



RIO BRAVO CLIMATE ACTION PROJECT

VERIFICATION REPORT



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Summary:

AENOR has carried out the second verification of the Rio Bravo Climate Action Project under the VCS standard. The project is a conservation project (REDD+, Avoided Planned Deforestation) located in the Orange Walk District of north-western Belize.

The project area contains 6,296 hectares of mature humid forest land and is a component of what is now the much larger (100,000 hectare approximately) Rio Bravo Conservation and Management Area (RCBMA). The area within the Project Boundary and the larger RBCMA was purchased creating a clear land title held by the Programme for Belize, in trust with the Belize government. The act of purchase removed the imminent threat of purchase by industrial scale agricultural farmers who would have proceeded to deforest the area and convert it to farmland. The land titles purchased covered areas both within and outside of this REDD Project boundary; however, the areas outside contain pine savannah, an ecosystem that was not under the threat of deforestation by agriculturalists, and it was, therefore, excluded from the project.

The purpose of the verification was to determine the conformance of the project with respect to the VCS Standard v4.2 and the validated PD, and the assessment of the ex-post monitored anthropogenic GHG emissions reductions and/or removals that have occurred as a result of the project's activities. The scope of the verification was to assess the conformance of validated project, once implemented, with the VCS requirements and requirements in the validated PD. The process was performed through a combination of desk review, onsite inspections and interviews, and communications with relevant personnel.

During the reporting period, Programme for Belize (Pfb) continued to implement conservation activities across the Project area, mainly by conducting regular patrols to prevent illegal poaching of wildlife and timber, and to prevent damage from wildfire. Additionally, monitoring efforts were implemented to track the impact of sustainable selective logging (certified under FSC) and impacts of disturbance like hurricanes and wildfire. Pfb also worked with community stakeholders to make sure that the boundaries of the reserve were protected, and agricultural activities did not encroach

on the forest. By maintaining forest cover in the project area during this period, PfB enabled the forest to sequester net positive carbon emissions from the atmosphere, which were monitored through a forest inventory, complemented with other techniques to account for project emissions (selective sustainable logging, illegal logging, etc.).

The project activities began in January 1996, and it was registered under the VM0007 methodology retroactively in 2016. The crediting period covers from 1 January 2002 to 31 December 2021. The first monitoring period was from 1 January 2002 to 31 December 2011, which represented 1,790,889 tCO₂ of emission reductions.

The current event is the second and last verification, covering from 01 January 2012 to 31 December 2021 and generating 130,629 tCO₂e in removals from the enhancement of forest carbon stocks, which corresponds to 117,566 VCU considering the non-permanence risk buffer of 10%. The project completed its initial crediting period on 31 December 2021 and will not be renewing its crediting period.

During the verification 8 CLs and 11 CARs were raised. All these issues were appropriately closed by means of corrections, more clear explanations, and additional supporting documents.

AENOR carried out this final verification report and deems with reasonable level of assurance that the project complies with all of the verification criteria. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria; hence, the audit team concludes that the cumulative net GHG removals over the monitoring period were quantified in accordance with VCS rules.

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1 INTRODUCTION

1.1 Objective

The objective of the verification audit was to conduct an independent assessment of the project to determine:

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

1.2 Scope and Criteria

The scope of the verification audit was to verify the emissions reductions and/or removals of the Rio Bravo Climate Action Project, against the VCS Standard, the identified methodology and the validated PD throughout the monitoring period from 1 January 2002 to 31 December 2011.

The scope was defined as follows:

- The project area
- The eligibility, baseline scenario and additionality
- The physical infrastructure of the project
- The GHG sources, sinks and/or reservoirs that are applicable to the project according to the used methodology and the validated PD
- The types of GHGs that are applicable to the project according to the used methodology and the validated PD.
- The project monitoring period.
- The GHG emission reductions/removals assertions and claims.
- The local stakeholder consultation processes.
- The AFOLU safeguards.

This audit included a verification of the project's calculated reductions and/or removals and the Non-permanence Risk Report with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects. In addition, the audit assessed the project with respect to the validated baseline scenarios and the eligibility criteria presented in the PD.

