

VERIFICATION REPORT FOR THE PURUS PROJECT



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Summary

This report describes the verification of the Purus Project - A Tropical Forest Conservation Project in Acre, Brazil ("the project"), (Project ID 963) a REDD+ project located in the state of Acre Brazil, that was conducted by SCS. The purposes of the verification audit were (1) to conduct, in accordance with the VCS Program 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 01 January 2018 to 31 December 2020 ("the verification period") and (2) to conduct, in accordance with the CCB rules, an ex-post independent assessment of the climate, community and biodiversity impacts that have occurred or are on track to occur as a result of the project during the same period. In addition, the verification team can confirm that the project continues to be in accordance with the CCB optional Gold Level exceptional biodiversity criteria.

The verification engagement was carried out through a combination of document review, interviews with relevant personnel. As part of the verification engagement 8 findings were raised: 0 Non-Conformity Reports, 8 New Information Requests and 0 Observations, and 2 Forward Action Requests. These findings are described in Appendix A of this report. The project complies with the verification criteria, and SCS holds 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

The objectives of the verification engagement were set out as follows.

1.1.1 Verification Objectives Under the Verified Carbon Standard

In accordance with Section 4.1 of the VCS Standard (see the below Section 1.2.2 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 Program rules. In accordance with Section 2.1.2 of the VCS Validation & Verification Manual, V3.2, the objectives of the verification engagement were to evaluate the monitoring report and assess

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description (this included 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.

1.1.2 Verification Objective Under the Climate, Community & Biodiversity Standards

In accordance with Section 4.1 of the CCB Program Rules (see the below Section 1.2.3 for full reference) SCS carried out an ex-post independent assessment of the climate, community and biodiversity impacts that have occurred or are on track to occur as a result of the project during the verification period, conducted in accordance with the CCB rules.

1.2 Scope and Criteria

1.2.1 Scope

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

- The project and its activities.
- The carbon pools and/or greenhouse gases included in the project boundary.
- The verification period.

1.2.2 Criteria Under the Verified Carbon Standard

In accordance Section 4.1.8(2) of the VCS Standard (see the following for full reference), the criteria for verification was the VCS Version 4, including the following documents:

- VCS Program Guide, V4.1
- VCS Standard, V4.2
- VCS Non-Permanence Risk Tool, V4.0

1.2.3 Criteria Under the Climate, Community & Biodiversity Standards

In accordance with Section 1.1 of the CCB Program Rules (see below for full reference) the criteria for verification was CCB Version 2, but including the following documents:

- The most recent validated project description using the same edition of the Climate, Community & Biodiversity Standards (in this case, the second edition) that was used for that validation
- CCB Program Rules, V3.1
- CCB Program Definitions, V3.0

1.3 Level of Assurance

1.3.1 Level of Assurance Under the Verified Carbon Standard

In accordance with Section 4.1.8(1) of the VCS Standard, the level of assurance of this report, insofar as it describes work performed under the Verified Carbon Standard, is reasonable.

1.3.2 Level of Assurance Under the Climate, Community & Biodiversity Standards

The concept of “level of assurance” was not relevant to work performed under the Climate, Community & Biodiversity Standards.

1.4 Summary Description of the Project

The Purus Project is located in the state of Acre, Brazil, near the town of Manoel Urbano and is aimed at helping protect and conserve 34,702 hectares of tropical forest by providing payments for ecosystem services through a REDD+ project. Project activities intend to reduce deforestation are implemented in and around a privately-owned property and are funded by payments related to emission reduction credits generated by the project. It is designed to provide direct benefits to local communities, consisting largely of families who live within the project area. In addition, it is designed to preserve biodiversity and a wide range of ecosystem services, and mitigate the release of ~ 861,000 metric tonnes of carbon dioxide emissions over the project lifetime.

The Purus Project is not considered to be a “Large Project”, as the estimated annual emission reductions for the first baseline period are 89,868 tCO₂e per year. From the project documents, activities implemented as part of the project to reduce deforestation include:

- Community outreach and education;
- Employment of local community members as project forest guards or other project staff (i.e., to replace other sources of income associated with deforestation and land use);
- Agricultural extension training which will help baseline agents to increase productivity on current lands (i.e., thus reducing the pressure to expand their farms in the adjacent forest);
- Reforestation of select non-forest areas and planting woodlots (i.e., to provide alternative sources of fuelwood); and
- Building a community health center and facilitating visits by doctors, dentists, and nurses.

The above activities directly address deforestation pressures in the region which are becoming more prevalent.

2 VERIFICATION PROCESS

The verification engagement included certain validation activities, as discussed in the below Section 3. The term “verification”, as used in this Section 2, applies to such validation activities as well as the verification engagement as a whole.

2.1 Audit Team Composition (Rules 4.3.1)

A table indicating how the audit team meets each of the requirements of the CCB Program Rules is below.

Area of required expertise	Individual(s) on audit team containing required expertise	Summary of relevant qualifications
Proficiency in a relevant local or regional language for the project location	Diego Olivera	Native Spanish speaker, full professional proficiency in Portuguese
Relevant agriculture, forestry and/or other land use experience in the project country or region	Letty Brown, Diego Olivera,	Familiar with common agricultural practices and corresponding deforestation pressures in the project country. Knowledge of other REDD projects in the Amazon
Relevant social and cultural expertise	Letty Brown, Diego Olivera	Familiar with social and agricultural practices in the Amazon region
Relevant ecological and biodiversity expertise	Letty Brown, Doug Baldwin	Familiar with ecology and biodiversity best practices and measurements

2.2 Method and Criteria

The verification engagement was conducted through a combination of document review and interviews with relevant personnel, as discussed in Sections 2.3 through 2.5 of this report. At all times, an assessment was made for conformance to the criteria described in Sections 1.2.2 and 1.2.3 of this report. As discussed in Section 2.6 of this report, findings were issued to ensure conformance to all requirements.

The audit team created a sampling plan following a proprietary sampling plan template developed by SCS. The audit team identified areas of “residual risk”—those areas where there existed risk of a material discrepancy (either in terms of non-conformance to the verification criteria or in terms of errors, omissions and misrepresentations that, in aggregate, exceeded the materiality threshold established for the project as a percentage of the total reported GHG emission reductions and/or removals) that was not prevented or detected by the controls of the project. Sampling and data testing activities were planned to address areas of residual risk. The audit team then created a verification plan that took the sampling plan into account. This approach is justified as it has been designed in accordance with Section 4.4.3 of ISO 14064-3:2006 and the guidance provided in Annex A.2.4.6 of the same document.

2.3 Document Review

The monitoring report (Purus Project's CCB-VCS 2018-2020 Monitoring Report 2021.12.23); “MR”) and non-permanence risk report (Purus Project's VCS Non-Permanence Risk Report (12-23-2021); “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.
Calculation workbook	2020 Purus Monitoring 2021.12.23.xlsx	/1/

Document	File Name	Ref.
Method document	REPORT_PUROS_PROJECT_FIRST_SCENE_CG_16_04_2021.pdf	/2/
Biodiversity Report	Relatório Projeto Purus 2018-19 (Final, English).pdf	/3/
Spatial dataset	PurusPA2012.9.24.kmz	/4/
Spatial dataset	PurusProjectArea2012.09.19.shp	/5/
Spatial dataset	PurusLeakageBelt2012.09.19.shp	/6/
Spatial dataset	LBStrata3.shp	/7/
Spatial dataset	PurusStrata.shp	/8/
Spatial dataset	AA_003_066_POINTS.shp	/9/
Spatial dataset	2020_Purus_Monitoring.shp	/10/
Spatial dataset	Purus2020LB_2021.04.26.shp	/11/
Spatial dataset	Purus2020PA_2021.04.26.shp	/12/
Project summary	Purus Project Summary Document Final, (English, 12-23-2021).pdf	/13/
Trail cam picture	09270324.jpg	/14/
Trail cam picture	10070116.jpg	/15/
Trail cam picture	10280020.jpg	/16/
Trail cam picture	11100221.jpg	/17/
Trail cam picture	11150054.jpg	/18/
Trail cam picture	12070078.jpg	/19/
Trail cam picture	12200497.jpg	/20/
Basic necessity survey	BNS for Purus, Round 4.xlsx	/21/
Basic necessity survey	Purus Project BNS - July 2018.pdf	/22/
Degradation & Immigrant Survey	Purus Project PRA - July 2018.pdf	/23/
Project Description	PROJ_DESC_963_28DEC2012.pdf	/24/
Degradation & Immigrant Survey	Purus Project Aggregated Degradation Surveys (July 2018).xlsx	/25/
Previous verification period document	CCB_VERIF_REP_ENG_963_01JAN2017_31DEC2017.pdf	/26/
Previous verification document	MONIT_REP_963_01JAN2017_31DEC2017.pdf	/27/
Previous verification period document	VCS_CarbonCo_Purus_FinalValidationReport_122812.pdf	/28/
Previous verification period document	VERIF_STA_963_01JAN2017_31DEC2017.pdf	/29/
IRS Form 990	CF-990-2019.pdf	/30/
Community Title	M&R - Benedito - Contrato Comodato Assinado.pdf	/31/
Community Title	M&R - Benedito - Escritura Publica Acir-Itatinga.pdf	/32/
Community Title	M&R - Jose Maria - Contrato de Doacao.pdf	/33/
Community Title	M&RR - Artenizio - Contrato Doacao Assinado.pdf	/34/
Financial Projections	Updated Pro Forma for Purus Project Verification (9-20-2021).xlsx	/35/

Document	File Name	Ref.
Signed agreement	UFAC's Cacao Technical Report for Purus Project (English).pdf	/36/
Cacao Tree Report	Signed Agreement Between UFAC and Moura e Rosa – 2018.pdf	/37/
Tri-Party Agreement	Tri-Party Agreement for Purus Project, Fully Signed.pdf	/38/
Tri-Party Agreement	Addendum to Tri-Party Agreement (English), Fully Signed.pdf	/39/
IUCN RED List- <i>Aniba rosaeodora</i>	https://www.iucnredlist.org/species/33958/88301381	/40/
IUCN RED List- <i>Virola surinamensis</i>	https://www.iucnredlist.org/species/33959/9816820	/41/

2.4 Interviews

2.4.1 Interviews of Project Personnel

The process used in remotely 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 activities.

