

VERIFICATION REPORT FOR THE MADRE DE DIOS AMAZON REDD PROJECT



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Summary:

This report describes the verification audit of the Madre de Dios Amazon REDD Project (“the project”), a Reduced Emissions from Deforestation and Degradation (REDD) project located in the Madre de Dios region of Peru, that was conducted by SCS. The purpose of the verification audit was to conduct, in accordance with the VCS rules, an ex-post independent assessment of the GHG emission reductions and removals that have occurred as a result of the project during the monitoring period from 1 January 2017 to 31 December 2017 (“the verification period”). The verification audit was performed through a combination of document review, interviews with relevant personnel and on-site inspections. As part of the verification 28 findings were raised: 24 Non-Conformity Reports, four New Information Requests and no Observations. These findings are described in Appendix A of this report. The project complies with all of the verification criteria, and the assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria.

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1 INTRODUCTION

1.1 Objective

In accordance with Section 5.1.1 of the VCS Standard (see Section 1.2 below for full reference), SCS carried out an ex-post independent assessment of the GHG emission reductions and removals that have occurred as a result of the project during the verification period, conducted in accordance with the VCS rules. In accordance with Section 2.1.2 of the VCS Validation & Verification Manual, V3.1, the objectives of the verification engagement were to evaluate the monitoring report and assess the following:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG emission reductions and removals reported in the monitoring report are materially accurate.

The other objective of the verification engagement was to assess the non-permanence risk analysis.

1.2 Scope and Criteria

In accordance with Section 4.3.4 of ISO 14064-3:2006, the scope was defined as follows:

- The project and, where relevant, its baseline scenarios
- The physical infrastructure, activities, technologies and processes of the project
- The GHG sources, sinks and/or reservoirs that are applicable to the project
- The types of GHGs that are applicable to the project
- The verification period, as discussed in Section 6 of this report

In accordance with Section 5.3.1 of the VCS Standard (see below for full reference), the criteria for verification was the VCS Version 3, including the following documents:

- VCS Program Guide, V3.7
- VCS Standard, V3.7
- VCS AFOLU Requirements, V3.6
- VCS Non-Permanence Risk Tool, V3.3
- The VCS-approved methodology VM0007 (“the methodology”), as applied to the project, consisting of the following methodology elements (as identified in Section 2.1 of the VCS PD, except that the latest version of any tools and modules was referenced, as required):
 - o REDD Methodology Framework (REDD-MF), V1.2
 - o Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools (CP-AB), V1.1
 - o Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation (BL-UP), V3.2
 - o Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU), V1.1
 - o Estimation of greenhouse gas emissions from biomass burning (E-BB), V1.1
 - o Estimation of emissions from fossil fuel combustion (E-FFC), V1.0
 - o Methods for monitoring of greenhouse gas emissions and removals (M-MON), V2.1
 - o Methods for stratification of the project area (X-STR), V1.0

- o Estimation of uncertainty for REDD project activities (X-UNC), V2.1

1.3 Level of Assurance

In accordance with Section 5.3.1 of the VCS Standard, the level of assurance of this report is reasonable.

1.4 Summary Description of the Project

The project is located in the Madre de Dios Region of Peru and is aimed at reducing emissions from unplanned deforestation and degradation.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through a combination of document review and interviews with relevant personnel, as discussed in Sections 2.2 through 2.4 of this report. At all times, the monitoring report and non-permanence risk analysis were assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.6, findings were issued to ensure conformance to all requirements.

The audit team created a sampling plan following a proprietary sampling plan workbook developed by SCS. Per Section 4.4.3 of ISO 14064-3:2006, the audit team identified possible risks of errors, omissions and misrepresentations with respect to the verification criteria. For each identified risk, the audit team assessed the likelihood of the material discrepancy occurring, the likelihood of the material discrepancy not being prevented or detected by the controls of the project and the likelihood of the material discrepancy not being detected by the audit team. Sampling and data testing activities were planned to address any risk where the likelihood of a material discrepancy not being detected by the audit team was judged to be unacceptably high. The audit team then created a verification plan that took the sampling plan into account.

2.2 Document Review

The monitoring report (version 3.4 dated 16 December 2018; “MR”) and non-permanence risk report (version 3 dated 30 November 2018; “NPRR”) were carefully reviewed for conformance to the verification criteria. The following additional documentation, provided by project personnel in support of the aforementioned documents, was also reviewed by the audit team:

Document	File Name	Ref.
Workbook showing areas harvested by parcela de corta anual (PCA), year and stratum	AproFor_2009_2017_MADERACRE (2)	/1/
Report on harvest volumes from PCA 12	Aprovechamiento_PC12 (1)	/2/
Cash flow estimation workbook	cash flow audit17 num	/3/
Cash flow estimation workbook	cash flow REDD MDD risk16 stot s1214	/4/
Calculation workbook for quantification of carbon stock changes in the project area	CP Estimation 2017. Post Audit. Julio	/5/

Document	File Name	Ref.
Calculation workbook for quantification of area disturbed in the project area	DATOS DE MUESTREO CMRA 12_2017 (1)	/6/
Workbook containing additional data on roads and skid trails, as requested by the audit team	InformacionAdicional PC12	/7/
Calculation workbook for quantification of leakage emissions	Leakage Estimations 2017. Post Auditt. Julio	/8/
Calculation workbook for quantification of uncertainty	Uncertainty Analysis 2017.Post Auditt. Julio	/9/
Calculation workbook for quantification of GHG emission reductions and VCUs	VCUs Estimation 2017.Post Audit Julio	/10/
Spatial products related to monitoring of carbon stock changes within the project area	[various files]	/11/
Documentary evidence of ground-truthing as described on p. 23 of memoria descriptiva /14/	[various files]	/12/
Report on participatory rural appraisal (PRA) results	Diagnostico PRA Proyecto REDD 2017	/13/
memoria descriptiva (description of remote sensing methods and results)	01. memoria_M&M_jul_2018_v1 (3)	/14/
Thesis of Wilson Darling Morvely Veintemilla (source of wood density for "catuaba")	004-2-3-022	/15/
Evidence of FSC certification	FSC Public Search Maderacre	/16/
"GUIA PARA EL MONITOREO Y EVALUACION DE LAS OPERACIONES FORESTALES" for Maderacre (December 2014)	Guia Monitoreo Operaciones Forestales M&E CMRA uv	/17/
"PLAN GENERAL DE MANEJO FORESTAL CONSOLIDADO MADERACRE" for Maderacre (January 2017)	PGMF CMRA Ene 2017	/18/
"PLAN GENERAL DE MANEJO FORESTAL, REFORMULADO" for Maderyja Rio Yaverija SAC (September 2011)	PGMF-Maderyja-Reformula- Div-set-2011	/19/
"PLAN INTEGRAL DE CUSTODIA" for Maderacre	Plan de Custodia M&M act 2017	/20/

Document	File Name	Ref.
(2017)		
KML file showing the validated project boundary, as uploaded to VCS project database	KML_844	/21/
Monitoring report for the 1 January 2009-31 December 2012 monitoring period, as uploaded to VCS project database	MONIT_REP_844_01JAN2009_31DEC2012	/22/
Monitoring report for the 1 January 2013-31 December 2013 monitoring period, as uploaded to VCS project database	MONIT_REP_844_01JAN2013_31DEC2013	/23/
Monitoring report for the 1 January 2014-31 December 2014 monitoring period, as uploaded to VCS project database	MONIT_REP_844_01JAN2014_31DEC2014	/24/
Monitoring report for the 1 January 2015-31 December 2015 monitoring period, as uploaded to VCS project database	MONIT_REP_844_01JAN2015_31DEC2015	/25/
Monitoring report for the 1 January 2016-31 December 2016 monitoring period, as uploaded to VCS project database	MONIT_REP_844_01JAN2016_31DEC2016	/26/
Validated project description (PD), as uploaded to VCS project database	PROJ_DESC_844_11SEP2012	/27/
Verification report for the 1 January 2013-31 December 2013 monitoring period, as uploaded to VCS project database	VERIF_REP_844_01JAN2013_31DEC2013	/28/
Supporting documentation relating to conduct of the PRA	[no digital files provided]	/29/
Harvest records	[no digital files provided]	/30/

2.3 Interviews

2.3.1 Interviews of Project Personnel

The process used in interviewing project personnel was a process wherein the audit team elicited information from project personnel regarding (1) the work products provided to the audit team in support of the MR and NPRR, (2) actions undertaken to ensure conformance with various requirements and (3) implementation status of the project activity.

The following personnel associated with the project proponent and/or implementing partner were interviewed.

Individual	Affiliation	Role	Date(s) interviewed
Lizardo Manuel Fachín Malaverri	Instituto De Investigaciones de la Amazonía Peruana	Remote Sensing and GIS Specialist	11 September 2018
Tatiana Lapeyre	Independent Consultant	GIS and Monitoring Specialist	11 September 2018
Nelson Kroll Kohel	Maderacre	Chief Forest Engineer	18 September 2018 – 21 September 2018
Milagros Jauregui Robladillo	Maderacre	Social Scientist/Community Relations	18 September 2018, 21 September 2018
José Luis Canchaya Toledo	Maderacre	Manager	18 September 2018
Juan Marcial Martinez Vela	Maderacre	GIS Specialist	18 September 2018
Samuel Aspajo	Maderacre	Forest Engineer	18 September 2018 – 20 September 2018
Estaphanie Martinez	Maderacre	Social Scientist/Community Relations	18 September 2018
Esau Macedo	Maderacre	Security Post Manager	19 September 2018
Jason Rengifo	Maderacre	Forest Team Chief	19 September 2018
Luis Nana	Maderacre	Forest Engineer	19 September 2018

2.3.2 Interviews of Other Individuals

The process used in interviewing individuals other than project personnel was a process wherein the audit team made inquiries to confirm the validity of the information provided to the audit team. The following personnel not associated with the project proponent and/or implementing partner were interviewed.

Individual	Affiliation	Role	Date(s) interviewed
Lisbeth Estrada Quispe	Provincial Municipality of Tahuamanu	Forest Concessions Chief	20 September 2018
Jonny Fernandez	Provincial Municipality of Tahuamanu	Forest Engineer	20 September 2018

2.4 Site Inspections

The objectives of the on-site inspections performed were to:

- Select samples of data and information from field observations in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard;
- Perform a risk-based review of the project area and project activities to ensure that the project conformed to the requirements of the verification criteria throughout the verification period;
- Confirm the validity of information presented in the non-permanence risk report; and
- Assess the extent to which any monitoring was conducted in accordance with the requirements of the validated monitoring plan.

In fulfilment of the above objectives, the audit team performed an on-site inspection of the project area on the dates 18-21 September 2018. The main activities undertaken by the audit team were as follows:

- Interviewed project personnel (see Section 2.3.1 of this report) to gather information regarding the monitoring procedures and project implementation
- Carried out on-site inspections of the project's monitoring methodologies through re-measurement of a number of skid trails and roads and located within the project area

The audit team visited the portion of the project area which had been subject to harvesting during the monitoring period to remeasure skid trails, road widths, and log deck dimensions. These are the primary sources of degradation, comprising approximately 89 hectares, 39 hectares, and 1.62 hectares of degraded area, respectively, during the verification period. Several skid trails and roads were visited and re-measured using the monitoring methodology. GPS points were taken along the project area border for comparison with reported project area border locations.

2.5 Resolution of Findings

Any potential or actual discrepancies identified during the assessment process were resolved through the issuance of findings. The types of findings typically issued by SCS during this type of verification engagement are characterized as follows:

- Non-Conformity Report (NCR): An NCR signified a discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a verification statement.
- New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement.

Receipt of an NIR did not necessarily indicate that the project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a verification statement.

- **Observation (OBS):** An OBS indicates an area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the audit team and the information reported or utilized (or the methods used to acquire such information) within the GHG assertion. A root cause analysis and corrective action plan are not required, but highly recommended. Observations are considered by the audit team to be closed upon issuance, and a response to this type of finding is not necessary.

As part of the verification process, 24 NCRs, four NIRs and no OBS were issued. All findings issued by the audit team during the verification process have been closed. In accordance with Section 5.3.7 of the VCS Standard, all findings issued during the verification process, and the impetus for their closure, are described in Appendix A of this report.

2.5.1 Forward Action Requests

This section is not applicable, as no forward action requests have been issued.

2.6 Eligibility for Validation Activities

This section is not applicable, as SCS holds accreditation for validation for the relevant sectoral scope (scope 14; AFOLU).

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

This section is not applicable, as the project is not, at this time, seeking registration under the VCS Program and an approved GHG program.

3.2 Methodology Deviations

The below table identifies each methodology deviation applied to the project were validated as part of the verification engagement described in this report. The audit team concludes, in summary, that all such deviations are valid.

Identification of deviation	Assessment column 1*	Assessment column 2**
Methodology deviation 06: Deviation from Equation 5 of REDD-MF	Audit team agrees that deviation pertains solely to criteria and procedures for monitoring of buffer allocation, as set out in REDD-MF	Deviation has no impact on quantification of GHG emission reductions (and so does not negatively impact conservativeness of said quantification); deviation will result in increased accuracy of quantification of the number of credits to assign to the buffer pool
Methodology deviation 07:	Audit team agrees that deviation	Audit team agrees that deviation

Identification of deviation	Assessment column 1*	Assessment column 2**
Deviation from requirement of M-MON to monitor parameter $ARRL_{forest,t}$ prior to any verification event (where verification is more frequent than every five years)	pertains solely to criteria and procedures for monitoring, as set out in M-MON	has no impact on quantification of reported GHG emission reductions (and so does not negatively impact conservativeness of said quantification)

- *Assessment column 1 contains information regarding assessment of whether the deviation meets with the criteria and specifications for permitted methodology deviations.
- **Assessment column 2 contains information regarding assessment of whether the deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals (except where it results in increased accuracy)

3.3 Project Description Deviations

The below table identifies each methodology deviation applied by the project were validated as part of the verification engagement described in this report. The audit team concludes, in summary, that all such deviations are valid.

Identification of deviation	Assessment column 1*	Assessment column 2**	Assessment column 3***
Project description deviation 02: deviation from statement in PD that ENVI will be used for supervised classification	No impacts to applicability of methodology, as no applicability conditions contain any requirements for classification methods	No impacts to additionality, as classification methods do not have any bearing on procedures for demonstration of additionality	As documented in detail in Section 2.2.3 of the verification report for the 1 January 2009 to 31 December 2012 monitoring period, this deviation has no impact on the baseline scenario, as the visual interpretation method was the method used in determination of the baseline deforestation rate (i.e., automated classification methods were not used for this purpose)

- *Assessment column 1 contains information regarding assessment of whether the proposed deviation impacts the applicability of the methodology.

- **Assessment column 2 contains information regarding assessment of whether the proposed deviation impacts additionality
- ***Assessment column 3 contains information regarding assessment of whether the proposed deviation impacts the appropriateness of the baseline/without-project scenario

Each of the deviations identified above is appropriately described and justified and, in respect of each of the above deviations, the project remains in compliance with the VCS rules.

3.4 Grouped Project

Not applicable; the project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

4.1.1 Implementation Status of the Project Activity(s)

The steps taken by the audit team to assess each of the following items is specified below.

