent has applied post fire land cover type biomass values to determine the change in biomass pre- and post fire for use in the next steps. This approach could not be found in the methodology. The post fire stocks by cover type</p> <p>As the validated PD is largely silent (it appears the project never took field measurements post fire to use Equation 113) on after fire stock estimates by land cover type, VM0004 requires use of the IPCC default value for combustion efficiency.</p> <p>Further, MR Section 3.2.2.3 contains conflicting language suggesting that default values were used for after fire (referenced in a footnote) and "change in biomass was calculated as the difference between pre-burn and post-burn land cover biomass..."</p>
<b>Round NCR/CL/OFI 1</b>	NCR: Please revise calculations for aboveground biomass burning to use the conservative default value. Please also revise language in Section 3.2.2.3 of the MR to remove conflicting language.

<p><b>Round 1 Response from Proponent December 2017)</b></p>	<p>Post fire stocks have been updated to be based on field surveys completed during this monitoring period. To complete this survey, field teams were sent to 41 rapid assessment plots located within areas that had been burned during this monitoring period. Field measurements were taken in order to provide a more accurate estimate of aboveground carbon stocks in post burn strata as required by Equation 112 of the methodology. This is in alignment with section 19.2.2 of the methodology (pg 81), which allows for the use of measured carbon stocks in post-burn areas.</p> <p>Section 3.2.2.3 of the MR has been updated to clarify the approach taken for this monitoring period along with the equations used in the accounting. Field teams followed the rapid assessment SOP for collecting data (see pg 119 of SOP Rimba Raya Bilingual 2017 Field Ops v1.2), in addition to collecting decay classes based on Hansen et al, 2011 criteria. Field data was combined in the document Rapid Recap Treelist, and carbon was calculated on the trees in different burned strata taking into account decay class for standing dead, and using the Chave equation referenced in the original Baseline Report.</p>
<p><b>ESI Findings - Round 2 (16 January 2018)</b></p>	<p>The proponent is correct that field measurements are permissible per VM0004 Equation 113, "...can be paired with field measurements within the same stratum in areas where fire occurred during the monitoring event..." or Equation 112, "The average aboveground carbon stocks of the land cover stratum after a fire can be monitored," Field measurements following VM0004 are used to determine MCBurned P,AG, it for the proportion remaining after burning. Verifiers were unable to locate Hansen 2011 for decay classes.</p> <p>Verifiers examined the rapid assessment biomass calculations worksheet to assess the statistical appropriateness of the inventoried after burning aboveground carbon stock estimates. To assess the statistical appropriateness, the verifiers calculated a 90% confidence interval as a percent of the mean on aboveground CO2 density (MtCO2e/ac) by stratum. Stratum-level confidence intervals ranged from 61% to 145% of the mean. It is the opinion of the verifiers that the confidence intervals suggest a low confidence in inventory precision.</p>
<p><b>Round 2 NCR/CL/OFI</b></p>	<p>CL: Please provide the Hansen 2011 reference to support decay classes applied.</p> <p>CL: Please clarify the statistical appropriateness of the rapid assessment biomass inventory results for after burning stock estimates.</p>

<b>Round 2 Response from Proponent Project (02 February 2018)</b>	<p>The VM0004 methodology does not specify a required level of uncertainty or precision for measuring ex-post carbon stocks in burn areas. According to Section 24.3 of the methodology, allowable uncertainty is +/- 10% of CREDD,t at the 90% confidence level, so allowable uncertainty is dependent on all sources of uncertainty, not any individual variable.</p> <p>The uncertainty for ex-post carbon stocks in burn areas is being properly accounted for in the Uncertainty tab of the accounting model. Uncertainty for MCP(burned) is being included in the calculation of Equation 127. Uncertainty estimates for MCP(burned) are calculated in cells H29:H37 and H41:H49 and are being factored into the variance estimates for Equations 121 and Equation 109, which are being calculated in cells B53:B61 and D53:D61. Since this uncertainty from post-burn carbon stocks is being included in the overall uncertainty for CREDD, and this uncertainty is less than 10%, these post-burn values are appropriate.</p> <p>The literature reference was misstated as "Hansen et. al. 2011", the actual literature used as a reference was Harmon et al. 2011, and this paper has been provided to auditors.</p>
<b>Round 3 ESI Findings (16 February 2018)</b>	<p>Verifiers agree that field measurements for post-fire land use are not specified to follow a certain precision threshold and are lumped into overall uncertainty following VM0004. The biomass plot data was found to have been transcribed correctly to the monitoring calculation worksheet. This is pending the below language pertaining to density reduction factors.</p> <p>Harmon et al. 2011 contains density reduction rates for tree species in the United States and Russia. It is unclear to the verifiers how the application of density reduction factors for United States and Russia are applicable to tropical tree species.</p>
<b>Round 3 NCR/CL/OFI</b>	<p>CL: Please clarify the appropriateness of utilizing Harmon et al. 2011 density reduction factors for tropical tree species.</p>
<b>Round 3 Response from Proponent Project (February 2018)</b>	<p>Response provided in email from proponent on 21 Feb. 2018:</p> <p>"Hi Aaron and Shawn,</p> <p>We just reviewed the Harmon paper (they are the only paper that differentiates between standing dead and lying dead) they found that standing dead wood decayed at a slower rate than lying dead wood (lying dead wood had lower wood densities). If those decay patterns are similar in tropical climates, then using a combined wood density between standing and lying dead would be conservative (the lying dead wood density would presumably lower the average wood density for both classes). The Harmon paper mentions that in tropical climates, the moisture retention between standing dead and lying dead might not differ much, leading to potentially similar decay rates (see page 13). So, it seems like at a worst case scenario, the decay rates between lying and standing dead would be comparable in tropical climates, if not lower in standing dead.</p> <p>Let me know if you think that this makes sense and would allow for the use of the wood densities within the paper I just sent to you."</p>

<b>Round 4 ESI Findings (February 2018)</b>	<p>The most recent carbon calculations (v1.48) was reviewed and it was noted that post fire biomass is incorrect for land cover types, it was revised from the previous carbon calculations submittal. It is not clear the origin of the peat swamp land cover type post fire biomass estimate.</p> <p>As no formal response was received for the Harmon decay component to this finding the verifiers assumed the email received from proponents on 21 Feb. 2018 to be the official response. A follow up email was sent to proponents on 22 Feb. 2018 as follows: "Kyle and Paz, Thanks for the discussion yesterday. Regarding the Harmon question, we agree that it is conservative to utilize a higher decay rate (one that incorporates both lying and standing dead wood). We gave a quick look to the Chao et al. paper, and it appears to be appropriate for the project area, given the similar tropical climates between Amazonia and Indonesia."</p>
<b>Round 4 NCR/CL/OFI</b>	<p>CL: Please correct the fire land cover type biomass estimates, providing detail as to their calculation origin.</p> <p>In responding to this finding please also add any language as desired to catalogue for this finding regarding the Harmon decay component.</p>
<b>Round 4 Response from Project Proponent</b>	<p>The following was submitted via email on 05 March 2018: "Hi Shawn, Apologies, I forgot to reply all. Can we please have a brief call to clarify these findings? It should only take a few minutes. I'm not finding anything that is incorrect about the aboveground biomass tC/ha estimates, as they have only been updated slightly to reflect the change in biomass due to the use of the Chao et al 2008 paper. I've looked through our biomass calculations, and they are correct, and reflect what was submitted previously, they just differ slightly in value. Maybe I'm missing something here, but I'd like to discuss."</p>
<b>Round 5 ESI Findings (March 2018)</b>	<p>Verifiers re-reviewed the biomass burn post values using "AB Burn Biomass Rapid Plots Treelist v1.8_Chao_2008.xlsx" and confirm their appropriateness. Values were traced and confirmed correct. The item is addressed.</p>

<b>Item Number</b>	15
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.2 Estimation of GHG emissions due to fire

<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements</b> <b>Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	The depth of peat burned per fire shall be measured in the field or conservatively estimated based on literature values <sup>49</sup> . If literature values are used, verification shall be conducted using limited ground sampling to ensure the actual burn depths measured fall within the uncertainty range of the literature value applied.
<b>Applicability to Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 2.2.4; Burn Impact Survey.pdf; validated PD
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	<p>The project conducted field measurements for burn depth, peat presence or absence, and LULC change during part of the reporting period at 60 sites. The spatial distribution of burn survey points seems reasonable but the geospatial file of sample locations was not found in materials. Verifiers noted that multiple areas in the CCA have previously experienced burns, repetitive burns are understood to affect burn scar depth (less scar depth with repeat burning at the same place).</p> <p>The PD deviation describes using measured burn depth values instead of less-accurate literature values. Verifiers understand that literature based (including this methodology) burn depth values are considerably higher than the average computed for the survey but are inherently conservative. Although VCS principles include Accuracy and Conservativeness, Conservativeness is quoted as being a moderator to accuracy. Verifiers note that different values for parameter DP,burn, it has been applied since the project started, the PD reports a value of 0.34m, monitoring periods 2 and 3 used a value of 0.55m and currently the project has applied a value of 0.022m. VM0004 is inexplicit as to whether this parameter used for ex-post emissions can be modified.</p> <p>Further, when burn depth was attempted to be measured in the field through demonstration with Rimba field staff, there was considerable lack of clarity regarding how peat surface was established. To measure burn depth, peat surface but be reliably determined however it was unclear how this was done once away from the edges of a burn.</p>



<p><b>Round 1 NCR/CL/OFI</b></p>	<p><b>1</b> CL: Please provide the burn survey ground check GPS points shapefile.</p> <p>Please clarify whether repeat burnings were considered in the determination of average burn depth.</p> <p>Please justify the appropriateness of the new field measured value for parameter DP,burn,it as compared to previously applied values, VCS principle of Conservativeness. Please also clarify whether the project is following the intent of VM0004 by periodically changing parameter DP,burn,it.</p> <p>Please clarify and provide a clear detailed definition regarding how peat surface is reliably determined as a starting point for measuring burn depth.</p>
<p><b>Round 1 Response from Project Proponent (29 December 2017)</b></p>	<p>Auditors have been provided with a shapefile showing the locations of burn plot measurements taken in the field. Upon review of the raw measurement data of burn depths in the field, the average burn depth was found to be actually lower than the applied value of 2.2cm. The average burn depth calculated in Burn Tally Sheet.xlsx was found to be 1.43cm, and the mean plus the margin of error at a 90% CI was found to be 1.62cm. This shows that the applied value of 2.2cm is conservative based on the field data collected. The update of peat burn depth is allowed by the methodology in section 19.2.2: "The depth of peat burned per fire shall be measured in the field or conservatively estimated based on literature values." Both values applied previously were literature values that were not reflective of the effects of wildfire on undrained peat. During this monitoring period, a study was completed in order to produce a more accurate value for peat burn depth on undrained peat land since many existing studies (such as Page et al. 2002) estimate peat burn depths from fires in drained plantations. The 2013 IPCC Wetlands Supplement Table 2.6 also provides no default value for wildfire on undrained peat. Since no literature is available as a Tier 1 default value for peat burn depth on undrained tropical peat, the project proponent has collected Tier 3 data within the project area, which provides higher levels of accuracy than existing default values.</p> <p>The measurements that were taken as part of the burn survey were located in both peat shrubland and in peat forest. Intact areas of peat forest are unlikely to have experienced previous fires, as opposed to areas of peat shrubland. As such, it would be expected that peat burn depths would be higher in peat forest areas than in shrubland areas. However, mean burn depths in peat were actually found to be lower in the plots that fell in peat forest areas than those in the peat shrubland areas that were more likely to have experienced multiple burns (as can be seen in the Burn Tally Sheet.xlsx. The accounting model has also been updated to account for all areas that experienced repeat burns during this monitoring period, and has applied the burn depth value of 2.2cm twice to any areas that experienced a second fire during the monitoring period.</p> <p>The measurement methods used in the field for the estimation of burn depth have been provided in the SOP "SOP_Fire Field Measurement.doc." These methods were developed by Dr Carly Green in collaboration with Dr Aswin Usup, a peat expert in Kalimantan. In plots that fell on the edge of a burn area, peat burn depth was measured against the unburned soil as a reference. However, in plots that fell in the</p>



middle of a burn, peat burn depths were taken using surrounding vegetation as a reference point for the burn depth. When measuring using vegetation as a reference point, the burn depth was measured from the base of the stem down to the burnt exposed root or stem until it no longer showed signs of having been burned. For more details on measurement methods refer to the SOP.

<p><b>ESI Findings - Round 2 (16 January 2018)</b></p>	<p>Verifiers reviewed the response given and materials provided to address this finding, however some concerns remain on the approach chosen and results.</p> <ol style="list-style-type: none"> <li>1. Field data collected was examined. Approximately half points visited were peat soil and generated data</li> <li>2. SOP Fire Field Measurement.docx was examined. It does not contain descriptive enough methods which are readily repeatable or consistent. As seen on-site, verifiers are unsure how peat surface can reliably be determined as a starting point for measuring burn depth. For instance; how far away is surrounding peat or vegetation a proxy for burnt depth, burn scar edge location determination, proximity of plot to any existing drainage/natural channels. No minimum timing post-fire for measuring burn scar depth is specified, verifiers understand vegetation recovery time to be ~3 months.</li> <li>3. As noted in the next finding, the project lacks pre-burn peat depth measurements as required by VM0004. The context of the word "can" pertains to measurement method (monitoring through active fire front or in vicinity of project area)</li> <li>4. Verifiers note that natural fires on completely undrained peat are rare and uncontrolled burning on peat depends on factors not considered in the analysis. Including for instance dry season water table depth, subsidence, peat thickness and proximity to drainage. VM0004 Section 8.2.2.1 for the baseline explicitly mentions drainage depth as a factor in consideration of peat burn scar depth.</li> <li>5. The results of the rapid assessment do not agree with literature values, for instance Couwenberg et. al. 2009 (Table 2: 12 - 55cm), Page et. al 2014 (11 - 18cm)</li> <li>6. Repeat burns do not appear to have been considered in the analysis where burn scar depth varies due to frequency of incident. Some rapid assessment points occurred in areas which burned 3+ times which may have skewed the average burn scar depth down.</li> <li>7. DP, burn, it is a time t and per fire parameter as described in VM0004, the plots visited for the rapid assessment do not represent all monitoring fires.</li> </ol> <p>Verifiers do not feel reasonably assured that the current burn scar depth value applied is conservative or accurate based upon the reasons above. The previous reporting period literature value is acceptable or an alternative literature value is permissible where verification of this value was undertaken through these field measurements to meet the requirements of the methodology.</p>
<p><b>Round NCR/CL/OFI</b></p>	<p><b>2</b> CL: Please address the findings and justify use of the chosen burn scar depth value, providing evidence as needed to support assertions. Otherwise please select another method following VM0004.</p>

<p><b>Round 2 Response from Proponent (02 February 2018)</b></p>	<p>The project proponent has opted to use literature values for peat burn depths and confirm the conservativeness of those values with field measurements taken within the project area, as is required by the VM0004 methodology section 19.2.2. The Hooijer et al. 2014 study found peat burn depths of 18cm during the first burn, 11 cm for the second burn, and 4.3cm for third and subsequent burns. A study done by Konecny et al. 2015 came up with very similar burn depths correlated with fire frequency. The survey methods for determining peat burn depths in the study area involved the collection of lidar data, and the interpolation of the data to estimate the original pre-burn peat surface level. Both studies were conducted in the Central Kalimantan region of Borneo, within a similar region and forest type as the project area. The studies analyzed historical fire data over a period of 20 years within the study area to determine the burn depths in areas with repeat fires.</p> <p>The project has decided to apply these burn depths to the 2014-2017 burn area based on the conservative historical frequency of fire within the monitored burn area. The historical frequency of fire was estimated over a 14 year period from 2000-2014, ensuring that the time dimension was within the same historical timeframe as the Hooijer and Konecny studies. MODIS burn area data was used in addition to monitored fire data within the CAA in order to determine the historical frequency of burns within the 2014-2017 burn area. MODIS burn area data was chosen to analyze burns prior to the project start date, because it estimated a more conservative burn area than the MODIS hotspot data. It was also difficult to extrapolate an accurate burn area from point-based hotspot data rather than the area-based burn data from MODIS. The revised burn area shapefile includes the historical burn date from MODIS and the previous project monitoring periods (see BurnHistory_with_LULC.shp). This burn depth analysis was then pulled in to the accounting model (see the multiple_peatburn_data tab), and used to apply the appropriate area weighted burn depth by stratum based on historical frequency of burn and the number of times an area was burned during this monitoring period.</p> <p>The project used field measurements to confirm the conservativeness of the literature burn depth values. Multiple areas that had been burned within the CAA were visited by field crews, and the measured burn depths within these areas ranged from 0.0005 - 0.003 m. These estimates are closer to the literature burn depths found in areas that have experienced three+ fires. As the field estimates within the CAA are lower than the literature values being applied for the first and second burns, the literature values can be considered conservative.</p>
<p><b>Round 3 ESI Findings (16 February 2018)</b></p>	<p>Verifiers agree with the literature based default burn scar depths chosen which are more conservative than the field measured depths. The intent of the methodology was followed where field measurements were essentially used to verify literature values. The results of the MODIS burn area product analysis was reviewed and confirmed appropriate. No further action is needed. The item is addressed.</p>

<b>Item Number</b>	16
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<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.2 Estimation of GHG emissions due to fire
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Burn depth can be measured by monitoring active fire fronts within or in the vicinity of the project area and installing sample posts to measure total peat depth before and after burning. Alternative methodologies for measuring the depth of peat burned may also be considered, such as interferometric analysis of land subsidence using radar data, user of airborne lidar, etc. All technologies used shall be described in detail in the PDD and/or monitoring reports.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	MR Section 2.2.4; Burn Impact Survey.pdf
<b>ESI Findings - Round 1 (29 November 2017)</b>	MR Section 2.2.4 describes the measurement methods for burn scar depths and references the Burn Impact Survey document. Peat depth and peat burn depth were described as tallied. It is not clear if peat depth measurements were taken before the fire following this requirement. It is also not clear if the methodology was developed from studies in the region and represents best practice.
<b>Round 1 NCR/CL/OFI</b>	CL: Please clarify if peat depth measurements were taken prior to fire as noted in VM0004 and if the survey methods were based on scientific practice in the region, providing citations to support assertions.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Peat depth measurements were taken in transects within the project area in 2009/2010, however no other systematic peat depth measurements were taken across the project area prior to the 2014/2015 fires and the peat depth data available was not used as a benchmark to measure burn depth. While the methodology (p. 83) states: "Burn depth <b>can</b> be measured by...measur(ing) total peat depth before and after burning." it also states that "Alternative methodologies for measuring the depth of peat burned may also be considered". The completed study was designed by Dr. Carly Green with collaboration from Dr Aswin Usup, a peat expert from Kalimantan. Dr Green trained field staff on the measurement methods to use to take burn measurements (see SOP_ Fire Field Measurement.doc).