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

Individual	Affiliation	Role	Date(s) Interviewed
Brian McFarland	Carbonfund.org / CarbonCo	Executive Vice President – Project Proponent	12 July 2021 and subsequent dates throughout audit
James Eaton	Ostrya Conservation	Director / Technical Manager	12 July 2021 and subsequent dates
Dute (nickname)/Manoel Souza de Moura	Purus Project / Moura and Rosa	Project team/maintenance of headquarters for Moura and Rosa	27 August 2021
Kidney da Cinha Aires	Purus Project / Moura and Rosa	Former local project manager	31 August 2021
Normando Sales	Moura and Rosa	Project team/project developer	1 September 2021 and subsequent email communications
Zacarias Fernandes da Costa (Maestro Zacarias)	Moura and Rosa / Purus Project	Community music project	14 September 2021
Carlos Gimenez Larrosa	Consultant to Ostrya Conservation	Remote Sensing Specialist	17 September 2021
María das Graças Camurça da Cunha	Purus Project	Nurse / Health specialist	1 October 2021

Individual	Affiliation	Role	Date(s) Interviewed
Luiz Medeiros Borges	Purus Project	Biologist / Biodiversity specialist	5 October 2021

2.4.2 Interviews of Other Individuals

The process used in remotely 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
Helio de Oliveira	Family living in the Project Area	Community member	31 August 2021
Benedito Nunes da Silva	Family living in the Project Area	Community member	31 August 2021
José Ribamar	Family living in the Project Area	Community member in the leakage belt	1 September 2021
Fares Ribamar	Family living in the Project Area	Community member	3 September 2021
José Denis Moura dos Santos	Iteracre- Instituto de Terras do Estado so Acre / Acre's State land institute	Director of ITERACRE	17 September 2021
Eliane Ferreira (email communication)	Instituto de Mudanças Climáticas (Climate Change Institute)	Chefe de Gabinete do Instituto de Mudanças Climáticas	25 October 2021 and 28 October 2021

There are 12 families within the broader community, and the households are distributed along the river, some at great distances from each other. Stakeholders were selected based on their role within the community and knowledge of the project, and through a risk-based process. It was planned that the interviewees would be selected through an iterative process such that if, during an interview, a particular stakeholder with relevant experience or information pertaining to project benefits or stakeholder consultation or disputes was mentioned, the audit team would request to speak with the individual. The conversations the audit team had with the 4 community members did not raise the need to request to speak with an additional individual.

2.5 Site Inspections

The audit team performed a remote inspection of the project area on the dates 12 July 2021 through 13 January 2022. The main activities undertaken by the audit team were as follows:

- Interviewed project personnel (see Section 2.4.1 of this report) to gather information regarding the monitoring procedures and project implementation
- Interviewed residents of several communities (Seringal Itatinga and Seringal Porto Central) located in the immediate vicinity of the project area to confirm the claims of the project proponents with respect to the extent of community engagement
- Carried out remote inspections of the project's measurement and/or monitoring methodologies through the following activities:
 - Reviewed project's calculations of stated emissions removals and reductions by repeating calculations on a sample of input data.

- Downloaded Sentinel-2 imagery (10 m2 resolution, which is higher than project's forest/non-forest coverage map: 30 m2) from two points in time in 2020 (February/March, August) and reconducting accuracy assessment within project area and leakage belt. The audit team's assessment is more focused on the project area/leakage belt than the project's accuracy assessment, which was conducted across the entire Landsat scene used in their classification (Landsat scene is a much larger area than project area/leakage belt).

2.6 Resolution of Findings

One forward action request was outstanding from the validation or previous verifications (see below related to the Guita family).

Any potential or actual discrepancies identified during the audit 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 audit process, 0 NCRs, 8 NIRs, 0 OBS, and 2 Forward Action Request were issued. All findings issued by the audit team during the audit process have been closed. In accordance with Section 4.1.14 of the VCS Standard, all findings issued during the audit process, and the impetus for the closure of each such finding, are described in Appendix A of this report.

2.6.1 Forward Action Requests

Forward Action Request 1: A forward action request is issued regarding a "ramal", or small seasonal road, from the BR 364 highway, as a potential risk identified in the MR that could increase deforestation in the project area. The ramal, located to the northeast of the project, is expanding into the project area. The project team, per section 2.2.5 of the monitoring report and remote interviews conducted by the audit team, continues to monitor the situation. Subsequent verifications will need to check on the progress of such efforts.

Forward Action Request 2: An additional forward action request is issued in regard to the ongoing challenge with the Guita family, who have, as described in remote interviews as well as in MR Section 4.3.2, historically been the largest deforesters in the Purus Project. The MR states as follows:

The first development is that the Public Ministry is continuing to assist Moura & Rosa by leading the regularization process of the communities' possessions that will culminate with the demarcation and bookkeeping of the land deeded to them by Moura & Rosa. This shall, once and for all, end the communities' supposed fear of being removed from the area. Furthermore, this development should also end the illegal deforestation by the Guitas in the Project Area.

While substantial progress to curtail the deforestation related to the Guita family did not occur during the verification period described in this report, potentially in part due to COVID, subsequent verifiers will need to check on ongoing progress given their risk to the project's standing carbon stocks.

2.7 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

This section is not applicable, as no methodology deviations applied to the project were validated as part of the verification engagement described in this report.

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

The below table identifies each project description 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***
Last paragraph of page 69 to the end of section 2.2.4 ("As the UCEGEO (the GIS department within the Climate Change Institute of Acre State government) annual dataset on the extent and spatial location of all deforestation within Acre state is no longer available for use in the current monitoring period...")	The application of the methodology is not impacted, since the forest/non-forest land coverage map that resulted from the new data processing and algorithmic approach to classify land cover is applied in conformance with VMD0015-M-MON for calculating the parameters ADefPA and ADefLB.	The project deviation does not impact additionality, as the audit team found no material errors in the land coverage classification approach when conducting an accuracy assessment on the project's forest/non-forest coverage map.	The project deviation concerns ex-post credit calculations, so there is no impact on baseline/without-project scenarios.

- *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

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

3.3.1 Project Description Deviations for Purposes of CCB Rules

This section is not applicable, as no project description deviations applied to the project were validated under the CCB rules as part of the verification engagement described in this report.

3.4 Minor Changes to Project Description (Rules 3.5.6)

This section is not applicable, as no minor changes applied to the community and biodiversity elements of the project design were validated under the CCB rules as part of the verification engagement described in this report.

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

Not applicable.

4 VERIFICATION FINDINGS

4.1 Public Comments (Rules 4.6)

The public comment period extended from 22 June 2021 to 22 July 2021. As confirmed by the audit team through review of the project webpage in the VCS project database (<https://registry.terra.org/app/projectDetail/VCS/963>, accessed 5 November 2021), no comments were received. Therefore, the audit team concludes that the project proponent's response to the public comments was appropriate.

4.2 Summary of Project Benefits

The summary of project benefits has been correctly provided in Section 1 of the MR. The audit team has reasonable assurance that all applicable and quantifiable information has been provided in an appropriate manner. The section is completed appropriately, according to the template requirements. The audit team can verify that all achievements reported are substantiated with information provided in the body of the document.

4.3 General

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

4.3.1.1 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	• No material discrepancies were identified after conducting document review, remote interviews of project personnel,

implementation and the project description	remote interviews of stakeholders, and assessing the accuracy of deforestation claims.
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)	Through remote interviews conducted with project personnel and project communities, and document assessment, the audit team confirmed the implementation status of the monitoring plan and the completeness of monitoring, including the suitability of the implemented monitoring system.
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	No material discrepancies were identified after conducting remote interviews, recalculation of credits, and assessing the accuracy of deforestation claims.
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 general knowledge of other emission trading programs (including any in Brazil or the state of Acre) and other mechanisms that include GHG allowance trading, as well as based on knowledge of the organizations involved in the project team, the audit team is confident that the GHG emission reductions or removals generated by the project are not 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	Please see box above. The audit team is confident that the project has not received or sought any other form of environmental credit or has become eligible to do so since validation.
Whether the project has participated or been rejected under any other GHG programs since validation or previous verification	Please see box above. The audit team is confident that the project has not participated in or been rejected under any other GHG programs since validation or since the previous verification.
Sustainable development contributions	Through interviews conducted with project personnel and project communities, and document assessment, including close review of Section 2.1.10 of the MR, the audit team confirmed the project's sustainable development contributions. Yet, the audit team considers that few specific SDGs should be pointed out as the principal ones for this project.

4.3.1.2 Previously Validated Methodology Deviations

Deviations described in the monitoring report (MR) are in quotes:

"Trees in the Cecropia genus were not measured as part of the forest inventory. This has been proposed as a deviation as it stands in conflict with the CP-AB requirement that "all the trees above some minimum DBH in the sample plots" be measured."

In the validation report (Ref. 28), the following was stated in Section 3.2.7: "Trees of the *Cecropia* genus have been excluded from the baseline carbon stock estimates, and the monitoring plan states that they will not be included in future monitoring campaigns. The deviation is a deviation to the criteria and procedures for monitoring and measurement, and will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals."

The audit team agrees that excluding *Cecropia* genus from monitoring does not negatively impact the conservativeness of GHG emission reduction or removal (ER) quantification. Furthermore, the forest inventory at validation was used for this verification period, and the main driver of calculating a change in carbon stocks was through analyzing remote sensing data.

"While sampling lying dead wood using the line intersect method:

- Two 92-meter transect lines were used rather than two 50-meter transect lines;
- The sampling lines did not bisect each sample plot, but rather ran from one plot center to the next; and
- The sampling lines were oriented to the north and east, and no randomization in the bearing of the first line was employed."

In the validation report (Ref. 28), the following was stated in Section 3.2.7: "With respect to the first nonconformity, with all other variables held equal, an increase in transect line length will result in more accurate results. The second nonconformity is completely immaterial. With respect to the third nonconformity, the sampling scheme used for estimation of biomass in down wood is only design-unbiased in the case that all transects are randomized, and therefore the guidance provided by CP-D is appropriate. However, the audit team observed that the entire project area is very flat, and there were no obvious indicators of any trend in the direction of fall of dead trees. Under such circumstances, the audit team agrees that the approach taken is unlikely to lead to biases of any practical significance."

The current audit team was not present to observe how the inventory was conducted at validation, but the explanation from Ref. 28 is reasonable. Furthermore, the forest inventory at validation was used for this verification period, and the main driver of calculating a change in carbon stocks was through analyzing remote sensing data.