Item	Verification findings
Existence of any material discrepancies between project implementation and the project description	• The audit team reviewed the project description and monitoring plan and compared these documents with the MR. While there are two project description deviations noted, they are minor. The activities described in the Implementation Status section of the MR are consistent with what is required by the monitoring plan and project description.
The implementation status of the monitoring plan and the completeness of monitoring, including the suitability of the implemented monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters)	• The audit team reviewed the monitoring system's appropriateness for assessing tree growth and forest dynamics, chain of custody, and biodiversity. The supporting documentation of these monitoring activities is thorough and consistent throughout various reports. The parameters are suitable for the project activities and forest management generally. Interviews with project personnel determined that appropriate processes were in place for the recording, compiling, and analyzing of data. The audit team conducted vouching and retracing activities to show tree harvest data was consistent from time of measurement and harvest to data entry and analysis activities. The suitability of field activities was assessed in the field with the remeasurement of skid trails,

	primary roads, and secondary roads, in addition to a logging deck. The audit team compared remeasured values with those reported, and examined the measurement procedures for quality control and consistency with the manual's described practices. An on-site and remote review of the database of tree volume, harvest, and biodiversity data demonstrated that the parameters and processes were as described, and the monitoring systems were implemented as described.
The existence of any material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology	The audit team reviewed the MR and supporting documentation to determine whether there were any inconsistencies with the monitoring plan and applied methodology. While two deviations were noted they were justified and deemed not to negatively impact the conservativeness of the quantification of GHG emission reductions or removals. Calculation worksheets required by the methodological elements were reviewed and where there were non-conformances, they were addressed by project personnel. In the case of NCR 17, for example, the audit team identified that a value included in Equation 16 of X-UNC was incorrect in the Uncertainty Analysis calculation and documentation.
Whether the GHG emission reductions or removals generated by the project have become included in an emissions trading program or any other mechanism that includes GHG allowance trading	Through the application of professional judgment, the audit team is reasonably assured that the GHG emission reductions reported in the MR have not been included in an emissions trading program or any other mechanism that includes GHG allowance trading
Whether the project has received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification	Through the application of professional judgment, the audit team is reasonably assured that project has not received or sought any other form of environmental credit, or has become eligible to do so

	since validation or previous verification
Whether the project has participated or been rejected under any other GHG programs since validation or previous verification	Through the application of professional judgment, the audit team is reasonably assured that the project has not participated or been rejected under any other GHG programs since validation or previous verification
Sustainable development contributions	- The audit team confirmed through interviews with project personnel and review of meeting/presentation documents that a variety of social programs have been implemented during the monitoring period - The project has been actively monitoring to meet requirements for the Climate, Community, and Biodiversity Standards, and has identified High Value Conservation Forest Areas to limit potential loss

4.1.2 Previously Validated Methodology Deviations

Number	Verification Findings
01	This deviation no longer applies because skid trail measurements have been collected in PCA 12, the only PCA that was harvested during the verification period (i.e., there are no PCAs that are missing measurement data regarding skid trails). The audit team confirmed that measurements have been duly collected in respect of the area of PCA 12 harvested during the verification period, as discussed further in Section 4.2.2 below.
02	This deviation was made irrelevant with the transition from ResourceSat-1 back to imagery from the Landsat program (in this case, Landsat-8). The original deviation pertained to the fact that data were sourced from the Resource-Sat1 program in lieu of the previously utilized Landsat imagery (see the verification report for the 1 January 2009-31 December 2012 monitoring period for details). Note that Step 1 of Section 5 of M-MON is unclear on what exactly is meant by "source". However, given that the same processing specifications are utilized for all Landsat standard Level-1 data products, including Landsat-8 (the website https://landsat.usgs.gov/landsat-8 , accessed 5 September 2018, states that "Landsat 8 data products are consistent with other Landsat standard Level-1 data products, using specifications described on the Landsat Processing Details page"), a common-sense reading would suggest that all Landsat products should be considered to be of the same "source" for purposes of application of the guidance in Step 1 of Section 5 of M-MON.

03	This deviation was noted during the verification audit for the 1 January 2009 to 31 December 2012 monitoring period (also conducted by SCS and led by the same lead auditor as has led the verification engagement documented in this report). The description of the noted deviation, as quoted from Section 2.2.1 of the verification report for the 1 January 2009 to 31 December 2012 monitoring period, is as follows: “For the quantification of uncertainty in emissions from construction of skid trails, logging decks and logging roads, the M-MON module requires that “The uncertainty in carbon stocks estimates and resulting emissions must be included in the estimation of with-project scenario uncertainty calculations performed using the module X-UNC (VMD0017) during each verification event unless indisputably conservative estimates are used”. The uncertainty in carbon stock estimates was not included in the estimation of with-project scenario uncertainty calculations.” “For the quantification of uncertainty in skid trail emissions, the audit team agrees that the uncertainty in carbon stock estimates does not have to be included, as discussed in Section 4.2 below. However, for quantification of uncertainty in emission from creation of logging decks and logging roads, sufficient evidence was not provided to the audit team to demonstrate that indisputably conservative estimates of carbon stock have been used. However, the total percent uncertainty calculated by the audit team (using statistically sound calculations and fully accounting for the uncertainty in the carbon stock estimates employed in logging deck and logging road emissions) was far less than 15%, as was the uncertainty reported by project personnel. Therefore, no deduction for uncertainty was required on the basis of either uncertainty calculation. On this basis, the deviation, which applies to the criteria and procedures for monitoring, can be considered to have no impact conservativeness of the quantification of GHG emission reductions, and is therefore considered appropriate with respect to the present monitoring period. It is noted that such a discrepancy with respect to the requirements of the methodology may prove to be a material discrepancy in a future monitoring period.” As noted above, at the time, the audit team had not been provided with evidence that indisputably conservative estimates of carbon stock had been used in the quantification of skid trail emissions, and neither had the uncertainty in carbon stock estimates been accounted for in the uncertainty calculations. In the uncertainty calculations for the verification period /xx/, it continues to be the case that uncertainty in carbon stock estimates is not accounted for in calculating the uncertainty of skid trail emission estimates. However, after the experience gained from five different verification engagements, SCS believes that, under the conditions in which skid trails are created in the project area, use of mean carbon stock estimates to calculate emissions is indisputably conservative, for the following reasons: • The accounting process required by M-MON treats emissions from skid trails as permanent within a given crediting period; however, skid trails in the project area are known to grow back within a relatively quick time period. Therefore, if small trees are killed in the process of skid trail creation, it is quite possible that those small trees could be replaced by other small trees by the end of the crediting period. • The audit team understands that, for obvious reasons, it is common practice to avoid
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	large trees in skid trail construction wherever possible. Therefore, use of the forest carbon inventory data (which includes such large trees in the relative frequency in which they are found in the project area) to estimate emissions indisputably overestimates emissions (perhaps significantly so). Therefore, SCS has applied professional judgment to confirm that indisputably conservative estimates of carbon stock have been used in the quantification of skid trail emissions, and it is no longer believed that there is a methodology deviation in respect of the above.
04	This deviation no longer applies because logging deck measurements have been collected for all log decks in the portion of PCA 12 subject to harvest during the verification period (i.e., there are no PCAs that are missing measurement data regarding log decks). The audit team confirmed that measurements have been duly collected in respect of the area of PCA 12 harvested during the verification period, as discussed further in Section 4.2.2 below.
05	This deviation no longer applies because measurements have been collected for all secondary roads in the portion of PCA 12 subject to harvest during the verification period (i.e., there are no PCAs that are missing measurement data regarding secondary roads). The audit team confirmed that measurements have been duly collected in respect of the area of PCA 12 harvested during the verification period, as discussed further in Section 4.2.2 below.
06	This deviation remains relevant and is discussed in Section 3.2 above. The consequence of the deviation is that the number of credits to be deposited into the buffer pool is calculated in accordance with the VCS rules.

4.1.3 Previously Validated Project Description Deviations

The following project descriptions were previously validated:

Number	Verification Findings
01	This deviation was made irrelevant with the transition from ResourceSat-1 back to imagery from the Landsat program (in this case, Landsat-8; see description for parameter “Project Forest Cover Monitoring Map, Leakage Belt Forest Cover Monitoring Map” in Section 4.2.2 below regarding how this was confirmed).
02	This deviation remains relevant and is discussed in Section 3.3 above.

4.1.4 Overall Conclusion

In summary, with the exception of the deviations to the project description as discussed above, the audit team can confirm that the project has been implemented as described in the validated project description.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The GHG emission reductions and/or removals have been quantified correctly in accordance with the project description and (with the exception of the methodology deviations discussed in Section 3.2 above) with the applied methodology.

The GHG emission reductions and/or removals have been quantified correctly in accordance with the project description and with the applied methodology.

For all instances in which values were transcribed between datasets (e.g., transcription from the project description to reporting workbooks, or between reporting workbooks), the audit team carefully traced values to ensure the absence of manual transposition errors.

An identification of the data and parameters used to calculate the GHG emission reductions and removals/or, and a description of the steps taken to assess each of them, follows.

4.2.1 Data and Parameters Available at Validation

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
Regional Forest / Non-forest Cover Benchmark Map	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
Project Forest Cover Benchmark Map	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
Leakage Belt Forest Cover Benchmark Map	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
A_i	N/A (assessed at validation)	Visual inspection of spatial products displaying strata of harvested area to confirm that the validated stratification system has been used (through comparison to data shown in Chart 20 of PD /27/ and other sources provided at validation)	N/A (assessed at validation)
CF, CF_j	N/A (assessed at validation)	Confirmed that value of 0.49, as stated in Section 4.1 of PD /27/, was used in "CP Estimation" workbook /5/	N/A (assessed at validation)
$f_j(x,y)$	N/A (not	N/A (not directly used)	N/A (not directly

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	directly used)		used)
Carbon stock in all pools in the forest stratum (includes $C_{BSL,i}$ and $C_{P,post,i}$)	N/A (assessed at validation)	Confirmed that values were correctly transcribed from Chart 22 of PD /27/ to "CP Estimation" workbook /5/ (note that the value in Chart 22 is different from that in Section 4.1 of PD, in respect of the "Deforestation for Agriculture (Corn)" post-deforestation class; project personnel have clarified that the value in Chart 22 is seen as correct for this class and the value in Section 4.1 is the result of a typo)	N/A (assessed at validation)
Change in the land use	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
Emissions by biomass burning	N/A (not relevant; no biomass burning detected through monitoring of project area)	N/A (not relevant; no biomass burning detected through monitoring of project area)	N/A (not relevant; no biomass burning detected through monitoring of project area)

4.2.2 Data and Parameters Monitored

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
Project Forest Cover Monitoring Map, Leakage Belt Forest Cover Monitoring Map	- Reviewed “memoria descriptiva” /14/ describing image processing and interpretation, in order to confirm that good practice in remote sensing (for radiometric correction, image interpretation, etc.) were followed - Independently acquired Landsat-8 OLI image dated 3 September 2017 and - Confirmed image met cloud cover specifications (<10% cover) - Spot-checked imagery to confirm that deforestation/disturbance monitoring in the project area was free from material error - Applied professional judgment to confirm that, while manual classification instead of supervised classification was applied, the use of manual assessment of LU/LC changes is appropriate and will lend more stability than supervised classification (which would likely introduce a higher error rate than manual classification in this circumstance where relatively little land LU/LC change has occurred)	Reviewed process against Section 4.2 of PD /27/ to confirm that procedures set out in pp. 198-200 were generally followed, excepting the project description deviation as discussed in Section 3.3 above	N/A
Degradation PRA Results	- The audit team interviewed project personnel regarding the process for collecting PRA results and sending them to a social specialist for analysis. - The PRA was completed by	The PRA analysis /13/ was carried out appropriately, as demonstrated by the supporting	N/A (no default values used)

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	Milagros Jauregui Robladillo of Maderacre, and in interview with her the audit team confirmed her fluency with the values and parameters described in the survey sheet. - These hard copy sheets were reviewed and confirmed to have been conducted in March of 2017, and with appropriate systems to measure degradation and collate data. - Project personnel demonstrated how they review this data to identify populations that have resources closer to where they are, and to patrol areas that are high risk of degradation. - In summary, the audit team confirmed that it was demonstrated that a more detailed assessment of degradation potential was not required, per M-MON	documentation and interview with project personnel.	
Result of Limited Degradation Survey	N/A (not relevant; a limited degradation survey was not triggered by the PRA results)	N/A	N/A
A _{burn,i,t}	N/A (not relevant; no biomass burning detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)	N/A (not relevant; no biomass burning detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)	N/A (not relevant; no biomass burning detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)
A _{DefPA,i,u,t} , A _{DefLB,i,u,t}	Through interviews with project personnel and independent review of Landsat imagery, audit team confirmed that quantification of area deforested in the project area	N/A; no particular methods set out in PD for quantification of deforested area from Forest Cover	N/A

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	and leakage belt was free of material error	Monitoring Maps	
A _{DegW,i}	N/A (the PRA did not indicate a need for a degradation survey)	N/A	N/A
A _{DECKS,i,t}	Review of process used to measure this parameter in the field to confirm absence of material error	N/A (no specific methods set out in PD /27/ aside from what is stated in methodology)	N/A
A _{DistPA,q,i,t}	N/A (not relevant; no disturbances detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)	N/A (not relevant; no disturbances detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)	N/A (not relevant; no disturbances detected through monitoring of project area; see "Project Forest Cover Monitoring Map" above)
A _{ROAD,i,t}	Direct remeasurement and comparison with reported results to confirm absence of material error	N/A (no specific methods set out in PD /27/ aside from what is stated in methodology)	N/A
A _{RRL,forest,t}	N/A (this parameter not currently being monitored; see methodology deviation discussed in Section 3.2 above)	N/A	N/A
AP _i	N/A (the PRA did not indicate a need for a degradation survey)	N/A	N/A
C _{DegW,i,t}	N/A (the PRA did not indicate a need for a degradation survey)	N/A	N/A
C _{AB_tree_dest,i}	N/A; C _{tree_AB_dest,i} was set equal to C _{tree_AB,i} (as allowed for by M-MON; see Section 6.2), which was assessed at validation	Confirmed that values reported in Section 3.2 of MR and used in quantification have been correctly transcribed from	N/A

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
		Chart 22 of PD /27/	
$C_{BB_tree_dest,i}$	N/A; $C_{tree_BB_dest,i}$ was set equal to the product of $C_{tree_AB_dest,i}$ and R_j (as allowed for by M-MON; see Section 6.2), both of which were assessed at validation	Confirmed that values reported in Section 3.2 of MR and used in quantification have been correctly transcribed from Chart 22 of PD /27/ and are correctly calculated as the product of aboveground biomass and root-to-shoot ratio of 0.24	N/A
F_{LU}	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
F_{MG}	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
F_I	N/A (not used for monitoring)	N/A (not used for monitoring)	N/A (not used for monitoring)
$L_{sk}, L_{skid,i,t}$	- Through review of sampling design used to establish skid trail plots, audit team confirmed that it constituted "systematic sampling with a random start of the entire area logged" as allowed for by M-MON Section 6.2 - Through checks on a sample of skid trail plots in PCA 12, audit team confirmed that field measurements were taken to a high standard of quality - Audit team traced calculations	N/A (no specific methods set out in PD /27/ aside from what is stated in methodology)	N/A