In accordance with Section 4.1.8 of the VCS Standard v4.2, the criterion for validation and verification was the VCS Version 4, including the following documents:

- VCS Standard v4.2
- VCS Program Guide v4.1
- VCS AFOLU Non-Permanence Risk Tool v 4.0

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document.

1.3. Level of Assurance

The assessment was conducted to provide a reasonable level of assurance of conformance against the defined audit criteria and materiality thresholds within the audit scope. Based on the audit findings, a positive evaluation statement reasonably assures that the project GHG assertions are materially correct and is a fair representation of the GHG data and information.

All the versions of the verification report were subjected to an independent internal technical review before being submitted to the client to confirm that all verification activities had been completed according to the pertinent AENOR instructions required. The technical review was performed by a technical reviewer qualified in accordance with AENOR's qualification scheme for VCS validation and verification.

The threshold for materiality with respect to the aggregate of errors, omissions, and misrepresentations relative to the total reported GHG emission reductions/removals was five percent (5%), as established for large projects by the VCS Standard.

1.4 Summary Description of the Project

The Rio Bravo Climate Action Project is a conservation project located in the Orange Walk District of north-western Belize, which was one of the first REDD+ (Avoided Planned Deforestation) projects globally.

The project area contains 6,296 hectares of mature humid forest land and is a component of what is now the much larger (~100,000 hectare) Rio Bravo Conservation and Management Area (RBCMA). The area within the Project Boundary and the larger RBCMA was purchased creating a clear land title held by the Programme for Belize, in trust with the Belize government. The act of purchase removed the imminent threat of purchase by industrial scale agricultural farmers who would have proceeded to deforest the area and convert it to farmland. The land titles purchased covered areas both within and outside of this REDD Project boundary; however, the areas outside contain pine savannah, an ecosystem that was not under the threat of deforestation by agriculturalists, and it was, therefore, excluded from the project.

During the reporting period, Programme for Belize (PfB) continued to implement conservation activities across the Project area, mainly by conducting regular patrols to prevent illegal poaching of wildlife and timber, and to prevent damage from wildfire. Additionally, monitoring efforts were implemented to track the impact of sustainable selective logging (certified under FSC, certificate code NC-FM/COC-000031) and impacts of disturbance like hurricanes and wildfire. PfB also worked with community stakeholders to make sure that the boundaries of the reserve were protected and agricultural activities did not encroach on the forest. By maintaining forest cover in the project area during this period, PfB enabled the forest to sequester net positive carbon emissions from the atmosphere, which were monitored through a forest inventory, complemented with other techniques to account for project emissions (selective sustainable logging, illegal logging, etc.).

The Project contributes to meet several of the Sustainable Development Goals laid out by the UN as a metric to pursue global efforts that will reduce poverty and inequality while improving access to health care and education. These are SDGs 8 (Implemented activities increased local tourism), 13 (Implemented activities to increase carbon stocks), and 15 (Implemented activities to increase sustainable forest management).

The Project began in January 1996 and was registered under the VM0007 methodology retroactively in 2016. The crediting period covers from 1 January 2002 to 31 December 2021. The first monitoring period was from 1 January 2002 to 31 December 2011, which represented 1,790,889 tCO₂e of emission reductions. The current event (second and last verification) covers from 01 January 2012 to 31 December 2021 and it is was estimated 130,629 tCO₂e in removals from the enhancement of forest carbon stocks, which corresponds to 117,566 VCUs considering the non-permanence risk buffer of 10%. The project completed its initial crediting period on 31 December 2021 and will not be renewing its crediting period.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through a combination of document review and onsite inspections and interviews with relevant personnel and stakeholders, as discussed in Sections 2.2 through 2.4 of this report. At all times, the project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.5 below, findings were issued to ensure that the project was in full conformance to all requirements.

A project specific verification and sampling plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the verification and sampling plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The verification & sampling plan methodology was derived from all items in our verification process stated above.

Specifically, the sampling plan utilized the VCS guidance documents, ISO 14064-3 and the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities Version 03.0. Random samplings were carried out considering a confidence interval of 95% and error of 10%.