"For validation of the allometric equation, commercial height was estimated from total height measured in the field by applying a factor of 62.9%. This commercial height to total height ratio is Amazon specific and was developed by Higuchi et al. 1998 (n = 315 trees)."

In the validation report (Ref. 28), the following was stated in Section 3.2.7: "Although ideally the height measurement requirements of the CP-AB module would have been complied with at the time of measurement, a search for alternatives to conducting additional measurements seems reasonable, given the time and cost involved in accessing the project area. Ultimately the purpose of measuring to a 10 cm diameter top or to the first live branch, rather than measuring total height, is to ensure that the predictions of the biomass equation are compared with a conservative estimate of stem biomass. The use of the "commercial height to total height ratio" suggested by the client fulfills the same purpose. Although there is undoubtedly some loss of accuracy involved with the use of such a "proxy", such a loss of accuracy is

considered to be within acceptable limits, and it is unlikely that the conservativeness of the methodology will be affected (in the context of the above, an impact on conservativeness could result from an equation validation procedure whereby an equation that produces upwardly biased biomass estimates is mistakenly approved)."

The current audit team was not present to confirm "Although there is undoubtedly some loss of accuracy involved with the use of such a "proxy", such a loss of accuracy is considered to be within acceptable limits, and it is unlikely that the conservativeness of the methodology will be affected", but given the local data used to derive this ratio (Higuchi et al, 1998) and the judgement of past verifications and the validation team, we can be reasonably assured this ratio is conservative. Furthermore, the forest inventory at validation was used for this verification period, and the main driver of calculating a change in carbon stocks was through analyzing remote sensing data.

"Rather than using a root to shoot ratio to estimate belowground biomass as per the CP-AB module, belowground biomass was estimated using an allometric equation developed by Cairns et al."

The validation report (Ref. 28) states in Section 3.2.7: "The Cairns et al. (1997) equation is a widely accepted equation for quantifying belowground biomass, and can be considered more accurate than a fixed root-to-shoot ratio, as it models a different rate of increase in belowground biomass for smaller trees than for larger trees. Furthermore, its use will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals."

The audit team finds this explanation reasonable and accepts this deviation as more accurate and generally conservative.

"The forest inventory has deviated from the criteria for selection (i.e., the equation is based on a datasets comprising at least 30 trees, with an r^2 that is ≥ 0.8) and validation of the allometric equation related to palm biomass, however the equation used is likely to result in a conservative estimate of palm biomass for the following reasons:

- Volume is calculated as the volume a parabaloid rather than the volume of a cylinder;
- Only stem biomass is estimated, thus conservatively excluding another aboveground biomass;
- A conservative measure of basal diameter (i.e., dbh) was used.

A calibration factor of 0.985 was applied to the Brown (1997) equation to ensure use of this equation results in conservative estimates of live aboveground biomass."

In Section 3.2.7 of the validation report (Ref. 28), the following was stated: "The equation used for quantification of aboveground biomass in palm trees, as described in Equation 4.2 of the project description (Ref. 24), does not conform to any of the criteria set out in pages 11-14 of CP-AB. The proposed deviation is considered appropriate by the audit team for the following reasons:

- o The height measurement used is height to the top of the stem, and therefore the equation quantifies bole biomass only. Biomass in live branches is conservatively excluded by the quantification procedure employed.
- o Given any degree of taper in the stem, diameter at breast height will be smaller than the basal diameter (the diameter at the base of the tree). Therefore, the use of diameter at breast height is likely to result in conservative estimation.
- o The use of the paraboloid form is likely to conservatively estimate the volume of palm trees, as most palm trees have not tapered to a tip at the top of the stem.
- o The audit team has been provided with reasonable assurance that no superior equation for quantification of palm biomass exists within the tropics.”

The audit team finds this explanation reasonable and accepts this deviation as conservative.

“In the with-project case, $C(\text{post})$ can conservatively be assumed to be zero, not only for natural disturbance (CP, Dist, q, i), as stated in Section 5.2.3 of the M-MON module) but also for deforestation (CP, post, u, i). This deviation is conservative because subtracting zero from the baseline stocks, leads to the conclusion that $\Delta C_{\text{pools}, \text{Def}, u, i, t}$ is equal to $C(\text{BSL}, i)$, which leads to the maximum emission in the with-project case, which is conservative.”

The validation report (Ref. 28) states in Section 3.2.7: “the deviation is conservative in all cases.”

The audit team agrees with this assessment.

“AVFOR will be stratified using information and data derived from official (government) publications, peer-reviewed published sources, or other verifiable sources. Stratification is not limited to the delineation of different strata where contiguous areas of at least 100 ha differ in stocks by $\geq 20\%$.

The parameter $ARRL_{\text{forest}}$ was not monitored or updated in 2017 as the Acre dataset, the input for the calculation of $ARRL_{\text{forest}}$, was discontinued in 2017 and the follow-on dataset had not been released by the Brazilian government at the time of reporting. As this parameter does not drive project accounting, its neglect does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.”

The audit team agrees with this assessment, and $ARRL_{\text{forest}}$ can be conservatively neglected.

4.3.1.3 Previously Validated Project Design Deviations

“Rather than initially assessing the significance of illegal logging using temporary sample plots covering 1% of the potential degradation area ($ADegW, i$) as proposed in the project document and monitoring module of the VM0007 methodology; information gathered during the course of the participatory appraisals including amounts of fuelwood, charcoal, and timber collected by communities members will be used along with conservative assumptions to assess whether emissions due to degradation are significant using the T-SIG tool, and plot level monitoring of degradation is warranted. This deviation will

be used for the first and each subsequent monitoring period. This deviation was added during the course of the first verification event. This deviation was included as it was our understanding that T-SIG could be used to determine the significance of any with-project emissions. Further, this deviation was warranted due to the significant amount of work necessary to monitoring degradation using temporary plots and the likely insignificant amount of emission resulting from degradation.”

Through discussion with the project proponent, including an interview about remote sensing and foot patrols in the project area, as well as stakeholder interviews conducted during the audit, the audit team concludes that illegal logging is not a significant driver of degradation in the area. Degradation due to flooding was also discussed with the project proponent, and the audit team is reasonably assured that flooding did not have a significant contribution to degradation during this verification period.

4.3.1.4 Previously Validated Minor Changes to the Project Description

As there exist no previously validated minor changes to the project description, this section is not applicable.

4.3.1.5 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.

4.3.2 Risks to the Project (G3.5)

The audit team took the following steps to verify the natural and human-induced risks to the expected project benefits identified by the project proponent.

- Through remote interviews conducted with project personnel and project community members, and through document assessment, the audit team confirmed the natural and human-induced to the expected project benefits are as stated in the MR. Yet, one topic that was raised during the interviews was the increase in severeness of the floodings. Even one interviewee stated that this year’s flooding reached places that had not been previously flooded.
- Through assessment of 10m resolution Sentinel remotely sensed imagery and interviews with the remote sensing specialists, the audit team confirmed that the majority of the project area is unfragmented forest, and is therefore at reduced risk to fire relative to fragmented areas. The audit team also agrees that most risks to the project are human-caused. Sentinel imagery from the ‘wet’ and ‘dry’ seasons show that a portion of the forest does visibly flood in the wet season but that canopy cover is not affected by this in the dry season, which corroborates the statement in Section 2.2.5 that “With respect to drought and flooding, the Purus River basin is a wetland ecosystem where the native habitat thrives under periodically flooded conditions.”
- Given these risks, the audit team agreed that project activities, like regular drone flights, monitoring along waterways and sensibilisation of project area settlers, are designed to mitigate risks.

In summary, since in the ways outlined above, the audit team concludes that reasonable steps have been taken to mitigate the risks identified by the project proponent.

4.3.3 Enhancement of High Conservation Values (G3.6)

The audit team took the following steps to verify the actions needed or implemented to ensure the maintenance or enhancement of the high conservation value attributes identified in the project description.

- The audit team agrees with the project team that no high conservation value area is negatively affected by the project.
- The audit team interviewed Biologist Luiz Henrique Medeiros Borges, who is in charge of biodiversity monitoring. He confirmed the presence of IUCN and CITES listed species, shared wildlife camera photos (/14/-/20/) and stated that the animal community of the project area is comparable to a protected area in the vicinity. Additionally, he shared a scientific paper with the audit team, where he co-authored, regarding the presence of an elusive Amazonian species and IUCN near threatened species, the short-eared dog (*Atelocynus microtis*)¹, within the project area.

In summary based on documentation assessment (including trail cam photos) and interviews conducted, the audit team concludes that the measures taken to ensure the maintenance or enhancement of the high conservation value attributes are consistent with the precautionary principle.

4.3.4 Benefit Permanence (G3.7)

The audit team took the following steps to verify actions needed or implemented to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime, as identified by the project proponent.

- Reduction in project area deforestation: Through remote interviews, document assessment, and review of satellite imagery, the audit team verified actions implemented (e.g., alternative livelihood provision) that may result in maintaining and enhancing the climate benefits beyond the project lifetime.
- Preservation of biologically diverse habitats: Through the above mentioned methods, the audit team verified actions implemented to maintain and enhance the climate benefits beyond the project lifetime.
- Biodiversity study using cameras: The audit team interviewed biologist Luiz Henrique Medeiros Borges, who is in charge of biodiversity monitoring for the project. He described the methods used and confirmed the presence of listed species, and shared wildlife camera photos (/14/-/20/). Additionally, the audit team reviewed a paper about the study authored by Luiz Henrique Medeiros.
- Agreement with Federal University of Acre's related to training on agronomy and cacao. The audit team reviewed the agreement /36/.
- Title land to local communities: Through prior verification reports and remote interviews with project personnel + communities, the audit team confirmed that efforts to secure community land tenure are ongoing, which are actions implemented that, if successful, may assist in maintaining and enhancing the climate benefits beyond the project lifetime.
- Internet signal to Project's headquarters: Through prior verification reports as well as remote interviews with project personnel and community members, the audit team confirmed that internet has been brought to the Project headquarters and the ongoing monitoring and upkeep of the internet signal.

¹ <https://royalsocietypublishing.org/doi/10.1098/rsos.190717>

- Visits from nurse Maria das Gracias Camurça da Cunha: The audit team conducted a remote interview with the nurse and discussed the ongoing implementation of health-related benefits.

In summary, given the above steps taken, the audit team concludes that reasonable measures have been taken to enhance project benefits beyond the project lifetime in accordance with the validated project description.