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	through reporting workbooks to ensure absence of material error		
$V_{EXT,z,i,t}$, $V_{EXT,j,z,i,t}$	- Audit team interviewed project personnel regarding the process for data collection and compilation, to ensure absence of material error - Audit team recalculated volume based on measured data and confirmed the reported quantity was free from material error - Audit team cross-checked reported data against information independently provided by the Forest Concessions Chief of Tahuamanu to independently verify the submitted information.	Through independent data testing, audit team confirmed that the Smalian formula, as set out on p. 188 of PD /27/, has been used to calculate this parameter	N/A
W_{SKID}	- Through review of sampling design used to establish skid trail plots, audit team confirmed that it constituted "systematic sampling with a random start of the entire area logged" as allowed for by M-MON Section 6.2 - Through checks on a sample of skid trail plots in PCA 12, audit team confirmed that field measurements were taken to a high standard of quality and that the width measurements were	N/A (no specific methods set out in PD /27/ aside from what is stated in methodology)	N/A

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	based distance between trees undamaged by skid trail creation on one side to trees undamaged by skid trail creation on the other side Audit team traced calculations through reporting workbooks to ensure absence of material error		
D_j, D_{mn}	Through review of data sources for wood densities and interviews with project personnel regarding the selection process, the audit team is reasonably assured that the data sources used are the most applicable to the Madre de Dios region (and, thus, the most likely to accurately project emissions)	Audit team confirmed that the process for selection of wood densities follows the general guidance outlined in pp. 170-171 of PD /27/	Audit team cross-checked all wood densities against relevant source materials and confirmed that, in all cases, the data sources were nationally specific (and, thus, the validation procedures in M-MON were not required)
$PROP_{IMM}$	Through review of the calculation of this parameter in the "leakage estimations" workbook, the audit team confirmed that it was conservatively calculated using census data	Audit team confirmed that the calculation followed the same process used in calculating the original value (see p. 160 of PD /27/)	N/A
C_{OLB}	Through recalculation, the audit team confirmed that this value was correctly calculated using	While the quantification process was not exactly the same as	N/A

	Steps taken by audit team to assess...		
Data/Parameter	Accuracy of GHG emission reductions and removals	Whether methods/formulae set out in project description have been followed	Appropriateness of default values
	an official, published source	that set out in the PD /27/ (see p. 411), audit team reviewed the quantification process to confirm it represented an improvement over the validated methods	

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The evidence used to determine the GHG reductions and removals was of sufficient quantity and appropriate quality. An identification of the categories of evidence used to determine the GHG emission reductions and removals, and a description of the steps taken to assess the sufficiency of quantity, and appropriateness of quality, of each category of evidence, follows.

	Steps taken by audit team to assess...		
Category	Reliability of the evidence, and source and nature of evidence (external or internal, oral or documented) for determination of GHG emission reductions or removals	Information flow from data generation and aggregation, to recording, calculation and final transposition into the MR	Appropriateness of implemented calibration frequency of monitoring equipment
Calculation workbooks	Replication of calculations to verify that workbooks are free of material error and, thus, reasonably reliable	Tracing of information through workbooks to source data	N/A
Analysis of remotely	Through review of	Through review of	Audit team confirmed

	Steps taken by audit team to assess...		
Category	Reliability of the evidence, and source and nature of evidence (external or internal, oral or documented) for determination of GHG emission reductions or removals	Information flow from data generation and aggregation, to recording, calculation and final transposition into the MR	Appropriateness of implemented calibration frequency of monitoring equipment
sensed imagery	procedures and independent review of satellite imagery, audit team can confirm this evidence is highly reliable	spatial analysis processes, audit team confirmed that data were appropriately transcribed into the calculation workbooks (see above)	that source data for this analysis is the Landsat program, an official program of the United States government that can be assumed to have industry-standard calibration procedures in place to ensure high-quality data
Reported data on harvest volumes	Discussions with project personnel regarding the information flow and independent confirmation of data with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above)	Independent recalculation of volumes from measured variables (length and diameter at each end); tracing and vouching a sample of reported data against measurement data sheets	Discussions with project personnel regarding the instruments used to acquire measurements of length and width
Measured data on roads, skid trails and logging decks	Independent remeasurement of length and width measurements on skid trails and forest roads	Independent recalculation of degradation from low-level reported data to confirm absence of material transcription/compilation errors	Discussions with project personnel regarding the instruments used to acquire measurements of length and width

Overall, the evidence used to determine the GHG reductions and removals is of sufficient quantity (i.e., all necessary information has been provided to allow the audit team to trace and, as necessary, recalculate

the quantification of GHG reductions and removals), and of appropriate quality (i.e., information presented is free of misstatements, whether material or immaterial) to allow the audit team to render a verification opinion.

4.4 Non-Permanence Risk Analysis

The reported value of the overall risk rating, as determined based on the risk analysis documented in the NPRR, was 10%.

The audit team did not perform a re-assessment of the risk analysis from first principles, but did assess the following:

- Whether any circumstances or conditions may have transpired since the previous risk analysis such that a previous determination having bearing on the risk rating is no longer valid
- Whether items meant to address certain risks are in place and functioning as intended

The audit team's conclusions regarding the risk analysis are two-fold. The audit team concludes that:

- The assignment of risk scores to risk factors that did not change from the previous risk analysis remains appropriate and in conformance to the AFOLU Non-Permanence Risk Tool, to the extent that such assignment was appropriate and in conformance to the AFOLU Non-Permanence Risk Tool at the time of the prior risk analysis.
- The assignment of risk scores to risk factors that did change from the previous risk analysis is appropriate and in conformance to the AFOLU Non-Permanence Risk Tool.

A detailed review of the audit team's conclusions may be found below.

4.4.1.1 Internal Risk - Project Management

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	• During the site visit, the audit team confirmed, through on-site inspections, review of management planning documents and interviews with project personnel, that the planting of species that are "not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located" continues to be excluded from the scope of the project activity	• N/A	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(b)	During the site visit, the audit team observed gates and other evidence that ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.	N/A	Risk rating is appropriate
(c)	- The audit team was able to confirm, through interviews with project personnel, that the management team continues to include individuals with significant experience in each of the skills required for effective project implementation - The primary roles within Maderacre staff interviewed ranged from 10 to 14+ years, and their fluency with the project details was obvious	N/A	Risk rating is appropriate
(d)	Through on-site inspections, the audit team can confirm that the base of operations for Maderacre and Maderyja is located near the town of Iñapari, and thus within a day's travel from the project area. There are forest worker headquarters quite close to the project area.	N/A	Risk rating is appropriate
(e)	The audit team can affirm that the management team includes individuals that have already guided the project through successful validation, verification and issuance of GHG credits of the project under the VCS Program, as demonstrated by credit issuance relating to GHG emission reductions attributable to prior monitoring periods (the management team has remained largely constant over time).	Evidence of prior credit issuance may be found on the VCS Project Database (https://www.vcsprojectdatabase.org/#/vcus); which is presumed to be of high quality	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(f)	- The audit team interviewed project personnel with regards to their adaptive management, and reviewed the General Forest Management Plans /18/ /19/ to see defined objectives. - The audit team observed a reference to “redefining the productive units” and procedures for changing the conservation areas. - These examples as well as analysis of these changes, and new calculations for commercial analysis, and adjusting the minimum cutting diameter are evidence of adaptive management being implemented.	Reviewed the General Forest Management Plans, which are thorough documents with high quality data that is consistent with supporting documentation.	Risk rating is appropriate

4.4.1.2 Internal Risk – Financial Viability

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	N/A	N/A	Risk rating is appropriate
(b)	N/A	N/A	Risk rating is appropriate
(c)	N/A	N/A	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(d)	The audit team determined through review of financial information that the project has indeed already reached its breakeven point through the sale of VCUs and timber.	- The “cash flow” documentation /3/ /4/ reviewed is thorough and includes appropriate historical information. - Evidence of timber sales /30/ were also reviewed and found to be of high quality.	Risk rating is appropriate
(e)	N/A	N/A	Risk rating is appropriate
(f)	N/A	N/A	Risk rating is appropriate
(g)	N/A	N/A	Risk rating is appropriate
(h)	N/A	N/A	Risk rating is appropriate
(i)	N/A	N/A	Risk rating is appropriate

4.4.1.3 Internal Risk – Opportunity Cost

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	N/A	N/A	Risk rating is appropriate
(b)	N/A	N/A	Risk rating is appropriate
(c)	N/A	N/A	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(d)	N/A	N/A	Risk rating is appropriate
(e)	- Review of the financial information /3/ /4/ supports the overall comparison of net present values from project activities and alternative uses. - Interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above) also indicated that there hadn't been significant changes in land use economics during the monitoring period.	The cash flow documentation /3/ /4/ includes appropriate values to the alternative values cited in the NPRR. While these values are from 2010 and may be somewhat outdated, there does not appear to be more recent information.	Risk rating is appropriate
(f)	N/A	N/A	Risk rating is appropriate
(g)	N/A	N/A	Risk rating is appropriate
(h)	- Through an interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed that the relevant concession agreements remain in full force and effect - Thus, on a sample basis, the audit team has confirmed that all relevant concession agreements remain in full force and effect - These agreements were previously confirmed to constitute legally binding commitments to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see pp. 38-39 of verification report for the 1 January 2009-31 December 2012 monitoring period)	N/A	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(i)	- Through an interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed, on a sample basis, that the designation of the project area as a permanent productive forest (PPF) remains in full force and effect - This designation was previously confirmed to constitute a legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years (see p. 22 of verification report for the 1 January 2014-31 December 2014 monitoring period)	N/A	Risk rating is appropriate

4.4.1.4 Internal Risk – Project Longevity

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	See item (i) under Section 4.4.1.3 above (per Section 2.2.4(5) of the AFOLU Non-Permanence Risk Tool, “Any project with a legally binding agreement that covers at least a 100 year period from the project start date shall be assigned a score of zero for project longevity”); thus, a zero score for project longevity is appropriate	N/A	Risk rating is appropriate

4.4.1.5 External Risk – Land Tenure and Resource Access/Impacts

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	N/A	N/A	Risk rating is appropriate
(b)	Through an interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed, on a sample basis, that ownership of the project area remains vested in the government of Peru, while resource access/use rights are granted via concession	N/A	Risk rating is appropriate
(c)	Through an interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed, on a sample basis, that no disputes over land tenure or ownership exist within the project area	N/A	Risk rating is appropriate
(d)	Through an interview with the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed, on a sample basis, no disputes over access/use rights (or overlapping rights) exist within the project area	N/A	Risk rating is appropriate
(e)	N/A	N/A	Risk rating is appropriate
(f)	See item (h) under Section 4.4.1.3 above	N/A	Risk rating is appropriate
(g)	N/A	N/A	Risk rating is appropriate

4.4.1.6 External Risk – Community Engagement

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	The audit team can confirm, through review of remotely sensed data indicating the absence of any land clearing and visits to the project area, that there are still no households located within the project area	N/A	Risk rating is appropriate
(b)	The audit team can confirm, through review of the PRA results /13/, that there continue to be no households within 20 km of the project area that could be considered reliant on the project area, with a very small percentage of those interviewed reporting going for wood, timber, or wood for charcoal outside of their property.	The PRA is the result of a diligent effort conducted by qualified personnel according to current best practice, and is thus considered to be of high quality	Risk rating is appropriate
(c)	As there continue to be no communities who derive livelihoods from the project area, this mitigation score is not applicable	N/A	Risk rating is appropriate

4.4.1.7 External Risk – Political Risk

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(a)	N/A	N/A	Risk rating is appropriate
(b)	N/A	N/A	Risk rating is appropriate

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
(c)	- Through independent recalculation of the governance score from the World Bank Institute's Worldwide Governance Indicators for 2013-2017, as downloaded from http://info.worldbank.org/governance/wgi/#home on 30 November 2018, audit team can confirm that the score has been appropriately calculated - The resulting score is slightly different from the score reported in the NPRR, given that different years were included in the calculation in the NPRR; however, the audit team is reasonably assured that data for 2017 were not available at the time that the NPRR was produced and, as the resulting risk score is not sensitive to the exact calculation of the governance score (i.e., both the reported value of -0.1789 for 2012-2016 and the audit team's recalculation of -0.1556 for 2013-2017 are within the range of -0.32 to less than 0.19	The Worldwide Governance Indicators are required for use by the AFOLU Non-Permanence Risk Tool and are thus considered to be of high quality	Risk rating is appropriate
(d)	N/A	N/A	Risk rating is appropriate
(e)	N/A	N/A	Risk rating is appropriate
(f)	- The Madre de Dios region of Peru is participating in the Governors' Climate and Forest Taskforce, as confirmed through review of a press release (accessed 6 September 2018 at https://gcftf.org/news/2018/2/2/from-the-amazon-to-california?rq=madre%20de%20dios) - Thus, at least one of the criteria necessary to claim the mitigation risk score has been met	The press release has been posted to the official website for the Governors' Climate and Forest Taskforce and can be considered to be of high quality	Risk rating is appropriate

4.4.1.8 Natural Risk

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
Fire			
L	- Audit team reviewed verification report for the 1 January 2016-31 December 2016 monitoring period to confirm that it was indicated (p. 33) that this risk was not applicable to the project area - Through interviews with project personnel as well as the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed that no known fires have recently occurred in the project area and, therefore, the risk remains not applicable to the project area	N/A	Risk rating is appropriate
S			
M			
Pest and Disease Outbreaks			
L	- Audit team reviewed verification report for the 1 January 2016-31 December 2016 monitoring period to confirm that it was indicated (p. 33) that “the risk of pest and disease outbreaks is not applicable to the project area” - Through interviews with project personnel as well as the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed that no known pest/disease outbreaks have recently occurred in the project area and, therefore, the risk remains not applicable to the project area	N/A	Risk rating is appropriate
S			
M			
Extreme Weather			
L	Audit team reviewed verification report for the 1 January 2016-31 December 2016 monitoring period to confirm that it was indicated	N/A	Risk rating is appropriate
S			

Risk	Assessment of rationale, assumptions and justification	Assessment of quality of documentation and data provided	Conclusion regarding appropriateness of risk rating
M	(p. 33) that “extreme weather events that would result significant impacts on carbon stocks do not occur in the project area” Through interviews with project personnel as well as the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed that no known extreme weather events have recently occurred in the project area and, therefore, the risk remains not applicable to the project area		
Geological Risk			
L	- Audit team reviewed verification report for the 1 January 2016-31 December 2016 monitoring period to confirm that it was indicated (p. 33) that “the risk of landslides in the project area is low” and that “the risk of other geological hazards is not applicable to the project area” - Through interviews with project personnel as well as the Head of Forest Concessions for Tahuamanu (see Section 2.3.2 above), the audit team confirmed that no geological events have recently occurred in the project area and, therefore, the risk remains not applicable to the project area	N/A	Risk rating is appropriate
S			
M			

5 SAFEGUARDS

5.1 No Net Harm

The audit team agrees with the conclusion in the MR that no negative environmental or socio-economic impacts of the project are likely. No negative effects have been observed by the audit team.