Based on these analyses and considering the requirements of the GHG program used, the following sampling was carried out:

- Project proponent, developers/management team, local team onsite (management capacity)
- Project design and boundaries
- Project rights and legal requirements
- Stakeholders' consultation process
- Project conflicts, barriers, or difficulties.
- Project Communication & Grievance Mechanism
- Methodology used and deviations
- Risk assessment. NPRR and NPR tool used.
- Ex post carbon calculations. Estimates and assumptions for determining GHG data.
- Monitoring procedures. Monitoring team and equipment.
- Project activities for the verification period

The sampling aims to check the quantity and type of evidence below:

- To carefully review the PD and supporting documentation for conformance to the validation criteria.
- To check 100% the project boundary and land cover classification and changes in the project area using the GIS database.
- To reproduce 100% of sheets in the MR and the other spreadsheets for the monitoring period crosschecking with used methodology requirements (VCS Methodology VM0007 v1.6) to verify emissions reductions, carbon stock changes, project emissions and leakages.
- To examine 100% monitoring of the carbon parameters and default factors used.
- To verify 100% Non-Permanent Risk Report results using the NPRR tool and considering the standard requirements

Any modifications applied to the verification and sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

The verification activities in which risks were assessed were the evaluations of the monitoring system

(data flow, data control procedures, etc.) but mainly the quality of raw data as well as sources and the spreadsheet calculations. AENOR reproduced and verified 100% of sheets in the Excel file:

AENOR reproduced and verified 100% of sheets in the spreadsheets RioBravo_Carbon_Calcs_Inventory_2022-05-25.xlsx and RioBravo_MR_Calcs_2022-06-01.xlsx for the monitoring period from 01 January 2012 to 31 December 2021 for the project area. The project boundary and deforested and degraded areas and other project emissions in the project area for the monitoring period were 100% checked using the GIS database and documentary inputs.

The carbon stock changes, and the land used classes in the project area were also 100% verified and crosschecked with validated values.

AENOR carried out a deep and meticulous review of the spreadsheets in order to verify the correct application of the methodology (formulae, equations) and checked that data required calculating the GHG removals were appropriately provided. Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the claimed emission reductions and removals are free from material errors, omissions, or misstatements.

AENOR confirms that sufficient evidence was presented for the reported net anthropogenic GHG emission reductions and removals and that there is a clear audit trail that contains the evidence and records that validate the stated figure in this verification report since:

- Sufficient evidence available: The project participant has provided the 100% of data used in the calculations to achieve the final amount of GHG emission reductions and removals reported.
- Nature of evidence: The raw data were collected from reliable sources. They are detailed in the project documents and have been provided to the verification team and were checked during the interviews.
- Cross-checked evidence: AENOR cross-checked the collected information through interviews with stakeholders, onsite inspections and reproducing calculations.

Hence, AENOR confirms that the stated figures in the monitoring report are correct and confirms that is able to certify net anthropogenic GHG removals based on verifiable and reliable evidence.

2.2 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from VCS program requirements, the methodology (VCS Methodology VM0007 v1.6), and the validated PD. Initial review focused on the MR and included an examination of the project details, implementation status and internal reports, data and parameters, and quantification of GHG emission reductions and removals. Documents reviewed included data from monitoring, management plans, maps and satellite images, monitoring and grievance SOPs, carbon calculation spreadsheets, and responses to Corrective Action Requests and Clarifications (see Appendix 2).

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

The VCS AFOLU Non-Permanence Risk Tool v 4.0 was used by the Project Proponent (PP) to assess overall project risk. AENOR reviewed the Non-Permanence Risk Report provided with the verification support documentation and confirmed that the project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. The final score was calculated to be 10%.

For a listing of all documents received from the client and assessed for this verification, see Appendix 1.

2.3 Interviews

Interviews were performed as part of the verification process in order to confirm and verify the information provided in the documents (see Appendix 1). AENOR audit team met onsite in project area with individuals with various roles in the project. This included a series of interviews with in-country staff that support the mission of the project. In addition, interviews discussions were conducted with project members, leaders of the local communities and other project-related stakeholders. The following table summarizes the interviews carried out during the process.