<b>ESI Findings - Round 2 (16 January 2018)</b>	Methods for surveying peat burn scar depth are reviewed in greater detail in the previous finding including whether the project has met the requirements (this one also) of the methodology. This finding is closed to defer to previous finding. Item is addressed.
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<b>Item Number</b>	17
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.3 Estimation of GHG emissions due to land clearing (deforestation)
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	The area of land cover change that occurs within the project area that is not due to fire or logging, along with the associated GHG emissions, also must be accounted for at each monitoring event. Monitoring can occur using a variety of remote sensing imagery including georeferenced aerial imagery or other remote sensing imagery such as Landsat or radar imagery verified with field measurements.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	LULC change report
<b>ESI Findings - Round 1 (29 November 2017)</b>	Deforestation and land cover change was monitored primarily using Planet Scope 3m resolution imagery as defined in the LULC change report v1.2. Landsat 8 medium resolution imagery also used.
<b>Round NCR/CL/OFI 1</b>	CL: Please clarify the product class for Planet Scope (levels 1B, 3B or 3A) and Landsat 8 (full feature) here and in reporting documentation.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	The PlanetScope imagery used was the Level 3B Planetscope Ortho Scene Product. The LandSat 8 imagery used was the Landsat-8 OLI satellite imagery. The LULC Change Analysis SOP has been updated to reflect this.
<b>ESI Findings - Round 2 (16 January 2018)</b>	Product classes for remotely sensed data sources are now defined in the LULC Change Analysis SOP. These sources are suitable for the project and meet the requirements of VM0004. The item is addressed.

<b>Item Number</b>	18
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<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.3 Estimation of GHG emissions due to land clearing (deforestation)
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	The area of deforestation should be tracked directly using an accuracy assessment criterion of 80% or more. A description of the methods used to detect land cover change shall be included in the PDD.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	accuracyassessment_2010-2017_final.xls; project geospatial files
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Deforestation accuracy is taken from the two land cover maps for 2014 and 2017, which combine the accuracies (or better the uncertainties 1 - acc) by error propagation. The result is then the accuracy of the change. The REDD sourcebook allows the approach.</p> <p>Verifiers reviewed materials submitted (accuracyassessment_2010-2017_final.xls) for an accuracy assessment of stratification of land cover types. 375 ground reference points were taken, which appear to have been taken with the 3m resolution Planet Scope satellite imagery as suggested in the MR, but ground points may have also been physically visited. Though 50 points per class are recommended, time and logistical constraints in the project make this difficult. Verifiers note that half of these points fell in the CCA, VM0004 specifies an accuracy criterion of 80% applied to the CCA and buffer. A confusion matrix and kappa statistic were generated.</p>
<b>Round NCR/CL/OFI 1</b>	CL: Please provide the Planet Scope high resolution imagery used for the accuracy assessment effort. Please clarify if any of the accuracy assessment points were visited on the ground by field personnel.

<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Planet scope data was provided to verifiers. A total of 53 rapid assessment plots were visited within burned and deforested areas to confirm the accuracy of LULC change delineation. Field crews provided ecoPartners with georeferenced data to confirm the accuracy of the LULC change delineation as dogtozed . The accuracy of these LULC changes was found to be 85%. The results of the ground checks can be found in "LULC Ground Check Accuracy Assessment."
<b>ESI Findings - Round 2 (16 January 2018)</b>	Proponents combined the ground based accuracy assessment for deforestation with the accuracy assessment for burnt areas. The accuracy assessment for deforestation/burnt areas to meet this requirement was found to be reasonable.  However, 150ha topology overlap exists in the burn area shapefile, please see finding for topology errors within LULC shapefile. The item is addressed.

<b>Item Number</b>	19
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	19.2.3 Estimation of GHG emissions due to land clearing (deforestation)
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Monitoring for land cover change should occur annually.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	M4 monitoring calc worksheet; accuracyassessment_2010-2017_final.xls; project geospatial files
<b>ESI Findings - Round 1 (29 November 2017)</b>	Monitoring for land cover change does not necessarily occur annually but instead by monitoring period. Verifiers examined the results of the LULC change analysis and noted from independent imagery review inconsistencies for some cover changes during the period. For instance, it is unclear how the proponent decided to delineate some burnt areas to shrubland and others to low, sparse vegetation.



<b>Round 1 NCR/CL/OFI</b>	CL: Please give additional detail on how the "heads up" method of change recognition by analysts distinguished similar cover types including shrubland and low, sparse vegetation.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	Burnt peat areas such as Peat Shrub Forest or Peat Shrubland transition to Peat Shrubland after burning. Non-peat areas such as Riparian Forest or Coastal Forest transition to Low, Sparse Vegetation after burning, if tree regrowth is seen in imagery, whereas they transition to Grasslands if no tree regrowth is seen in imagery. An outdated version of the LULC change shapefile was provided to auditors. This shapefile was an intermediate version that had not undergone QAQC checks for accuracy and several areas were misidentified as low, sparse vegetation prior to the independent checks done as described in the response to finding 22. The finalized LULC shapefile provided to auditors reflects the correct land and soil cover types (see LULC_Data_2014-2017_10.shp) .
<b>ESI Findings - Round 2 (16 January 2018)</b>	The correct final LULC shapefile was reviewed in response to this finding and others. Verifiers understand that the primary basis for the land cover change assessment was burn detection. The LULC analysis was assessed for accuracy and results were found to be reasonable for cover type transition. Verifiers recognize that the larger burns which occurred this period often resulted in sparse vegetation cover type. The item is addressed.

<b>Item Number</b>	20
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	24.1 Uncertainty Ex-Post in the With-Project Scenario
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	See Eq. 127, 128 and 129.
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	M4 monitoring calc worksheet

<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Equation 127 was checked for correctness and several items were noted. In the interim calculations, not all years are accounted for under Equation 91 (only 2014 for instance) and some elements are added multiple times. The final uncertainty value is discrepant based on inputs and also may change as a result of other findings elsewhere in the review.</p> <p>Further, the uncertainty parameters which feed into Equation 127 are time t (annual). However, this is permissible if input parameters are included for all years as the result is the same.</p>
<b>Round 1 NCR/CL/OFI</b>	CL: Please address the findings and correct the noted discrepancies in uncertainty calculations.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>	<p>Uncertainty calculations were updated as it was found that the previous uncertainty estimates (along with the calculation steps in the methodology) were found to be inaccurate. An error propagation technique was used to determine the overall variance for the three main equations with associated uncertainty (EQ: 91, 109, and 121). The final derived equations that propagate uncertainty can be found in the MIR, section 3.2.2.6, and are applied in the uncertainty tab of the accounting model. In addition, uncertainties associated with the measurement of peat burn depth and burned aboveground biomass were also included in the uncertainty calculations.</p>

<p><b>ESI Findings - Round 2 (16 January 2018)</b></p>	<p>The verifiers reviewed the updated ex-post with-project uncertainty calculations within the "Rimba Raya_2014_2017V1.34.xlsx" workbook. Several issues were noted:</p> <ol style="list-style-type: none"> <li>1. It is unclear how variance is calculated within "LULC within Accuracy Assessment_2010-2017_final_v1.3.xls".</li> <li>2. Within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx", the equation to calculate the standard error of "MCB" is unclear.</li> <li>3. It is unclear to the verifiers why there is no uncertainty applied to "CE" within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx".</li> <li>4. There is an incorrect calculation of "ME @ 90%" for Peat Burn Depth (Cell N11 of the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx").</li> <li>5. Inconsistent t-statistics are utilized throughout the uncertainty process. For example, different t-statistics are utilized for different calculations. It is unclear to the verifiers how the t-statistics were determined.</li> <li>6. The calculation of variance in cells B41:N49 of the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx" is unclear to the verifiers. It does not appear that this method of calculation follows common statistical methods for calculating variance.</li> <li>7. The calculation of uncertainty within equation 127 does not include all inputs to equations 121, 91, and 109 (ex: EFP,LCC,AG,it; EFpeat,drainage,it; Elogging drainage,it).</li> <li>8. "Equation 127 - Variance of the Estimated Emissions" calculations for not appear to follow common statistical calculations methods.</li> <li>9. "Equation 127 - Margin of Error @ 90%" calculations for not appear to follow common statistical calculations methods.</li> <li>10. The verifiers were uncertain why "Equation 129 LKME" is zero.</li> <li>11. "n" in "Uncertainty in the Burned Biomass Estimation (tC/ha)" is incorrect for grass.</li> <li>12. It is unclear to verifiers why equations 70 and 90 were not included in calculations of uncertainty in equation 127.</li> <li>13. "DP,burn,it" standard error is squared to achieve the standard error within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx". This process is unclear to the verifiers.</li> </ol>
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<p><b>Round</b> <b>NCR/CL/OFI</b></p>	<p><b>2</b> CL: Please address the findings. In doing so, please ensure that all methods utilized to calculate are substantiated and verifiable. Please provide any supporting documentation necessary to provide reasonable assurance to the verifiers on uncertainty.</p> <p>Specifically,</p> <ol style="list-style-type: none"> <li>1. Please clarify how variance was calculated within "LULC within Accuracy Assessment_2010-2017_final_v1.3.xls". Please provide substantiation and clarification for the methods utilized.</li> <li>2. Please clarify the equation utilized to calculate the standard error of "MCB" within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx". Please provide substantiation and clarification for the methods utilized.</li> <li>3. Please clarify why there is no uncertainty applied to "CE" within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx". Please provide any supporting documentation necessary to verify.</li> <li>4. Please clarify the calculation of "ME @ 90%" for Peat Burn Depth (Cell N11 of the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx").</li> <li>5. Please clarify the inconsistent use of t-statistics.</li> <li>6. Please clarify the calculation of variance in cells B41:N49 of the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx". While doing so, please provide any substantiating support necessary to verify the methods utilize.</li> <li>7. Please clarify why all inputs to equations 121, 91, and 109 do not enter into the calculation of uncertainty in equation 127.</li> <li>8. Please clarify the calculations methods for "Equation 127 - Variance of the Estimated Emissions". Please provide any supporting documentation necessary to verify the methods utilized.</li> <li>9. Please clarify the calculations methods for "Equation 127 – Margin of Error @ 90%". Please provide any supporting documentation necessary to verify the methods utilized.</li> <li>10. Please clarify why "Equation 129 LKME" is zero.</li> <li>11. Please clarify the noted discrepancy with "n" in "Uncertainty in the Burned Biomass Estimation (tC/ha)" for grass.</li> <li>12. Please clarify why equations 90 and 70 were not included in equation 127.</li> <li>13. Please clarify why "DP,burn,it" standard error is squared to achieve the standard error within the "Ex-postUncertainty2014_2017" tab of "Rimba Raya_2014_2017V1.34.xlsx".</li> </ol>
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<p><b>Round 2 Response from Proponent Project (02 February 2018)</b></p>	<p>1. Variance was calculated for the accuracy assessment by using the equation for sample variance. This equation has been added to the MIR in the uncertainty section 3.2.2.6.</p> <p>2. The equation used to calculate the standard error for MCB is just the % uncertainty = <math>SE/X \times 1.645</math>, solved for SE. We are back-calculating the standard error using the mean carbon stocks for the forest classes (in tC/ha) because we could not confirm the units of the original standard error estimates.</p> <p>3. No uncertainty was applied to the variable CE because it is both a constant, and an IPCC default value. There is no variance for a constant. This has been clarified in section 3.2.2.6.</p> <p>4. This calculation was incorrect. The equation was updated in cell N11 to change “1/645” to “1.645”, which is the z-score for a 90% confidence interval.</p> <p>5. The t-statistics shown in cell E5 were not utilized in the calculations of uncertainty. Only the standard error of the BD variable was used. However, auditors noted that t-statistics were used in cells F16:F23, which feed into the % uncertainty calculations which were subsequently used to back-calculate MCB. The calculation of MCB was updated to take into account the t-statistics, by dividing by cells G16:G23. The appropriate z-score of 1.645 was then applied to MCB in rows I41:I49. Any inconsistencies related to t-statistics or z-scores were corrected.</p> <p>6. Cells B41:G49 have been updated to provide more clarity for the calculations. Many of the variables in cells B41:G49 have no associated variance due to the fact that they were either not detected during this monitoring period (<math>A_{(peatimpact,it)^{logging}}</math>, <math>A_{(peatimpact,it)^{LCC}}</math>) and had no associated area, were not monitored during this monitoring period (<math>[LKA]_{(planned,it)}</math>), or were measured in the field as a complete census (<math>N_{(p,it)^{gaps}}</math>, <math>A_{(peatimpact,it)^{logging}}</math>). However, the equations for variance in cells B41:G49 have been updated to provide calculations of variance for those variables for which variance was previously hard-coded in as 0. Notes in the uncertainty tab of the accounting model explain why no variance exists for certain parameters, and the MIR has also been updated to explain why no variance exists for the parameters described here.</p> <p>The calculation of variance in cells H41:N49 however, follows the standard calculation of <math>Var = \sigma^2</math>.</p> <p>7. Equation 127 shows the total uncertainty for each equation, multiplied by the total emissions for each equation. Uncertainty was propagated through equations 121, 91, and 109 (see finding 8 below for explanation), which was then combined to provide a variance estimate associated with equation 90 (project emissions). The variance of equation 65 (leakage emissions) was also added to the uncertainty tab (see finding 12 below), and the uncertainty associated with these two equations along with their emissions estimates were combined into equation 127, as is required by the methodology. These updates were also reflected in section 3.2.2.6 of the MIR.</p> <p>8. Uncertainty was propagated through equations 121, 91, and 109 by</p>
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applying the properties of the variance operator to the carbon accounting equations under reasonable assumptions of independence. Uncertainty was propagated through the calculation of variance for each of the inputs into equations 121, 91, and 109. For example, equation 121 is comprised of the outputs from equations 122-124. The derived equation for 121 described in the MIR shows the substitution of equations 122, 123, and 124 for variables  $[[EF]]_{(P,LCC,AGit)}$  and  $[[EF]]_{(peat,drainage,it)}$ . Derivations of each equation are provided for review.

9. "Equation 127 – Margin of Error @ 90%" was calculated through the use of the equation  $ME = \sqrt{Var} * 1.645$ . This is a standard calculation in statistics. The variance used was the variance for the estimate (as opposed to sample or population variance) for equations 90 and 65.

10. "Equation 129 LKME" is zero because there were no more emissions due to market leakage being accounted for during this monitoring period.

This has been clarified in section 3.2.2.6 of the MIR.

11. The noted discrepancy with "n" in "Uncertainty in the Burned Biomass Estimation (tC/ha)" for grass was due to the fact that there was only one plot that fell in the grass stratum. No standard error could be calculated for a sample size this small, so the plot was dropped as part of the calculations of SE and Variance. Cell M17 has been updated to show n=1 for grass, however, this does not materially affect the calculations of uncertainty.

12. The uncertainty tab was updated to include equation 90 and equation 65. Equation 90 is the sum of equations 121, 91, and 109, and equation 65 is comprised of equations 70, 69, and 66, which account for both market leakage and activity shifting leakage. Variance for equation 65 was zero, as there was no required monitoring of activity shifting leakage for this monitoring period, and there were no emissions due to market effects leakage during this monitoring period. Section 3.2.2.6 of the MIR has been updated to clarify the addition of these equations.

13. The "DP, burn, it" standard error was calculated incorrectly in cells M29:M37. This has been fixed in the latest version of the accounting model.

<p><b>Round 3 ESI Findings (16 February 2018)</b></p>	<p>The verifiers reviewed the uncertainty derivations provided. The derivations for variance of the individual carbon pool equations incorporate the variances of the components and subcomponents of the carbon pool equations to calculate a total variance by stratum. The derivations provided the verifiers with added clarity pertaining to the methods utilized to calculate uncertainty.</p> <p>The methods currently undertaken by the project include substituting variance of the equation components for the components in the equation forms. The verifiers are unclear if this is an appropriate method for combining variance, as the variances are weighted differently, depending on the equation form. According to equation 127 of VM0004, uncertainty is analyzed at the pool level, then stratum level for "Carbon stock, GHG sources or leakage emission type (e.g. trees, down dead wood, soil organic carbon, emission from fertilizer addition, emission from biomass burning, emission from leakage due to activity shifting etc.)" Further, the combination of variances within each carbon equation does not follow common statistical methods for pooling variances.</p>
<p><b>Round 3 NCR/CL/OFI</b></p>	<p>CL: Please demonstrate the methods utilized for variance calculation in the quantification of uncertainty is in conformance with the uncertainty equations in VM0004 and statistical best practices according to the finding.</p>
<p><b>Round 3 Response from Project Proponent (February 2018)</b></p>	<p>Received via email on 20180221 from Kyle Holland:</p> <p>Also attached, some supporting excerpts from textbooks.</p> <p>Some proofs, etc:</p> <p><a href="https://math.stackexchange.com/questions/191767/proving-linearity-of-variance-for-independent-random-variables-by-induction">https://math.stackexchange.com/questions/191767/proving-linearity-of-variance-for-independent-random-variables-by-induction</a>  <a href="https://courses.cs.washington.edu/courses/cse312/13wi/slides/var+zoo.pdf">https://courses.cs.washington.edu/courses/cse312/13wi/slides/var+zoo.pdf</a>  <a href="https://eli.thegreenplace.net/2009/01/07/variance-of-the-sum-of-independent-variables">https://eli.thegreenplace.net/2009/01/07/variance-of-the-sum-of-independent-variables</a></p> <p>Kyle Holland, Ph.D. Managing Director</p>