5.2 Local Stakeholder Consultation

The project proponent has documented the regular involvement with communities through their social programs, and in interviews and project documentation describe adaptive management to account for any stakeholder input. As described in the MR, there is a process for continuous feedback between communities and the social facilitator.

During the site visit, the audit team interviewed representatives of the government of Peru, which is a key stakeholder entity in respect of the project (see Section 2.3.2 above for a list of individuals interviewed). The audit team also interviewed employees of the project proponent regarding project activities (see Section 2.3.1 above for a list of individuals interviewed). No input was noted during these interviews that would require a response from the project proponent; therefore, there was no input that needed to be taken into due account by the project proponent.

6 VERIFICATION CONCLUSION

The audit team asserts, with no qualifications or limitations, that:

- The project complies with the verification criteria for projects set out in VCS Version 3.
- The project has been implemented in accordance with the validated project description and any subsequently validated changes.

Verification period: From 1 January 2017 to 31 December 2017

The cumulative verified GHG emission reductions and removals as of the end of the above verification period are:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Total	10,365,094.99	1,555,347.80	168,918.51	8,640,828.67

The above calculations are for the cumulative GHG emission reductions from project start to the end of the monitoring period, as quantified in Equation 2 of REDD-MF.

The verified GHG emission reductions and removals in the above verification period are:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2017	1,033,409.00	46,669.86	(386,467.06)	1,373,206.20

The above calculations were carried out by taking the respective quantities, as calculated for the end of the monitoring period on a cumulative basis, and subtracting the corresponding quantities as (correctly) calculated for the end of the prior monitoring period on a cumulative basis. While no guidance exists within the methodology regarding the calculations as reported in the table directly above, the calculations are being provided in order to comply with the requirement of the VCS Verification Report Template that the “verified GHG emission reductions and removals in the [stated] verification period” be provided. The calculated leakage emissions of -386,467.06 tCO₂e were determined by taking the quantity of 168,918.51 tCO₂e, which is the cumulative leakage emissions as calculated for the end of the monitoring period (following Equation 11 from LK-ASU), and subtracting 555,385.58 tCO₂e, which is the corresponding quantity as calculated for the end of the prior monitoring period. The calculated value for leakage emissions is negative due to a change in the monitored value of one parameter (PROP_{IMM}), which resulted in a significant drop in the calculated leakage emissions relative to the correctly calculated value for the prior monitoring period (for which the prior value of PROP_{IMM} was used).

During the course of the verification engagement, an issue was discovered pertained to the LK-ASU module. The LK-ASU module was updated, from V1.0 to V1.1, with the update to V1.5 of the REDD-MF methodology framework (the update was effective in March 2015). Since REDD-MF Version 1.2 states, on page 4, that “This Framework requires the use of the latest approved versions of the following modules and tools”, Version 1.1 of LK-ASU was required to be used immediately upon taking effect. The stated purpose of the update was to “include activities on peatlands” (as indicated in the Document History on page 25 of V1.1). However, a substantive change was made to the accounting procedures that appears to have been unrelated, strictly speaking, with the scope expansion to include project activities on peatlands. This change affected Equation 11 of the module. The significance of the change was not noted until the current verification engagement.

The equation, as in Version 1.0 of the module, is as follows:

$$\Delta C_{LK-ASU,OLB} = PROP_{CS} * \left(\sum_{t=1}^{t^*} A_{LK-OLB,t} \right) \quad (11)$$

Where:

$\Delta C_{LK-ASU,OLB}$	Net CO ₂ emissions due to unplanned deforestation displaced outside the Leakage Belt; t CO ₂ -e
$PROP_{CS}$	The proportional difference in stocks between areas of forest available for unplanned deforestation both inside and outside the Leakage Belt; proportion
$A_{LK-OLB,t}$	Area deforested by immigrants outside the Leakage Belt and project area under the project scenario at year t ; ha
t	1, 2, 3 ... t^* years elapsed since the start of the REDD VCS project activity

The same equation is as follows in Version 1.1 of the module:

$$\Delta C_{LK-ASU,OLB} = C_{OLB} \times \left(\sum_{t=1}^{t^*} A_{LK-OLB,t} \right) \quad (11)$$

Where:

$\Delta C_{LK-ASU,OLB}$	Net CO ₂ emissions due to unplanned deforestation displaced outside the Leakage Belt (t CO ₂ -e)
C_{OLB}	Area-weighted average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt (t CO ₂ -e ha ⁻¹)
$A_{LK-OLB,t}$	Area deforested by immigrants outside the Leakage Belt and project area under the project scenario in year t (ha)
t	1, 2, 3 ... t^* time elapsed since the start of the project activity (year)

In Version 1.0 of the module, the cumulative quantity of “Area deforested by immigrants outside the Leakage Belt and project area under the project scenario in year” is multiplied by the proportion PROPCS, which is calculated as follows:

$$PROP_{CS} = C_{OLB} / C_{LB} \quad (4)$$

Where:

$PROP_{CS}$	The proportional difference in carbon stocks between areas of forest available for unplanned deforestation both inside and outside the Leakage Belt; proportion
C_{OLB}	Area weighted average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt; t CO ₂ -e ha ⁻¹
C_{LB}	Area weighted average aboveground tree carbon stock for forests available for unplanned deforestation inside the Leakage Belt; t CO ₂ -e ha ⁻¹

For all practical purposes, this quantity is unlikely to deviate significantly from unity (i.e., one).

In Version 1.1 of the module, the same quantity of “Area deforested by immigrants outside the Leakage Belt and project area under the project scenario in year” is multiplied by the “Area-weighted average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt”, represented by the parameter COLB. In practice, COLB, which is in units of CO₂-equivalent per hectare, can take values well in excess of 100. The difference between multiplying a given quantity by a value of about one and multiplying the same quantity by a value that is greater than 100 is as one would expect—the two approaches will result in differences in the end result on the order of two orders of

magnitude. Thus, the shift to Version 1.1 has led to a significant increase in the quantification of leakage emissions, relative to what would have been quantified under Version 1.0.

Additionally, it was identified that a revision to the uncertainty quantification procedures in the X-UNC module (with the update from Version 2.0 to Version 2.1 also having taken place in March 2015) was also relevant. However, this revision had no impact on the quantification to-date, as the calculated uncertainty has been less than 15% (the threshold established in REDD-MF), for all monitoring periods, regardless of whether the quantification procedures in Version 2.0 or Version 2.1 of X-UNC are used.

In an email dated 1 April 2019, Verra personal advised that, since Version 1.1 of the LK-ASU module prevailed at the time that of monitoring and verification for the 2014, 2015 and 2016 monitoring periods, “over-issuance” in respect of these monitoring periods occurred. Verra personnel advised that over-issuance needed to be calculated as the difference between the leakage emissions as calculated using Versions 1.1 and 1.0 of the LK-ASU module. In a follow-up communication dated 25 April 2019, Verra personnel advised that (1) the over-issuance could be calculated on an annualized basis, even though the quantification procedures within the methodology operate on a cumulative basis, and (2) GHG emission reductions through the end of 2013 did not need to be recalculated for purposes of assessing the over-issuance.

First, the annual GHG emission reductions were quantified on an annual basis, with the leakage emissions calculated using Version 1.1 of the LK-ASU module for years 2014-2016 (the baseline and project emissions were unchanged from the previously reported and verified values).

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2009-2012	4,958,227.99	460,725.00	1,144.16	4,496,358.83
2013	1,190,498.00	220,328.96	153,899.36	816,269.68
2014	1,107,895.00	192,324.27	143,307.63	772,263.10
2015	1,046,807.00	535,911.65	131,669.30	379,226.05
2016	1,028,258.00	99,388.06	125,365.12	803,504.82
Total	9,331,685.99	1,508,677.94	555,385.58	7,267,622.47

The quantity of VCU's issued in respect of the monitoring period was calculated as follows (calculations are presented for illustrative purposes only and the reader should be aware of rounding differences that may lead to slightly different results from the project calculations, which were conducted in to Excel with values carried to many decimal places):

- Cumulative GHG emission reductions as of the end of the monitoring period: 8,640,828.7 tCO₂e

- Cumulative number of buffer credits as of the end of the monitoring period: 880,974.7 (this is the difference between the cumulative baseline and project emissions as of the end of the monitoring period, multiplied by 10%, calculated as $(10,365,095.0 - 1,555,347.8) * 10\%$)
- Cumulative GHG emission reductions as of the end of 2016: 7,267,622.5 tCO₂e
- Cumulative number of buffer credits as of the end of the 2016: 782,300.8 (this is the difference between the cumulative baseline and project emissions as of the end of 2016, multiplied by 10%, calculated as $(9,331,686.0 - 1,508,677.9) * 10\%$)
- Number of buffer credits relating specifically to the monitoring period: 98,673.9 (this is the difference between the cumulative number of buffer credits as of the end of the monitoring period and as of the end of 2016, calculated as $880,974.7 - 782,300.8$)
- Number of VCUs issued in respect of the monitoring period: 1,274,533.0 (this is calculated by taking the cumulative GHG emission reductions as of the end of the monitoring period and subtracting the cumulative GHG emission reductions as of the end of 2016 and the number of buffer credits relating specifically to the monitoring period, calculated as $8,640,828.7 - 7,267,622.5 - 98,673.9$)

The over-issuance for the years 2014, 2015 and 2016 has been calculated as follows:

Year	Previously Reported Leakage Emissions (tCO ₂ e)	Leakage Emissions As Calculated With LK-ASU V1.1 (tCO ₂ e)*	Over-Issuance (tCO ₂ e)
2014	349.64	143,307.63	142,957.99
2015	325.99	131,669.30	131,343.31
2016	306.83	125,365.12	125,058.29
Total	982.46	400,342.06	399,359.60

APPENDIX A: VERIFICATION FINDINGS

Please see Section 2.5 above for a description of the findings issuance process and the categories of findings issued. It should be noted that all language under “Project Personnel Response” is a verbatim transcription of responses provided to the findings by project personnel.

NCR 1 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 2.2.2

Document Reference: VCS Monitoring Report MDD 2017. final 1; 01. memoria_M&M_jul_2018_v1 (3); validated project description

Finding: The VCS Standard requires the following in Section 3.16.6: “The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template.”

The VCS Monitoring Report Template requires the following in Section 2.2.2: “Describe any project description deviations applied during this monitoring period and explain the reasons for the deviation. Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome.”

During document review and interviews, the audit team has learned of two project description deviations that have not been reported in the MR. While the audit team agrees that each of these deviations is valid, it is required that they be documented in MR according to the requirements of Section 2.2.2 of the VCS Monitoring Report Template.

1. The validated project description states, on page 199, that “For the processing of the selected satellite images Software ENVI 4.7.1® and ArcGis 9.3.1® type will be used.” Through review of Section 2.1.3 of the document “01. memoria_M&M_jul_2018_v1 (3)” and discussion with project personnel during the web-based meeting held on 11 September 2018, the audit team has learned that ENVI software was not used for monitoring. Instead, ERDAS Imagine was used for image processing.

2. The validated project description indicates, on page 199, that supervised classification is to be applied in the update process. During discussion with project personnel during the web-based meeting held on 11 September 2018, the audit team has learned that manual classification was undertaken in lieu of supervised classification.

Project Personnel Response: After the validation of 2012, ERDAS Imagine 2011 was used during all years of verification, instead of the ENVI 4.7 because the GIS staff is more familiar with the use of this software and the result with one or the other is the same for effects of the project objective. Also, version 10.4.1 is used because it is a more updated version.

Auditor Response: As clarified during a follow-up Skype conversation, the audit team understands the nature of the variations relative to the project description. The important thing is that these variations are described in the monitoring report as project description deviations according to the requirements of Section 2.2.2 of the VCS Monitoring Report Template. As this has not been done, the non-conformity has not been resolved.

Project Personnel Response 2: The deviation has been included in the Monitoring Report

Auditor Response 2: The audit team reviewed the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 09 Dic", in order to see if the finding could be closed. The audit team's conclusions are as follows:

1. Regarding the use of ERDAS Imagine for image processing, the deviation is mentioned in Section 2.2.2. However, the reason for use of the deviation is not described (i.e., the reason for using ERDAS Imagine instead of the ENVI software is not given). In addition, it is not clarified whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

2. Regarding the use of manual classification, this deviation is not mentioned in Section 2.2.2.

In addition, a new project description deviation (relating to the guidance around the parameters PROP(IMM) and C(OLB)) is documented in Section 2.2.2. However, a clear description of the deviation, following the guidance of Section 2.2.2, has not been provided. For one thing, it is stated that "It does not affect calculations since C OLB is not included in the LK ASU calculations". This is not true, as the parameter C(OLB) is included in the calculations in Equation 11 of LK-ASU.

For the reasons stated above, the non-conformity has not been fully resolved.

Project Personnel Response 3: Please, see the monitoring report, "VCS Monitoring Report MDD 2017. Post Audit.14 Dic"

1. With respect to the use of ERDAS, it is mentioned in Section 2.2.2 and the use of this software is described. It is clarified that the use of this deviation does not impact the applicability of methodology, additionality or the appropriateness of the baseline scenario. 2. With respect to manual classification, this deviation is mentioned in Section 2.2.2 3. It is explained in the NCR with respect to the parameters PROP (IMM) y C(OLB).

Auditor Response 3: The audit team reviewed the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 16 Dic", to see if the finding could be closed. The findings of the audit team are as follows:

1) The audit team can confirm that additional information is provided regarding the use of ERDAS and the project description deviation has been appropriately described. However, it is still not clearly stated whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

2) The deviation regarding the use of manual classification is still not clearly described.

3) The deviation related to the guidance around the parameters PROP(IMM) and C(OLB) is no longer applied, so This finding has been closed for administrative reasons and replaced with a new finding, NCR 19.

NCR 2 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 2.2.1; M-MON V2.1, Section 6.2

Document Reference: VCS Monitoring Report MDD 2017. final 1

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The VCS Monitoring Report Template requires the following in Section 2.2.1:

"Describe and justify any methodology deviations applied during this monitoring period. Include evidence to demonstrate the following:

- The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.
- The deviations relates only to the criteria and procedures for monitoring or measurement, and do not relate to any other part of the methodology."

During the web-based meeting held 13 September 2018, it was clarified to the audit team that the value of parameter A(RRL,forest,t) has not been updated. This deviates from the guidance of the parameter table for this parameter table in Section 6.2 of M-MON, which requires the following: "Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event". Since verification occurs on a frequency of less than every 5 years (in other words, it occurs more frequently than every 5 years), M-MON states that this parameter must be monitored prior to any verification event. However, the audit team agrees that this deviation is acceptable according to the VCS rules, for the following reasons:

1. It does not negatively impact the conservativeness of the quantification of GHG emission reductions because the parameter A(RRL,forest,t) is not used, either directly or indirectly, in the quantification of GHG emission reductions, and does not need to be monitored until baseline re-assessment.
2. It relates only to the criteria and procedures for monitoring or measurement because it relates to measurement of baseline emissions, as carried out following the BL-UP module.

Nonetheless, there is a non-conformity in that the methodology deviation described above is not reported in Section 2.2.1 of the monitoring report according to the requirements of the VCS Monitoring Report Template.