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

The audit team took the following steps to verify that the project proponent communicated with and consulted stakeholders on project implementation in accordance with G3.8 – G3.9.

Steps taken to verify that...	
Communication and consultation was carried out in accordance with the communication and consultation plan.	The audit team interviewed project personnel, like the local project manager, who are involved in ongoing community outreach; it was confirmed that the consultation process was implemented as described in the MR. The audit team met remotely with families within the communities, per Section 2.4, and heard first-hand of the stakeholder engagement practices and that community groups and other stakeholders have influenced project implementation through effective consultation. The audit team confirmed that communities are being represented in order to learn from project successes and failures, and to ensure the project is being implemented using an adaptive management framework. The audit team reviewed the Basic Necessity Surveys /21//22/ and the signed consent letters /13/ as additional evidence of consultation.
If needed, adjustments were made to the communication and consultation plan.	• In addition, the audit team reviewed meeting minutes, confirming that outreach was conducted directly with community members and that stakeholder input was documented. The audit team reviewed the project description (Ref. 24) and MR and confirmed documentation of stakeholder input in these as well.
The public comment period for verification was publicized to communities and other stakeholders using the communication methods identified in the validated project description and their submission of comments to VCS was facilitated.	• Through the steps described above, the audit team confirmed that the public comment period for verification was publicized to communities and other stakeholders.
Project implementation and monitoring information, and other key documents, were distributed to communities and other stakeholders	• Through the steps described above, the audit team confirmed that project implementation and monitoring information, and other key documents, were distributed to communities and other stakeholders.

during the verification period.	
Widely publicized information meetings were held in relevant local or regional languages.	Through the steps described above, the audit team confirmed that information meetings were widely publicized and held in Portuguese, which is the relevant local or regional language.

In summary, given observations made during the site visit, and through interviews conducted, the audit team concludes that the project carried out effective stakeholder engagement.

4.3.6 Stakeholder Grievance Redress Procedure (G3.10).

The audit team took the following steps to verify that the project proponent has implemented the project's feedback and grievance redress procedure:

- The audit team reviewed the project description (Ref. 24) and MR, which outlines the Grievance and Redress Mechanism, and agreed that it outlines a clear procedure for receiving, hearing, responding to and attempting to resolve grievances within a reasonable time period.
- The audit team confirmed that the project has a clear process for handling unresolved conflicts and grievances through a third party grievance method in which the State of Acre's Climate Change Institute is a third party mediator of issues brought before them.
- The audit team confirmed that, as stated in the MR, no grievances were raised during the monitoring period.
- The audit team confirmed that, as stated in the MR, the Climate Change Institute has been reinstated after being briefly dissolved, but that the dissolution did not occur during the monitoring period.

In summary, given observations made during the remote site visit, interviews conducted, and documentation assessed, the audit team concludes that the grievance redress procedure has been implemented according to the project's validated design.

4.3.7 Worker Relations (G4.3 – G4.6)

The audit team took the following steps to verify that the project proponent has taken actions and implemented measures to ensure that the relationship between the project and workers meet the requirements of G4.3 – G4.6.

Steps taken to assess whether actions were taken or measures implemented that...	
Build the capacity of the communities through job training and employment	- The audit team confirmed that the MR contains a detailed description of training and capacity building measures that are planned or have occurred relative to project activities. - The audit team confirmed through interviews that the project team trained a community member to administer health care and maintain the onsite pharmacy (see Section 2.4), and that past training has been offered to the carbon plot biomass team (TECMAN) to complete the forest inventory. Future training is planned to community members regarding agricultural techniques and alternative livelihoods.
Ensure people from the communities are given an equal opportunity to fill work positions	Through observations onsite as well as interviews, the audit team confirmed that most employment opportunities to date have been temporary contract work for the project, and that local community members are paid for the specific services provided (e.g. helping with site visits, building project headquarters and onsite health clinic).

	The audit team confirmed that equal treatment is given to people in communities to fill work positions. Still, the nature of certain jobs preclude women from performing them (e.g. ranger positions), but other project-related positions are filled by women.
Ensure the project is in compliance with all relevant laws and regulations regarding worker's rights and workers are informed of their rights	- The audit team conducted interviews with project personnel and confirmed that the project's worker's laws meet applicable laws and/or regulations covering worker rights. - The audit team confirmed that the MR contains a detailed description of Brazil's worker rights laws and regulations.
Inform workers of risks and how to minimize risk	- The audit team confirmed that the MR described ways that the project ensures worker's health and safety protections, including an outline of risks and how to mitigate them. - The audit team conducted interviews with project personnel and workers and confirmed that workers were informed of risks and how to minimize them, as well as that workplace risk was minimized using best practices in the workplace.
Minimize workplace risk using best work practices	Please see the box above.

In summary, through interviews, observations, and document review, the audit team concludes that the relationship between workers and the project upholds the intent and design presented in the validated project description.

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

The audit team took the following steps to verify that the project proponent has taken actions and implemented measures to ensure the capacity exists to implement the project over the project lifetime.

Steps taken to verify information provided or measures implemented that...	
Demonstrate(s) the project possesses, or is acquiring through partnerships, and is maintaining the key technical and management skills required to implement the project successfully.	The audit team reviewed the validated project description (Ref. 24) as well as MR, and confirmed that they identify the project's governance structure as well as roles and responsibilities of all who are involved in project development and implementation. Per Section 2.4, the audit team held interviews with the project proponent (Moura and Rosa, CarbonCo, Carbon Securities), and the technical partners (Ostrya Conservation and Terra Carbon), to confirm that the project description (Ref. 24) and MR descriptions of the governance structure are accurate, and in conformance with what was seen during the audit team site visit.
Demonstrate(s) the financial health of the implementing organization is adequate to support project implementation.	The audit team reviewed the project's financial budget and confirmed that the projected revenues

	from emissions reductions and other sources, are likely to provide an adequate flow of funds for project implementation and to achieve the anticipated climate, community and biodiversity benefits. The audit team confirmed that the project budget was designed by individuals with implementing project activities designed to ensure success and confirmed that the budget carefully considers the cost of project implementation. The audit team confirmed that predicted credit sales and an accurate estimated annual budget demonstrate sufficient cash flow from predicted contracted sales to sustain the project through the end of the crediting period.
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In summary, through interviews and document review, the audit team concludes that the project has the capacity to implement the project in accordance with the validated project design.

4.3.9 Legal Status (G5.1)

The audit team concludes the following regarding all national and local laws and regulations in the host country that are relevant to the project activities.

- The lists in Sections 2.4.4 of the MR are comprehensive and include all such laws.

The audit team took the following steps to verify that the project is complying with said laws and regulations.

- Review of relevant laws included in the MR, with particular emphasis on Brazil's Forest Code
- Interviews with project personnel, including the owners of the land, as listed in Section 2.4 of this report, regarding compliance and enforcement
- Audit team experience working in-country and with many of the same laws and regulations

The audit team concludes the following regarding how the project demonstrates compliance with relevant laws and regulations.

- The audit team concludes that the project is in compliance with the relevant laws and regulations.

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

The audit team took the following steps to verify actions taken and measures implemented by the project proponent to protect the rights of Indigenous Peoples, communities and other stakeholders.

Steps taken to assess whether...	
Existing property rights are recognized, respected and supported	• The audit team carefully reviewed the validated project description (Ref. 24) and the MR for this reporting period and confirmed that they contain descriptions of rights as they relate to land, territory and resources in the project.

	The project area itself is the under private ownership of one of the project proponents (Moura and Rosa). Measures are taken by the project to help secure statutory rights to local families by granting of official land title to formalize and strengthen local land tenure. The audit team confirmed these measures while onsite.
The project does not encroach uninvited on private, community or government property	Please see above. Through the actions described above, the audit team confirmed that the project will not involve any involuntary removal or relocation. In contrast, the project is taking active steps to grant official land title to formalize and strengthen local land tenure.
The free, prior and informed consent has been obtained of those whose property rights are affected by the project	Through multiple interviews with local community members, as well as through review of the FPIC process implemented by the project personnel, the audit team confirmed that FPIC was attained without coercion, intimidation, manipulation, threat and bribery.
Appropriate restitution or compensation has been allocated to any parties whose lands have been or will be affected by the project	Through the processes listed above, the audit team was able to confirm that this is not applicable as project area land is owned by the project proponent, and parties were not relocated by the project.
Project activities do not lead to the involuntary removal or relocation of property rights holders from their lands or territories, and does not force them to relocate activities important to their culture or livelihood	Through the processes listed above, the audit team was able to confirm that this is not applicable as project area land is owned by the project proponent, and parties were not relocated by the project.

In summary, through interviews, observations, and document review, the, the audit team concludes that the project has protected the rights of Indigenous Peoples, communities and other stakeholders in accordance to the Climate, Community & Biodiversity Standards and the validated project design.

4.3.11 Identification of Illegal Activities (G5.5).

The audit team took the following steps to verify actions taken and measures implemented (if necessary) by the project proponent to reduce illegal activities that could affect the project's impacts.

- Interviewed the project proponent about their monitoring process for illegal activity
- Interviewed local community members about their knowledge of any illegal activity or logging
- Reviewed past forward action requests from previous verifications to better understand how to effectively interview local community members about any ongoing activities

4.4 Climate

4.4.1 Accuracy of GHG Emission Reduction and Removal Calculations

With the exception of any project description deviations and/or methodology deviations described in the above Sections 3.2-3.4 and/or 4.3.1, the GHG emission reductions and/or removals have been quantified correctly in accordance with the project description and 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/or removals, and a description of the steps taken to assess each of them, follows.

4.4.1.1 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
Δ CBSL,PA,unplanned (t CO ₂ -e)	Reviewed the project description (Ref. 24; Table 3.14) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	These values have already been validated.
Δ CBSL,LK,unplanned	Reviewed the project description (Ref. 24; Table 3.15) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	These values have already been validated.
CF	Consistent with the project description (Ref. 24) and is defined in AR-Tool 14.	This value is consistent with the project description.	This value is defined in AR-Tool 14.
COLB (t CO ₂ -e ha ⁻¹)	This parameter has been updated in response to finding NIR 8 (see Appendix A). The audit team reviewed the update and found that it met the requirements of the methodology for accuracy.	After the update, the COLB calculation meets the requirements of the methodology and the update process followed the original approach detailed in the project description (Ref. 24).	Data used to update COLB were found to be appropriate.
Δ CP,LB area weighted (t CO ₂ e ha ⁻¹)	Reviewed the project description (Ref. 24) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	This value has already been validated.
ABSL,PA,unplanned,i,t (ha)	Reviewed the project description (Ref. 24, Table 3.5) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	These values have already been validated.