<p><b>Round 4 ESI Findings (February 2018)</b></p>	<p>Kyle,</p> <p>Thank you again for further clarifying the Rimba Raya uncertainty calculations. We have been reviewing the propagation of error methods that you clarified with us on the call yesterday and their implementation in the provided derivations and the Rimba Raya_2014_2017V1.45.xlsx workbook. We found a good reference from Harvard (<a href="http://ipl.physics.harvard.edu/wp-uploads/2013/03/PS3_Error_Propagation_sp13.pdf">http://ipl.physics.harvard.edu/wp-uploads/2013/03/PS3_Error_Propagation_sp13.pdf</a>) that details uncertainty propagation methods. We thought we would email you to keep the dialogue open as we continue this review.</p> <p>To begin, we are reviewing the error propagation for Equation 91, utilizing the Harvard reference. At a first glance, it does not appear that the derivation is propagating error in line with the Harvard reference, such as the adding of uncertainties in quadrature. Is it possible that we are not seeing steps in the derivation? Could you please look at that reference and help us to make the connection?</p> <p>In reviewing the derivation provided for Equation 91, we also noted that certain factors are expanded to their equation forms. For example, <math>E_{(drainage,it)}^{logging}</math> is expanded to <math>(A_{(peatimpact,it)}^{logging} \cdot [ME]_{(dd,it)}^{logging})</math>, which is Equation 107. It is unclear to us why other factors are not fully expanded, such as <math>[EF]_{(logging,i)} = (\sum_{k=1}^K [C_{(P,ik)}^{extracted} + C_{(P,ik)}^{damaged}]) / K</math>, etc. Could you please clarify why the factor expansion rules do not appear to be applied the same across all factors?</p>
<p><b>Round NCR/CL/OFI</b></p>	<p><b>4</b> Please see finding for requested elements.</p>

<b>Round 4 from Proponent</b>	<b>Response Project</b>	<p>The following response was submitted by proponents on 27 Feb. 2018: "Hi Aaron and Shawn, Attached is an updated version of the accounting model that applies the approach to calculating uncertainty that is prescribed in the VM0004 Methodology. I'm going to walk through the calculations in this email to hopefully clarify any questions that you might have with regards to how the calculations are applied.</p> <ol style="list-style-type: none"> <li>1. The % uncertainty (variable <math>Up_{ss,it}</math> of equation 127) was calculated for all variables with inherent uncertainty as specified in the methodology on page 87. The area uncertainties were calculated as they were in previous monitoring periods (by taking 1- the % user accuracy). All other calculations of uncertainty used standardized methods. The only calculation that used quadrature (as specified in part 2 of the Harvard paper) was the uncertainty for PBBp, which is a function of MCB and MCP. All uncertainties are calculated in rows 29-37 for each strata.</li> <li>2. After calculating all of the uncertainties, we then found the GHG source (<math>Ep_{ss,it}</math>) in stratum <math>i</math> at time <math>t</math> in the with-project case in units of <math>tCO_2e</math>, as specified by section 24.1 of the methodology (equation 127). As you'll see in the uncertainty tab (Emissions in the with-Project Case rows 41-49), the applicable emissions sources for each variable can be found in equations 91, 109, 121, and 70. In the previous monitoring periods, the accounting for uncertainty had been incorrectly applied to use variables for <math>Ep_{ss,it}</math> that were actually not in units of <math>tCO_2e</math>, as required by Equation 127 of the methodology. Since the only equations in units of <math>tCO_2e</math> in the project scenario accounting are equations 91, 109, 121, and 70, the corresponding equations that are with the variables with inherent uncertainty were used for <math>Ep_{ss,it}</math>. For example, Equation 91 is calculated with the variables <math>Ngaps</math>, <math>Aloggingpeatimpact</math>, <math>EFlogging</math>, and <math>Dlogging</math>, which all have associated uncertainty. Therefore, the GHG emissions per strata at time <math>t</math>, as calculated through equation 91, were used for the GHG source variable <math>Ep_{ss,it}</math>.</li> <li>3. The "Interim Equation 127 Calculations" (rows 54 - 62) consist of the multiplication of the GHG source (<math>Ep_{ss,it}</math>) by the variable's uncertainty (<math>Up_{ss,it}</math>), which feeds into the numerator of equation 127.</li> <li>4. The numerator of equation 127 is then calculated in cells R54:R62, and the denominator of equation 127 is calculated in cells S54:S62.</li> <li>5. Equation 127, the uncertainty for each strata is then calculated in cells T54:T62.</li> <li>6. The following equations (cells U54:AA62) are calculated in the same manner as they were calculated previously, following the equations 129, 129, and 130 as set out in the methodology.</li> </ol> <p>Essentially, the only updates that have been made are to calculate the % uncertainties for all variables, as was done in previous monitoring periods, and then multiply them by the corresponding GHG source (<math>tCO_2e</math>)."</p>
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<b>Round 5 ESI Findings (March 2018)</b>	Verifiers reviewed the overhauled uncertainty calculations provided in response to the finding. It was noted that values for "Uncertainty in the Burned Biomass Estimation (tC/ha)" are incorrect, including derivative values. Also, verifiers noted that parameter MCB is a baseline parameter and may not be appropriate to include in with-project uncertainty estimates. Equation 127 interim step for addition is incorrect compared to parameter values for "Emissions in the with-Project Case (Ep,ss,it)" as broken out in earlier step.
<b>Round 5 NCR/CL/OFI</b>	CL: Please address the findings and fix the noted errors in uncertainty calculations.
<b>Round 5 Response from Project Proponent</b>	<p>The following was submitted by the proponent via email on 05 March 2018, the second paragraph pertains to this finding. "Hi Shawn,</p> <p>Apologies, I forgot to reply all. Can we please have a brief call to clarify these findings? It should only take a few minutes. I'm not finding anything that is incorrect about the aboveground biomass tC/ha estimates, as they have only been updated slightly to reflect the change in biomass due to the use of the Chao et al 2008 paper. I've looked through our biomass calculations, and they are correct, and reflect what was submitted previously, they just differ slightly in value. Maybe I'm missing something here, but I'd like to discuss.</p> <p>Likewise, for the MCB variable, if you read the methodology (page 87) it shows that uncertainty in the MCB pool needs to be accounted for in the with-project scenario. Maybe we can discuss this on a call as well."</p>
<b>Round 6 ESI Findings (March 2018)</b>	Uncertainty calcs were discussed and re-reviewed in response to this finding. An adjustment was confirmed made to Interim calculation Equation 127 and corrected the final sampling error (9.5%). The item is addressed.

<b>Item Number</b>	21
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	25.2 Quality control (QC) and quality assurance (QA) procedures to be applied to the monitoring process
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	To ensure the net avoided emissions are measured and monitored precisely, credibly, verifiably and transparently, a quality assurance and quality control (QA/QC) procedure shall be implemented, including:
<b>Applicability to Project (Y or N/A)</b>	Y

<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR Section 9.2
<b>ESI Findings - Round 1</b> (29 November 2017)	The MR notes in section 6.2 that detailed QA/QC procedures are outlined in "QA_QC ProcessV1.2." A copy of this procedure is needed, following all 5 components below and having a targeted precision level. Receipt of the SOP/QA-QC documentation will be assessed against all monitoring procedures observed as part of the site visit.
<b>Round 1 NCR/CL/OFI</b>	1 NCR: Please provide the QA/QC documentation following all requirements for this section. Application of each of the sub-requirements will be assessed upon receipt of this documentation.
<b>Round 1 Response from Project Proponent</b> (29 December 2017)	The QAQC protocol has been revised to reflect QAQC procedures implemented in the field (QA_QC Process v1.3). This document details all 5 components of the QAQC process as outlined in VM0004 methodology.
<b>ESI Findings - Round 2</b> (16 January 2018)	The QA/QC process document has been reviewed in response to this finding. It contains sufficient and well-described QA/QC procedures to satisfy this requirement for the projects monitoring process. The item is addressed.

<b>Item Number</b>	22
<b>Approved VCS Methodology VM0004 Version 1.0, Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, Sectoral Scope 14 (Section)</b>	25.2.2 Reliable aerial imagery collection and analysis
<b>VCS Standard VCS Version 3 Requirements Document</b> 21 June 2017, v3.7 (Description)	A subset of image plots should be selected randomly and interpreted independently by at least one different analyst.
<b>Applicability to Project</b> (Y or N/A)	Y
<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR Section 9.2.2; LULC Change Report 2017 v1.2.docx

<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	It is unclear of how the independent interpretation of the randomly selected strata was performed to check the landsat classification following this requirement as no mention could be found in LULC Change Report.
<b>Round 1</b> <b>NCR/CL/OFI</b>	CL: Please clarify whether this required step was followed, adding descriptions to reporting documentation as needed.
<b>Round 1 Response</b> <b>from Project</b> <b>Proponent (29</b> <b>December 2017)</b>	All strata had 30% of their accuracy assessment points randomly selected and interpreted by an independent interpreter to determine if there were any systemic errors in classification. The additional accuracy assessment determined that the classification was conducted with an overall accuracy of 95%. This QAQC step has been added to the LULC protocol, and a shapefile with the additional accuracy assessment data has been provided to auditors (see LULC_AccuracyAssessment_IndependentInterpretation.shp).
<b>ESI Findings - Round 2</b> <b>(16 January 2018)</b>	Language describing this step was confirmed added to Section 6 of the LULC Change Analysis SOP document. Further, materials were provided to support this step was followed. Review of accuracy assessment steps performed occurs elsewhere in the review. The item is addressed.

<b>Item Number</b>	23
<b>Approved VCS</b> <b>Methodology VM0004</b> <b>Version 1.0,</b> <b>Methodology for</b> <b>Conservation Projects</b> <b>that Avoid Planned</b> <b>Land Use Conversion</b> <b>in Peat Swamp</b> <b>Forests, Sectoral</b> <b>Scope 14 (Section)</b>	25.2.2 Reliable aerial imagery collection and analysis
<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements</b> <b>Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	Virtual measurements shall be checked by a qualified person to correct any errors in techniques
<b>Applicability to</b> <b>Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement</b> <b>Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to</b> <b>Assess (Location in</b> <b>PD/MR or Supporting</b> <b>Documents)</b>	Site visit interviews; LULC Change Report 2017 v1.2.docx
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	Unclear whether an independent interpreter assigned land classes as part of error checking following this requirement as no mention could be found in the LULC Change Report.

<b>Round 1 NCR/CL/OFI</b>	1	CL: Please clarify whether this required step was followed, adding descriptions to reporting documentation as needed.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>		The LULC Protocol has been updated to describe the independent checks and interpretations done on the assignments of land classes to ensure that they are consistent with what exists on the ground and within the project area. Additionally, strata were verified through talks with field team coordinators where there were any inconsistencies or doubts about the LULC class as seen in the imagery.
<b>ESI Findings - Round 2 (16 January 2018)</b>		Error checking is now described within the LULC Change Analysis SOP document including various checks by primary interpreters and independent staff. The item is addressed.

Item Number	24
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VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Mitigation: Adaptive management plan in place. Adaptive management plans are those that identify, assess and create a mitigation plan for potential risks to the project, including those identified in this document, and any other obstacles to project implementation. They include a process for monitoring progress and documenting lessons learned or corrections that may be needed, and incorporating them into project decision-making in future monitoring periods. The onus is on the project proponent to demonstrate that such plans are in place, that such plans have considered the realm of potential risks and obstacles to the project, and that a system is in place for adapting to changing circumstances.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	VCS Non-Permanence Risk Report M4
ESI Findings - Round 1 (29 November 2017)	<p>The Project is claiming this period that an adaptive management plan is in place as demonstrated within the validated PD monitoring plan and Section 2.3.1 of the MR "Community Consultation." A search of the MR did not indicate any reference to an adaptive management plan which aligns with requirements under Section 2.2.1 (5) of the Risk Tool.</p> <p>Verifiers note that previous monitoring periods did not claim this mitigation score.</p>
Round 1 NCR/CL/OFI	CL: Please clarify which components of the existing management plan, community consultation Section 2.3.1 of the MR, or validated PD monitoring encompass adaptive strategies to claim this mitigation, providing supporting documentation and justifying all assumptions as needed. Otherwise, please adjust the score of Project Management in the absence of the adaptive management plan mitigation score.

<b>Round 1 Response from Project Proponent (29 December 2017)</b>	According to the Non-Permanence Risk Tool v3.3, "Adaptive management plans are those that identify, assess, and create a mitigation plan for potential risks to the project." The project has laid out a framework for adaptive management in Section 4 of the project's Monitoring Plan, and has identified the risks to the project in the annex FMEA & Control Plan. Additionally, sections 8, 9, and 10 of the Monitoring Plan provide information on how the specific risks of land cover change, fire, and selective logging are monitored then re-assessed. Since this Monitoring Plan and adaptive management framework has been in place from the beginning of the project, this mitigation score was likely justifiable for previous verifications but wasn't pursued. During this monitoring period, adaptive management practices were specifically utilized in responding to fires. Due to widespread fires throughout Indonesia in the past few years, training for fire mitigation increased significantly (Section 2.4.2 of the MIR) and local villagers were hired in each village to lead fire management efforts due to their knowledge of local fire hazards (Section 2.4.3 of the MIR). The project's management plan and on the ground actions show that the adaptive management strategies required by the non-permanence risk tool are being followed.
<b>ESI Findings - Round 2 (16 January 2018)</b>	The PD addresses adaptive planning in some detail and the monitoring report shows adaptive measures for fire, including training and education. This item is considered addressed for this verification but should continually be monitored in future verifications to ensure adaptive management is ongoing.

<b>Item Number</b>	25
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<b>VCS Standard Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Project cash flow breakeven point is less than 4 years from the current risk assessment
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	VCS Non-Permanence Risk Report M4



<p><b>ESI Findings - Round 1</b> <b>(29 November 2017)</b></p>	<p>InfiniteEARTH has executed forward sales triggered upon the first verification that will create an endowment which will sufficiently fund the operational budget through an annuity for the entire life of the project and possibly in perpetuity.</p> <p>The Risk report states "Project Breakeven: The Project cash flow breakeven point is less than 4 years from the current risk assessment. The Project has secured 80% or more of the funding needed to cover the total cash out before the Project breaks even.</p> <p>Evidence: Confidential budgets will be shared with the verifier."</p> <p>However, no supporting documentation was provided.</p>
<p><b>Round 1</b> <b>NCR/CL/OFI</b></p>	<p>CL: Please provide the updated documentation of current cash flow and funding for this verification period to satisfy this requirement.</p>
<p><b>Round 1 Response</b> <b>from Project</b> <b>Proponent (29</b> <b>December 2017)</b></p>	<p>The Project has provided verifiers with an updated budget and cashflow (see Rimba Raya Budget and Cashflow Breakeven .xlsx) . The Project's breakeven point is in 2018, which is less than 1 year from the current risk assessment. The project has also secured 144% of the funding needed to cover the total cash out before the project reaches breakeven, as shown in the confidential budget and cashflow model that has been provided to the verifiers. The Non-Permanence Risk Report has also been updated to reflect this information.</p>
<p><b>ESI Findings - Round 2</b> <b>(16 January 2018)</b></p>	<p>The risk report indicates a price of \$4.80 has been applied, though this cannot be confirmed as having been applied as row 20 of the "cashflow" tab in the spreadsheet "Rimba_Raya_budget_and_cashflow_breakeven_v1.xlsx" only shows pasted values and not calculations. The price of \$4.80 is conservative as it was derived from The State of the Voluntary Forest Carbon Offset Markets 2014, and the latest report (2017) shows an average value of \$5.1 per credit for forestry and other land use projects.</p> <p>Further, the risk tool states "When preparing the cash flow breakeven analysis, the assumptions on revenue from both carbon and other commercial sources (e.g., timber) must be conservative and clearly document the source". The risk report provided by the project does not provide substantiation or evidence for credit sales (forward sale contracts, etc.).</p> <p>Additionally, the risk report for the project states "The project has also secured 144% of the funding needed to cover the total cash out before the project reaches breakeven, as shown in the confidential budget and cashflow model that has been provided to the verifiers." However, the risk tool states that "Projects may demonstrate that funding has been secured through, for example, financial statements, bank records, executed commodity purchase agreements, executed emission reduction purchase agreements, or other signed contractual agreements. Evidence shall be provided that agreement counterparties are in good financial standing, to demonstrate the ability to meet the financial obligations. Given execution uncertainties, options contracts shall not be counted as secured funding." No such evidence has been provided.</p>

<p><b>Round 2 NCR/CL/OFI</b></p>	<p><b>2</b></p> <p>CL 1: Please provide a spreadsheet without pasted values so verifiers can confirm revenues from credit sales are accurate.</p> <p>CL 2: Please provide evidence for sales used to support the breakeven analysis.</p> <p>CL 3: Please clarify the components and sub costs included in "project &amp; development expenses" row so that the verifier can confirm what costs have been included.</p> <p>CL 4: Please provide evidence of secured funding through one of the approved channels are required in the risk tool. Also, please provide evidence that the project is in good financial standing as was done in the previous verification.</p>
<p><b>Round 2 Response from Project Proponent (02 February 2018)</b></p>	<p>The cashflow model has been updated to specify the assumptions going in to revenue generation. Specifically, the credit revenue generation and credit pricing assumptions have been outlined and used to project revenue of future credit sales. With regards to carbon sales revenue (row 20 of "Rimba_Raya_budget_and_cashflow_breakeven.xlsx"), everything prior to 2018 was based off of actual revenue numbers, while projections for 2018 were conservatively estimated based off of guaranteed and likely contracts. Additionally, projections for 2019 and beyond were very conservative, with a carbon credit price of only \$1.50/ton for 2019-2022 and then starting in 2023 \$3.00/ton due to projected changes in the compliance and voluntary market related to the airline industry.</p> <p>In order to provide evidence of the financial security of this project, a large number of supporting confidential financial documents and contracts have been shared with auditors. Evidence of sales agreements between the project proponent and various purchasers of credits can be found in the file 'Confidential - Financial Information.zip'. The components and subcosts for the "project &amp; development expenses" row has been provided in a supplemental confidential document titled "Project Expenses 2014-2016". This provides a breakdown of different project development expenses that were used as assumptions of costs in the cash flow model.</p> <p>Confidential evidence of secured funding has been provided to auditors that includes existing contracts for future sales and the project's current bank statements.</p>
<p><b>Round 3 ESI Findings (16 February 2018)</b></p>	<p>Revised spreadsheet provided with additional reference to support values. Additional documentation in support of the values provided was also provided on 2/13/2018.</p> <p>Credit sales evidence is sufficient to support the range of credit sales purported by the project for the reporting period. Item addressed.</p> <p>The components and sub costs are now sufficiently detailed. Item addressed.</p> <p>Evidence of secured funding sufficient to support proponent's financial projections. Evidence of financial standing was provided via a printout of bank statement. Finding closed. Item addressed.</p>

<b>Item Number</b>	26
<b>Intentionally Blank</b>	
<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	With legal agreement or requirement to continue the management practice
<b>Applicability to Project</b> <b>(Y or N/A)</b>	Y
<b>Requirement Met</b> <b>(Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	VCS Non-Permanence Risk Report M4
<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	<p>Evidence of the agreements/decrees (including maps) were provided at the previous verifications (2nd and 3rd) and assertions by the PP state that documentation remains unchanged. Evidence of longevity are summarized as 3 legal documents in section 1.4 of the Risk report. The DECREE OF MINISTER OF FORESTRY OF REPUBLIC OF INDONESIA is a legally binding document that indicates the 60-year lifespan of the agreement. Verifiers understand that Indonesian concession holders (ecosystem restoration or production based) are required to maintain monitoring compliance annually. Evidence of the annual effort by PT Rimba Raya staff to remain compliant to the government institutions is requested.</p> <p>Project documentation states "Project activities will be maintained for 60 years from the beginning of the project start date (i.e. Project longevity). This is longer than the project crediting period (i.e. 30 years) as the license granted over the project is for 60 years. (30 years + 30 years renewable)." "This license held by the Project and the intention to set up a perpetual fund for the Project management and activities demonstrates that appropriate licenses and funds will be available to ensure continued activities beyond the project crediting period. "</p>
<b>Round 1</b> <b>NCR/CL/OFI</b>	CL: Please address all findings and provide evidence that PT Rimba Raya remains in compliance to Indonesian authorities for this monitoring period as a concession holder.
<b>Round 1 Response from Project Proponent</b> <b>(29 December 2017)</b>	A government approved annual work plan and 10 year management plan have been shared with auditors demonstrating that the Rimba Raya project is in compliance with the Indonesian government through 2017 and has the necessary legal documents to demonstrate compliance for the next 10 years. Additional clarification has been added to section 1.4 of the Non Permanence Risk Report.