Project Personnel Response: We write about this deviation in the item 2.2 / 2.2.1 Methodology Deviations in the Monitoring report document. VCS version 3 in the page 17.

Auditor Response: Through review of the revised monitoring report, entitled "VCS Monitoring Report

MDD 2017. Post Audit. 06 Nov", the audit team can confirm that information regarding the methodology deviation has been added to Section 2.2.1. However, the non-conformity has not been fully resolved, for the following reasons:

1. It is stated that "During this monitoring period, we applied methodology deviations from the guidance of the parameter: A (RRL, forest, t)." However, the nature of the deviation is not specifically described.
2. It is stated that "This deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions, and does not need to be monitored until baseline re- assessment". However, this does not constitute a demonstration that the deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.

Project Personnel Response 2: The deviation has been included in the Monitoring Report

Auditor Response 2: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 09 Dic", the audit team can confirm that the nature of the deviation is now clarified. Furthermore, a justification has been provided for the claim that the deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals. Therefore, the non-conformity has been resolved.

NCR 3 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Sections 5.3.1(4) and 3.9.1; M-MON V2.1

Document Reference: DATOS DE MUESTREO CMRA 12_2017 (1); CP EStimation 2017. final

Finding: The VCS Standard requires the following in Section 5.3.1(4): "The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects." Per Section 3.9.1 of the VCS Standard, the materiality threshold 1%, given that the estimated average annual GHG emission reductions are greater than 300,000 tonnes per year. A number of errors in the quantification of GHG emission reductions have been identified that, when assessed together, result in an error rate that exceeds the materiality threshold. These errors are identified below.

1. Equation 17 of M-MON requires that the "Area of roads in stratum i at time t" be multiplied by "Carbon stock in all pools in the baseline case in stratum i". In cells F33 and F35 of worksheet "CLR - Logging Road" of workbook "CP EStimation 2017. final", the area of principal and secondary roads, respectively, for the Terrace Forest stratum have mistakenly been multiplied by the "Carbon stock in all pools in the baseline case " for the Hilly Forest stratum (in cell E29) instead of the corresponding factor for the Terrace Forest stratum.

2. The parameter table for parameter L(SK) in Section 6.2 of M-MON indicates the following: "The length of all skid trails within a stratum i at time t may be estimated through using systematic sampling with a random start of the entire area logged or within a sampled known logged area within the project boundary to produce a conservative estimate of the length of skid trails created. Where sampling is used, the total length of all skid trails can then be equal to the mean length of skid trails per unit area multiplied by the total area logged."

It appears the total length of all skid trails has been calculated through multiplication of the mean length of skid trails per unit area multiplied by the total area logged. This calculation is carried out in cells I37 and I40 of worksheet "CLR - Skid Trail" of workbook "CP EStimation 2017. final" for the "Hilly Forest" and "Terrace" strata, respectively. The input data to these calculations, in columns H and I of the same worksheet, has been multiplied by factors which seem to be intended to calculate a weighted total for the two strata (0.977 for "Hilly Forest" and 0.023 for "Terrace Forest"). While these factors seem to be appropriately applied in column I, the factors are not appropriately applied in column H. The difference is that the data in column I ("Plot Area (ha)") are area values in units of hectares. Assuming that the factors 0.977 and 0.023 are correctly derived, it is appropriate to multiply these by the total PCA area in order to estimate the number of hectares in each stratum that falls within the PCA, such that the sum of the values in cells I37 and I40 is equal to the value from cell F7 of worksheet "PC12" of workbook "DATOS DE MUESTREO CMRA 12_2017 (1)". However, the same is not true for the data in cells H37 and H40. The value of 26.79 is a per-hectare average, not a total, and so it is not appropriate to apportion it between strata in this manner. In addition, such apportioning is not necessary, as the apportioning between strata is already carried out in cells I37 and I40. Therefore, the quantification guidance for parameter L(SK) has not been correctly implemented.

3. As discussed with project personnel during the office meeting on 18 September 2018, the area

values in cells I37 and I40 in worksheet "CLR - Skid Trail" of workbook "CP ESTimation 2017. final" sum to the total PCA area (excluding non-forested areas) of 9,511.91 hectares, which is in cell E88 of worksheet "Viales de Arrastre" of workbook "DATOS DE MUESTREO CMRA 12_2017 (1)". There are two issues with the value of 9,511.91 hectares. The first is that this value appears to have been calculated as including all of the forested area within the boundaries of PCA 12, as shown in the "TB_PC12" shapefile. As discussed with project personnel during the office meeting held 18 September 2018, there is some area within the boundaries of the "TB_PC12" shapefile that is not included within the boundaries of the project area, as indicated in the maps in the validated project description and in the KML file, "KML_844", that was uploaded to the Verra website. Secondly, the audit team learned, during the office meeting held 18 September 2018, that only a subset of the area within PCA 12 was harvested during the monitoring period and, thus, only a subset of the area within PCA 12 was sampled for skid trail measurements (the area sampled was delineated in the grid provided in the shapefile "sub_parcelas cuadrantePC12"). Under these conditions, the area that sample plots were drawn from is considered both the "sampling frame" and the "population" in statistical terms. Therefore, the only correct way to expand the per-hectare length values to a total length is to multiply by the area from which the skid trail sub-plots were drawn.

4. In column C of worksheet "Viales de Arrastre" of workbook "DATOS DE MUESTREO CMRA 12_2017 (1)", the calculations assume that the skid trail sub-plots are 250.0 meters by 250.0 meters. However, in conducting independent measurements of the shapefile "sub_parcelas cuadrantePC12", the audit team has confirmed that the dimensions of each sub-plot are actually 247.4 meters by 249.0 meters.

Project Personnel Response: We change in the excel file CP Estimate 2017. final Corregido NIRs: 1) In CLR Logging road : a) The Area road in plot 12, we multiplicaste by E 33 (Baseline carbon in terrace forest).2) In CLR Skid trail the porcentaje 0.977 and 0.023 are used only in Plot area in cells I 37 and I40.

Auditor Response: The audit team reviewed the revised workbook "CP ESTimation 2017. Post Audit" to see if the finding could be closed. The audit team's conclusions are as follows:

1. In cells F33 and F35 of worksheet "CLR - Logging Road" of the revised workbook, the area of principal and secondary roads, respectively, for the Terrace Forest stratum is now correctly multiplied by the "Carbon stock in all pools in the baseline case " for the Terrace Forest stratum (in cell E33). Therefore, this issue has been resolved.
2. The calculations in cells H37 and H40 of worksheet "CLR - Skid Trail" of the revised workbook no longer include weighting factors relating to the two strata (0.977 for "Hilly Forest" and 0.023 for "Terrace Forest", respectively). Therefore, this issue has been resolved.
3. The area values in cells I37 and I40 in worksheet "CLR - Skid Trail" of the revised workbook now sum to 2,943.52 ha. In support of this area calculation, the audit team has been provided with the GIS shapefile "TB_Area_Intervenida_2017_Bloque_B". Through visual observation, the audit team has confirmed that the shapefile in question only includes the area harvested during 2017, as confirmed through comparison with a shapefile ("arboles_pc12") showing the location of individual trees

harvested during 2017 as well as through comparison with the grid used to select samples for skid trail measurements (as delineated in the shapefile "sub_parcelas cuadrantePC12"). Furthermore, through comparison between this layer and the maps in the validated project description and in the KML file, "KML_844", that was uploaded to the Verra website, the audit team was able to confirm that the boundaries of the revised layer "TB_Area_Intervenida_2017_Bloque_B" do not exceed the boundaries of the validated project area.

4. The audit team did not investigate the response to this item, as the corrections in response to the three items above are such that the discrepancy between the reported GHG emission reductions and the audit team's independent recalculation falls well below the materiality threshold.

Therefore, the non-conformity has been resolved.

NIR 4 Dated 5 Oct 2018

Standard Reference: M-MON V2.1, Section 6.2

Document Reference: CP EStimation 2017. final

Finding: In the parameter table in Section 6.2, M-MON requires the following for the parameter D(j):

“The source of data shall be chosen with priority from higher to lower preference as follows:

- (a) National species-specific or group of species-specific (e.g. from National GHG inventory);
- (b) Species-specific or group of species-specific from neighboring countries with similar conditions. Sometimes (b) may be preferable to (a);
- (c) Global species-specific or group of species-specific (e.g. IPCC 2006 INV GLs AFOLU Chapter 4 Tables 4.13 and 4.14)...

Where using wood densities developed outside of the project country (cases (b) and (c) above under Source of data), wood densities must be validated with either limited destructive sampling or direct measurement of wood hardness (e.g. with a Pilodyn wood tester) in the field and correlating with wood density... Where new species are encountered in the course of monitoring, new wood density values must be sourced from the literature and validated, if necessary, as per requirements and procedures above.”

This means that national species-specific wood densities are preferable to wood densities from neighboring countries or global wood densities, and that wood densities from neighboring countries or global wood densities must be validated using field testing, following the procedures described in the parameter table. The webpage <http://www.tropicaltimber.info/es/specie/mandioqueira-qualea-paraensis/#lower-content> has been cited as the source for the wood density used for Catuaba. From review of the website <http://www.tropicaltimber.info/>, it appears that the source is not specific to Peru but is a global source. Given this, please provide a description of the literature review performed in order to confirm that a wood density for this value could not be sourced from a national species-specific source. In addition, please provide evidence that the wood density value has been validated following the procedures required by M-MON.

Project Personnel Response: Catuaba is the same the Mandioqueira, the different is the local name. You can see this tropical specie in www.tropicaltimber.info/es/specie/mandioqueira-qualea-paraensis/#lower-content

where we can see the natural distribution in Perú.

Auditor Response: While the audit team understands that Catuaba is the same species as Mandioqueira, the issue described in the finding has not been resolved. The issue is that Catuaba (or Mandioqueira) seems to be a newly encountered species (the audit team confirmed that this species was not previously reported as being harvested in prior monitoring periods). If this is the case, then the

requirements of M-MON, as quoted in the finding, apply.

The audit team performed some additional research regarding the source of the 0.64 g/cm³ value cited by <http://www.tropicaltimber.info/es/specie/mandioqueira-qualea-paraensis/#lower-content>. According to the website, this value is from the publication "502 - Physycal [sic] and mechanical properties of the Amazon wood species". The audit team was able to find a copy of this publication online at https://pimads.org/documentos/Format%20project%20technical%20report%20_LPF._732014152728.pdf (accessed 29 November 2018). (The average estimated basic density reported for Mandioqueira, in Table 3 of that publication, is actually 0.65, but this is a separate issue.) Section 2.1 of the publication states that "The 14 wood species selected to the Project were collected... in the municipality of Almeirim/Monte Dourado – State of Pará, Brazil." This confirms that the cited wood density value is "Species-specific... from neighboring countries with similar conditions" and is in category (b). Therefore, the information request remains, if it is desired to continue use of the 0.64 (or 0.65) basic density.

(1) Please provide a description of the literature review performed in order to confirm that a wood density for this value could not be sourced from a national species-specific or group of species-specific source. Or, please provide justification that the value used is preferable to any value from a national species-specific or group of species-specific source, particularly given that the State of Pará is quite a distance from Madre de Dios, Peru.

(2) Please provide evidence that the wood density value has been validated following the procedures required by M-MON.

Project Personnel Response 2: Local information on the species has been reviewed, considering that it is a specie reported for Brazil and Peru. It is locally named Catuaba and it was identified with this name by the dendrologist who carried out the inventory for the PGMF. The University of Madre de Dios (Regional University recognized at national level) has been carrying out investigations on the specie in local terrain and has identified it as *Erismia uncinatum* Warm "Catuaba". It has a density of 0,47 gr/cm³, and therefore the density has been changed in the calculations accordingly. This density is low and conservative. Source: <http://repositorio.unamad.edu.pe/bitstream/handle/UNAMAD/97/004-2-3-022.pdf?sequence=1&isAllowed=y>

Auditor Response 2: Through review of the document available at <http://repositorio.unamad.edu.pe/bitstream/handle/UNAMAD/97/004-2-3-022.pdf?sequence=1&isAllowed=y> (accessed 10 December 2018), the audit team finds that this document appears to be a graduate-level thesis entitled "Determinación de las características anatómicas y propiedades físicas de la madera de las especies *Erismia uncinatum* Warm y *Dacryodes peruviana* (Loes.) H.J. Lam proveniente de la provincia de Tambopata- Madre de Dios". From the page of the thesis entitled "PRESENTACIÓN", it appears that catauba has been identified with the scientific name *Erismia uncinatum* Warm. According to page 51 of the thesis, the study location is a production forest located in Madre de Dios; therefore, the literature source qualifies under category (a) in the parameter table in Section 6.2 of M-MON. Therefore, the wood density value from this source does not need to be validated with limited destructive sampling or direct measurement of wood hardness. Therefore, the information request is not longer relevant and is withdrawn. The audit team can confirm that the value of 0.47 has been correctly transcribed from page 2 of the thesis to cell N23 of the worksheet "CLG - Extracted Timber" of the workbook "CP Estimation 2017. Post Audit (9 de

diciembre)".

NIR 5 Dated 5 Oct 2018

Standard Reference: LK-ASU V1.1, Section 6.2

Document Reference: LK-ASU v2; Leakage Estimations 2017.final.xlsx

Finding: The monitoring schedule for the parameters in LK-ASU is included in Section 6.2.

Parameter C(OLB) must be recalculated “at least every 5 years”. According to the document “LK-ASU v2”, submitted at validation and dated July 2012, the C(OLB) value was 379.779 tCO₂e/ha; this is the same value used in cell A33 of worksheet “ΔCLK-ASU,OLB (2)” of workbook “Leakage Estimations 2017.final.xlsx”. Because 5 years from July 2012 is July 2017, this parameter must be recalculated for the monitoring period ending in 2017.

Parameter PROP(IMM) must be “monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event”; as verification has occurred annually, this parameter must be monitored annually, prior to each verification event. According to the document “LK-ASU v2”, submitted at validation and dated July 2012, the PROP(IMM) value was 0.18; this is the same value used in cell D41 of worksheet “ΔCLK-ASU,OLB (2)” of workbook “Leakage Estimations 2017.final.xlsx”.

Please provide evidence that parameters C(OLB) and PROP(IMM) have been monitored as required by LK-ASU.

Project Personnel Response: The parameter C OLB and the PROP IMM, must be recalculate at least every 5 years. The validation was on 5 october 2012 and the document pdd validation had this date on september 2012, for that, we establected that the inical parameters is incluiyed this year 2017. The inical process of monitoring to this year 2017 was propos in july 2017, by differents audit circunstans change the inical date. For that, we suggesting reviwie and incloud this year 2017 to these 5 years (2012-2017). https://vcsprojectdatabase.org/#!/project_details/844

Auditor Response: As clarified during a follow-up Skype conversation, the requirement is to conduct monitoring every five years. This requirement does not have anything to do with the durations of the monitoring periods involved. Therefore, the information request remains relevant.

Project Personnel Response 2: The deviation has been written down in the Monitoring Report.

Auditor Response 2: As a methodology deviation has been applied, the information request is no longer relevant and will be withdrawn.