	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
COMFi (dimensionless)	Reviewed the project description (Ref. 24, Table 4.3) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	This value has already been validated.
Gg,i (kg/t d.m. burnt)	Reviewed the project description (Ref. 24, Table 4.3) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	These values have already been validated.
GWPg (t CO ₂ /t gas g)	Reviewed the project description (Ref. 24, Table 4.3) and cross-referenced with the values used for this verification period.	The values in the project description match values used in ER quantification for this verification period.	These values have already been validated.

4.4.1.2 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
ADefPA,u,i,t (ha)	The audit team confirmed the accuracy of this parameter via GIS analysis of the project's forest coverage map and comparison to past and verified forest coverage data. A randomized accuracy assessment was conducted on the forest classification within the project area using higher resolution Sentinel imagery at two points in time during year 2020.	A project deviation has been undertaken with respect to the methods used to classify forest and non-forest land cover with Landsat data. The resulting forest coverage map fulfilled accuracy requirements set by the methodology, and the audit team replicated the stated accuracy on our own assessment across the project area. See findings NIR 1-3 (Appendix A).	The classification method was found to be appropriate. Landsat input data was of relatively high quality.

	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
ADefLB,u,i,t (ha)	The audit team confirmed the accuracy of this parameter via GIS analysis of the project's forest coverage map and comparison to past and verified forest coverage data. A randomized accuracy assessment was conducted on the forest classification within the leakage belt using higher resolution Sentinel imagery at two points in time during year 2020.	A project deviation has been undertaken with respect to the methods used to classify forest and non-forest land cover with Landsat data. The resulting forest coverage map fulfilled accuracy requirements set by the methodology, and the audit team replicated the stated accuracy on our own assessment across the leakage belt. See findings NIR 1-3 (Appendix A).	The classification method was found to be appropriate. Landsat input data was of relatively high quality.
ADistPA,q,i,t (ha)	Evidence of forest-altering disturbance was not detected. Flooding was evident during our accuracy assessment of the forest coverage map during a 'wet' period, but canopy coverage was intact for visibly flooded areas when assessing imagery during a 'dry' period.	The same assumptions in the project descriptions were carried forward in this verification period.	The value has been assessed and deemed appropriate.
CBSL,l (t CO ₂ -e ha-1)	Reviewed the project description (Ref. 24, Tables 9a-c) and cross-referenced with the values used for this verification period.	The values are consistent with baseline values reported in the project description.	The value has been assessed and deemed appropriate.
Cpost (t CO ₂ -e ha-1)	This value was set to 0 conservatively and represents a methodology deviation (see Section 4.3.1.2 of this report).	The value and assumption is consistent with the project description.	The value has been assessed and deemed appropriate.
ADegW,i,t (ha)	Value was set to 0 based on assumptions established during validation. The audit team did not detect degradation from flooding when conducting assessments with Sentinel imager (see ADistPA,q,i,t (ha) above). The audit team can be reasonably assured through interviews and no overt detection from imagery that illegal logging has taken place on a scale that is materially different from 0.	The value and assumption is consistent with the project description.	The value has been assessed and deemed appropriate.

	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
PROPIMM	This value was established by surveys conducted during the verification period. The audit team is reasonably assured the value used in this period is appropriate and based upon relevant data.	The same approach described in the project description has been used to derive the value for this verification period.	The value has been assessed and deemed appropriate.
TOTFOR	This parameter has been updated in response to finding NIR 8 (see Appendix A). The audit team reviewed the update and found that it met the requirements of the methodology for accuracy.	After the update, the assigned TOTFOR value meets the requirements of the methodology and the update process followed the original approach detailed in the project description (Ref. 24).	Data used to update TOTFOR were found to be appropriate.
PROTFOR	This has been conservatively set to 0. This follows the same assumptions applied at project validation.	The value and assumption are consistent with the project description.	The value has been assessed and deemed appropriate.
MANFOR (ha)	This has been conservatively set to 0. This follows the same assumptions applied at project validation.	The value and assumption are consistent with the project description.	The value has been assessed and deemed appropriate.
Aburn,q,i,t. (ha)	The project used a conservative assumption, where all biomass that existed in deforested areas was burned, therefore completely taken out of project crediting.	The value and assumption are consistent with the project description.	The value has been assessed and deemed appropriate.
Bi,t (t d.m./ha)	These values were derived from the forest inventory taken at time of validation. The audit team confirmed that validated values have been correctly applied during this verification period.	The value and assumption are consistent with the project description.	The values have been assessed and deemed appropriate (see ADefPA,u,i,t (ha) above).
EBSL,SS	The audit team confirmed that validated values have been correctly applied during this verification period.	The value and assumption are consistent with the project description.	The value has been assessed and deemed appropriate.
UBSL,SS	The audit team confirmed that validated values have been correctly applied during this verification period.	The value and assumption are consistent with the project description.	The value has been assessed and deemed appropriate.

4.4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

4.4.2.1 Nature of Data and Information Supporting GHG Quantification

Certain data and information supporting the quantification of GHG emission reductions and/or removals were hypothetical, projected and/or historical in nature, as described in more detail below.

- $B_{i,t}$ (average aboveground biomass before burning for stratum i): this parameter was calculated based upon data from the inventory taken when the project was validated. Given that it represents average biomass for the baseline case, it is conservative (eg, derived before forest growth over the course of the project).

4.4.2.2 Quality and Quantity of Evidence Used to Determine GHG Quantification

The evidence used to determine the GHG reductions and removals for the verification period 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.

Category	Steps taken by audit team to assess...		
	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
Reporting workbooks	The main workbook originated from Project Personnel and was determined, after thorough testing, to be of high quality and highly reliable; quantity of workbooks provided to audit team was sufficient	The audit team traced data contained in the monitoring report from the emission reduction workbook back to their respective sources, which is recorded in /1/	N/A
Forest classification and mapping	The classification protocols were reviewed by the audit team, who confirmed that it was conducted using best practices and capable of capturing changes in carbon stock in conformance with the methodology	The audit team reviewed the forest classification method and conducted our own accuracy assessment to ensure high quality forest coverage mapping /2/	N/A

Category	Steps taken by audit team to assess...		
	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
GIS data	All deforestation information in workbooks and other demographic data was provided to the audit team, who confirmed that the data contained all the necessary information to recreate the processes employed by the project and found the calculations consistent with values stated in the project description, monitoring report and applied calculations.	The audit team re-calculated the total forested area from GIS data /10/ provided by the client in two points in time (beginning and end of the verification period), and we were able to recalculate deforested areas presented and used in ER calculations in the calculation workbook /1/.	N/A

Overall, the evidence used to determine the GHG reductions and removals for the verification period 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.

4.4.3 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

- 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.

4.4.3.1 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)	N/A	N/A	Risk rating is appropriate
(b)	The audit team assessed whether patrols have been ongoing in the area to prevent encroachment and illegal logging.	The data came in form of interviews conducted remotely. Interviewees included community members that have both been involved in project activities and randomly chosen community members.	2, Risk rating is appropriate
(c)	The audit team assessed individuals involved in the project through interviews and reviewed past verification reports.	The quality depends upon the efficacy of remote interviews and past verification reports, which we find sufficient for conditions under which this remote audit was conducted.	0, Risk rating is appropriate
(d)	The audit team accepts the claim Rio Branco is less than a day's travel from project activity and that there is a project coordinator on site, based on interviews and past audits.	Quality is sufficient to verify these claims.	0, Risk rating is appropriate
(e)	The audit team has worked with the project proponents and has validated this project.	Quality is sufficient to verify that project proponents and their team have significant experience in project design and implementation.	-2, Risk rating is appropriate
(f)	N/A	N/A	0, Risk rating is appropriate

4.4.3.2 *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-d)	The verification report from the last period /26/ indicated in their assessment for Indicator G3.11 “Pro-formas indicate revenues exceed expenditures for each year since 2013, including the verification year, 2017. Publicly available 990 forms indicate Carbonfund.org’s assets are in the high seven digits, and have been increasing, year by year. The project has adequate funds for project implementation. Item closed.” The audit team downloaded Carbonfund’s 2019 IRS 990 Form /30/ and found that the revenue, which exceeds expenses, is in the 7 digits and has exceeded the prior year.	The quality of evidence is high.	0, Risk rating is appropriate
(e-h)	See above. The audit team also reviewed the project’s pro forma financial projections /35/	The quality of evidence is high.	0, Risk rating is appropriate
(i)	See above. The audit team also reviewed the project’s pro forma financial projections /35/	The quality of evidence is high.	-2, Risk rating is appropriate

4.4.3.3 *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	0, Risk rating is appropriate
(b)	N/A	N/A	0, Risk rating is appropriate
(c)	N/A	N/A	0, Risk rating is appropriate
(d)	It is clear from the validation report /28/ in Section 3.1.10.4 that baseline activities over the crediting period are subsistence driven. The project is certified against CCB standards, which requires evidence of net positive community impacts.	The quality is high enough to verify the project’s assertion.	0, 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
(e)	N/A	N/A	0, Risk rating is appropriate
(f)	N/A	N/A	0, Risk rating is appropriate
(g)	The project proponent(s) is not a non-profit, and this has been the case since validation /28/.	The quality is high.	0, Risk rating is appropriate
(h)	The project's Tri-Party Agreement /38-39/ is still in effect (will be from 60 years since Start Date) and has been since the previous verification.	The quality is high.	-2, Risk rating is appropriate
(i)	N/A	N/A	0, Risk rating is appropriate

4.4.3.4 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)	N/A	N/A	0, Risk rating is appropriate
(b)	As the validation report /28/ stated: “the project longevity of 60 years is covered by the amended Tri-Party Agreement, which requires the activities of “maintaining the Project's forest cover and mitigating deforestation”.” The audit team also assessed the Tri-Party agreement documentation /38-39/.	The documentation assessed is sufficient to verify this claim.	0, Risk rating is appropriate