<b>ESI Findings - Round 2 (16 January 2018)</b>	The documents provided included historic decrees and recent (2016) approvals for the project and management plan by government, sufficient to provide reasonable assurance that the project was in compliance for the reporting period. Item addressed.
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<b>Item Number</b>	27
<b>Intentionally Blank</b>	
<b>VCS Standard</b> <b>VCS Version 3</b> <b>Requirements</b> <b>Document</b> <b>21 June 2017, v3.7</b> <b>(Description)</b>	Mitigation: Project area is protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	VCS Non-Permanence Risk Report_RimbaRaya M4
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>The project is claiming this mitigation which states the project area is protected by legally binding commitment. Verifiers note the project has not claimed this mitigation in previous periods. Verifiers understand that user rights for this project area are exist through a range of agreements with more than one party. Further, the legal requirement to continue management practices allows for the ERC concession license which covers most but not all of the CCA. Although the project has legal agreements in place for the remaining area of the Project Management Zone (the CCA and the buffer zone) these agreements grant rights of use to Rimba Raya Conservation; and do not specifically represent a legal requirement to continue the management practices. Therefore, this mitigation may not be appropriate to claim.</p> <p>Verifiers understand that these agreements collectively are expected to demonstrate that there are no outstanding disputes over land tenure, ownership or access/user rights. The Project is now fully operational and intends to uphold the legally binding commitment to the long-term protection of the project area. Materials are requested to substantiate that the concession commitments are legally binding for the entire project crediting period.</p>
<b>Round NCR/CL/OFI</b>	<b>1</b> CL: Please address the findings and clarify whether this land tenure mitigation score is appropriately selected based on the concession commitments for the entire project crediting period, providing materials as needed to support assertions.

<b>Round 1 Response from Project Proponent (29 December 2017)</b>	The mitigation for a legally binding agreement on the project area is no longer being claimed. Rather, the project proponent was made aware of a different type of mitigation that was not previously claimed but for which the project is eligible. Under the Community Engagement risk score, projects that can demonstrate a net positive impact on communities can claim mitigation. The project has been validated and verified to the CCB standard, and has previously been verified for community gold, which qualifies the project to claim this mitigation. With this change, the external risk rating remains at 0 and there is no impact on the overall risk rating. See the updated Non Permanence Risk Report for updates.
<b>ESI Findings - Round 2 (16 January 2018)</b>	The score for this mitigation element has been removed. Item addressed.

<b>Item Number</b>	28
<b>Intentionally Blank</b>	
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Fire
<b>Applicability to Project (Y or N/A)</b>	Y
<b>Requirement Met (Y, N or Pending)</b>	Y
<b>Evidence Used to Assess (Location in PD/MR or Supporting Documents)</b>	VCS Non-Permanence Risk Report_RimbaRaya M4, site visit observations
<b>ESI Findings - Round 1 (29 November 2017)</b>	<p>Verifiers understand that fires around the project area and on the project's borders have the potential to affect between 5% - 25% of project area carbon stocks as the area is mostly wet but fires only burn the surface of the peat layer as the small-scale fires from shifting agriculture in the area are generally contained. The area surrounding the project Area has already been converted to palm oil and therefore restricting the fires to small scale activities only. Naturally occurring fires on undisturbed peat are unlikely. Fires do not naturally occur on peatlands due to permanently wet conditions of the soil. Fire in peatland and peatland forest in Indonesia occur almost exclusively because of anthropogenic activities. However, verifiers note that anthropogenic fire risk is included as part of this natural risk score. The frequency of fire suggests a likelihood of less than every 10 years. Therefore, the current likelihood score that the project has applied may not be appropriate.</p> <p>Project is claiming a 0.5 mitigation for prevention measures. This mitigation score is reasonable given the explanation given, onsite observations and independent web research. However, clarification is requested on the appropriateness of the likelihood score.</p>

<b>Round NCR/CL/OFI</b>	<b>1</b>	CL: Please address the findings and justify the appropriateness of the fire risk likelihood score chosen based on the Risk Tool v3.3 Table 10, revising the selected score if warranted.
<b>Round 1 Response from Project Proponent (29 December 2017)</b>		After updating the accounting model with aboveground carbon stocks in burned areas as well as the peat burn depth measured in the field, it was determined that while about 24% of the project area was burned in the fires in 2014/2015, only 0.6% of the total baseline carbon stocks were lost as part of the fire. This shows that while the likelihood of fire in the region is high, the impact of some of the more devastating fires the project area has experienced, is still considered insignificant as defined by the 5% threshold in the Non Permanence Risk Tool. See the Accounting model "Summary MonitoringEmissions" tab for a calculation of fire severity.
<b>ESI Findings - Round 2 (16 January 2018)</b>		It was noted that the previously verified risk score for fire, specifically significance, was established to be "minor" which combined with the likelihood of less than 10 years resulted in a total score of 5 before mitigation was applied. Currently the significance score has be decreased to "insignificant". The methods the proponents used to determine percent of carbon losses appears to be in error as the entire baseline period was included. Additionally, the current argument and supporting calculations provided by the project proponent to lower that score are still in review, pending the resolution of the findings related to burn scar depth. The verifier also notes that VCS principles include Accuracy and Conservativeness, Conservativeness is quoted as being a moderator to accuracy.
<b>Round NCR/CL/OFI</b>	<b>2</b>	NCR: Please address the finding related to the supporting calculations for risk score. Also noted that this calculation is pending addressing of another finding related to burn scar depth.

<p><b>Round 2 Response from Proponent Project (02 February 2018)</b></p>	<p>Clarification from VCS was sought on this item for the appropriate calculation of significance for natural risk. The following calculation was given by VCS (please see VCS Guidance on Natural Risk Significance - Rimba Raya.pdf):</p> $\text{Average carbon stock loss per event} / \text{total carbon stocks in project area} = \text{significance of natural risk}$ $\text{Sum}(\text{total carbon stock loss}) / \text{n loss events} = \text{average carbon stock loss per event}$ <p>VCS further explained that the determination of significance must be determined at verification by applying the total carbon stocks in the project area at that time. In order to account for this, the project proponent conservatively updated the calculation of significance to remove all project emissions (including those that occurred during this monitoring period) from the total baseline emissions. This provides a conservative estimate of total existing carbon stocks in the project area during this validation. The project also conservatively estimated the total emissions from all fires detected during the monitoring period (multiple fire events). It was conservatively estimated that there were only five fire events over this period, by counting the number of distinct dates that new fires were observed in the imagery. These dates can be found in the shapefile BurnHistory_with_LULC.shp. Through the calculation of significance as specified by VCS, it was found that each fire only resulted in an average of 314,089 tCO<sub>2</sub>e, which is only 0.2% of total carbon stock loss per fire event (see SummaryMonitoringEmissions tab in accounting model, B76, A79). This is well within the threshold for insignificant risk of 0-5% as defined in the Non-Permanence Risk Tool. This Severity of Fire analysis can be found in the Summary Monitoring Emissions tab of the accounting model.</p>
<p><b>Round 3 ESI Findings (16 February 2018)</b></p>	<p>Verifiers received the same guidance as proponents for calculation of fire risk significance. Computing significance following the risk tool was confirmed to result in an insignificant (&lt;5% impact).</p> <p>A forward action request was added to the verification report to reevaluate fire risk at the next verification period. The item is addressed.</p>

<b>Item Number</b>	29
<b>VCS Registration and Issuance Process - VCS Version 3 Procedural Document 21 June 2017, v3.8 (Section)</b>	6.2.2
<b>VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)</b>	Release of buffer credits may only occur where a verification report (submitted to request VCU issuance) was issued at least five years after the issuance date of the verification report previously submitted to request VCU issuance.
<b>Applicability to Project (Y or N/A)</b>	Y



<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	MR Section 1.1.1.5
<b>ESI Findings - Round 1</b> (29 November 2017)	Section 1.1.1.5 of the MR states, "the project has been verified for 5 consecutive years prior to this monitoring period, the project will seek to be issued a buffer release as part of this verification." ESI understands that buffer release may occur " at least five years after the issuance date of the verification report previously submitted to request VCU issuance." The language in the MR should be clarified.
<b>Round 1 NCR/CL/OFI</b>	CL: Please revise the MR language as noted in the finding to more closely align with the VCS guidance document.
<b>Round 1 Response from Project Proponent</b> (29 December 2017)	The project is seeking an exemption from VCS for the release of buffer credits 3 months early. The language in the MIR has been updated to reduce ambiguity.
<b>ESI Findings - Round 2</b> (16 January 2018)	Verifiers confirmed that the language in the MR has been adjusted to remove ambiguity. The finding here is closed and defers to the next finding where a VCS exemption was requested by the proponent. The item is addressed.

<b>Item Number</b>	30
<b>VCS Registration and Issuance Process - VCS Version 3 Procedural Document</b> 21 June 2017, v3.8 (Section)	6.2.2
<b>VCS Standard</b> VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The first release of buffer credits shall be no sooner than five years after the first verification report was issued and presented to the registry for VCU issuance.
<b>Applicability to Project</b> (Y or N/A)	Y
<b>Requirement Met</b> (Y, N or Pending)	Y
<b>Evidence Used to Assess</b> (Location in PD/MR or Supporting Documents)	RP1 verification report, RP4 monitoring calc worksheet

<b>ESI Findings - Round 1</b> <b>(29 November 2017)</b>	The monitoring period calculation worksheet and previous verification reports were reviewed for adherence to this requirement. ESI located the first monitoring period verification report on the VCS website which was dated 22 May 2013 for issuance of credits for years 2009-2010 (1 July 2009 – 30 June 2010) which is equivalent to 1 year. Currently the project is requesting buffer release for years 1-5. However, the timeline suggests that the project will only be eligible for year 1 buffer release, 242,372 tCO <sub>2</sub> e in May 2018 following these rules.
<b>Round 1</b> <b>NCR/CL/OFI</b>	<b>1</b> NCR: Please revise the calculation and reporting of eligible buffer release credits. Please clearly state in the MR the vintage, years, and period for transparency of reporting the proposed buffer release.
<b>Round 1 Response</b> <b>from Project</b> <b>Proponent (29</b> <b>December 2017)</b>	The release of buffer credits has been updated to provide clarity to auditors on the exact calculation method specified by VCS. VCS has also provided guidance on the calculation methods, which allows for the release of the difference in buffer credits due to a retroactive adjustment to apply the current risk factor on all buffer credits previously issued, and allows for a release of an additional 15% of the adjusted buffer credits. Guidance from VCS has been provided in the form of an email and spreadsheet and has been applied to the current accounting model.  The project is seeking an exemption from VCS for the early release of buffer credits and will adjust the calculations based on guidance received from VCS
<b>ESI Findings - Round 2</b> <b>(16 January 2018)</b>	Verifiers re-reviewed the revised buffer release calculations and noted that the 15% time release is now correctly applied, "A 15 percent time release of buffer credits is then applied to the total number of buffer credits associated with the project to-date."  Verifiers understand the project is seeking an exemption to a requirement listed multiple times within the VCS Registration and Issuance Process document that states buffer release may only occur after 5 years of verification report issuance. The project at this time is not eligible for buffer release.
<b>Round 2</b> <b>NCR/CL/OFI</b>	<b>2</b> CL: Please provide evidence that VCS has formally approved an exemption to grant the project buffer release before the 5-year report issuance time is up. Otherwise please remove the buffer release from emission reduction quantification and reporting.
<b>Round 2 Response</b> <b>from Project</b> <b>Proponent (02</b> <b>February 2018)</b>	Please see VCS Guidance Buffer Release - Rimba Raya.pdf for the VCS exemption of the early buffer release. Infinite Earth will need to submit a formal request for exemption once the final verification report is issued.
<b>Round 3 ESI Findings</b> <b>(16 February 2018)</b>	Though the VCS Registration and Issuance v3.8 includes several references which indicate the project would not be eligible to receive a buffer release for another 3 months from the ending of this verification, VCS has provided a letter granting permission for early release. The verifiers reviewed the VCS letter granting permission to release the buffer now and are closing the finding. The item is addressed.

## APPENDIX C: CCB NCRS/CLS/OFI SUMMARY

### SUMMARY OF VERIFICATION FINDINGS

	Criterion	Required/ Optional	Conformance Y/N N/A
G1	Original Conditions in the Project Area	Required	Y
G2	Baseline Projections	Required	Y
G3	Project Design and Goals	Required	Y
G4	Management Capacity and Best Practices	Required	Y
G5	Legal Status and Property Rights	Required	Y
CL1	Net Positive Climate Impacts	Required	Y
CL2	Offsite Climate Impacts ("Leakage")	Required	Y
CL3	Climate Impact Monitoring	Required	Y
CM1	Net Positive Community Impacts	Required	Y
CM2	Offsite Stakeholder Impacts	Required	Y
CM3	Community Impact Monitoring	Required	Y
B1	Net Positive Biodiversity Impacts	Required	Y
B2	Offsite Biodiversity Impacts	Required	Y
B3	Biodiversity Impact Monitoring	Required	Y
GL1	Climate Change Adaptation Benefits	Optional	Y
GL2	Exceptional Community Benefits	Optional	Y
GL3	Exceptional Biodiversity Benefits	Optional	Y

### VERIFICATION NON-CONFORMANCE/CLARIFICATION REQUEST

#### G1 Original Conditions in the Project Area

<b>Indicator G1.1</b> – The location of the project and basic physical parameters (e.g. soil, geology, climate).	The project is located in the Seruyan Regency in the province of Kalimantan, Indonesia, between 112o01'12" – 112o28'12" east longitude and 2o31'48" – 3o21'00" south latitude, directly to the east of Tanjung Putting National Park. The monitoring report states there have been no changes since validation. A map is provided, in figure 1.  Physical parameters of the land were described in the validated project description, and the same information has appeared in previous monitoring reports.
Evidence Used to Assess Conformance:	Section 2.17 of the monitoring report, the project description and previous monitoring reports
Findings:	This indicator was successfully closed during validation and it does not need to be reopened for this monitoring period verification. Item closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G1.2</b> – The types and	This indicator was assessed during validation, was issued
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condition of vegetation within the project area.	a positive validation statement, and is therefore not being re-assessed during verification. It refers to the conditions of the project area at the start of the project, which can no longer be verified.
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<b>Indicator G1.3</b> – The boundaries of the project area and the project zone.	The project is located in the Seruyan Regency in the province of Kalimantan, Indonesia, between 112°01'12" – 112°28'12" east longitude and 2°31'48" – 3°21'00" south latitude, directly to the east of Tanjung Putting National Park. The monitoring report states there have been no changes since validation. A map is provided, in figure 1.  GIS data was also provided to the auditors.
Evidence Used to Assess Conformance:	Section 2.1.7, GIS data.
Findings:	The boundaries of the project area and zone were satisfactorily provided to the auditors. Item closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G1.4</b> - Current carbon stocks within the project area(s), using stratification by land-use or vegetation type and methods of carbon calculation (such as biomass plots, formulae, default values) from the Intergovernmental Panel on Climate Change's 2006 Guidelines for National GHG Inventories for Agriculture, Forestry and Other Land Use <sup>5</sup> (IPCC 2006 GL for AFOLU) or a more robust and detailed methodology.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G1.5</b> - A description of communities located in the project zone, including basic socio-economic and cultural information that describes the social, economic and cultural diversity within communities (wealth, gender, age, ethnicity etc.), identifies specific groups such as Indigenous Peoples <sup>8</sup> and describes any community characteristics.	This indicator was assessed during validation, was issued a positive validation statement and is therefore not being re-assessed during verification.
Evidence Used to Assess Conformance:	
Findings:	

Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator G1.6</b> - A description of current land use and customary and legal property rights including community property in the project zone, identifying any ongoing or unresolved conflicts or disputes and identifying and describing any disputes over land tenure that were resolved during the last ten years (see also G5).</p>	<p>This indicator was assessed during validation, was issued a positive validation statement, and is therefore not being re-assessed during verification.</p> <p>Land in Indonesia belongs to the state, and land use rights are allocated by the national government, with significant input from the regional government.</p>
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator G1.7</b> - A description of current biodiversity within the project zone (diversity of species and ecosystems) and threats to that biodiversity, using appropriate methodologies, substantiated where possible with appropriate reference material.</p>	<p>This indicator was assessed during validation, was issued a positive validation statement, and is therefore not being re-assessed during verification.</p>
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator G1.8</b> - An evaluation of whether the project zone includes any of the following High Conservation Values (HCVs) and a description of the qualifying attributes.</p> <p><b>Indicator 8.1</b> - Globally, regionally or nationally significant concentrations of biodiversity values:</p> <ul style="list-style-type: none"> <li>a. protected areas</li> <li>b. threatened species</li> <li>c. endemic species</li> <li>d. areas that support significant</li> </ul>	<p>This indicator was assessed during validation, was issued a positive validation statement, and is therefore not being re-assessed during verification.</p>
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<p>concentrations of a species during any time in their lifecycle (e.g. migrations, feeding grounds, breeding areas).</p> <p><b>Indicator 8.2</b> - Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.</p> <p><b>Indicator 8.3</b> Threatened or rare ecosystems.</p> <p><b>Indicator 8.4</b> - Areas that provide critical ecosystem services (e.g., hydrological services, erosion control, fire control).</p> <p><b>Indicator 8.5</b> - Areas that are fundamental for meeting the basic needs of local communities (e.g., for essential food, fuel, fodder, medicines or building materials without readily available alternatives).</p> <p><b>Indicator 8.6</b> - Areas that are critical for the traditional cultural identity of communities (e.g., areas of cultural, ecological, economic or religious significance identified in collaboration with the communities).</p>	
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## G2 Baseline Projections