Name	Title/Organization/Community
Ben Rifkin	Project Manager in TerraCarbon LLC
Roberto Pott	Carbon Specialist in Programme for Belize / The Nature Conservancy
Edilberto Romero	Executive Director at Programme for Belize
Ramón Pacheco	Manager administration and fund (PfB)
Baltazar García	Manager for Hill Bank field station (PfB)
Richard Balam	Forester (PfB)
Vladimir Rodríguez	Technical Coordinator (PfB)
Luis Chi	Field technician (PfB)
Juan Morales	Field technician (PfB)
Project area rangers (5)*	Conduct regular patrols in Project area (PfB)
Authority (2)*	San Felipe Community (located in the influence area and beneficiary of the Project)

Staff (3)*	School in San Felipe Community (located in the influence area and beneficiary of the Project)
Authority (1)*	San Carlos Community (located in the influence area and beneficiary of the Project)
Staff (1)	School in San Carlos Community (located in the influence area and beneficiary of the Project)
Florencia Guerra	Belize Forest Officer Forest Department

*Name to be provided under request.

2.4 Site Inspections

The objectives of the on-site inspections performed were mainly to cross check the description provided in the MR related to the environmental and social conditions of the project area, but also:

- Ensure that the geographic area of the project, as reported in the MR and the accompanying KML file, is in conformance with Section 3.10.1 of the VCS Standard.
- Perform a risk-based review of the project area to ensure that the project conforms to all other requirements of the VCS rules and the methodology.
- Observe the PP's evidence and collect and record data in order to assess whether data collection techniques conform to the monitoring plan and related documentation and to evaluate data quality control systems.
- Select samples of data and information for verification in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 4.1.2 of the VCS Standard, including the re measurement of at least 10% of the inventory plots.
- Perform a risk-based review of the project area to ensure that the project is in conformance the eligibility requirements of the VCS rules and the applicability conditions of the methodology.
- Assess the implementation of the project activities reported.
- Carry out interview with stakeholders (workers, communities, institutions) in order to cross check the documentary information provided.

In fulfilment of the above objectives, the audit team performed an on-site inspection of the project area observing the project area and vicinity to assess whether conditions are as described in the joint PD/MR.

The following table summarizes the activities carried out during the site visit.

Activity	Place	Date
- Calculations revision (data traceability from GIS to inventory, quantification and VCUs).	Remotely with TerraCarbon LLC	04 March 2022
- Onsite visit initial meeting - Confirmation of the on-site visit planning. Onsite document revision: - Clarifications related to joint MR, with special focus in GIS, GHG reduction calculation, Non Permanence Risk Report, monitoring procedures and results. - Records revision (forest carbon inventory, grievances, training, selective logging, patrols reports, etc.). Onsite interviews: - Interview with Programme for Belize and The Nature Conservancy Belize heads. - Interviews with managerial team in field - Interviews with technical team (inventory and forestry team) and rangers - Interviews with communities in the project area of influence (also beneficiaries of the project activities and social investment): San Carlos y San Felipe - Interview with Belize Forest Department Officer. Project activities and land use verification: - Regular patrols - Social investment in adjoining local communities - Inventory plot re measurement (1S9005, 1S9011, IU7008, B41001, 1F6001, 1B4018, 1U3021): 7 out 44 plots (16%). - Project boundaries verification - Verification land use (forest strata) in random points along the project area - Verification of land use change random points in monitoring period - Verification of illegal logging samples in monitoring period - Verification of sustainable selective logging spots in the monitoring period. - Onsite visit closure. Preliminar findings and next steps.	Project area and influence area, Orange Walk district, Belize.	7-11 March 2022

2.5 Resolution of Findings

All documentation provided by the PP was assessed against the applicable version of the relevant VCS guidance document. Several clarification requests (CL) and corrective action requests (CAR) were raised and submitted to the PP, which addressed them either by providing to the audit team the requested information or by making the appropriate corrections. Updated versions of the documentation were submitted by the PP and the audit team reassessed them against the guidance

documentation. This process was repeated iteratively until all CL and CAR were fully closed. Specifically, 8 CLs and 11 CARs were raised for the verification process, and the PP revised the project MR version 1 (dated on 15 February 2022) and developed a final version 3 dated on 24 May 2022.