4.4.3.5 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)	The project proponents own the land and do not share resource use or access rights /28/	The documentation provided is sufficient to assess this claim.	0, Risk rating is appropriate
(b)	The project proponents own the land and do not share resource use or access rights /28/	The documentation provided is sufficient to assess this claim.	0, 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)	The project proponents own the land and do not share resource use or access rights /28/	The documentation provided is sufficient to assess this claim.	0, Risk rating is appropriate
(d)	There is a dispute over access rights in the project area involving one of the families in the community. Interviews have confirmed an appeals process with the government is underway.	This dispute has been documented in the previous verification report as a forward action item /26/ and has been mentioned during interviews. The quality of this information is high.	5, Risk rating is appropriate
(e)	N/A	N/A	0, Risk rating is appropriate
(f)	The “Tri-Party Agreement” /38-39/ is in place, as mentioned in items above.	The documentation assessed is sufficient to verify this claim.	-2, Risk rating is appropriate
(g)	The audit team reviewed the titles that support the project’s claim about access right to local community members /31-34/. Interviews indicate that the project has taken legal action to address the Guitas family dispute.	The documentation assessed and interviews are sufficient to verify this claim.	-2, Risk rating is appropriate

4.4.3.6 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)	Interviews with local communities indicate they have been contacted by the project, which supports the project’s claim.	The quality is dependent upon the remote nature of interviews taken during this verification event, which is sufficient for reasonable assurance.	0, Risk rating is appropriate
(b)	Interviews with local communities indicate they have been contacted by the project, which supports the project’s claim.	The quality is dependent upon the remote nature of interviews taken during this verification event, which is sufficient for reasonable assurance.	0, Risk rating is appropriate
(c)	N/A	N/A	0, Risk rating is appropriate

4.4.3.7 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-e)	The audit team verified the indicator data from the World Bank's website.	The data was checked at its source, and the quality is high.	2, Risk rating is appropriate
(f)	The audit team checked the proponent's sources (CDM project listings) and verified these projects exist and have been active over this verification period.	The data was checked at its source, and the quality is high.	-2, Risk rating is appropriate

4.4.3.8 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	As the natural risk categories are assessed at a time period of 100 years, the audit team has no concern that the risk scores would change between assessments. In addition, the audit team reviewed the previous risk scores back from validation /28/ to ensure no changes since the previous assessment.	The audit team considers previously verified VCS documentation to be of high quality.	2, Risk rating is appropriate
S			
M			
Pest and Disease Outbreaks			
L	Same as above	Same as above	0, Risk rating is appropriate
S			
M			
Extreme Weather			
L	Same as above	Same as above	0, Risk rating is appropriate
S			
M			
Geological Risk			
L	Same as above	Same as above	0, Risk rating is appropriate
S			
M			
Other natural risk			
L	Same as above	Same as above	0, Risk rating is appropriate
S			
M			

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

The audit team took the following steps to verify the actions taken to disseminate the climate monitoring plan and results.

--The audit team affirmed that the project documentation had been made available on both the VCS/CCB website for public comments.

--The monitoring report states in section 3.1.4 that “links to the Purus Project are also publicly distributed during the CCBS Public Comment Period via Carbonfund.org’s newsletter”, and the audit team verified that the public was alerted at the beginning of the comment period (posted 6/28/2021; comment period ran from 6/22/2021 to 7/22/2021): <https://carbonfund.org/purus-project-in-brazil-submitted-for-ccbs-public-comment-period/>

In summary, the audit team concludes that the results of climate monitoring were disseminated in accordance with the validated project design.

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

Not applicable; the project is not being validated against the optional Gold Level indicator GL1.4.

4.5 Community

4.5.1 Community Impacts (CM1.1)

The audit team took the following steps to verify the reported impacts of project activities on each identified community group.

- The audit team reviewed the MR Section 4.1.1 and confirmed it includes a detailed assessment of expected impacts on the well-being of communities of each of the main project activities including agricultural extension training, increased access to health and dental services, increased employment activities, granting of land titles, and diversification of livelihoods.
- Through remote interviews and review of documentation, the audit team confirmed the project utilizes appropriate methodologies, including the Basic Necessity Survey /21//22/ and the Participatory Rural Assessment /23/ to monitor and measure the project's impact on local families.
- Through interviews and review of documentation the audit team confirmed that direct consultation with families occurred, and that consultation included topics of predicted and actual costs and risks, on each of the identified community groups.
- The audit team interviewed local community members via remote interview who confirmed the project's statements with regard to changes in well-being and community impacts, were a result of the consultation process and are therefore defensible. The MR includes a breakdown of anticipated impacts by group and shows the result to be net positive for all groups, therefore meeting the requirements of this indicator.

In summary, since briefly summarize justification, the audit team concludes that the assessment of impacts, as reported in Section 4.1 of the MR, is accurate.

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

The audit team took the following steps to verify that the net impacts of project activities on all identified community groups is positive.

- Please see the steps outlined in Section 4.5.1 of this report.

- The audit team interviewed local community members who confirmed that the anticipated net well-being impacts of the project are predicted to be positive for all identified community groups.

In summary, the audit team concludes that the project's anticipated net well-being impacts are predicted to be positive for all identified community groups compared with their anticipated well-being conditions under the without-project land use scenario.

4.5.3 Protection of High Conservation Values (CM1.2)

The audit team took the following steps to verify that no high conservation values related to community well-being in the project zone identified in the project's validated design have been negatively affected by the project.

- Based on interviews conducted with project personnel and community members, the audit team believes that community-related HCV's areas were correctly identified in the MR as the intact rivers and forests of the area, in that they provide critical ecosystem services, areas fundamental for livelihoods, and areas critical for traditional cultural identity.
- Based on interviews and onsite observations, the audit team agrees that the community-related HCV's are not negatively affected by the project.
- The audit team agrees, based on document assessment and interviews, that the project's main goals of protecting forest cover of the project area will benefit, rather than harm the community-related HCV's.

In summary, the audit team concludes that no high conservation values related to community well-being in the project zone identified in the project's validated design have been negatively affected by the project.

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

The audit team took the following steps to (1) verify the measures implemented to mitigate the negative well-being impacts on other stakeholders and (2) verify that the net impact of project activities on other stakeholders is positive.

- The project identifies other stakeholders primarily as communities living outside the project zone and along the project area border. Per Section 2.4, the audit team conducted interviews of a subsample of other stakeholders.
- The audit team reviewed the MR regarding measures implemented to mitigate the negative well-being impacts on other stakeholders, and included to mitigate potential negative impacts to the well-being of other stakeholders.
- The audit team agrees, based on remote interviews with project personnel and community members, that the activities undertaken during the reporting period (related to long term protection of the project area forest, as well as project benefits such as health care access which was extended to other stakeholders as well) will result in a net benefit to other stakeholders.

In summary, the audit team agrees with the conclusions drawn regarding mitigation of negative impacts on other stakeholders, as well as that the net impact of project activities on other stakeholders is positive.

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

The audit team took the following steps to verify that the community impact monitoring has been carried out in accordance with the project's validated design.

Steps taken to verify...

Communities, community groups, other stakeholders, and HCVs related to community well-being identified in the monitoring plan.	- The audit team thoroughly reviewed the MR Section 4.3.1. and confirmed that community monitoring is being described in accordance with the validated design and is very detailed and well described. - The audit team interviewed local community members (including community groups), as well as project personnel, and confirmed that the appropriate communities, community groups, other stakeholders, and HCVs related to community well-being are identified in the monitoring plan.
Community variables monitored.	The audit team interviewed community members and confirmed that community monitoring variables were produced as a result of the consultation process that took place during validation (and per the validated project description (Ref. 24) design). These are seen being implemented in a positive way. Documentation assessed were the PRA and BNS surveys /21//22//23/ which were used in monitoring. The Theory of Change is used to create flow diagrams which were confirmed by the audit team.
The dates, frequency and sampling methods used are in accordance with the validated project design.	Through document assessment, as well as some remote interviews with project personnel and communities, the audit team confirmed the dates, frequency and sampling methods used are in accordance with the validated project design.
The results of monitoring.	The audit team confirmed the results of monitoring through document assessment and remote interviews. For instance, the audit team discussed the survey results with specific families who were surveyed and confirmed the accuracy of the results. The audit team spoke with community members regarding the benefits of the onsite health clinic and the project headquarters.

In summary, given documentation assessment and remote interviews, the audit team concludes that the results of community monitoring were in accordance with the validated project design.

4.5.6 Community Monitoring Plan Dissemination (CM3.3)

The audit team took the following steps to verify the actions taken to disseminate the results of community monitoring in accordance with the monitoring plan.

- Through interviews with community members and project team members, the audit team confirmed that the community monitoring plan included within the project description (Ref. 24) and MR is available for public review in the project headquarters, and that the monitoring report results (which include the results of the community monitoring plan) were made publicly available in the same way to communities throughout the project zone in the appropriate language of Portuguese.

In summary, the audit team concludes that the results of community monitoring were disseminated in accordance with the validated project design.

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

Not applicable; the project was not validated to the Exceptional Community Benefits Gold Level.

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

Not applicable; the project was not validated to the Exceptional Community Benefits Gold Level.

4.6 Biodiversity

4.6.1 Biodiversity Changes (B1.1)

The audit team took the following steps to verify the reported changes in biodiversity in the project zone due to project activities.

Steps taken to verify...	
The accuracy and appropriateness of monitored data	- The audit team confirmed the accuracy and appropriateness of monitored data (e.g., remotely sensed and satellite imagery used to monitor and report changes in forest cover). - In addition, the audit team was able to independently confirm the accuracy of the GIS and remote sensed image /6//8/ analysis performed by the remote sensing specialist, and through a detailed walk-through of steps performed by the remote sensing specialist (Section 2.4). - The audit team interviewed biologist Luiz Henrique Medeiros Borges, who is in charge of biodiversity monitoring for the project. He described the methods used and confirmed the presence of listed species, and shared wildlife camera photos (/14/-/20/). Additionally, the audit team reviewed a paper about the study authored by him.
The justification used to attribute biodiversity changes to the project's activities	The audit team agrees that the most likely without-project scenario, which is conversion to a large cattle ranch, would substantially reduce biodiversity within the project area. The project, through its activities, has therefore reduced forest loss and biodiversity loss.

In summary, the audit team concludes that the project's assessment of changes in biodiversity resulting from project activities in the project zone during the verification period are accurate.

4.6.2 High Conservation Values Protected (B1.2)

The audit team took the following steps to verify that no high conservation values were negatively affected by the project.