<p><b>Indicator G2.1</b> - Describe the most likely land-use scenario in the absence of the project following IPCC 2006 GL for AFOLU or a more robust and detailed methodology, describing the range of potential land use scenarios and the associated drivers of GHG emissions and justifying why the land-use scenario selected is most likely.</p>	<p>While this was adequately covered in the fully validated Project Description and it is not required that the indicator be reopened for every verification, it is mentioned in the monitoring report.</p> <p>The most likely land-use, in the absence of the project, would have been drainage of the peat and conversion into palm oil plantations. The project was slated by the provincial government to be divided among four palm oil estates, and almost all surrounding lands, except for the national park, are currently parts of palm oil plantations.</p>
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Evidence Used to Assess Conformance:	Section 1 of the monitoring report, observations of land use in surrounding area during the site visit. Aerial imagery of the project area and surrounding lands.
Findings:	While this indicator was adequately covered in the validated project documentation and does not need to be re-examined for this verification period, the baseline scenario was reiterated and observations by the auditors confirm that the dominant land use around the project area is growing oil palm.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G2.2</b> - Document that project benefits would not have occurred in the absence of the project, explaining how existing laws or regulations would likely affect land use and justifying that the benefits being claimed by the project are truly 'additional' and would be unlikely to occur without the project.	<p>Most project benefits come directly from avoiding the conversion of the land to palm oil production, which first requires clearing the natural forest habitat and draining the peat. No climate or biodiversity benefits could be achieved in the absence of the project.</p> <p>Since this is an avoided planned conversion project and the plans were documented during validation, there is no doubt the land would have been converted as planned.</p> <p>Community benefits include the ecosystem services that would have been lost in the absence of the project.</p>
Evidence Used to Assess Conformance:	This indicator is not directly addressed in the monitoring report.
Findings:	<p>This indicator was adequately addressed and validated in the original PDD as well as previous monitoring reports for successfully verified monitoring periods. It does not have to be reopened during verification.</p> <p>It is clear that the majority of benefits are derived from the avoidance of conversion to palm oil production, and could not be achieved in the absence of the project.</p>
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G2.3</b> - Calculate the estimated carbon stock changes associated with the 'without project' reference scenario described above. This requires estimation of carbon stocks for each of the land-use classes of concern and a definition of the carbon pools included, among the classes defined in the IPCC 2006 GL for AFOLU. The timeframe for	Please see results from concurrent VCS verification.
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<p>this analysis can be either the project lifetime (see G3) or the project GHG accounting period, whichever is more appropriate. Estimate the net change in the emissions of non-CO2 GHG emissions such as CH4 and N2O in the 'without project' scenario. Non-CO2 gases must be included if they are likely to account for more than 5% (in terms of CO2-equivalent) of the project's overall GHG impact over each monitoring period.</p> <p>Projects whose activities are designed to avoid GHG emissions (such as those reducing emissions from deforestation and forest degradation (REDD), avoiding conversion of non-forest land, or certain improved forest management projects) must include an analysis of the relevant drivers and rates of deforestation and/or degradation and a description and justification of the approaches, assumptions and data used to perform this analysis. Regional-level estimates can be used at the project's planning stage as long as there is a commitment to evaluate locally-specific carbon stocks and to develop a project-specific spatial analysis of deforestation and/or degradation using an appropriately robust and detailed carbon accounting methodology before the start of the project.</p>	
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	
<p><b>Indicator G2.4</b> - Describe how the 'without project' reference scenario would affect communities in the project zone, including the impact of likely changes in water, soil and other locally important ecosystem services.</p>	<p>The project area is the last large area of natural vegetation in the region. The rest is in palm oil or is being used by local communities for small scale agriculture.</p> <p>Ecosystem services from the project area would mostly, if not completely, be lost. The land would be drained, natural flood control would be reduced, as well as water filtering services of the soil, peat soils would slowly oxidize.</p> <p>Employment opportunities would be limited to being plantation workers. Pay is low.</p>

Evidence Used to Assess Conformance:	Section 4.1.2 of the monitoring report, site visit observations.
Findings:	The 'without project' scenario would unquestionably degrade the local environment and reduce non-palm oil plantation jobs and traditional food sources. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G2.5</b> - Describe how the 'without project' reference scenario would affect biodiversity in the project zone (e.g., habitat availability, landscape connectivity and threatened species).	The 'without project' scenario equates to the complete conversion of the habitat of the project area to palm oil plantations. This would clearly negatively affect biodiversity in the project zone by reducing orangutan habitat. It would also open up access to the national park for illegal loggers and hunters, further reducing available habitat and reducing its quality.
Evidence Used to Assess Conformance:	Section 5.1.1 of the monitoring report, the nature of the project and the habitat it is protecting.
Findings:	It is clear that the 'without project' scenario would be detrimental to wildlife habitat and threatened and endangered species. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

### G3 Project Design and Goals

<b>Indicator G3.1</b> - Provide a summary of the project's major climate, community and biodiversity objectives.	<p>The monitoring report states that the major climate objective was to stop encroachment from palm oil plantations in the project area and create a physical barrier between the plantations and Tanjung Putting national park.</p> <p>Toward this effort, the project is actively patrolling and monitoring the project area for illegal logging and draining, as well as for fires and illegal hunting, and have done so throughout the monitoring period. Fire-fighting brigades are also employed by the project. Three guard posts were erected during the monitoring period.</p> <p>The major biodiversity objective was to expand contiguous habitat of the park to the Seruyan River and support OFI's work.</p> <p>Toward this effort, a new orangutan release station was completed during the monitoring period, and nineteen</p>
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	<p>orangutans were released between February and May of 2017.</p> <p>The major community objectives were to engage communities, improve access to healthcare, education and employment, build local capacity and improve food security.</p> <p>Toward this effort, 73 staff from 14 villages were hired for monitoring/ work. An additional 22 women are involved in other project-related employment. Economic working groups were created. Solar lanterns and water filters were distributed to many households in the project zone, as well as a number of small solar panels/generators. Two libraries were built during the monitoring period and two more are planned.</p>
Evidence Used to Assess Conformance:	Sections 1.1, 2.1.1, 3.3.1, site visit.
Findings:	The main climate, biodiversity and community objectives were to prevent the conversion of the land to palm oil plantations, provide assistance to OFI's work in orangutan release and habitat protection, and enhancing the economic outlook for local communities. The project has continued its work on these objectives throughout the monitoring period.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator G3.2</b> - Describe each project activity with expected climate, community and biodiversity impacts and its relevance to achieving the project's objectives.</p>	<p>The main climate project activity is avoiding the conversion of the land to palm oil plantation.</p> <p>Monitoring for illegal logging, fires and incursions by agents of deforestation are ongoing.</p> <p>Biodiversity activities include the preservation of the habitat of the project area, construction of release stations and monitoring of habitat for incursions, vegetative cover, hunting and fire. Fire-fighting is also provided.</p> <p>Community activities include providing lanterns and water filters, as well as jobs and training. Other income producing activities provided or inspired by the project include chicken meat and egg production, providing superior facilities for drying fish, providing and planting trees in the project area and the garbage bank in Telaga Pulang. A fish farming group has started and two libraries were built and staffed during the monitoring period.</p>
Evidence Used to Assess Conformance:	Sections 1.1, 2.1.10, 3.1.3, 4.1.1, 5.2.1, 5.2.2, 5.3.1 of the monitoring report.
Findings:	Activities were described and were related to expected

	outcomes and impacts. Item addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G3.3</b> - Provide a map identifying the project location and boundaries of the project area(s), where the project activities will occur, of the project zone and of additional surrounding locations that are predicted to be impacted by project activities (e.g. through leakage).	Figure 1 of the monitoring report includes a map of the general area around the project lands, including the project area, the accounting area, the adjacent national park and the palm plantations surrounding the project area. Location of the communities in the project zone are included.
Evidence Used to Assess Conformance:	Section 2.1.7 of the monitoring report.
Findings:	The map identifying the project area, zone and leakage zone was provided.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G3.4</b> - Define the project lifetime and GHG accounting period and explain and justify any differences between them. Define an implementation schedule, indicating key dates and milestones in the project's development.	The monitoring report describes the start date as November 2008. This is the fourth monitoring period, beginning 1 July 2014 and ending 22 June 2017. A project implementation schedule is provided in table 4. The project lifetime appears to end on 31 December 2039, according to the latest "finish date" provided in table 4. The establishment of the preserve may be dated from 31 November 2008, which was when the Bupati signed the letter approving of the project and recommending it.
Evidence Used to Assess Conformance:	Sections 2.1.5, 2.1.6, 2.2.1 of the monitoring report.
Findings:	The project lifetime is not specified, but appears to begin around November 2009 and end on 31 December 2039. This accounting period runs from 1 July 2014 to 22 June 2017. An implementation schedule was provided.
Non-conformance Request (NCR):	Please provide the project start date in section 2.1.5, and end date.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	Section 2.1.5 of the MIR has been updated to include the proper dates for the project start date and end date. The project start date has been specified as November 31, 2008 which corresponds with the date in which the Reserve was established through the signing of the letter of approval from Bupati. The project lifetime is 60 years thus the project end date is December 31, 2069.  Section 2.1.6 of the MIR has been updated to include the crediting period start date. The project crediting period start date is July 1, 2009 which corresponds with the date

	in which field crews were deployed in the project area to begin the baseline assessment. The project has a 30-year crediting period.
Evidence Used to Close NCR:	Sections 2.1.5 and 2.1.6 have been updated in the 29 December 2017 version of the monitoring report. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator G3.5</b> - Identify likely natural and human-induced risks to the expected climate, community and biodiversity benefits during the project lifetime and outline measures adopted to mitigate these risks.	<p>The monitoring report describes the risks to the project as the loss of C stocks due to palm oil expansion in the north, fires, clearing land for agriculture by surrounding communities.</p> <p>Measures adopted to mitigate risks include patrols for illegal activities, which also serve to educate local community members regarding what is and isn't allowed on project lands.</p> <p>Funds have also been available for enterprise development and job creation for local community members.</p>
Evidence Used to Assess Conformance:	Section 2.2.5 of the monitoring report, site visit interviews in Ulak Batu and Tanjung Rangas.
Findings:	The only risk identified is the potential for conversion of all or parts of the project area, illegal logging and clearing by locals for agricultural purposes. No direct risks related to biodiversity or community benefits are mentioned.
Non-conformance Request (NCR):	While risks to the project area's natural state constitute the major risk to project benefits, the site visit interviews revealed that there could be some risk from local community members becoming disillusioned or unsatisfied, due to misinformation spread by third parties, and poor communications between the project and local community leaders and members. Please address.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	Additional strategies have been planned to ensure the accurate and active conveyance of information to village leaders, elders and villagers in order to prevent misunderstandings and the spread of misinformation that may cause disillusion among community members. These strategies have been outlined in an additional SOP document and are being provided to the verification team. Please see "Community Messaging and Information Transmission SOP v1.2.pdf."
Evidence Used to Close NCR:	<p>Community Messaging and Information Transmission SOP, V1.2 directly addresses the problem described in this NCR, as well as the clarification requested for indicator G3.8. Quarterly meetings between staff and community members and leaders to review and address rumors and/or misinformation, the goals and scope of the project and timelines for various project activities.</p> <p>Staff and management will also review project activities and goals and provide updates to the communities.</p>

	Indicator closed.
Date Closed:	5 January 2018

<p><b>Indicator G3.6</b> - Demonstrate that the project design includes specific measures to ensure the maintenance or enhancement of the high conservation value attributes identified in G1 consistent with the precautionary principle.</p>	<p>The monitoring report lists the 12 HCVs determined to be present in the project zone, including:</p> <ul style="list-style-type: none"> <li>• Areas that Contain or Provide Biodiversity Support Function to Protection or Conservation Areas</li> <li>• Areas that Contain Critically Endangered Species</li> <li>• Areas that Contain Habitat for Viable Populations of Endangered, Restricted Range or Protected Species</li> <li>• Areas that Contain Habitat of Temporary Use by Species or Congregations of Species</li> <li>• Large Natural Landscapes with Capacity to Maintain Natural Ecological Processes and Dynamics</li> <li>• Areas that Contain Two or More Contiguous Ecosystems</li> <li>• Areas that Contain Representative Populations of Most Naturally Occurring Species</li> <li>• Rare or Endangered Ecosystems</li> <li>• Areas or Ecosystems Important for the Provision of Water and Prevention of Floods for Downstream Communities</li> <li>• Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire</li> <li>• Natural Areas Critical for Meeting the Basic Needs of Local People</li> <li>• Areas Critical for Maintaining the Cultural Identity of Local Communities</li> </ul> <p>The maintenance of all these HCVs depend directly on protecting the forest and maintaining it in its undrained state. The activities taken in support include establishing the preserve, creating a monitoring plan and developing the monitoring system, replanting degraded areas, fighting fires and providing economic benefits and opportunities to the people of the local communities, including formal and informal education.</p>
Evidence Used to Assess Conformance:	Section 2.2.6 of the monitoring report.
Findings:	All HCVs depend entirely on the basic goal of the project – preventing the draining and conversion of the land to palm oil production. Literally all project activities are designed to achieve and maintain this goal. Item addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G3.7</b> - Describe the measures that will be taken to maintain and	Carbon stocks protected by the project are intended to remain intact beyond the lifetime of the project by
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enhance the climate, community and biodiversity benefits beyond the project lifetime.	<p>protecting it from conversion indefinitely.</p> <p>Community-related activities include sustainable income-generating activities and food production activities that were initiated by the project, but can extend well beyond the project lifetime, because the knowledge and practice will remain.</p> <p>Social capacity building, like encouraging individuals to work together and form trade groups, instruction on agriculturally-related activities, will also remain.</p>
Evidence Used to Assess Conformance:	Section 2.2.7 of the monitoring report, site visit observations and interviews.
Findings:	Legal protection of the land beyond the project lifetime was successfully validated. Capacity building activities for the communities were observed during the site visit, and people were interviewed about them at that time. They are ongoing, and mostly involve education and providing seed money to get them started. It is likely that these educational measures will continue and knowledge will be spread beyond the project lifetime. Item addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator G3.8</b> - Document and defend how communities and other stakeholders potentially affected by the project activities have been identified and have been involved in project design through effective consultation, particularly with a view to optimizing community and stakeholder benefits, respecting local customs and values and maintaining high conservation values. Project developers must document stakeholder dialogues and indicate if and how the project proposal was revised based on such input. A plan must be developed to continue communication and consultation between project managers and all community groups about the project and its impacts to facilitate adaptive management throughout the life of the project.</p>	<p>The monitoring report states that the project has gained local approval of the communities bordering the project area, within the project zone. Further, the project proponents have worked to create an effective means of communications with communities.</p> <p>A recent survey on socio-economic conditions was carried out, reader is referred to "Rimba Raya Endline _QUICK SURVEY_Edy September 2017.xls."</p> <p>This study is said to show high levels of deprivation due to fluctuating income streams and high food costs. Food security in the area depends on local natural resources and conditions.</p> <p>Village agreements were signed between individual communities and the Rimba Raya project. 8 of 14 communities signed agreements during the monitoring period, the last in September of 2016. An "early Warning Response system was implemented to encourage community members to report concerns and issues. Each village has at least one person who can contact Rimba Raya so a response can be made.</p> <p>The communities have also been engaged through the community mapping project.</p>
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	The project also communicates to community members through village board announcements at mosques and other public places
Evidence Used to Assess Conformance:	Section 2.3.1 of the monitoring report, site visit interviews and community bulletin boards.
Findings:	<p>According to interviews and town meetings held during the site visit local communities were involved determining community benefits. Methods of communications between community members and project management and staff exist and are known to community leaders.</p> <p>However, in some communities, communications can be improved. In one community, a misunderstanding about a potential law that was being discussed in Indonesia's legislative body appeared to have sown distrust between community leaders and the project. In another community, the speed at which project benefits were being received was a complaint, as well as the slow pace at which they received their signed copy of the agreement between the community and the project.</p> <p>Still other communities wanted the project to become more involved in aspects of the community that may be well beyond would reasonably be expected of a conservation project (e.g., involvement in community life, involvement in anti-drug campaigns)</p>
Clarification request (CL):	<p>Communications between the project and some communities should be improved. The complaints regarding the project that the auditors heard were not the result of project mismanagement or any sort of deceitful conduct on the part of project staff or management. They were either the result of misinformation, overly-optimistic expectations or a misunderstanding of the mission of the project, with respect to the communities and community-related activities.</p> <p>Please provide a plan of action, to be implemented as soon as possible, to bridge the kinds of communications gaps encountered during the site visit.</p>
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	Additional strategies have been planned to ensure the accurate and active conveyance of information to village leaders, elders and villagers in order to prevent misunderstandings and the spread of misinformation that may cause disillusion among community members. These strategies have been outlined in an additional SOP document and are being provided to the verification team. Please see "Community Messaging and Information Transmission SOP v1.2.pdf"
Evidence Used to Close NCR:	The Community Messaging and Information Transmission SOP, V1.2, addresses the issues described in this clarification request, as well as the NCR in Indicator 3.5. If implemented as described, the SOP reasonably addresses the communications gaps described above, through quarterly community meetings to discuss project