All findings issued by the AENOR audit team during the verification process were closed. In accordance with Section 4.1.13 and 4.1.14 of the VCS Standard, all findings issued during the validation and verification process, and the inputs for their closure, are described in Appendix 2 of this report.

2.5.1 Forward Action Requests

During the current verification, no FAR has been raised. In any case, this monitoring period exhausts the accreditation period, which will not be renewed, so there will be no future verifications.

2.6 Eligibility for Validation Activities

AENOR holds accreditation for validation and verification for the relevant sectorial scope 14 under which this project activity is classified. Either way, no validation activities as part of this verification event have been carried out.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project has not been registered, and is not seeking registration, under any other GHG programs. The project has already been validated and registered under the VCS Program.

3.2 Methodology Deviations

The project considers one methodology deviation for this monitoring period:

In the with-project scenario, the PP applies the Logging Infrastructure Factor (LIF) from Module VMD0011 LK-ME v1.0 Equation 4, instead of using Equation 12 in VMD0015 M-REDD to estimate emissions associated with logging roads, skid trails, and decks created for selective logging operations.

The LIF applied in this equation is derived from data collected within the project area (see Annex I of VMD0011, page 14) and includes data from direct measurements of emissions associated with infrastructure constructed for selective logging at this site. Therefore, it is more accurate to apply the LIF for calculation of emissions associated with logging in the with-project scenario than applying the global skid trail, logging road, and logging deck emission factors recommended in the M-REDD module.

This value constitutes a more direct measure of logging infrastructure emissions than Equation 12, thus the deviation does not negatively impact the conservativeness of the quantification of GHG

emission reductions or removals. The deviation also does not relate to any other part of the methodology as it relates solely to emissions associated with construction of logging infrastructure due to selective logging that took place during this monitoring period. Therefore, in AENOR's opinion, the methodology deviation applied to the project is valid, since does not negatively impact the conservativeness, improves the accuracy of the quantification of GHG emission removals and meets with the criteria and specifications for permitted methodology deviations.

The methodology deviations applied during the joint validation and first monitoring period are not applied during this verification, since are no longer applicable to the event circumstances.

3.3 Project Description Deviations

The following deviations to the PD are reported:

1. Enhancements accounting. The comparison amongst the 2021 inventory (for the current verification) regarding the 2020 inventory (for the first verification) shows that substantial growth of above-ground biomass has occurred in the project area during the crediting period. The PP accounted for emission removals that have taken place in absence of planned deforestation that would have occurred if the project activities had not been implemented. Enhancements not only account for growth, but also for net stock change associated with emissions from disturbance and degradation.

Enhancements can be credited to the project in years after baseline deforestation is expected to already have occurred. Since the planned deforestation in the baseline for the Project was completed in 2008 (during the previous monitoring period) and baseline deforestation occurred across the entire project area, all the area of the project is eligible for crediting the enhancements. Enhancements are conservatively credited only for this reporting period, from 2012 to 2021. The estimation of enhancements resulted in 203,073 tCO₂e emission removals during the monitoring period.

Although the PD and the initial monitoring report conservatively excluded enhancements; AENOR verified that the inclusion of enhancements in this monitoring period does not impact:

- The applicability of the methodology: the applicability conditions with the methodology in sections 4.3.1 and 4.3.3 of the VM0007 v1.6 remain exactly the same as in the PD, since there is no condition related to the consideration of these stocks (Evidence: PROJ_DESC_852_01DEC2011.pdf, VALID_REP_852_01DEC2011.pdf, publicly available in Verra Registry).

- Additionality: the consideration of enhancements is not relevant for additionality, and the conditions are exactly the same as the additionality assessment of the PD (Evidence: PROJ_DESC_852_01DEC2011.pdf, VALID_REP_852_01DEC2011.pdf, publicly available in Verra Registry).