NCR 6 Dated 5 Oct 2018**Standard Reference:** REDD-MF V1.2**Document Reference:** VCS Monitoring Report MDD 2017. final 1**Finding:** REDD-MF states, in page 4, that “This Framework requires the use of the latest approved versions of the following modules and tools...”

Through review of Section 1.8 of the monitoring report against the latest approved versions of the modules and tools as found on the Verra website (<https://verra.org/methodology/vm0007-redd-methodology-framework-redd-mf-v1-5/>, last accessed 28 September 2018, under “Modules”), the audit team has identified the following modules and tools for which the latest approved versions are not being used, according to the monitoring report:

- CP-AB (the monitoring report indicates that Version 1.0 is being used)
- CP-W (the monitoring report indicates that Version 1.1 is being used, but note that CP-W should not be used at all, since it was not used in the validated PD)
- BL-UP (the monitoring report indicates that Version 2.0 is being used)
- X-STR (the monitoring report indicates that Version 1.0 is being used)
- X-UNC (the monitoring report indicates that Version 2.1 is being used)

Project Personnel Response: We have not been able to check version 1.2 on the web, it is not available, and in the historical document we couldn't find that, however we check the indicated modules and their updates so we indicate: 1) In CP-AB 1.0 and the updated 1.1. The variation is observed in equation 10, lime refers to the calculation of carbon in non-arboreal vegetation above the ground. According to PD pages 146 and 128, it can be seen that this pool has not been considered in the calculations. The version was updated to V1.1. 2) In CP-W should not be validated in PD. CP-W was removed from the calculations. and the monitoring report. 3) In BL-UP it was validated with V 3.0, the last version is V.3.2. The changes in this module were:

a) In v 3.1. The module was revised to account for a decay of carbon from the belowground biomass, dead wood, soil carbon and harvested wood products pools and the following revisions were made:

- Equations 16 to 22 account for the carbon stock change in each pool separately
- In equations 23 and 24, the carbon stock is emitted annually over 10 years for belowground biomass and dead wood and emitted annually over 20 years for soil carbon and the harvested wood products portion that will be emitted before year 100.

En el PD validado como se observa en las paginas 146 y 128, solo se consideró carbono en árboles y raíces, y para la biomasa subterránea estamos dentro de los 10 años.

b) In 3.2 The module was revised to remove the applicability condition, “it shall be demonstrated that post-deforestation land use shall not constitute reforestation”.

This does not constitute an implication in the project. It is varied and updated to V 3.2 of the BL-up in

the monitoring report

3) In X-STR the V 1.0 was used, the update of the version implies pedestrian activities. This does not constitute an implication in the project. It was updated with version V 1.1 in the monitoring report. 4) In X-UNC the last one registered is 2.1 and the difference with version 2.0, validated version, is that the last one includes uncertainty in areas of mobs in the baseline. This does not constitute an implication in the project. It was updated with V 2.1 in the monitoring report.

We do not consider that modules corresponding to baseline should be updated, however the changes for the project are not binding.

Auditor Response: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 06 Nov", the audit team can confirm the following regarding the list of modules presented in Section 1.8:

- For CP-AB, the MR indicates that Version 1.1 is being used
- The reference to CP-W has been removed
- For BL-UP, the MR indicates that Version 3.2 is being used
- For X-STR, the MR indicates that Version 1.1 is being used)
- For X-UNC, the MR indicates that Version 2.1 is being used (Version 2.1 is the most up-to-date version; Version 2.0 is actually the version that was listed in the prior version of the monitoring report)

Therefore, the non-conformity has been resolved.

NCR 7 Dated 5 Oct 2018

Standard Reference: REDD-MF V1.2

Document Reference: VCUs Estimation 2017 . Final

Finding: All of the equations in REDD-MF, through Equation 7, calculate GHG emission reductions on a cumulative basis (i.e., the quantities used in these equations correspond to the total number of emissions, emissions reductions and numbers of buffer credits from the project start date until the end of the monitoring period). Likewise, the quantities from the various modules and tools that are inputs to these equations are total quantities corresponding to the entire period of time from the project start date to the end of the monitoring period. This is inconsistent with the quantification approach required by REDD-MF.

Project Personnel Response: In equations 1 to 7 it refers to the estimation of total greenhouse gases reduced in baseline and leakage, in a period T. For our case, period t is the year 2017. That is what has been estimated.

Auditor Response: As clarified during a follow-up Skype conversation, the word "total", in this case, means the total quantity from the project start until the end of the monitoring period. In contrast, the project calculations simply involve quantification for the year of the monitoring period. Therefore, they do not follow the methodology.

Project Personnel Response 2: The data were recalculated, according to the methodology. See Excel file: VCUs Estimation20017. Post Audit

Auditor Response 2: Through review of the document "VCUs Estimation 2017 . Post Audit", the audit team can confirm that a good-faith effort has been undertaken to calculate the GHG emission reductions on a cumulative basis, as required by the methodology. However, the following two issues remain outstanding:

1. A discrepancy has been identified regarding the calculation of cumulative carbon stock changes in the project scenario. Cell F14 in the worksheet "VCUs" references the workbook "VCUs anuales totales 2", which includes a reporting of previous carbon stock changes in the project scenario, symbolized by parameter C(P). However, in cell F7 of the "Hoja1" worksheet in "VCUs anuales totales 2", there appears to be a transcription error whereby the value 220,328.96 has been transcribed as 220,398.96.
2. The quantification of leakage emissions has not been revised. Following the guidance of Equation 11, leakage emissions from shifting of deforestation activities outside the leakage belt are calculated by calculating the cumulative area to which deforestation activities have been displaced (from project commencement to the end of the monitoring period) and multiplying by the area-weighted carbon stock outside the leakage belt. The calculation of leakage emissions has not been revised to reflect the need to perform this calculation on a cumulative basis.

Project Personnel Response 3: In the Excel VCUs Estimation 2017 16 Dic. The following changes have been carried out: 1. modification of number 220,328.96/2 2. Recalculation of LK ASU with acumulative data since the start date of the project.

Auditor Response 3: Through review of the revised workbook, entitled "VCUs Estimation 2017.Post Audit 16 dic.final", the audit team was able to confirm that the indicated changes were made. The revised calculation for parameter C(P) is now more similar to the calculation of the audit team; while a difference remains, that difference is no longer material. In addition, through review of the workbook entitled "Leakage Estimations 2017. Post Audit. 16 dic", the audit team has been able to confirm that the calculation of leakage emissions is now carried out on a cumulative basis, as required. The non-conformity has been resolved.

NCR 8 Dated 5 Oct 2018

Standard Reference: X-UNC V2.1, Section 5.5

Document Reference: Uncertainty Analysis 2017. final

Finding: Equation 15 of X-UNC V2.1 provides guidance for how uncertainties are to be combined. The calculation of uncertainty, in cell B8 of worksheet "Total Uncertainty" of workbook "Uncertainty Analysis 2017. Final", does not follow this guidance. Rather, the calculation follows the guidance of Equation 6 of X-UNC V2.0. As noted in page 4 of REDD-MF, the "latest approved versions" of each module must be used.

Project Personnel Response: The difference between both versions as indicated is the incorporation of activities in peat areas, which does not apply to our project. This is also mentioned in the history of the document. Therefore, we continue to apply the uncertainty of version 2.0, which is the one that fits our project. In addition, these uncertainties apply to the baseline, the baseline will only be updated to the tenth year.

Auditor Response: It is true that Equation 15 in V2.1 of X-UNC contains guidance to calculate uncertainty for WRC projects, which is not relevant here. However, the other difference between equations, which is relevant, is that Equation 6 of X-UNC V2.0 combined uncertainties by adding the squared percentage uncertainties. Equation 15 of X-UNC V2.1, by contrast, effectively combines uncertainties by adding the square uncertainties in unit of tCO₂e, because the percent uncertainties are multiplied by the respective uncertain quantities within the equation. Because Equation 15 of X-UNC V2.1 has not been followed, the non-conformity has not been resolved.

Project Personnel Response 2: The data (X-UNC) were recalculated employing the last formulas. Uncertainty Analysis 2017. Post Audit

Auditor Response 2: Through review of the document "Uncertainty Analysis 2017.Post Audit.final", the audit team can confirm that uncertainty has been calculated according to the requirements of Version 2.1 of X-UNC in cell B11 of the "Total Uncertainty" worksheet. Therefore, the non-conformity has been resolved.

NCR 9 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Sections 3.1.1 and 2.4.1; M-MON V2.1, Section 6.2

Document Reference: CP EStimation 2017. final

Finding: Section 3.1.1 of the VCS Standard requires that “Projects shall be guided by the principles set out in Section 2.4.1.” The principle of consistency, as defined in Section 2.4.1 of the VCS Standard, requires that projects “Enable meaningful comparisons in GHG-related information”. The principle of conservativeness, as defined in the same section, requires that projects “Use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated.”

Chart 18 of the validated project description indicates that the harvested wood products carbon pool is excluded from the project boundary. Section 2.1 of the PD indicates that the module CP-W (“Estimation of carbon stocks in the long-term wood products pool”) has been excluded. Furthermore, review of the quantification of baseline emissions (as assessed at validation) confirms that the carbon in the harvested wood products pool has not been accounted for in quantifying such emissions. However, it appears that carbon in the harvested wood products pool has been included in the calculation of emissions in the project scenario, in column K of the worksheet “ $\Delta C_p, \text{degPA}, i, t$ (total)” of the workbook “CP EStimation 2017. final”. This violates the principle of consistency because the harvested wood products is included in the project boundary for purposes of project-scenario calculations but not for purposes of baseline-scenario calculations, so meaningful comparison of emissions between scenarios is precluded. It also violates the principle of conservativeness because it is not conservative to include calculation of carbon in harvested wood products in the project scenario where the calculation of harvested wood products has not been included in the baseline scenario.

Project Personnel Response: The CP-W calculations were removed from the excel sheet and calculations, to be consistent with the baseline.

Auditor Response: Through review of column K of the worksheet “ $\Delta C_p, \text{degPA}, i, t$ (total)” of the workbook “CP EStimation 2017. Post Audit”, the audit team can confirm that carbon in the harvested wood products pool is no longer included in the calculation of emissions in the project scenario. Therefore, the non-conformity has been resolved.

NCR 10 Dated 5 Oct 2018

Standard Reference: AFOLU Non-Permanence Risk Tool V3.3, Sections 2.2.3 and 2.2.4

Document Reference: VCS NonPermRisk 2017 .final

Finding: In Section 2.2.3 of the AFOLU Non-Permanence Risk Tool ("the Tool"), a mitigation score of -8 is allowed under item (i) if "Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years". Section 2.2.4 of the Tool, which deals with the project longevity score, states (in sub-section 5) that "Legal agreement or requirement to continue the management practice refers to any legally enforceable agreement or requirement, such as a conservation easement or protected area law that would require the continuation of the management practice that sequesters carbon or avoids emissions for the entire project longevity... Any project with a legally binding agreement that covers at least a 100 year period from the project start date shall be assigned a score of zero for project longevity."

The NPRR indicates a mitigation score of -8 under item (i) for opportunity cost, stating that "The project is developed in an area that is determined by law as a permanent productive forest (PPF)". For project longevity, a score of 11 is given, which appears to relate to the fact that the concessions are 40 years in duration. However, as indicated in the language quoted above, if the project has been designated from the project start date as a permanent productive forest and if such designation requires the avoidance of emissions by keeping the project area in a forested state then, according to the rules quoted above, a score of zero must be assigned for project longevity. Therefore, a score of zero should be assigned for project longevity. In addition, also under opportunity cost, a mitigation score of (h) is not claimed in spite of the fact that, if the project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years, then it is inherently true that the project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period.

Project Personnel Response: Project Longevity and Opportunity Cost have been changed. Updated overall Internal Risk = 0

Auditor Response: Through review of the revised non-permanence risk report, entitled "VCS NonPermRisk 2017 Post Audit", the audit team can confirm that a score of zero has been correctly assigned for project longevity in Section 1. However, under opportunity cost in Section 1, a mitigation score of (h) is still not claimed in spite of the fact that, if the project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years, then it is inherently true that the project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period. Therefore, the non-conformity has not been fully resolved.

Project Personnel Response 2: The mitigation score in opportunity cost, section 1 (h), has been claimed. Find updated Risk Report attached.

Auditor Response 2: Through review of the revised non-permanence risk report, entitled "VCS NonPermRisk 2017 v3 post audit.09 Dic", the audit team can confirm that, under opportunity cost in Section 1, a mitigation score of (h) has been claimed, which has resulted in a consistent application of

the guidance of the AFOLU Non-Permanence Risk Tool. Therefore, the non-conformity has been fully resolved.

NCR 11 Dated 5 Oct 2018

Standard Reference: AFOLU Non-Permanence Risk Tool V3.3, Sections 2.2.3 and 2.2.4

Document Reference: VCS NonPermRisk 2017 .final

Finding: In Section 2.2.1 of the AFOLU Non-Permanence Risk Tool ("the Tool"), a score of 2 is required under item (b) if "Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued." Section 2.2.1(4) clarifies that "Ongoing enforcement refers to the need to protect carbon stocks in the project area from encroachment by outside actors, for example, where a REDD project faces risk from outside actors entering the project area for the purposes of illegal logging."

On the basis of field observations made during the September 2018 site visit and prior site visits, the audit team understands that ongoing enforcement (e.g., maintenance of guard posts) is required to ensure protect the carbon stocks that are the basis for all of the credits that have been issued (i.e., the carbon stocks that would have been negatively impacted by land invasion and deforestation under the baseline scenario). Therefore, a risk score of 2 is required.

Project Personnel Response: Tha risk has been updated in Section "Project Management"

Auditor Response: Through review of Section 1 of the revised non-permanence risk report, entitled "VCS NonPermRisk 2017 Post Audit", the audit team can confirm that a risk score of 2 is appropriately applied. Therefore, the non-conformity has been resolved.

NCR 12 Dated 5 Oct 2018

Standard Reference: AFOLU Non-Permanence Risk Tool V3.3, Sections 2.3.3(1)

Document Reference: VCS NonPermRisk 2017 .final

Finding: Section 2.3.3(1) of the AFOLU Non-Permanence Risk Tool requires that “A governance score (of between -2.5 and 2.5) shall be calculated from the mean of Governance Scores across the six indicators of the World Bank Institute’s Worldwide Governance Indicators (WGI), averaged over the most recent five years of available data.” As confirmed through review of the Worldwide Governance Indicators webpage (<https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators>, accessed 5 October 2018), the most recent five years of available data are the years 2011-2016. The non-permanence risk report indicates that “The Peruvian “Governance score” is -0.22 for the period 2010-2014 (last 5 years data available currently).”

Project Personnel Response: The score has been updated (-0.1789) using data from the period 2012-2016

Auditor Response: While the Worldwide Governance Indicators data was further updated since the time the finding was issued (and data from 2012-2017 was available as of 30 November 2018), it is considered to still be appropriate to make use of the data from 2011-2016, since that was the most recent available time frame at the time that the risk analysis was conducted. In addition, the difference between the -0.18 value and the audit team's independently recalculated value using the 2012-2017 data is immaterial. Therefore, the non-conformity has been resolved.