	goals, scope, timelines and any other issues or rumors that may have arisen. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator G3.9</b> - Describe what specific steps have been taken, and communications methods used, to publicize the CCBA public comment period to communities and other stakeholders and to facilitate their submission of comments to CCBA. Project proponents must play an active role in distributing key project documents to affected communities and stakeholders and hold widely publicized information meetings in relevant local or regional languages.	<p>The monitoring report states that community information boards were used to publicize the comment period and the audit site visit. Comment boxes were installed in the 14 villages to facilitate feedback.</p> <p>A summary of the monitoring report was provided to village leaders and was available on the community information boards.</p> <p>Rimba Raya office locations also had the summary documents available.</p>
Evidence Used to Assess Conformance:	Sections 2.3.2 and 2.3.3 of the monitoring report, site visit.
Findings:	Summaries of the monitoring report were available in the communities and were delivered to local leaders, according to interviews. The site visit was announced on local bulletin boards.
Clarification (CL):	Please provide a copy of the monitoring report summary to the auditors.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	Please see CCB_VCS_Monitoring_Report_Summary_v1.38_BAHASA.pdf for the original monitoring report summary provided to communities.
Evidence Used to Close NCR:	File CCB_VCS_Monitoring_Report_Summary_v1.38_BAHASA.pdf provides a summary of the monitoring report, in both Bahasa and English. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator G3.10</b> - Formalize a clear process for handling unresolved conflicts and grievances that arise during project planning and implementation. The project design must include a process for hearing, responding to and resolving community and other stakeholder grievances within a reasonable time period. This grievance process must be publicized to communities and other stakeholders and must be managed by a third party or mediator to prevent any conflict of interest. Project management must attempt to resolve all reasonable grievances raised, and provide a written response to grievances within 30 days. Grievances and project responses must be documented.	<p>A grievance/conflict resolution process is in place. It has changed slightly, in that it is managed by a third party, referred to in the monitoring report as WEI. Local villagers were hired as community development staff and trained as facilitators.</p> <p>The full grievance/conflict resolution process is provided in the monitoring report.</p>
Evidence Used to Assess Conformance:	Section 2.1.3 of the monitoring report, SOP – Handling Conflicts and Grievances.doc, site visit interviews.
Findings:	A formal grievance procedure is in place, it has been

	publicized and uses a third party, WEI.
Non-conformance Request (NCR):	<p>Please identify WEI. Is this World Education? If it is World Education, please fully explain their role in the project.</p> <p>They are listed as being charged with “community development and education,” in section 2.1.4. If they are responsible for more than the grievance process and provide other services to the project, can they be considered a third-party mediator? Please justify.</p>
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	<p>Please see section 2.1.4 of the MIR for an updated description of the role of WE. WE or WEI is World Education Indonesia (or Widya Erti Indonesia). WE was engaged by the project proponent starting in 2015. From 2015 to present, WE have acted as the community development consultant for the project. Although the project proponent operationally manages the project community aspects, WE is still greatly relied upon for technical advisory and overall consultation. If conflicts are unable to be resolved between communities and Rimba Raya Staff, especially with regards to land claims, the government will act as a third party mediator. This is not the role of WEI or Rimba Raya Staff. For the SOP on the grievance process, please see SOP Rimba Raya Bilingual 2017 Field Ops.doc</p>
Findings:	<p>After explaining the situation with World Education being both a third-party mediator and a consultant to the project regarding educational programs to Amy Schmid of VCS-CCBA, Ms. Schmid clarified that it is acceptable for a third-party mediator to have some involvement in the project, outside their role as third-party mediator for conflicts and grievances.</p> <p>The auditors were assured by the project developers that the third-party mediator from WE will not be anyone who is involved in the Rimba Raya project. The government would only be asked to step in when conflicts cannot be solved by the third-party mediator, or the dispute is over land tenure on government-owned lands.</p> <p>The NCR for this indicator is withdrawn.</p>
Evidence Used to withdraw NCR:	Email discussion with Amy Schmid of VCS/CCBA. Email from Paz Lozano of Eco Partners.
Date Closed:	12 January 2018

<b>Indicator G3.11</b> - Demonstrate that financial mechanisms adopted, including projected revenues from emissions reductions and other sources, are likely to provide an adequate flow of funds for project implementation and to achieve the anticipated climate, community and biodiversity benefits.	<p>The monitoring report states that the project has had revenues since a large sale of credits was made. Since that time, several million more credits were sold.</p> <p>It further states that both the project and InfiniteEARTH have funds available to manage the project operations, and that further proprietary information can be made available to the verification body.</p>
Evidence Used to Assess Conformance:	Section 2.4.6 of the monitoring report

Findings:	While the project has been up and running for several years and it appears the project and InfiniteEARTH have sufficient funds to implement the project, no figures were provided.
Non-conformance Request (NCR):	Please provide sufficient financial information to demonstrate the project has sufficient funds for project implementation.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	The Project has provided verifiers with an updated budget and cashflow (see Rimba Raya Budget and Cashflow Breakeven .xlsx) . The Project's breakeven point is in 2018, which is less than 1 year from the current risk assessment. The project has also secured 144% of the funding needed to cover the total cash out before the project reaches breakeven, as shown in the confidential budget and cashflow model that has been provided to the verifiers.
Evidence Used to Close NCR:	File: Rimba_Raya_budget_and_cashflow_breakeven_v1.xls indicates the project will break even in 2018. Indicator closed.
Date Closed:	5 January 2018

#### G4 Management Capacity and Best Practices

<b>Indicator G4.1</b> - Identify a single project proponent which is responsible for the project's design and implementation. If multiple organizations or individuals are involved in the project's development and implementation the governance structure, roles and responsibilities of each of the organizations or individuals involved must also be described.	<p>The project proponent is InfiniteEARTH. Other entities include:</p> <ul style="list-style-type: none"> <li>PT Pandu Maha Wana Asia Pacific Consulting Solutions.</li> <li>Orangutan Foundation International</li> <li>World Education (WE)</li> <li>Environmental Accounting Services (EAS)</li> <li>ecoPartners LLC</li> </ul> <p>Brief descriptions of the services each provides the project is included.</p>
Evidence Used to Assess Conformance:	Section 2.1.4, site visit.
Findings:	During the site visit, auditors were told that Loy Jones' company, PT Pandu Maha Wana, was no longer involved in the project.
Non-conformance Request (NCR):	Please clarify whether PT Pandu Maha Wana is still involved in the project. If not, which entity is now responsible for "Field Staff, Measuring and Monitoring, Forest Protection, Community Development, Ecosystem Restoration," as described in section 2.1.4. In addition, was EAS involved in the project during this crediting period? They are included in section 2.1.4, but no role is described for them in section 2.4.1.
Date Issued:	30 November 2017.
Project Proponent Response/Actions and Date:	The MIR has been updated throughout to reflect the appropriate and relevant roles of partner organizations during this crediting period. To clarify, the PT Pandu Maha Wana contract ended in December of 2015. Since then,

	the field activities have been managed directly by the staff of the Rimba Raya Conservation. Likewise, EAS was involved in the project during this crediting period as a third party in order to provide ecoPartners with background knowledge. Because EAS had been involved in previous monitoring periods and verification events, they provided background to ecoPartners notably because they had direct involvement in fire measurements and peat burn depth analyses. The MIR has been updated to reflect these specifications.
Evidence Used to Close NCR:	Sections 2.1.4 and 2.4.1 were both updated in v1.56 of the monitoring report to reflect the information provided above. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator G4.2</b> - Document key technical skills that will be required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring skills. Document the management team's expertise and prior experience implementing land management projects at the scale of this project. If relevant experience is lacking, the proponents must either demonstrate how other organizations will be partnered with to support the project or have a recruitment strategy to fill the gaps.	<p>The monitoring report states, that the technical skills of the project proponent and other partner organizations were maintained and that project activities were implemented successfully.</p> <p>ecoPartners, LLC, was used for monitoring and GHG emissions quantification reductions. It is a well-known consulting company for carbon offset projects, and provided technical input with remote sensing and provides support for guidance through verification.</p> <p>Key skills include supervision of physical assets, administration, logistics, budgets, human resources, certification of carbon credits and management and monitoring of wildlife habitat and wildlife populations. InfiniteEARTH and OFI have this expertise, which is further explained, in detail, in the monitoring report.</p>
Evidence Used to Assess Conformance:	Sections 2.4.1 and 2.1.4 of the monitoring report, site visit interviews
Findings:	The entities involved in the project have proven, successful track records in their fields. This indicator will be closed, pending resolution of G4.1.
Clarification Request (CL):	If the response to the NCR for G4.1 assigns roles to more or fewer entities, please update section 2.4.1 and describe changes here.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	The NCR for G4.1 has been appropriately addressed in the findings response above. Likewise, section 2.4.1 of the MIR has been updated to include current roles of the project proponent and other partner organizations. Specifically, section 2.4.1 of the MIR now states that PT Pandu Maha Wana was only involved in the project until 2015. Also, the role of EAS during this monitoring period has been updated to show that they acted in an advisory role to ecoPartners to assist with background information for land use and accounting analyses.
Evidence Used to Close NCR:	Sections 2.1.4 and 2.4.1 were both updated with clarifications for the roles of all parties. The NCR in indicator G4.1 was adequately addressed. This indicator is therefore closed.

Date Closed:	5 January 2018
<p><b>Indicator G4.3</b> - Include a plan to provide orientation and training for the project's employees and relevant people from the communities with an objective of building locally useful skills and knowledge to increase local participation in project implementation. These capacity building efforts should target a wide range of people in the communities, including minority and underrepresented groups. Identify how training will be passed on to new workers when there is staff turnover, so that local capacity will not be lost.</p>	<p>Plans for training and capacity building of project employees have been in place since the first CCB verification. The monitoring report further describes training that occurred during the monitoring period, including:</p> <ul style="list-style-type: none"> <li>Rapid assessment training</li> <li>Firefighting and prevention training for fire brigades.</li> <li>Wildlife monitoring</li> <li>Agro-forestry/ecosystem restoration and HCV training.</li> <li>Small business development (particularly targeting women).</li> </ul> <p>A firefighting drill/demonstration was carried out during the site visit.</p>
Evidence Used to Assess Conformance:	Section 2.4.2 of the monitoring report, site visit interviews and demonstrations.
Findings:	Interviews during the site visit confirmed employees were trained and well-versed in the skills needed to do their jobs. Women involved in chicken meat and egg enterprises were trained and using the skills they learned. This indicator is closed.
Non-conformance Request (NCR):	
<p><b>Indicator G4.4</b> - Show that people from the communities will be given an equal opportunity to fill all employment positions (including management) if the job requirements are met. Project proponents must explain how employees will be selected for positions and where relevant, must indicate how local community members, including women and other potentially underrepresented groups, will be given a fair chance to fill positions for which they can be trained.</p>	<p>The monitoring report describes the policy for hiring employees. Jobs are announced on village bulletin boards, in village offices and mosques.</p> <p>Members of project zone communities are given priority for all positions. Women and minority group members were said to be adequately represented in this process.</p> <p>52 new personnel were hired during this monitoring period, of which 11 are women. 18 of the 73 staff members are women.</p> <p>Women were also the beneficiaries of the micro-credit program, in income producing activities, like shrimp paste production, chicken meat and egg production.</p>
Evidence Used to Assess Conformance:	Section 2.4.3 of the monitoring report, site visit interviews
Findings:	A majority of project employees are from the local communities. A significant number of women are employed by the project, considering many of the jobs, like firefighting, are not traditionally done by women in Indonesia. Additional pilot projects, like the shrimp paste, and two types of chicken enterprises, target women as the beneficiaries. This indicator is closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	



Date Closed:	
<p><b>Indicator G4.5</b> - Submit a list of all relevant laws and regulations covering worker's rights in the host country. Describe how the project will inform workers about their rights. Provide assurance that the project meets or exceeds all applicable laws and/or regulations covering worker rights and, where relevant, demonstrate how compliance is achieved.</p>	<p>The monitoring report provides the following list of laws that govern relations between workers and employers:</p> <p>UU No. 13/2003</p> <p>In addition the following ILO conventions were ratified by Indonesia:</p> <p>C81 – Labour Inspection Convention, 1947</p> <ul style="list-style-type: none"> <li>• C87 – Freedom of Association and Protection of the Right to Organise Convention, 1948</li> <li>• C98 – Right to Organise and Collective Bargaining Convention, 1949</li> <li>• C100 – Equal Remuneration Convention, 1951</li> <li>• C102 – Social Security (Minimum Standards) Convention, 1952</li> <li>• C105 – Abolition of Forced Labour Convention, 1957</li> <li>• C111 – Discrimination (Employment and Occupation) Convention, 1958</li> <li>• C138 – Minimum Age Convention, 1973</li> <li>• C169 – Indigenous and Tribal Peoples Convention, 1989</li> <li>• C182 – Worst Forms of Child Labour Convention, 1999</li> </ul> <p>Two new laws were passed relevant to workers' rights, including:</p> <p>Government Regulation No. 45 Government Regulation No. 46</p> <p>The first law requires employers to register employees with the Social Security Employment Agency and participate in the Pension Guarantee Program. The second requires employers to register employees into a retirement fund. Both laws have been followed for all employees, on 7 September 2015.</p> <p>All employees have signed employment agreements and provided a copy of regulations so they are aware of their rights.</p>
Evidence Used to Assess Conformance:	Section 2.4.4 of the monitoring report. Copies of the two new laws. Conversations with Joseph Falmer, Yudhta Widhiati.
Findings:	Rimba Raya's Jakarta staff keeps up on all laws affecting the project. The management is dedicated to following the law. Item addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	



Date Closed:	
<p><b>Indicator G4.6</b> - Comprehensively assess situations and occupations that pose a substantial risk to worker safety. A plan must be in place to inform workers of risks and to explain how to minimize such risks. Where worker safety cannot be guaranteed, project proponents must show how the risks will be minimized using best work practices.</p>	<p>An SOP, <i>Procedure On Occupational Safety, Health and Environment</i> was written in 2010. It includes references to applicable labor laws regarding safety, and spells out a hierarchy of responsibility for OSHE. It is a general guide to on site managers on how safety is to be handled, but no specifics are included. It is not clear whether this document is the approved version.</p> <p>The monitoring report states that worker related risks are tied to the particular job, including risks faced by fire brigades and patrols and risks stemming from orangutan care.</p> <p>Risks for a variety of jobs include: Violent confrontation with illegal loggers/poachers/palm oil personnel, Burns, smoke inhalation, various serious and non-serious injuries due to patrolling/firefighting, Bites and scratches/infections from orangutans</p> <p>Workers were informed of risks and verbally instructed how to minimize them, at the time new employees are hired.</p> <p>The monitoring report also mentions the <i>Procedure On Occupational Safety, Health and Environment</i>, and that SOPs were written for proper use of personal protective equipment and for each employment position.</p> <p>The <i>Procedure On Occupational Safety, Health and Environment</i> publication doesn't actually provide any list or recitation of risks, but states:</p> <p>a) Safety and Health Risk Assessments will be conducted in order to identify significant hazards to employees and others and to implement the appropriate control measures. (b) Environmental Aspects and Impacts Assessments will be performed to identify significant environmental aspects from our activities and will set objectives and targets to reduce the impact of those significant environmental aspects of our operation that it can control or influence.</p> <p>It also states regular audits will be conducted.</p>
Evidence Used to Assess Conformance:	Section 2.4.5 of the monitoring report, <i>Procedure On Occupational Safety, Health and Environment</i> .
Findings:	Risks mentioned appear reasonable. The monitoring report describes an informal safety training process, but the Procedure SOP manual describes a more formal safety assessment, training and accident reporting

	<p>procedure.</p> <p>It isn't clear whether the Procedure SOP manual was adopted, or whether job specific risk assessments were conducted and incidents reported as stated.</p>
Clarification Request (CL):	Please clarify whether the Procedure on Safety and Health manual was formally adopted by Rimba Raya. If so, what specific risks and ways of minimizing them were developed? Can examples be provided or the results of audits be provided, as described in the Procedures manual?
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	The SOP has been updated to reflect the informal nature of the safety training process, as described in the MIR and seen on the site visit. Please see "Worker Health and Safety SOP v1.1.pdf" for more details.
Evidence Used to Close NCR:	File: Worker Health and Safety v1.1.pdf was provided as the updated health and safety SOP. Responsibilities, use and care of PPE are described, and it is compatible with the description of the safety training process described in the monitoring report. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator G4.7</b> - Document the financial health of the implementing organization(s) to demonstrate that financial resources budgeted will be adequate to implement the project.	<p>The monitoring report states that the project has had revenues since a large sale of credits was made. Since that time, several million more credits were sold.</p> <p>It further states that both the project and InfiniteEARTH have funds available to manage the project operations, and that further proprietary information can be made available to the verification body.</p>
Evidence Used to Assess Conformance:	Section 2.4.6 of the monitoring report.
Findings:	The project appears to be well run and both the project, through credit sales, and InfiniteEARTH likely have the financial resources necessary to implement the project, but no budget or other evidence was provided.
Non-conformance Request (NCR):	Please provide sufficient information to the auditors to demonstrate financial resources are available to implement the project.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	The Project has provided verifiers with an updated budget and cashflow (see Rimba Raya Budget and Cashflow Breakeven .xlsx). The Project's breakeven point is in 2018, which is less than 1 year from the current risk assessment. The project has also secured 144% of the funding needed to cover the total cash out before the project reaches breakeven, as shown in the confidential budget and cashflow model that has been provided to the verifiers.
Evidence Used to Close NCR:	File: Rimba_Raya_budget_and_cashflow_breakeven_v1.xls indicates the project has sufficient financial resources to carry out the project. Indicator closed.
Date Closed:	5 January 2018