- As the entirety of the project area is considered a high conservation area, and given that the primary project activity is the protection of forests in the project area, the audit team agrees with the project team that no high conservation value area is negatively affected by the project.
- The audit team reviewed the IUCN lists, and confirmed that are listed as Vulnerable and Endangered, as occurring in the project area, and agreed that the WWF source is reputable for determination of endemic species.
- The audit team interviewed the biologist Luiz Henrique Medeiros Borges, who is in charge of biodiversity monitoring for the project (Section 2.4) regarding his wildlife camera trap study within the project area, which includes a number of special status species.

In summary, based on documentation assessment and interviews conducted, the audit team agrees that no high conservation values were negatively affected by the project.

4.6.3 Invasive Species (B1.3)

Through interviews and documentation assessment, the audit team confirmed the project team's assertion that project activities that include any planting within the project zone will utilize native or naturalized tree/plant species on-site and that no invasive or non-native species will be used in the project area.

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

Please see section 4.6.3 above.

4.6.5 GMO Exclusion (B1.5)

The audit team confirmed that no GMO's were used to generate GHG emission reductions or removals during the verification period.

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

The audit team took the following steps to (1) verify any negative impacts on biodiversity outside the project area due to the project and (2) verify the project's identified negative impacts and the actions taken by the project to mitigate negative impacts.

- Through interviews, as well as through professional judgement based on verification visits in other parts of the Brazilian Amazon, the audit team agrees that the project is very unlikely to have negative biodiversity impacts outside the project area which would not have occurred in the absence of the project.

The audit team therefore agrees that mitigation measures against such impacts are not needed.

In summary, based on interviews and documentation assessment, the audit team concludes that the project had adequately identified all negative offsite biodiversity impacts and has taken actions to mitigate the impacts.

4.6.7 Net Biodiversity Benefits (B2.3)

The audit team took the following steps to verify that the project's net biodiversity impacts are positive, taking into account positive and negative impacts on biodiversity within the project zone and unmitigated negative impacts on biodiversity outside the project zone.

- As stated in Section 4.6.9, the audit team agrees that negative offsite impacts to biodiversity are unlikely to occur as a result of the project, and therefore, that evaluation of unmitigated offsite impacts is not applicable

In summary, the audit team concludes that the net biodiversity impacts of the project are positive.

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

The audit team took the following steps to verify that the biodiversity impact monitoring has been carried out in accordance with the project's validated design.

Steps taken to verify...	
That the dates, frequency, biodiversity variables and	• The audit team conducted remote interviews (per Section 2.4) with project personnel involved in the deforestation monitoring

sampling methods used are in accordance with the validated project design.	through satellite imagery assessment, and confirmed their competency. - The audit team interviewed project personnel involved in the wildlife survey (per Section 2.4), and confirmed their competence to perform the wildlife monitoring protocols - The audit team reviewed and confirmed that the biodiversity monitoring plan selected biodiversity indicators that are directly linked to the project's biodiversity objectives, and that the appropriate sampling methods, dates, frequencies, and reporting methods are used. - The audit team interviewed the biologist Luiz Henrique Medeiros Borges, charged with biodiversity monitoring for the project (Section 2.4) regarding the wildlife camera trap study within the project area and the results including a number of special status species found within the project area.
The results of monitoring.	- As stated in previous sections, the audit team interviewed project personnel involved in wildlife surveys and deforestation monitoring. - The audit team was able to independently confirm the accuracy of the GIS and remote sensing work performed by the remote sensing specialist.
The effectiveness of measures taken to maintain or enhance all identified high conservation values.	As stated in previous sections, the entire project area is considered an HCV area, and the primary project activity is the protection of forests in the project area; the audit team agrees with measures taken to maintain and enhance the project area.

As the project is validated to the Gold Level for exceptional biodiversity benefits, the audit team verified that the monitoring results included the vulnerability indicators of each of the endangered species (identified are two tree species in the MR Section 5.3.2).

In summary, the audit team concludes that the biodiversity monitoring plan was carried out in accordance to the validated project design.

4.6.9 Biodiversity Monitoring Plan Dissemination (B3.3)

The audit team took the following steps to verify the actions taken to disseminate the biodiversity monitoring plan and results:

- The audit team received attestation via remote interview that the biodiversity monitoring plan included within the project description (Ref. 24) and MR was available for public review in the project headquarters, and that the monitoring report results (which include the results of the biodiversity monitoring plan) were made publicly available in the same way to communities throughout the project zone in the appropriate language of Portuguese.
- The audit team confirmed that the biodiversity study from the project area was published in the peer-reviewed literature as stated in the MR.

In summary, the audit team concludes that the results of biodiversity monitoring were disseminated in accordance with the validated project design.

4.6.10 Optional Gold Level: Exceptional Biodiversity Benefits (GL3.1)

The project was validated against the Gold Level indicator GL3 for Exceptional Biodiversity, on the basis of there being an Endangered (EN) species on the IUCN Red List, based on presence of at least a single individual.

For the Purus Project, the designation was validated due to the presence of at least two endangered flora species identified within the project area. The presence was based on a rapid assessment of the Purus Project's flora and fauna diversity conducted by Maria José Miranda de Souza Noquelli of Tenório Dias and Alternativa Ambiental from August to September 2009, and subsequently validated by the validation team. The audit team confirmed the continued classification of the two species as Endangered on the IUCN Red List /40/ and /41/. The audit team noted that the monitoring report does not mention more recent confirmation of presence within the project area.

The audit team thereby reached the conclusion that the project fulfilled the requirements of GL3.1 of the Climate, Community & Biodiversity Standards.

4.7 Additional Project Implementation Information

This section is not applicable.

4.8 Additional Project Impact Information.

This section is not applicable.

5 VERIFICATION CONCLUSION

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

- The project complies with the verification criteria for projects set out in CCB Version 3.
- The project complies with the verification criteria for projects set out in VCS Version 4.
- The project has been implemented in accordance with the validated project description and any subsequently validated variations.

Verification/monitoring period: From 01 January 2018 to 31 December 2020.

In summary, the audit team concludes the following regarding the validity of the net positive climate change adaptive capacity and resilience (if any), community and biodiversity benefits achieved by the project during the project implementation period.

Summary comments regarding validity of the following achieved by the project during the project implementation period	
Net positive climate benefits	• The audit team concludes that net positive climate benefits were achieved by the project during the referenced verification period.
Net positive community benefits	• The audit team concludes that net positive community benefits were achieved by the project during the referenced verification period.
Net positive biodiversity benefits	• The audit team concludes that net positive biodiversity benefits were achieved by the project during the referenced verification period.

In summary, the audit team concludes the following regarding whether the project has achieved, or is on track to achieve, its stated climate, community and biodiversity objectives.

Objectives	Achieved or on track to achieve?	
Climate objectives	☒ Yes	☐ No
Community objectives	☒ Yes	☐ No
Biodiversity objectives	☒ Yes	☐ No

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

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)	Buffer pool allocation	VCUs eligible for issuance
2018	169,285	76,441	6,218	86,626	9,284	77,341
2019	201,212	76,441	12,446	112,325	12,477	99,847
2020	209,001	76,441	14,127	118,434	13,256	105,177
Total	579,498	229,322	32,791	317,385	35,018	282,367

- Net change in carbon stocks: 282,367 tCO₂e
- Non-permanence risk rating (see Section 4.4.3 above): 10%
- Total number of buffer credits to be deposited into AFOLU pooled buffer account: 35,018 credits

APPENDIX A: LIST OF FINDINGS

Please see the above Section 2.6 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.

NIR 1 Dated 24 Sep 2021

Standard Reference: VMD0015-M-MON version 2.2

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: In VMD0015-M-MON version 2.2, Section 5, Step 1, the module states:

"Post-processing is required to:

1. Map area change detected in the imagery.
2. Calculate the area of each category of change within the project area and, where required, the leakage belt."

and then at the end "The overall classification accuracy of the outcome of the previous steps must be 90% or more." During the review of accuracy assessment locations, the audit team observed there was 1 accuracy assessment point in the project area and 1 point in the leakage belt. The points appear well distributed in a random fashion across the 2020 image. Please provide more information/justification regarding how the accuracy assessment calculated for the referenced imagery can also be attributed specifically to the project area and leakage belt.

Project Personnel Response: The accuracy assessment points were allocated using a stratified random sampling approach. As such, the entire forest area of the classified image received the same sampling intensity of forest accuracy assessment points. Similarly, the entire nonforest area of the classified image received the same sampling intensity of nonforest accuracy assessment points. As such there was no bias in allocation of accuracy assessment points and the overall accuracy of 97.5% is applicable to the entire image including the project area and leakage belt, regardless if accuracy assessment points actually fell within these areas.

Auditor Response: Thank you for the clarification about the stratified random sampling approach. To confirm the classification is appropriate for the project area itself, the audit team conducted a focused assessment of the project area and leakage belt. We obtained the same overall accuracy rate, which confirms no bias in the sampling design. We will close this finding.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 2 Dated 24 Sep 2021

Standard Reference: VMD0015-M-MON version 2.2

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: In VMD0015-M-MON version 2.2, Section 5, Step 2, the module states: "The method selected must be based on common good practice in the remote sensing field and will depend on available resources and the availability of image processing software. The same method must be used for the entire period for which the baseline is fixed." The monitoring report states in Section 3.2.2 "The Acre deforestation dataset was not available for the preparation of the 2018-2020 monitoring period, therefore monitoring results reported here used Landsat 8 imagery from the end of 2020 classified according to the procedures below."

The audit team requests more information regarding whether the same classification methods that the state of Acre used to classify forest vs. non-forest with Landsat-8 imagery were conducted during the current monitoring period.

Project Personnel Response: Processing and post-processing steps meet the requirements of the methodology as laid out in Section 3.2.2 of the monitoring report. Similarly, classification methods have been used to produce the forest/nonforest layer, such that the analysis can be used to estimate deforestation that may occur in the project and leakage areas. Procedures used are compliant with best practices including GOFC-GOLD, 2008, Reducing greenhouse gas emissions from deforestation and degradation in developing countries: a sourcebook of methods and procedures for monitoring, measuring and reporting, GOFC-GOLD Report version COP13-2, (GOFC-GOLD Project Office, Natural Resources Canada, Alberta, Canada)

Further, we have included a copy of the UCEGEO methodology "REVISÃO DA DINÂMICA DO DESMATAMENTO NO ESTADO DO ACRE: ANÁLISE TEMPORAL DE 23 ANOS (PERÍODO DE 1988 A 2010).pdf" to supply the auditors with additional information on the original classification methods which may not have been present in the original PDD.