NCR 13 Dated 5 Oct 2018

Standard Reference: VCS Non-Permanence Risk Report Template V3.1

Document Reference: VCS NonPermRisk 2017 .final

Finding: The VCS Non-Permanence Risk Report Template requires that the “VCS project database ID, if registered” be indicated in the box under “Project ID” in the title page. The VCS project database ID has not been indicated. The Template also requires that the monitoring period be indicated under “Monitoring Period” in the following format: “DD-Month-YYYY to DD-Month-YYYY”. The monitoring period has not been indicated in the required format.

Project Personnel Response: The ID and monitoring period has been included in the title page

Auditor Response: Through review of the cover page of the revised non-permanence risk report, entitled "VCS NonPermRisk 2017 Post Audit", the audit team can confirm that the project ID and monitoring period dates are now provided. Therefore, the non-conformity has been resolved.

NCR 14 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Section 2.2.1

Document Reference: VCS Monitoring Report MDD 2017. final 1

Finding: Section 2.2.1 of the VCS Standard requires that “The operating language of the VCS Program is English. The project and program description, validation report, monitoring report, verification report and all other documentation (including all and any appendices) required under the VCS Program shall be in English.” The following non-English terminology has been used in the monitoring report:

Under “Date of Issue” on the cover page of the monitoring report, the Spanish word “julio” is used to indicate the month of issue.

Project Personnel Response: We change the spanish word.

Auditor Response: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 06 Nov", the audit team can confirm that the date of issue as indicated on the cover page is provided in English. Therefore, the non-conformity has been resolved.

NCR 15 Dated 5 Oct 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6

Document Reference: VCS Monitoring Report MDD 2017. final 1

Finding: Section 3.16.6 of the VCS Standard requires that “The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template.”

The instructional text of the VCS Monitoring Report Template (“the Template”) requires that a “Report ID” must be indicated in the box on the cover page. The required ID has not been provided.

The instructional text within Section 2.1 of the Template requires the following: “Describe the implementation status of the project activity(s), include information on the following... The operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring.” The timber harvest within the project area during the monitoring period has impacted the GHG emission reductions or removals and monitoring, but this timber harvest is not reported in Section 2.1 of the monitoring report template.

The instructional text within Section 2.1 of the Template also requires the following: “Describe the implementation status of the project activity(s), include information on the following... Where applicable, describe how leakage and non-permanence risk factors are being monitored and managed for AFOLU projects.” The monitoring report does not describe how leakage and non-permanence risk factors are being monitored and managed.

The instructional text within Section 2.4.2 of the Template requires the following: “Describe the process for, and the outcomes from, ongoing communication with local stakeholders conducted prior to verification. Include details on the following... The procedures or methods used for documenting the outcomes of the local stakeholder communication... How due account of all and any input received during ongoing communication has been taken. Include details on any updates to the project design or justify why updates are not appropriate.” While the monitoring report documents ongoing communication with local stakeholders, the outcomes of this communication, including whether any input received resulted in updates to the project design, are not clearly described.

Project Personnel Response: In relation to section 2.4.2.

Communications with the parties of the social projects are constant through e-mail and telephone calls. Likewise, when the process involves making decisions or defining activities, in addition to permanent communication, meetings are held with records recording the conversations or agreements made with each stakeholder of each project.

All the adjustments of the social projects are by criteria and in constant dialogue with the beneficiaries, where often these adjustments that refer mainly to terms or actions, are by initiative of the owner or for better use of opportunities.

The results and activities are shared with the holders and interest group of the social sphere, the latter

through informative workshops, where the Redd objectives are disseminated and social participation is promoted, likewise comments or recommendations are received that until now are good opinions of the friendly projects where they suggest to continue with the activities and the diffusion, for example, the Forest for Children of Villa Primavera was commented as a model to spread and replicate. One effect of taking this into account is that in 2018 the Noaya Forest for Children is planned as a new friendly project. Another aspect collected is the reforestation initiatives that for 2018 a new project was identified.

The program disseminates and constantly feeds through the contact of the social facilitator with the projects working according to it and in compliance with the program's objectives.

In relation to Non permanence risk factors: "In the case of the Non-permanence risk factors, we know by the Risk Report that these factors are reduced to a few ones. One of these is potential illegal logging. As said in this Monitoring Report, we have a Custody Plan and, so, patrols are done and registered in a annual Report. As part of this Custody Plan we have control posts installed in the perimeter of the concession, where any unusual event will be immediately reported.

All other factors included in the Risk Report is evaluated according to each category. For example the country's risk analysis is done annually, taking in to account the last 5 years data."

In relation to monitoring leakage. According to what is indicated in the Descriptive Report ("Mapping of deforestation and land use of the project area and leakage belt of the Maderacre & Maderya concession in the Madre de Dios department for the 2016-2017 year") , the visual interpretation of the satellite image was made and then the changes of the (arboreal) coverage to some type of use, was determined. Next step, consisted in the accuracy assessment which was made using data collected in the field and related to the interpretation of the image. The adjustments were done and the result was presented.

All these is writed in the monitoring report

Auditor Response: The audit team reviewed the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 06 Nov", in order to see if the finding could be closed. The audit team's conclusions are as follows:

1. A "Report ID" is still not indicated in the box on the cover page. As discussed with project personnel, the VCS rules do not specify a particular format for the Report ID, but it is still required that some sort of identifier be provided. The required ID has not been provided.
2. The timber harvest within the project area during the monitoring period is still not reported in Section 2.1 of the monitoring report template.
3. Section 2.1 does contain an appropriate description of how leakage and non-permanence risk factors are being monitored and managed.
4. Section 2.4.2 contains a more detailed description of how the outcomes of communication with stakeholders was used to inform the project design, including examples of where input received resulted in updates to the project design.

In conclusion, this finding remains open because items #1 and #2 above have not been fully addressed. In addition, a new non-conformity to the requirements of the VCS Monitoring Report

Template ("the Template") has been identified. Section 1.2 of the Template requires the following: Provide a summary description of the implementation status of the project, including the following (no more than one page)... The total GHG emission reductions or removals generated in this monitoring period". The monitoring report states that "To this period 2017 with buffer was 766,771.08 t CO₂-e and with out buffer was 862,605.90 t CO₂-e." This is not a complete sentence and does not clearly state the total GHG emission reductions or removals generated in the monitoring period. In addition, Section 1.1 of the monitoring report is over one page, when the Template requires that the content of Section 1.1 be no more than one page.

Project Personnel Response 2: The Monitoring Report was reviewed accordingly.

Auditor Response 2: The audit team reviewed the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 09 Dic", in order to see if the finding could be closed. The audit team's conclusions are as follows:

1. A "Report ID" is indicated in the box on the cover page.
2. Regarding timber harvest, the monitoring report states the following in Section 2.1: "With regards to wood harvesting or use of wood, it must be indicated that the carbon contained in the harvested wood is accounted for in the Excel Cp Estimation, and is part of the carbon emissions caused by degradation by use of wood CLG." This constitutes "any information on events that may impact the GHG emission reductions or removals and monitoring" and is sufficient to fulfill the requirement.
5. Section 1.1 of the monitoring report is no longer than one page.
6. The total GHG emission reductions or removals generated in this monitoring period are clearly stated in Section 1.1 of the monitoring report.

Therefore, the non-conformity has been fully resolved.

NIR 16 Dated 30 Nov 2018

Standard Reference: VCS Standard V3.7, Section 3.18.3

Document Reference: N/A

Finding: Section 3.18.3 of the VCS Standard requires the following: "For verification, the project proponent shall make available to the validation/verification body the project description, validation report, monitoring report applicable to the monitoring period and any requested supporting information and data needed to evidence statements and data in the monitoring report."

Please provide the following supporting data needed to evidence statements and data in the monitoring report:

1. Photographic evidence of field verification of areas that have been deforested in the leakage belt
2. A "Leakage Belt Forest Cover Monitoring Map", defined by M-MON as "Map showing the location of forest land within the leakage belt area at the beginning of each monitoring period" (i.e., the forest land within the leakage belt as of the end of the 2016 monitoring period)
3. A GIS layer that shows the strata in the project area (this should be the same layer that was intersected with the layer for PCA 12 to produce the calculated areas in the following table from the worksheet "PC12" in the workbook "DATOS DE MUESTREO CMRA 12_2017 (1)")

Project Personnel Response: 1.- Photographic evidence of the verification carried out in the field is sent. 2.- "Leakage belt forest cover monitoring map" is sent. 3.- The Shape from PCA 12 area and types of forest and areas employed during this period was sent. Attached is the map and shape of the administrative divisions.

Both the old administrative divisions and current ones for Maderacre and Maderyja are included. It is important to mention that the administrative division of Maderacre was modified in 2014 and Maderyja's in 2011.

The map for the division of PCA 12 in Maderacre is also included.

Auditor Response: The audit team received the requested information attached to an email sent 9 July 2019. Therefore, the information request has been satisfied.

NCR 17 Dated 10 Dec 2018

Standard Reference: X-UNC V2.1, Section 5.5

Document Reference: Uncertainty Analysis 2017.Post Audit.final

Finding: Section 6 of X-UNC states the following: "The allowable uncertainty in this methodology REDD-MF is +/- 15% of NERREDD+ at the 95% confidence level. Where this precision level is met then no deduction should result for uncertainty." Equation 16 of X-UNC provides a method for adjusting for uncertainty but, when combined with the text quoted above, it appears clear that an adjustment for uncertainty (as calculated in Equation 16) should only be made if uncertainty is over 15%.

In cell I14 of the worksheet "VCUs" in the workbook "VCUs Estimation 2017 . Post Audit", Equation 16 of X-UNC has been implemented even though the calculated uncertainty is less than 15%. The effect of this is that the quantity in cell I14 is greater than the quantity in cell H14, which runs counter to the guidance of X-UNC and has resulted in a material error.

Project Personnel Response: 1.- Equation 16 X-UNC was changed as requested. See Excel VCUs Estimation 2017 Post Audit. 16 Dic.

Auditor Response: Through review of the revised workbook, entitled "VCUs Estimation 2017.Post Audit 16 dic.final", the audit team can confirm that the quantities in cell H4 and I4 of worksheet "VCUs" are now equal, such that no adjustment for uncertainty has been made. The non-conformity has been resolved.

NCR 18 Dated 10 Dec 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 2.2.1; M-MON V2.1, Section 6.2

Document Reference: VCS Monitoring Report MDD 2017. final 1

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The VCS Monitoring Report Template requires the following in Section 2.2.1:

"Describe and justify any methodology deviations applied during this monitoring period. Include evidence to demonstrate the following:

- The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.
- The deviations relates only to the criteria and procedures for monitoring or measurement, and do not relate to any other part of the methodology."

A deviation has apparently been applied to the guidance for monitoring of parameters PROP(IMM) and C(OLB) in LK-ASU. This deviation is documented in Section 2.2.2 of the monitoring report. However, because it is a deviation to the methodology (in addition to a deviation to the project description), it must also be described and justified following the guidance of Section 2.2.1 of the VCS Monitoring Report Template. This has not been done.

Project Personnel Response: Parameters were changed according to Population Census 2017 (<http://censos2017.inei.gob.pe/redatam/>) and carbon data from the Ministry of Agriculture (http://www.bosques.gob.pe/archivo/7220e0_libro_carbono.pdf). See Excel Leakage Estimation 2017. Post Audit .16 Dic

Auditor Response: Through review of the revised workbook, entitled "Leakage Estimations 2017. Post Audit. 16 dic", the audit team was able to confirm that the parameters PROP(IMM) and C(OLB) are now monitored as required by the methodology. Therefore, a methodology deviation has not been applied, and this finding may be withdrawn.

NCR 19 Dated 19 Dec 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 2.2.2

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. 09 Dic; validated project description

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The VCS Monitoring Report Template requires the following in Section 2.2.2: "Describe any project description deviations applied during this monitoring period and explain the reasons for the deviation. Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome."

The audit team has the following concerns regarding the reporting of project description deviations in the monitoring report.

1. The validated project description states, on page 199, that "For the processing of the selected satellite images Software ENVI 4.7.1® and ArcGis 9.3.1® type will be used." Through review of Section 2.1.3 of the document "01. memoria_M&M_jul_2018_v1 (3)" and discussion with project personnel during the web-based meeting held on 11 September 2018, the audit team has learned that ENVI software was not used for monitoring. Instead, ERDAS Imagine was used for image processing. The deviation is described in the monitoring report. However, it is not clarified whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

2. The validated project description indicates, on page 199, that supervised classification is to be applied in the update process. During discussion with project personnel during the web-based meeting held on 11 September 2018, the audit team has learned that manual classification was undertaken in lieu of supervised classification. This deviation is not clearly described as a deviation within the monitoring report.

Project Personnel Response: 1) For the processing of satellite images the software employed was ERDAS IMAGE 2011 and not the software ENVI 4.7.1 and ArcGIS 9.3.1. Therefore, there is no deviation. ERDAS IMAGINE has been used during the whole life of the project for the processing of the images, since the GIS specialist is most familiarized with this software. We have never used ENVI.

2) For the identification of the changes in forest cover, the visual methodology interpretation of the elements in the surface was employed (identification of visual interpretation patterns such as shape, colour, tone, texture, spatial pattern, shadow, among others. Supervised classification was not employed.

Auditor Response: While the audit team appreciates that manual classification was undertaken in carrying out the image interpretation used in the original baseline analysis, the audit team does not agree that a project description deviation has not been employed. The monitoring methods undertaken are different from those described in the project description. Therefore, by definition, a project description deviation has been employed. The non-conformity has not been resolved.

Project Personnel Response 2: We enclosed this project description deviation in the monitoring report. 1. Regarding this observation, ERDAS IMAGINE software has been used since the beginning basically for image processing, specifically for geometric and radiometric correction (spatial precision and enhancement of image for visual interpretation), this is mentioned "01 .M & M_jul_2018_v1 (3) memory. "ENVI was not used at any time. Baseline starts with ERDAS IMAGEN and we continued using this software for purposes mentioned before. Therefore, there is no deviation impacts the applicability of the methodology, additionally or the appropriateness of the baseline scenario.

2. Regarding the methodology of image interpretation, "Visual Interpretation" has been used since the start date of the project, not the "Supervised Classification" which is a type of digital interpretation. This is indicated also in "01 .M & M_jul_2018_v1 (3) memory, specifically in the summary section, in more detail in items 3.2.1., 3.2.2. and 3.2.5. This methodology was also the same that was used since the beginning, in the creation of the baseline of the project. The project has never worked with supervised classification. Therefore, it does not affect the applicability of the methodology. This methodological process is described in detail in the items indicated.

Auditor Response 2: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. Julio", the audit team can confirm that the nature of the deviation is now clarified. Therefore, the non-conformity has been resolved.

NCR 20 Dated 19 Dec 2018

Standard Reference: LK-ASU V1.1, Section 6.2

Document Reference: Leakage Estimations 2017. Post Audit. 16 dic

Finding: According to LK-ASU, parameter PROP(IMM) has been defined as "proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years (all areas within 2 km of the boundaries of the project area and the leakage belt shall be considered here)". In cell O4 of worksheet "Población Iñapari" of workbook "Leakage Estimations 2017. Post Audit. 16 dic", a proportion of 0.04 has been calculated for this parameter. In discussion with project personnel, the audit team understands that this parameter has been calculated by first determining the number of people in Inapari that are most likely to carry out deforestation activities, and then dividing this number by the total number of people in Inapari. The calculation approach undertaken is theoretically unsound because it does not accurately reflect the proportion of the project area and leakage belt deforested in the last five years that is deforested by people who have migrated in within the last five years. If population data is to be used as a proxy for the proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years, it is inappropriate to only consider those individuals most likely to deforest in calculation of the numerator.