## G5 Legal Status and Property Rights

<p><b>Indicator G5.1</b> - Submit a list of all relevant national and local laws and regulations in the host country and all applicable international treaties and agreements. Provide assurance that the project will comply with these and, where relevant, demonstrate how compliance is achieved.</p>	<p>The government of Indonesia began formally regulating REDD projects in 2009. The following regulations govern REDD projects, and are followed by the Rimba Raya project:</p> <ol style="list-style-type: none"> <li>1. Ministry of Forestry Regulation No. P.68/Menhut-I/2008 on the Implementation of Demonstration Activities on Reduction of Emissions from Deforestation and Degradation.</li> <li>2. Ministry of Forestry Regulation No. P.30/Menhut-II/2009 on The Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD), dated 1 May, 2009.</li> <li>3. Ministry of Forestry Regulation No. SK.159/Menhut-II/2004 on Ecosystem Restoration in Production Forest Areas.</li> <li>4. Ministry of Forestry Regulation No. P.6/Menhut-II/2007 concerning work plan and annual work plan of utilization of timber forest products in natural forest and ecosystem restoration in natural forest within a production forest.</li> <li>5. Ministry of Forestry Regulation No. P.61/Menhut-II/2008 concerning provisions and procedures for the application and granting of a business license for wood forest products in a forest ecosystem restoration of natural forests in a production forest.</li> </ol> <p>The monitoring report further states that the project is in compliance with all laws and will continue to be.</p>
Evidence Used to Assess Conformance:	Section 2.5.1 of the monitoring report, discussions with Joseph Falmer and Yudhta Widhiati.
Findings:	The list of laws were provided and management states they are dedicated to remain in compliance. New laws regarding project activities are monitored by Rimba Raya's Jakarta staff. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	
<p><b>Indicator G5.2</b> - Document that the project has approval from the appropriate authorities, including the established formal and/or traditional authorities customarily required by the communities.</p>	<p>This indicator is not formally covered in the monitoring report. However, the various approvals from authorities can be traced through the table in section 2.2.1.</p>
Evidence Used to Assess Conformance:	Section 2.2.1 of the monitoring report. Site visit meetings

	with regional and local government officials.
Findings:	This project was successfully validated, where evidence that approval from government authorities was examined. Meetings with local officials throughout the project area and regional officials indicate the project has full approval. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G5.3</b> - Demonstrate with documented consultations and agreements that the project will not encroach uninvited on private property, community property, or government property and has obtained the free, prior, and informed consent of those whose rights will be affected by the project.	<p>The monitoring report states that the project does not encroach on private, community or government property. No one lived on project lands before the project start date.</p> <p>Local community members may still use project lands for fishing, collecting of forest products and small scale removal of trees.</p> <p>The project has signed agreements with 8 of the 14 communities around the project area, and continues to seek agreements with the rest.</p>
Evidence Used to Assess Conformance:	Sections 2.5.2, 2.3.1 of the monitoring report. Site visit interviews with local community members.
Findings:	The project developers are not encroaching on private or community property. Land in Indonesia is owned by the government, and rights to manage the land are granted. The project received the needed grants and approvals from government officials, and has extensively consulted with local community leaders and members. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G5.4</b> - Demonstrate that the project does not require the involuntary relocation of people or of the activities important for the livelihoods and culture of the communities. If any relocation of habitation or activities is undertaken within the terms of an agreement, the project proponents must demonstrate that the agreement was made with the free, prior, and informed consent of those concerned and includes provisions for just and fair compensation.	<p>The monitoring report states that the project does not encroach on private, community or government property. No one lived on project lands before the project start date.</p> <p>Further, the report states that the project has not required anyone to relocate and has preserved the right to access the project area for fishing, small scale removal of trees and non-timber forest products. The project pledges never to relocate any people who could conceivably encroach on project area lands.</p> <p>It has been suggested to one community, Ulak Batu, that they consider moving due to increased flooding in recent years, which has caused two years of crop failure. At the</p>
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	time of the site visit, the community was not interested in relocating.
Evidence Used to Assess Conformance:	Sections 2.5.2, 2.5.3 and interviews during the site visit.
Findings:	The project has not relocated anyone and pledges not to do so in the future. Indicator addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G5.5</b> - Identify any illegal activities that could affect the project's climate, community or biodiversity impacts (e.g., logging) taking place in the project zone and describe how the project will help to reduce these activities so that project benefits are not derived from illegal activities.	<p>The monitoring report lists encroachment by palm oil plantations, illegal logging and resource use by surrounding communities as three illegal activities that can impact the climate, community and biodiversity goals of the project.</p> <p>Guard posts were built along the northern boundary of the project area, as that was found to be vulnerable to palm oil plantation encroachment. A pineapple plantation was planted between the palm oil operations and the project. Work toward better relations between palm oil plantations and the project has been going on.</p> <p>Guard posts have also been built in other parts of the project area and patrols are ongoing for fires, illegal logging and hunting.</p> <p>The project partnered with World Education to help surrounding communities to become more self-sufficient in food production to reduce the need to use the project area for resource extraction and causing fires.</p>
Evidence Used to Assess Conformance:	Section 2.5.4 of the monitoring report, several community project activities described throughout the monitoring report and observations made during the site visit.
Findings:	The project developers have identified the illegal activities that could negatively affect project goals and have addressed them in a reasonable and, so far, effective manner. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator G5.6</b> - Demonstrate that the project proponents have clear, uncontested title to the carbon rights, or provide legal documentation demonstrating that the project is undertaken on behalf of the carbon owners with their full consent. Where	<p>This indicator was not addressed in the monitoring report. However, this project was successfully validated, where the project proponents demonstrated clear, uncontested rights to the carbon.</p> <p>In addition, they supplied the same evidence, plus a government-approved map (signed by pertinent officials at</p>
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local or national conditions preclude clear title to the carbon rights at the time of validation against the Standards, the project proponents must provide evidence that their ownership of carbon rights is likely to be established before they enter into any transactions concerning the project's carbon assets.	all levels of Indonesian government) during the previous monitoring period.
Evidence Used to Assess Conformance:	Validated PDD, previous monitoring period verification report.
Findings:	This indicator was successfully closed during validation and additional supporting documents were in evidence during the last monitoring period. This is pending resolution of a VCS finding related to demonstration of continued gov. approval for concessions.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## CL1 Net Positive Climate Impacts

<b>Indicator CL1.1</b> - Estimate the net change in carbon stocks due to the project activities using the methods of calculation, formulae and default values of the IPCC 2006 GL for AFOLU or using a more robust and detailed methodology. The net change is equal to carbon stock changes <i>with</i> the project minus carbon stock changes <i>without</i> the project (the latter having been estimated in G2). This estimate must be based on clearly defined and defensible assumptions about how project activities will alter GHG emissions of carbon stocks over the duration of the project or the project GHG accounting period.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	
<b>Indicator CL1.2</b> - Estimate the net change in the emissions of non-CO2 GHG emissions such as CH4 and N2O in the <i>with</i> and <i>without</i> project scenarios	Please see results from concurrent VCS verification.

if those gases are likely to account for more than a 5% increase or decrease (in terms of CO <sub>2</sub> -equivalent) of the project's overall GHG emissions reductions or removals over each monitoring period.	
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL1.3</b> - Estimate any other GHG emissions resulting from project activities. Emissions sources include, but are not limited to, emissions from biomass burning during site preparation, emissions from fossil fuel combustion, direct emissions from the use of synthetic fertilizers, and emissions from the decomposition of N-fixing species.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL1.4</b> - Demonstrate that the net climate impact of the project is positive. The net climate impact of the project is the net change in carbon stocks plus net change in non-CO <sub>2</sub> GHGs where appropriate minus any other GHG emissions resulting from project activities minus any likely project-related unmitigated negative offsite climate impacts (see CL2.3).	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL1.5</b> - Specify how double counting of GHG emissions reductions or removals will be avoided, particularly for	Please see results from concurrent VCS verification.
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offsets sold on the voluntary market and generated in a country with an emissions cap.	
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## CL2 Offsite Climate Impacts (“Leakage”)

<b>Indicator CL2.1</b> - Determine the types of leakage that are expected and estimate potential offsite increases in GHGs (increases in emissions or decreases in sequestration) due to project activities. Where relevant, define and justify where leakage is most likely to take place.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL2.2</b> - Document how any leakage will be mitigated and estimate the extent to which such impacts will be reduced by these mitigation activities.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL2.3</b> - Subtract any likely project-related unmitigated negative offsite climate impacts from the climate benefits being claimed by the project and demonstrate that this has been included in the evaluation of net climate impact of the project (as calculated in CL1.4).	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	

Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL2.4</b> - Non-CO2 gases must be included if they are likely to account for more than a 5% increase or decrease (in terms of CO2-equivalent) of the net change calculations (above) of the project's overall off-site GHG emissions reductions or removals over each monitoring period.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

### CL3 Climate Impact Monitoring

<b>Indicator CL3.1</b> - Develop an initial plan for selecting carbon pools and non-CO2 GHGs to be monitored, and determine the frequency of monitoring. Potential pools include aboveground biomass, litter, dead wood, belowground biomass, wood products, soil carbon and peat. Pools to monitor must include any pools expected to decrease as a result of project activities, including those in the region outside the project boundaries resulting from all types of leakage identified in CL2. A plan must be in place to continue leakage monitoring for at least five years after all activity displacement or other leakage causing activity has taken place. Individual GHG sources may be considered 'insignificant' and do not have to be accounted for if together such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5% of the total CO2-equivalent benefits generated by the project. Non-CO2 gases must be included if they are likely to account for more than 5% (in terms of CO2-equivalent) of the project's overall GHG impact over each monitoring period.	Please see results from concurrent VCS verification.
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Direct field measurements using scientifically robust sampling must be used to measure more significant elements of the project's carbon stocks. Other data must be suitable to the project site and specific forest type.	
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CL3.2</b> - Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.	Please see results from concurrent VCS verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## CM1 Net Positive Community Impacts

<b>Indicator CM1.1</b> - Use appropriate methodologies to estimate the impacts on communities, including all constituent socio-economic or cultural groups such as indigenous peoples (defined in G1), resulting from planned project activities. A credible estimate of impacts must include changes in community well-being due to project activities and an evaluation of the impacts by the affected groups. This estimate must be based on clearly defined and defensible assumptions about how project activities will alter social and economic well-being, including potential impacts of changes in natural resources and ecosystem services identified as important by the communities (including water and soil	<p>The monitoring report states that community impacts of the project were evaluated through the Theory of Change framework.</p> <p>In comparison with the 'without project' scenario, the most obvious benefits are that the project lands remain intact, and continue to deliver the ecosystem services often taken for granted, like clean water, flood mitigation, fish populations and the continued availability of non-timber forest products.</p> <p>The original promise of palm oil production assumed that it would mostly be produced by small holders. The reality is that most palm oil is produced by large plantations, often installed without consulting local communities. Wages are low because there are few other income producing opportunities and workers are often imported from other islands.</p>
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<p>resources), over the duration of the project. The 'with project' scenario must then be compared with the 'without project' scenario of social and economic well-being in the absence of the project (completed in G2). The difference (i.e., the community benefit) must be positive for all community groups.</p>	<p>The monitoring report goes on to compare the project benefits and goals with what would become of those goals if the project area was converted to a palm oil plantation, as originally planned. None of the benefits or goals would be achieved, as they are not the interests of the palm oil industry.</p> <p>Palm oil interests do occasionally provide communities with money for holiday celebrations and other purposes.</p> <p>The report concludes that the community benefits are positive for the 'with project' scenario compared with the 'without project' scenario.</p> <p>The site visit interviews with community members and leaders demonstrated that communities were receiving benefits they would not otherwise have received in the absence of the project. Jobs were created and other income-producing opportunities were made available, and have included the poorest people and women.</p>
<p>Evidence Used to Assess Conformance:</p>	<p>Sections 4.1.1 and 4.1.2 of the monitoring report, site visit.</p>
<p>Findings:</p>	<p>That ecosystem services would have been lost in the 'without project' scenario is unquestionable. All evidence indicates that project benefits have reached essentially all households in the communities.</p> <p>Some community leaders were unsatisfied and freely expressed their dissatisfaction at site visit meetings. The complaints were related to miscommunication, poor communication and/or unrealistic expectations or a misunderstanding about the goals of the project. While communications with certain communities could be improved, this does not change the view of the auditors that the project has produced net positive benefits to all community members. Indicator closed.</p>
<p>Non-conformance Request (NCR):</p>	
<p>Date Issued:</p>	
<p>Project Proponent Response/Actions and Date:</p>	
<p>Evidence Used to Close NCR:</p>	
<p>Date Closed:</p>	
<p><b>Indicator CM1.2</b> - Demonstrate that no High Conservation Values identified in G1.8.4-6 will be negatively affected by the project.</p>	<p>The community-related HCVs provided by the project area include:</p> <ul style="list-style-type: none"> <li>• 4.1 Areas or ecosystems important to the provision of water and prevention of floods for downstream communities.</li> <li>• 4.3 Areas that Function as Natural Barriers to the Spread of Forest or Ground Fire.</li> <li>• 5 Natural areas critical for meeting the basic needs of local people.</li> <li>• 6 Areas critical for maintaining the cultural identity</li> </ul>

	<p>of local communities.</p> <p>Project activities are discussed in detail. The threats of the 'without project' scenario to these HCVs are discussed, and management activities to reduce or prevent those threats are listed.</p> <p>None of the project activities have had, nor are likely to have, a negative impact on community-related HCVs. They are designed to either protect or enhance existing HCVs</p>
Evidence Used to Assess Conformance:	Section 4.1.3 of the monitoring report, site visit observations.
Findings:	Community-related HCVs are maintained, protected and enhanced, in some cases, by the project. This indicator is closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## CM2 Offsite Stakeholder Impacts

<p><b>Indicator CM2.1</b> - Identify any potential negative offsite stakeholder impacts that the project activities are likely to cause.</p>	<p>The project developers identified potential impacts to:</p> <ul style="list-style-type: none"> <li>• Subsistence livelihoods</li> <li>• Hunting</li> <li>• Forest harvesting</li> <li>• Employment</li> </ul> <p>While this is a reasonable list of potential impacts, the potential for these impacts to be serious are low.</p>
Evidence Used to Assess Conformance:	Section 4.2.1 of the monitoring report, interviews and observations during the site visit.
Findings:	The monitoring report provides a reasonable list of potential negative stakeholder impacts that should be examined. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<p><b>Indicator CM2.2</b> - Describe how the project plans to mitigate these negative offsite social and economic impacts.</p>	<p>The monitoring report states that there has been no imposition on traditional hunting and harvesting, because the project doesn't seek to curtail them and they add little to local economies</p> <p>Negative impacts from hunting are limited, as one of the</p>
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	<p>key game animals is the wild hog, which are not eaten or hunted by local Muslims. Some deer are occasionally harvested. Project activities enhance fishing opportunities.</p> <p>According to surveys, local communities are not actively engaged in logging, beyond simple usage. As a means to mitigate loss of income from logging, other revenue sources were introduced, including a pineapple plantation, chicken farm development. In addition, the project is actively planting tree seedlings within the project buffer area. Seedlings are purchased from local community nurseries and planted by temporary employees of the project, who are from the communities.</p> <p>Employment in local communities has not been greatly impacted, because palm oil plantations prefer to hire workers from other islands. Some employment and income producing opportunities have been created by the project.</p>
Evidence Used to Assess Conformance:	Section 4.2.1 of the monitoring report, site visit interviews.
Findings:	Site visit interviews confirmed that hunting is not an important activity in local communities. Some employment is available through the project, as well as the education and seed money needed to start independent enterprises, like chicken farms, shrimp paste production, etc. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CM2.3</b> - Demonstrate that the project is not likely to result in net negative impacts on the well-being of other stakeholder groups.	<p>Using the theory of change framework and results from monitoring, project developers have determined the project has a net positive impact on all stakeholder groups. This analysis is further described in a table in section 4.2.1.</p> <p>All off-site stakeholders with negative impacts as a result of the project were either the displaced palm oil plantations or people engaged in illegal activities. Others have benefited from the maintenance and improvements in ecosystem services, or have received the benefits of social and economic programs.</p>
Evidence Used to Assess Conformance:	Sections 4.2.1 and 4.2.2 of the monitoring report, site visit observations.
Findings:	The negative impacts of the project to people involved in illegal activities or the identified agents of land degradation are unavoidable. The net impacts to all other stakeholders are clearly positive. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions	

and Date:	
Evidence Used to Close NCR:	
Date Closed:	

### CM3 Community Impact Monitoring

<b>Indicator CM3.1</b> - Develop an initial plan for selecting community variables to be monitored and the frequency of monitoring and reporting to ensure that monitoring variables are directly linked to the project's community development objectives and to anticipated impacts (positive and negative).	A plan for monitoring community variables was developed early in the project lifetime and successfully validated. Results of the most recent monitoring are included in Table 27.  Additional monitoring variables have been identified over the lifetime of the project.
Evidence Used to Assess Conformance:	Section 4.3.2 of the monitoring report, validated PDD.
Findings:	The initial monitoring plan was developed and validated, and is in use.
Non-conformance Request (NCR):	The monitoring plan is in place and monitoring is going on. Indicator closed.
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CM3.2</b> - Develop an initial plan for how they will assess the effectiveness of measures used to maintain or enhance High Conservation Values related to community well-being (G1.8.4-6) present in the project zone.	The HCVs related to community well-being are conserved by conserving the natural landscape and preventing its drainage and conversion to oil palm plantation.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator CM3.3</b> - Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.	The commitment was made long ago, and the monitoring plan has been in place for years.  Reports are compiled and are available to anyone, on request.
Evidence Used to Assess Conformance:	Section 4.3.3 of the monitoring report, monitoring results and audit results, provided by the project developers.
Findings:	It is clear that project developers have met their



	commitment to developing a monitoring plan and are implementing it. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## B1 Net Positive Biodiversity Impacts

<b>Indicator B1.1</b> - Use appropriate methodologies to estimate changes in biodiversity as a result of the project in the project zone and in the project lifetime. This estimate must be based on clearly defined and defensible assumptions. The 'with project' scenario should then be compared with the baseline 'without project' biodiversity scenario completed in G2. The difference (i.e., the net biodiversity benefit) must be positive.	<p>The monitoring report states that the net biodiversity impacts are positive.</p> <p>Metrics include the number of hectares significantly better managed for biodiversity in comparison with the 'without project' scenario, and the increased number of critically endangered species that benefit from reduced threats.</p> <p>The reality is that the 'with project' scenario preserves habitat for rare, endangered and endemic species and the 'without project' scenario eliminates that same habitat.</p>
Evidence Used to Assess Conformance:	Section 5.1.1, site visit observations, common sense.
Findings:	The net biodiversity impacts of the project, compared with the 'without project' scenario are clearly positive.
Clarification Request (CL):	The phrase "...an increase in the number of globally Critically Endangered or Endangered species that benefit from reduced threats as a result of project activities (as measured against the without-project scenario)" that appears in section 5.1.1 implies that even more species are now critically endangered. It is assumed the writer meant the number of individual endangered animals benefited from reduced threats. Please address.
Date Issued:	30 November 2017
Project Proponent Response/Actions and Date:	The language in Section 5.1.1 has been clarified to read "...an increase in protection (via habitat preservation) of the globally Critically Endangered or Endangered species that benefit from reduced threats as a result of project activities." While the number of globally Critically Endangered or Endangered species has not increased due to the presence of the project, as this would indicate a net negative impact, the protection of the globally Critically Endangered or Endangered species that exist within the project has increased in comparison to the baseline scenario, because the project preserves habitat for these rare, endangered and endemic species. Increased protection of globally Critically Endangered or Endangered species as a result of the project indicates a net positive impact.
Evidence Used to Close CL:	Section 5.1.1 of the monitoring report was revised as described above. Indicator closed.
Date Closed:	5 January 2018