The following project description deviation has been included in the 2020 monitoring report.

"As the UCEGEO (the GIS department within the Climate Change Institute of Acre State government) annual dataset on the extent and spatial location of all deforestation within Acre state is no longer available for use in the current monitoring period, this project uses classified Landsat imagery produced by the project proponent for monitoring purposes. While this potential was foreseen in the original project document as the project document states "In the case, where this dataset ceases to be available, ex-post deforestation will be determined by classification of remotely sensed imagery and land use change detection procedures" the procedures for classification for the 2018-2020 monitoring period are only similar to the original UCEGEO procedures as opposed the "same" as called for by the methodology, below.

VMD0015-M-MON version 2.2 states: "The method selected must be based on common good practice in the remote sensing field and will depend on available resources and the availability of image processing software. The same method must be used for the entire period for which the baseline is fixed."

While the same source of remotely sensed data, LandSat, continues to be used for classifying land-use and land-cover, processing and post-processing steps differ slightly due to software availability and the different approaches of the remote sensing professionals performing the work. That said, the current classification approach meets the requirements of the methodology as laid out in Section 3.2.2 of the monitoring report. Classification methods have been used to produce the forest/nonforest layer, such that the analysis can be used to estimate deforestation that may occur in the project and leakage areas. Procedures used are compliant with best practices including GOFC-GOLD, 2008, Reducing greenhouse gas emissions from deforestation and degradation in developing countries: a sourcebook of methods and procedures for monitoring, measuring and reporting, GOFC-GOLD Report version COP13-2, (GOFC-GOLD Project Office, Natural Resources Canada, Alberta, Canada)

This deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology. This deviation will be used for the 2018-2020 monitoring period and each subsequent monitoring period provided the UCEGEO dataset is not available.

Auditor Response: The classification approach used to delineate forest from non-forest for the period 2018-2020 does follow best practices, and the additional information included in the methodology deviation section 2.2.4 of the monitoring report fulfills requirements about methods reporting in VMD0015-M-MON v2.2. We will close this finding.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 3 Dated 24 Sep 2021

Standard Reference: VMD0015-M-MON version 2.2

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: IN VMD0015-M-MON version 2.2, Section 5, Step 2, the module states: "The method selected must be based on common good practice in the remote sensing field and will depend on available resources and the availability of image processing software." In Section 3.2.2, the monitoring report describes how training points were selected for the classification algorithm. Please provide further information/justification in the report to demonstrate that the training point selection was conducted in a manner where the training dataset is well representative of all classes (forest and non-forest classes) that were predicted by the classification algorithm.

Project Personnel Response: In response to this finding, the following text was added to Section 3.2.2 of the monitoring report. "The sampling design for the accuracy assessment used a stratified random sampling approach. This approach was used in order to ensure that a sufficient number of accuracy assessments points were allocated to each class including the nonforest classes which mostly occur in a small patches of deforested areas within a larger forest landscape. The procedure was carried out following the Good practices for estimating area and assessing accuracy of land change (Olofsson et al. 2014). Further, the stratification by map classes improves the precision of the accuracy and area estimates by increasing the sampling density in the change classes (FAO 2016). The sample was generated using the AREA2 tool from GEE (Bullock and Olofsson 2018) which is also consistent with the Good Practice.

As such, the entire forest area of the classified image received the same sampling intensity of forest accuracy assessment points. Similarly, the entire nonforest area of the classified image received the same sampling intensity of nonforest accuracy assessment points. As such there was no bias in allocation of accuracy assessment points and the overall accuracy of 97.5% is applicable to the entire image including the project area and leakage belt, regardless of if accuracy assessment points actually fell within these areas."

Auditor Response: Thank you for the additional information about the sampling approach, which does satisfy our information request. Upon review of the methods ('REPORT_PUROS_PROJECT_FIRST_SCENE_CG_16_04_2021.pdf') and from our own focused accuracy assessment, we have corroborated that best practices were applied and that the sampling of training points is not biased. We will close this finding.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 4 Dated 24 Sep 2021

Standard Reference: VMD0015-M-MON version 2.2, REDD Methodology Modules VM0007 (REDD-MF)

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: The VM0007 REDD-MF Framework Methodology, Section 3, states as follows: "This Framework requires the use of the latest approved versions of the following modules and tools". Per the Verra website, the current version of the M-MON module is 2.2.

Section 3.2.2 of the project's MR states "Project emissions are estimated by applying module M-MON (VMD0015, Version 2.0) of Methodology VM0007", while Section 2.1.8 of the same documents states that the 2.1 version of the M-MON was used. Please revise accordingly as well as provide confirmation that all requirements of version 2.2 that changed from 2.1 or 2.0 were met.

Project Personnel Response: Thanks for finding this oversight. We have revised the monitoring report to refer to the current version of M-Mon 2.2. This included text updates in Section 3.2.2 and Section 2.1.8.

Further, to our knowledge all requirements of version 2.2 of M-MON have been met.

Auditor Response: The correct version is now listed in the monitoring report. We agree that all requirements have been met for M-MON v2.2. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 5 Dated 24 Sep 2021

Standard Reference: VCS MR template

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: Per the Verra website, the PD is registered under VCS Standard version 3.3, whereas the MR template used is VCS Standard version 3.4. Please clarify.

Project Personnel Response: The VCS Standard 3.3 states
In Section 1.1

"This document shall be updated from time-to-time and readers should ensure that they are using the most current version of the document. Where external documents are referenced, such as the IPCC 2006 Guidelines for National GHG Inventories, and such documents are updated, the most recent version of the document shall be used."

Further Section 3.16.6 on Monitoring Reports states:

"The monitoring report shall include all the data and information as set out in the monitoring requirements of the project description and the applied methodology. It shall be prepared using the VCS Monitoring Report Template and shall include the following:

- 1) A summary of the project details.
- 2) The implementation status of the project.
- 3) The data and parameters (both available at validation and monitored) and a description of the monitoring plan.
- 4) The calculation of net GHG emission reductions and removals.
- 5) Any additional information relevant to monitoring."

As such it follows, that each project monitoring report should use the most up to date version of the VCS Monitoring Report Template as it is a referenced external document.

Auditor Response: The audit team acknowledges that the most up to date version of the VCS Monitoring Report Template should be used per guidelines in the VCS Standard. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 6 Dated 26 Oct 2021

Standard Reference: VMD0015-M-MON version 2.2, REDD Methodology Modules VM0007 (REDD-MF)

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: Section 6.2 Data and Parameter Monitored for Verification requires a "Leakage Belt Forest Cover Monitoring Map", described as a "map showing the location of forest land within the leakage belt area at the beginning of each monitoring period. Only applicable where leakage is to be monitored in a leakage belt."

The MR contains Figure 3.2, showing the location of forest land within the leakage belt area in 2020. However, there does not appear to be a map showing the location of forest land within the leakage belt area at the beginning of the monitoring period. Given that leakage is monitoring in the leakage belt, please provide such a map or a justification for why such a map is not provided.

Project Personnel Response: Figure 3.2 has been revised to demonstrate compliance with this requirement. Text changes include:

Figure 3.2a. Existing forest cover at the end of the last monitoring period and start of the current monitoring period, December 2017.

Figure 3.2b. Existing forest cover at the end of current monitoring period, December 2020.

Further, Figure 3.2 has been changed to Figure 3.2b and Figure 3.2a has been provided and inserted into the monitoring report in response to this finding.

Auditor Response: Thank you for adding Figure 3.2a and addressing the requirement of providing a forest cover map associated with the beginning of the monitoring period. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 7 Dated 26 Oct 2021

Standard Reference: VMD0015-M-MON version 2.2, REDD Methodology Modules VM0007 (REDD-MF)

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: Section 6.2 Data and Parameter Monitored for Verification requires a "Project Forest Cover Monitoring Map", described as a "map showing the location of forest land within the project area at the beginning of each monitoring period. If within the Project Area some forest land is cleared, the benchmark map must show the deforested areas at each monitoring event." Noting that "where forest land contains more than one forest class, the map must be stratified into forest classes using module X-STR."

The MR currently contains Figure 3.2., the 2020 forest benchmark map for the project area, however it does not appear to contain a map showing the location of forest land within the project area at the beginning of the monitoring period.

Project Personnel Response: Figure 3.2 has been revised to demonstrate compliance with this requirement. Text changes include:

Figure 3.2a. Existing forest cover at the end of the last monitoring period and start of the current monitoring period, December 2017.

Figure 3.2b. Existing forest cover at the end of current monitoring period, December 2020.

Further, Figure 3.2 has been changed to Figure 3.2b and Figure 3.2a has been provided and inserted into the monitoring report in response to this finding.

Auditor Response: Thank you for adding Figure 3.2a and addressing the requirement of providing a forest cover map associated with the beginning of the monitoring period. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 8 Dated 26 Oct 2021

Standard Reference: VMD0010-LK-ASU-v1.1

Document Reference: Purus Project's CCB-VCS 2018-2020 Monitoring Report (5-28-2021)

Finding: Section 6.1 Data and Parameters Available at Validation states for COLB ('Area-weighted average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt'): "The available national forest area and MANFOR and PROTFOR will change over time. The area-weighted average must be recalculated at least every 5 years." The parameter TOTFOR has changed from initial validation >5 years ago (519,522,377 to 533,073,000 ha), however COLB has not been updated. Please clarify why COLB has not changed during this monitoring period from its value since the project start.

Project Personnel Response: We have updated the COLB parameter as follows.

COLB = 368.4 t CO₂/ha. This calculation follows the same approach as laid out in the project document where MANFOR and PROFOR are conservatively set to zero. This implies AVFOR=TOTFOR. We then updated TOFOR using the 2020 FAO Brazil Forest Resource Assessment as opposed to the 2010 FAO Brazil Forest Resource Assessment used in the original PD.

This calculation has been documented in the workbook "2020 Purus Monitoring 2021.12.22.xlsx". Further, this updated parameter has led to the update of the GHG accounting found in the same workbook. We then updated all the "downstream" text and calculations related to this change in the monitoring report.

Auditor Response: The audit team confirmed the assumptions behind the COLB update are appropriate and that the update has been carried through the calculation workbook and monitoring report. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C