Project Personnel Response: Updated information from the National Institute of Statistics and Information (Instituto Nacional de Estadística e Información-INEI) was employed. Data for Inapari for PEA (Economically Active Population) and the total of this PEA that corresponded to agricultors was available. Also, the percentage of the PEA that did not live in the Inapari district 5 years ago, has been taken from the relationship between the PEA that did not live in Inapari 5 years ago vs the PEA total population. That same percentage was employed to determine which percentage of the agricultors did not live in the Inapari district 5 years ago and that it is assumed are deforesters.

Auditor Response: Through review of the revised calculations, in the workbook "Leakage Estimations 2017. Post Audit. Junio", the audit team is unable to conclude that the revised calculation of PROP(IMM) is methodologically sound.

As seen in cell K3 of the "Pro imm" worksheet, the revised calculation appears to multiply the proportion of individuals in Inapari who have been resident less than five years, according to the 2017 census, by the proportion of the population that is engaged in forestry or agriculture work. The two respective proportions are 0.39 and 0.07. The resulting estimate for the "proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years", at roughly 3%, seems intuitively far too low. The reason this value is so low is the multiplication by the proportion of the population that is engaged in forestry or agriculture work, which is incorrect. If the population that has been resident for less than five years is to be used as a proxy for the "proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years", and in the absence of specific information regarding the proportion of the population most likely to deforest that has been resident for less than five years, the only correct way to estimate the "proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years" is to take the proportion of the population that has been resident for less than five years--any reduction of this proportion is not

methodologically sound.

Therefore, the non-conformity has not been resolved.

Project Personnel Response 2: As the main driver for deforestation in our region is agriculture, we used the number of population engaged in agriculture in Iñapari in the last census, compared to the total working population, this is 7%. So this % is multilied by the increase of population in Iñapari over the last years (39%). The increase of the population in Iñapari has been absorbed by the industry developed around the responsible forest management carried out by the FSC certified concessions in Iñapari. This can be seen in the Maderacre and Maderyja payroll, which is consistent with the ammount of industrial workers and administrative people reported in the last census in Iñapari mentioned above. The population dedicated to agriculture has also decreased from the census before to the last one. REDD has also helped to keep the forest management model working, which contributed to absorb the migration to Iñapari.

Auditor Response 2: While the audit team continues to have questions regarding the propriety of the method of calculating PROP(IMM), the audit team was able to review supplementary documentation which provided support for the assertions that the increase in population has been, in large part, due to the increased employment opportunities associated with project activities and that there has been a steep decline in the number of people engaged in agriculture within Inapari. This supporting information provides additional confirmation that the calculated value for PROPM(IMM) is conservative, irrespective of whether the calculation method is appropriate. Therefore, this finding will be closed. Additional detail may be found in the verification report and the audit team's internal working papers.

NCR 21 Dated 19 Dec 2018

Standard Reference: REDD-MF V1.2, Equation 8

Document Reference: VCUs Estimation 2017.Post Audit 16 dic.final

Finding: Equation 8 from REDD-MF suggests that the cumulative GHG emission reductions from the previous monitoring period should be subtracted from those of the current monitoring period to determine the "annual" GHG emission reductions for the current monitoring period. This has not been done.

Project Personnel Response: It has been modified and re-calculated accordingly in the Excel file. All calculations are cumulative.

Auditor Response: Through review of the revised calculations, in the workbooks "CP Estimation 2017. Post Audit. Junio", "Leakage Estimations 2017. Post Audit. Junio", "Uncertainty Analysis 2017.Post Audit. Junio" and "VCUs Estimation 2017.Post Audit Junio.final 2", the audit team has been able to confirm that the quantification of GHG emission reductions has been updated so as to be carried out on a cumulative basis. Therefore, the non-conformity has been resolved.

NCR 22 Dated 19 Dec 2018

Standard Reference: LK-ASU V1.1, Section 6.2

Document Reference: Leakage Estimations 2017. Post Audit. 16 dic

Finding: According to LK-ASU, parameter C(OLB) has been defined as "Area-weighted average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt". In Section 6.1, the following guidance is provided regarding how this parameter is to be calculated:

"Areas included in the calculation of COLB shall be limited to areas demonstrated to be suitable for agriculture or livestock ranching. Demonstration shall be through existing areas of agriculture or livestock ranching on adjacent lands with the same soil type and climate. Areas unsuitable for agriculture or livestock such as areas that are excessively dry, flooded or nutrient poor shall be excluded."

Through review of the calculations in cell G45 of worksheet "Población Iñapari" of workbook "Leakage Estimations 2017. Post Audit. 16 dic", the audit team has found that the value has been calculated as the arithmetic average of the values for the Sierra, Selva Alta Accesible, Selva Alta de Difícil Acceso and Selva Baja ecozones, using data sourced from Table 10 of the report "Estimación de los contenidos de carbono de la biomasa aérea en los bosques de Perú" (accessed online at http://www.bosques.gob.pe/archivo/7220e0_libro_carbono.pdf). The report appears to be an appropriate source (but see NIR 23). However, the audit team has the following concerns regarding calculation of this parameter:

1. Parameter C(OLB) is defined as an "Area-weighted average". When taking an average across areas of different sizes, it is necessary to weight the calculation by the number of hectares included in each of the different areas (which is what is meant by an "area-weighted average"). Therefore, it is not correct to calculate this value by simply taking an arithmetic average of different carbon stock densities.
2. LK-ASU requires that "Areas included in the calculation of COLB shall be limited to areas demonstrated to be suitable for agriculture or livestock ranching" and that "Areas unsuitable for agriculture or livestock such as areas that are excessively dry, flooded or nutrient poor shall be excluded." No evidence has been presented that areas unsuitable for agriculture or livestock have been excluded from the weighted average calculation.

Project Personnel Response: We have not been able to update Colb since it has not been officially updated by SERFOR (Forestry Service). We checked for an alternative source within the MINAM (Ministry of the Environment), but there is no new information available.

Auditor Response: The audit team does not agree that "there is no new information available". The prior data used to estimate a value for C(OLB) was from Peru's Second National Communication, dated 28 September 2010. Peru's Third National Communication, dated 23 April 2016, has been accessed by the audit team at <https://unfccc.int/sites/default/files/resource/pernc3.pdf> (accessed 28 June 2019). Therefore, it appears that a government-issued, peer-reviewed source of data for C(OLB)

is, in fact, available. Because of this, the finding cannot be closed.

Project Personnel Response 2: This report in the 2012 inventory, used ecozone data, we used this data for the new Colb calibration. We used two ecozones that can be converted into agriculture and livestock (low and accessible forests). Colb = 351.57 We change the data in the excel and monitoring report.

Auditor Response 2: In response to this finding, project personnel eventually calculated C(OLB) using data from the 2012 GHG inventory for Peru (accessed by the audit team on 6 August 2019 at <http://infocarbono.minam.gob.pe/wp-content/uploads/2016/03/2012.pdf>). The audit team was able to confirm that the calculation was correctly carried out, and that it does not include areas that are "Areas unsuitable for agriculture or livestock such as areas that are excessively dry, flooded or nutrient poor". Therefore, the information request has been satisfied. Additional detail may be found in the audit team's internal working papers.

NIR 23 Dated 19 Dec 2018

Standard Reference: LK-ASU V1.1, Section 6.2

Document Reference: Leakage Estimations 2017. Post Audit. 16 dic

Finding: LK-ASU has the following requirements for data sources for parameter C(OLB):

"1. Calculate directly from field measurements using module CP-AB

2. Use numbers derived from peer-reviewed literature that are nationally or at least regionally appropriate"

It appears that option 2 (use of data from the report "Estimación de los contenidos de carbono de la biomasa aérea en los bosques de Perú") has been selected. Given this, please present evidence that the report "Estimación de los contenidos de carbono de la biomasa aérea en los bosques de Perú" has been peer-reviewed.

Project Personnel Response: We have not been able to update Colb since it has not been officially updated by SERFOR (Forestry Service). We checked for an alternative source within the MINAM (Ministry of the Environment), but there is no new information available.

Auditor Response: The audit team does not agree that "there is no new information available". The prior data used to estimate a value for C(OLB) was from Peru's Second National Communication, dated 28 September 2010. Peru's Third National Communication, dated 23 April 2016, has been accessed by the audit team at <https://unfccc.int/sites/default/files/resource/pernc3.pdf> (accessed 28 June 2019). Therefore, it appears that a government-issued, peer-reviewed source of data for C(OLB) is, in fact, available. Because of this, the finding cannot be closed.

Project Personnel Response 2: This report in the 2012 inventory, used ecozone data, we used this data for the new Colb calibration. We used two ecozones that can be converted into agriculture and livestock (low and accessible forests). Colb = 351.57 We change the data in the excel and monitoring report.

Auditor Response 2: As it seems the same source dataset is used that is the topic of this original finding (http://www.bosques.gob.pe/archivo/7220e0_libro_carbono.pdf), the original information request remains open, and has not been satisfied.

Project Personnel Response 3: The suggested Peru's Third National Communication, dated 23rd April 2016 at <https://unfccc.int/sites/default/files/resource/pernc3.pdf> was employed to update C(OLB). In page 76 the source infocarbono is indicated and therefore those data were employed.

Auditor Response 3: In response to this finding, project personnel eventually calculated C(OLB) using data from the 2012 GHG inventory for Peru (accessed by the audit team on 6 August 2019 at <http://infocarbono.minam.gob.pe/wp-content/uploads/2016/03/2012.pdf>). The audit team was able to confirm that the calculation was correctly carried out. It seems reasonable to assume that the 2012 GHG inventory for Peru was peer-reviewed, given that the inventory was carried out in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, which contains an entire chapter

on QA/QC methods (Chapter 6 of Volume 1). Therefore, the information request has been satisfied.

NCR 24 Dated 19 Dec 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 2.2.1; M-MON V2.1, Section 6.2

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. 09 Dic

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The VCS Monitoring Report Template requires the following in Section 2.2.1:

"Describe and justify any methodology deviations applied during this monitoring period. Include evidence to demonstrate the following:

- The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.
- The deviations relates only to the criteria and procedures for monitoring or measurement, and do not relate to any other part of the methodology."

As discussed with project personnel, there is a methodology deviation in that the guidance of Equation 4 of REDD-MF has not been followed exactly. Equation 4 requires that the carbon stock changes in the project area be multiplied by the risk score subtracted from 1, which leads to an extremely erroneous calculation of the number of buffer credits. Instead, in the project calculations as presented in the monitoring report, the carbon stock changes in the project area are multiplied by the risk score of 10%, which results in a correct calculation of the number of buffer credits. However, this corrected calculation is inconsistent with Equation 4. This methodology deviation has not been documented in the monitoring report.

Project Personnel Response: [A response to this finding was provided outside the cover of the findings workbook.]

Auditor Response: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. 16 Dic", the audit team can confirm that the deviation has been appropriately described in Section 2.2.2. Therefore, the non-conformity has been resolved.

NCR 25 Dated 20 Dec 2018

Standard Reference: VCS Standard V3.7, Section 3.16.6

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. 09 Dic

Finding: Section 3.16.6 of the VCS Standard requires that "The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The instructional text of the VCS Monitoring Report Template ("the Template") requires that, in Section 3.1.2, that the preparer "Complete the table below for all data and parameters monitored during the project crediting period (copy the table as necessary for each data unit/parameter)." The parameters PROP(IMM) and C(OLB) have been monitored, but they are not listed in the parameter tables in the monitoring report.

Project Personnel Response: Colb and PRO IMM parameters have been listed in the Monitoring Report.

Auditor Response: Through review of the revised monitoring report, entitled "VCS Monitoring Report MDD 2017. Post Audit. Junio", the audit team has been able to confirm that the parameters in question have been included in Section 3.2. Therefore, the non-conformity has been resolved.

NCR 26 Dated 12 Aug 2019

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4, Section 4.4

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. Julio; VCUs Estimation 2017.Post Audit Julio

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

Section 4.4 of the VCS Monitoring Report Template requires the following: "Quantify the net GHG emission reductions and removals, summarizing the key results using the table below. Specify breakdown of GHG emission reductions and removals by vintages where the intent is to issue each vintage separately in the VCS registry system." The monitoring report provides the required quantification, but is not fully consistent with the calculations in the workbook "VCUs Estimation 2017.Post Audit Julio". For example, the value calculated in cell H14 of the worksheet "VCUs" in the workbook, 8,640,828.67, should be the same as the value under "Net GHG emission reductions or removals (tCO2e)" in the first table in Section 4, but the two values are different.

Project Personnel Response: [A response to this finding was provided outside the cover of the findings workbook.]

Auditor Response: In response to this finding, the audit team was provided with a revised version of the monitoring report, also entitled "VCS Monitoring Report MDD 2017. Post Audit. Julio", in which the quantification summary in Section 4.4 was consistent with the calculations in "VCUs Estimation 2017.Post Audit Julio". Therefore, the non-conformity has been resolved.

NCR 27 Dated 12 Aug 2019

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. Julio

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

The instructional text in the VCS Monitoring Report Template requires the following: "All sections must be completed using Arial 10pt, black, regular (non-italic) font." Some of the text in Section 4.4 does not conform to this requirement, either because it is italicized, or because it is in a size other than 10pt.

Project Personnel Response: [A response to this finding was provided outside the cover of the findings workbook.]

Auditor Response: In response to this finding, the audit team was provided with a revised version of the monitoring report, also entitled "VCS Monitoring Report MDD 2017. Post Audit. Julio", in which the nonconforming text was corrected. Therefore, the non-conformity has been resolved.

NCR 28 Dated 28 Aug 2019

Standard Reference: VCS Standard V3.7, Section 3.16.6; VCS Monitoring Report Template V3.4

Document Reference: VCS Monitoring Report MDD 2017. Post Audit. Julio

Finding: The VCS Standard requires the following in Section 3.16.6: "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template, VCS Joint Project Description & Monitoring Report Template, VCS & CCB Monitoring Report Template or VCS+SOCIALCARBON Monitoring Report Template, as appropriate, and adhere to all instructional text within the template."

Section 4.4 of the VCS Monitoring Report Template requires the following: "For AFOLU projects, include quantification of the net change in carbon stocks." The net change in carbon stocks (that is, the difference between carbon stock change in the project area under the baseline and project scenarios) is not provided in Section 4.4 of the monitoring report.

Project Personnel Response: We included the net change in carbon stocks in section 4.4 of the monitoring report, pag 57. It was 8'809,746.2 T CO2

Auditor Response: In response to this finding, the audit team was provided with a revised version of the monitoring report, also entitled "VCS Monitoring Report MDD 2017. Post Audit. Julio", in which the net change in carbon stocks as reported in manner consistent with the calculations in "VCUs Estimation 2017.Post Audit Julio". Therefore, the non-conformity has been resolved.