<b>Indicator B1.2</b> - Demonstrate that no High Conservation Values identified in G1.8.1-3 will be negatively affected by the project.	<p>The monitoring report states that no planned project activities negatively impacted HCVs in the project zone, and goes into detail.</p> <p>The primary purpose of the project has always been to protect the biodiversity-related HCVs of the project area. Threats to these HCVs are listed in table 31, along with the activities, suggested and implemented, to address the threats.</p> <p>Threats and impacts of the project on each HCV is further detailed. In each case, the conclusion was that the project has produced net positive impacts.</p>
Evidence Used to Assess Conformance:	Section 5.1.2 of the monitoring report, observations during the site visit.
Findings:	Since these HCVs are entirely dependent on maintaining the current habitat and project activities are geared toward protecting, enlarging/enhancing this habitat, the HCVs will not be negatively affected by the project. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	
<b>Indicator B1.3</b> - Identify all species to be used by the project and show that no known invasive species will be introduced into any area affected by the project and that the population of any invasive species will not increase as a result of the project.	The monitoring report provides a list of species used in replanting, in table 23. All are native and not considered invasive.
Evidence Used to Assess Conformance:	Section 5.1.2.1 of the monitoring report, Global Invasive Species database.
Findings:	The species listed are not invasive in Borneo. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	
<b>Indicator B1.4</b> - Describe possible adverse effects of non-native species used by the project on the region's environment, including impacts on native species and disease introduction or facilitation. Project proponents must justify any use of non-native species over native species	No non-native species are used by the project.
Evidence Used to Assess Conformance:	Section 5.1.2.1, 5.1.2.2 of the monitoring report, Global

	Invasive Species Database.
Findings:	No non-native species are used by the project. Indicator addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator B1.5</b> - Guarantee that no GMOs will be used to generate GHG emissions reductions or removals.	The monitoring report includes this guarantee.
Evidence Used to Assess Conformance:	Section 5.1.2.3 of the monitoring report.
Findings:	The monitoring report includes this guarantee. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## B2 Offsite Biodiversity Impacts

<b>Indicator B2.1</b> - Identify potential negative offsite biodiversity impacts that the project is likely to cause.	This indicator is not directly addressed. However, section 5.2.1 implies that the only offsite, negative biodiversity impacts are the result of leakage. This makes sense in avoided conversion projects.
Evidence Used to Assess Conformance:	Section 5.2.1 of the monitoring report.
Findings:	In an avoided conversion project that has the goal of protecting habitat, the only reasonable negative offsite biodiversity impacts to consider are due to leakage. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator B2.2</b> - Document how the project plans to mitigate these negative offsite biodiversity impacts.	<p>The monitoring report states that the project proponent is monitoring the movements and business activities of oil palm companies that are planning to retire their licenses as a result of project activities.</p> <p>They are also monitoring illegal logging activities in the project zone.</p> <p>Some alternative job opportunities for illegal loggers are being created.</p>
Evidence Used to Assess Conformance:	Section 5.2.1 of the monitoring report

Findings:	It is reasonable to monitor the agents of deforestation in determining activity displacement leakage. Providing job opportunities to former illegal loggers is a reasonable mitigation measure to prevent activity leakage of this sort. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator B2.3</b> - Evaluate likely unmitigated negative offsite biodiversity impacts against the biodiversity benefits of the project within the project boundaries. Justify and demonstrate that the net effect of the project on biodiversity is positive.	<p>The monitoring report states, "It should be noted, finally, that any potential off-site negative impacts to biodiversity have been more than offset by the project's role as a physical buffer to TPNP and the protection that the project has already offered to the park's biodiversity."</p> <p>It further discusses the potential for activity displacement leakage.</p> <p>Palm oil production and illegal logging is expanding, regardless of project activities, according to current land use planning in Kalimantan, and demand for palm oil is increasing. It concludes that, in light of planned expansion and demand for oil, the incremental impact of the project is likely to be small.</p>
Evidence Used to Assess Conformance:	Section 5.2.1 and 5.2.2 of the monitoring report
Findings:	It is unlikely that the permanent preservation of habitat in Kalimantan will ultimately result in an equal or greater amount of habitat destruction, elsewhere. In light of current land use plans and palm oil demand, it is reasonable to assume the net biodiversity benefit of the project will be positive. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

### B3 Biodiversity Impact Monitoring

<b>Indicator B3.1</b> - Develop an initial plan for selecting biodiversity variables to be monitored and the frequency of monitoring and reporting to ensure that monitoring variables are directly linked to the project's biodiversity objectives and to anticipated impacts (positive and negative).	A full monitoring plan was developed and is in operation.
Evidence Used to Assess Conformance:	Section 5.3.2 of the monitoring report. This is a validated project with several verifications already completed.

Findings:	A full monitoring report was developed long ago. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator B3.2</b> - Develop an initial plan for assessing the effectiveness of measures used to maintain or enhance High Conservation Values related to globally, regionally or nationally significant biodiversity (G1.8.1-3) present in the project zone.	An initial plan was developed and included in the project PD and the previous monitoring report. It is not mentioned in the current monitoring report.  During this monitoring period, biodiversity monitoring was incorporated into rapid assessment activities. Monitoring report details are described in table 34.
Evidence Used to Assess Conformance:	Section 5.3.2 of the monitoring report.
Findings:	The initial plan was part of the validation of the project. It is clear that monitoring of HCVs has been ongoing through the project lifetime, thus far. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator B3.3</b> - Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.	The full monitoring plan was developed and is available on the VCS/CCBA website.  The monitoring report states that field monitoring is ongoing and a summary is produced by the Sampit office on a monthly basis. A monthly report is produced and sent to InfiniteEARTH and RRC. Reports are available to anyone, on request.  Summaries of monitoring reports are available on community bulletin boards and are disseminated to all stakeholders.
Evidence Used to Assess Conformance:	Sections 5.3.2 and 5.3.3 of the monitoring report, Excel file of monitoring report results.
Findings:	The biodiversity monitoring results were included in table 34 of the monitoring report.  The project developed a full biodiversity monitoring plan early in the project's history, and has been actively monitoring for biodiversity. Results are available within this monitoring report. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## Gold Level Section

### GL1 Climate Change Adaptation Benefits

<b>Indicator GL1.1</b> - Identify likely regional climate change and climate variability scenarios and impacts, using available studies, and identify potential changes in the local land-use scenario due to these climate change scenarios in the absence of the project.	<p>The monitoring report explains that fragmented, degraded forests are more susceptible to fire than intact forests, for a variety of reasons. More frequent droughts are predicted for the region, as climate changes. The impact of climate change will be less when the forest remains intact, in the 'with project' scenario.</p> <p>References are provided.</p>
Evidence Used to Assess Conformance:	Section 3.3 of the monitoring report.
Findings:	It appears the impacts of climate change will be less severe under the 'with project' scenario. Indicator closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator GL1.2</b> - Identify any risks to the project's climate, community and biodiversity benefits resulting from likely climate change and climate variability impacts and explain how these risks will be mitigated.	<p>The monitoring report identifies four areas of risk, due to climate change:</p> <p>Food security Income Health Biodiversity</p> <p>Each risk area is explained and the project activities designed to mitigate those risks are provided.</p>
Evidence Used to Assess Conformance:	Section 3.3 of the monitoring report.
Findings:	Risk areas described in the monitoring report are fully explained and well-reasoned. Project activities are well designed to mitigate the impacts. Indicator successfully addressed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator GL1.3</b> - Demonstrate that current or anticipated climate changes are having or are likely to have an impact on the well-being of communities <i>and/or</i> the conservation status of biodiversity in the project zone and surrounding regions.	<p>The monitoring report states that communities are very vulnerable to climate change, because they are dependent on subsistence farming, fishing and resource extraction from forests. Predicted climate change includes more frequent and prolonged droughts.</p> <p>Biodiversity is also at risk, causing more severe droughts and associated fires. Studies have shown that major fire</p>
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	years in Kalimantan have dramatically reduced biological complexity.
Evidence Used to Assess Conformance:	Section 3.3 of the monitoring report.
Findings:	People dependent on their local environment are especially vulnerable to climate change impacts. Studies have shown the results of the kinds of change expected on biodiversity. This indicator is closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator GL1.4</b> - Demonstrate that the project activities will assist communities <sup>53</sup> and/or biodiversity to adapt to the probable impacts of climate change.	<p>The primary drivers of environmental degradation due to climate change in the region of the project area is drought and associated fires. Fire patrols, patrol stations and firefighting brigades have been set up and trained by the project. Reforestation, agroforestry, and protecting large patches of forest are also designed to mitigate environmental degradation.</p> <p>Activities to mitigate threats to food security include fire suppression, reforestation and agroforestry, soil enrichment with biochar and crop diversification.</p> <p>Activities to mitigate threats to income include fire suppression, education and the planned floating clinic.</p>
Evidence Used to Assess Conformance:	Section 3.3 of the monitoring report, observations during site visit.
Findings:	<p>The monitoring report mentions some of the activities that will reduce these climate change impacts, but even more activities to mitigate threats to income were observed, including chicken meat and chicken egg production projects, shrimp paste production, fish drying facilities and sales of crafts.</p> <p>It is clear that project activities are geared toward minimizing the effects of climate change in the project zone. Indicator closed.</p>
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

## **GL2 Exceptional Community Benefits**

<b>Indicator GL2.1</b> - Demonstrate that the project zone is in a low human development country OR in an administrative area of a medium or high human development country in which at least 50% of the population of that area is	<p>This indicator was assessed during validation, was issued a positive validation statement and is therefore is not required to be re-assessed during verification.</p> <p>The auditors verified the previous monitoring period, and an email from Sinclair Vincent of VCS stated this indicator</p>
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below the national poverty line.	does not need to be revisited after being established during validation.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued::	
Project proponent response/actions	
Evidence Used to Close NCR::	
Date Closed::	

<b>Indicator GL2.2</b> - Demonstrate that at least 50% of households within the lowest category of well-being (e.g., poorest quartile) of the community are likely to benefit substantially from the project.	This indicator was assessed during validation, was issued a positive validation statement and is therefore is not required to be re-assessed during verification.
Evidence Used to Assess Conformance:	
Findings:	
Non-conformance Request (NCR):	
Date Issued::	
Project proponent response/actions	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator GL2.3</b> - Demonstrate that any barriers or risks that might prevent benefits going to poorer households have been identified and addressed in order to increase the probable flow of benefits to poorer households.	<p>The main barriers or risks that might prevent project benefits from reaching the poorer households were identified as:</p> <ol style="list-style-type: none"> <li>1. Communications on program opportunities are restricted, intentionally or unintentionally, from poorer households.</li> <li>2. Communities being provoked by opponents of the project to reject the project by spreading misinformation.</li> </ol> <p>These barriers and risks are mitigated through direct communications with target households, identified during community surveys.</p>
Evidence Used to Assess Conformance:	Section 4.4.1 of the monitoring report. Observations and interviews during the site visit.
Findings:	The project does communicate directly with community members, during surveys and at other times during the course of the project. Much of the work provided by the project is done by poor members of the community. Indicator closed.
Non-conformance Request (NCR):	
Date Issued::	
Project proponent response/actions	
Evidence Used to Close NCR:	
Date Closed:	

<b>Indicator GL2.4</b> - Demonstrate that measures have been taken to identify any	Surveys were conducted to identify the poorest households and their well-being. A supplemental survey
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poorer and more vulnerable households and individuals whose well-being or poverty may be negatively affected by the project, and that the project design includes measures to avoid any such impacts. Where negative impacts are unavoidable, demonstrate that they will be effectively mitigated.	was conducted in 2017 to assess the positive and negative impacts of the project on poor and vulnerable groups, including women.  The surveys indicate the poorest quartile of households benefitted substantially from access to clean water, healthcare, education, libraries, training, credit and employment opportunities.
Evidence Used to Assess Conformance:	Section 4.4.2 of the monitoring report.
Findings:	It is extremely likely that the poorest households benefitted from project activities. Many, including healthcare, clean water and libraries, are available to all, whether or not they receive employment with the project. Impacts are unlikely to be negative.  No survey results were provided to demonstrate these claims.
Non-conformance Request (NCR):	The auditors agree that the claims made in the monitoring report, regarding the poorest households and individuals receiving net positive impacts as a result of the project, are likely accurate. In light of all the surveys referred to in the monitoring report, they should be confirmed. Please provide the studies/data supporting the statements that the poorest households are known to have benefitted positively and not negatively, from project activities.
Date Issued::	30 November 2017
Project proponent response/actions	The 2017 supplemental survey document was translated to English in order to analyze the response of low-income and female survey participants to RRC program activities. Of the surveyed, 53% of the lowest-income and 51% of women either believe or strongly believe in RRC programs to deliver its proposed benefits. 63% of the lowest income and 70% of women also trust RRC to maintain a relationship with the community. 88% of the lowest-income and 79% of women are directly benefitting from the Solar Lantern, Water Filter and Stimulus Fund programs.  Supplemental survey data can be found in the Excel workbook titled "20171014 Hasil Monitoring Survey – English v1.0". The first worksheet titled "Monitoring Results Survey" contains a summary of relevant survey questions. Original survey data (in Bahasa) can be found in the last 4 worksheets beginning with "Monitoring INPUT data." A direct translation of all survey data can be found in the worksheet "Monitoring INPUT data – English", accompanied by translated answer codes in the worksheet "Survey Answer Codes".
Evidence Used to Close NCR:	Survey results were provided in the file "20171014 Hasil Monitoring Survey –English v1.0.xlsx." Results are as described in the response, above. Indicator closed.
Date Closed:	5 January 2018
<b>Indicator GL2.5</b> - Demonstrate that community impact monitoring will be able	The monitoring report did not directly address this indicator, that is, showing that monitoring will be able to

to identify positive and negative impacts on poorer and more vulnerable groups. The social impact monitoring must take a differentiated approach that can identify positive and negative impacts on poorer households and individuals and other disadvantaged groups, including women.	<p>identify positive and negative impacts on the more vulnerable people in the communities.</p> <p>It uses a reasoned argument that livelihoods were dependent on fishing and farming, with productivity in steep decline. Project activities were designed to enhance these activities.</p> <p>An unnumbered table describes potential negative impacts and ways to avert and/or mitigate them.</p>
Evidence Used to Assess Conformance:	Section 4.4.2 of the monitoring report.
Findings:	The auditors agree that it is reasonable to assume impacts on poorer households are positive. However, this indicator requests a demonstration that impact monitoring will be able to identify positive and negative impacts on vulnerable groups.
Non-conformance Request (NCR):	Please show the survey questions/methods that will be able to identify impacts on vulnerable groups.
Date Issued::	30 November 2017
Project proponent response/actions	Surveys completed during this monitoring period have been translated in order to show the questions/methods that were used in order to identify impacts on vulnerable groups (see "20171014 Hasil MONITORING SURVEY - English v1.0.xlsx" ). Additionally, new questions have been created for impacts that were not directly addressed in this survey. These new questions will be asked in subsequent monitoring surveys. A document has been created which outlines the questions from the most recent survey as well as questions for future monitoring surveys that can be used to identify positive and negative impacts on vulnerable groups (see Impact_Survey.xlsx). Survey questions have been created so that their answers can demonstrate the net positive or negative impact of the project on community members that are women and/or part of other vulnerable community groups.
Evidence Used to Close NCR:	Survey questions were provided in file: Impact_Survey_v1.1.xlsx. They directly address whether the survey subjects have benefited from the project and their attitudes and expectations toward the project and other aspects of life in the community. New questions for future interviews were also provided, several of which request more in-depth information and descriptions from the subjects. This indicator is closed.
Date Closed:	5 January 2018

### GL3 Exceptional Biodiversity Benefits

<p><b>Indicator GL3.1 – Vulnerability</b> Regular occurrence of a globally threatened species (according to the IUCN Red List) at the site:</p> <p>1.1 - Critically Endangered (CR) and Endangered (EN) species - presence of at</p>	<p>According to data from Tanjung Putting National Park, Rimba Raya project lands likely have a large number of globally threatened species, including Bornean orangutans. The park's ecosystems are contiguous with the adjacent project lands, so species found in the park are a good proxy for species likely to occur in the project area. A total of 54 species of endangered or vulnerable</p>
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<p>least a single individual; or</p> <p>1.2 - Vulnerable species (VU) - presence of at least 30 individuals or 10 pairs.</p>	<p>species, listed by IUCN, are present. 8 endangered and 14 vulnerable species were confirmed in the project area.</p> <p>The following species were confirmed present in the project area:</p> <p>Endangered:</p> <ul style="list-style-type: none"> <li>• Nasalis larvatus larvatus</li> <li>• Pongo pygmaeus wumbii (orangutan)</li> <li>• Hylobates albibarbis</li> <li>• Manis javanica</li> <li>• Shorea smithiana symingtoni-Neolamarchia cadamba</li> <li>• Shorea sp.</li> <li>• Shorea pauciflora king</li> <li>• Hoesemys spinose</li> </ul> <p>Vulnerable:</p> <ul style="list-style-type: none"> <li>• Sus barbatus</li> <li>• Helarctos malayanus</li> <li>• Pteropus sp.</li> <li>• Rusa unicolor</li> <li>• Leptotilos javanicus</li> <li>• Pycnonotus zeylanicus</li> <li>• Baccaurea spp</li> <li>• Dyera polyphylla (Miq.) Steenis</li> <li>• Garcinia sp</li> <li>• Gonystylus bancarus</li> <li>• Combretocarpus rotundatus</li> <li>• Eusideroxylon swageri</li> <li>• Tomistoma schlegelii</li> <li>• Cuora amboinensis</li> </ul>
Evidence Used to Assess Conformance:	Section 5.4 of the monitoring report. Observations of orangutans on project area lands during site visit, interviews with Dr. Birute Galdikas, confirmation of reintroduction and monitoring stations.
Findings:	There is no doubt that orangutans and likely other endangered and vulnerable species, live within the project area. Indicator closed.
Non-conformance Request (NCR):	
# Description and date	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

**Validation/Verification Report Requirements For Public Comment Period**

CCBA 30 Day Public Comment Period Dates:	25 October 2017 – 28 November 2017
Please describe all ways in which the 30 day comment period was publicized, especially in regard to local stakeholders. Supply copies (newspaper ads, emails, etc.) when possible.	Public comment period was posted in all communities in the project area through a posting of the project summary in local language at the posting board at the center of each community. This was confirmed for all communities visited by
How many comments were received?	Via CCBA Website: 0  Via local stakeholder meetings/direct contacts: No comments received during the formal public comment period.
Supply copies of all comments submitted to the auditors, if any were received during the comment period.	Per email from Amy Schmid with CCBA on 28 November 2017, there were no public comments received.
Respond to all comments appropriately, and show whether these comments caused modifications in some aspect of the project or PDD.	As no formal comments were received, no responses were necessary.