- Or the appropriateness of the baseline scenario: the consideration of enhancements does not affect the baseline scenario. These are based on the inventories conducted at the start of the project and at the end of the reporting period, and all enhancements are additional to the baseline since it remained 0 during the reporting period, as demonstrated in section 4 in this verification report, as well as in

sections 4.4 and 4.4.1 of the MR.

2. Methodology updated. For this monitoring period, VM0007 v1.6 was used in place of VM0007 v1.1 which was applied during the last reporting period. The new version of the methodology employs updated equations and methods for quantification of GHG emissions and reductions based on application of experience and the latest science. Application of the new methodology does not affect the conservativeness of the project because it applies the same conservative principles as the earlier version. AENOR verified that the update in the methodology used does not impact:

- The applicability of the methodology: the applicability conditions between one methodology and another did not change, in relation to those requested by sections 4.3.1 and 4.3.3 of the VM0007 v1.6 and sections Applicability Conditions a) and c) in VM0007 v1.6; as well as the evidence of compliance with them in the validated PD (Evidence: PROJ_DESC_852_01DEC2011.pdf, VALID_REP_852_01DEC2011.pdf, publicly available in Verra Registry).

- Additionality: both versions of the methodology requests to assess additionality against T-ADD VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, as it was done during the validation. The assessment in PD remains applicable (Evidence: PROJ_DESC_852_01DEC2011.pdf, VALID_REP_852_01DEC2011.pdf, publicly available in Verra Registry).

- Or the appropriateness of the baseline scenario: the baseline deforestation was completed during the previous monitoring period. Any changes due to the use of the newer version of the methodology had no impact on the baseline during this monitoring period because all baseline emissions remain 0. On the other hand, the method for the baseline scenario determination is included in the additionality analysis (see point below), and the method for the baseline estimation has not changed amongst the two versions of the methodology.

It is the opinion of the audit team that all PD deviations described above and in section 3.2.2 of the MR are properly described and justified. The project remains in compliance with the VCS rules. Any discrepancy between project implementation and the PD has been clearly commented in the MR and their suitability positively assessed by AENOR.

AENOR verified that no deviations from the monitoring plan applied during the previous monitoring period were applied again during this monitoring period. These previous deviations, although no longer applicable, are included in section 3.2.2 of the MR, and correspond to the ones reported in the previous monitoring report verified (Evidence: MONIT_REP_852_10JAN2002_31DEC2010.pdf, VERIF_REP_852_10JAN2002_31DEC2010.pdf, publicly available in Verra Registry).

3.4 Grouped Project

This is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

AENOR confirmed that there are no material discrepancies between project implementation and the PD. AENOR was able to verify through the sources mentioned below that the project is implemented in accordance with the PD and what is reported in the MR.

AENOR confirmed that there are no material discrepancies between implementation status of the monitoring plan and the completeness of monitoring, or the actual monitoring system and the monitoring plan set out in the PD and the applied methodology. The parameters reported, including source, frequency and review criteria as indicated in the monitoring plan were verified to be correct and in line with the monitoring plan of the validated PD. Necessary management system procedures including responsibility and authority of monitoring activities have been verified to be consistent with the PD. Knowledge of personnel associated with the project activity was also found to be satisfactory.

All project activities commenced before the start of this monitoring period and continued through the end of the crediting period on 31 December 2021. The following activities have been carried out during the monitoring period:

1- The main project activity was the acquisition and protection of forest lands threatened by agricultural conversion. This has been fully accomplished through the purchase of land that would have been sold to industrial scale agricultural farmers. The Programme for Belize has successfully continued to protect the land from deforestation and the threat of conversion to agriculture no longer exists. AENOR reviewed the Agreement amongst Government of Belize and Program for Belize, dated 28 July 1998, that has not changed since the validation; crosschecked with the interview with Programme for Belize and The Nature Conservancy Belize heads, and Belize Forest Department Officer. Additionally, all potential impacts of leakage were accounted for in the previous reporting period and is not monitored during this period. Non-permanence risk was monitored using the VCS non-permanence risk tool. No significant loss of carbon stocks occurred during this period, and thus no reversals needed to be accounted for.

2- The forest carbon stocks have been protected from illegal logging, deforestation, non-authorized NTFP extraction, wildlife poaching, and fires through ground surveys by forest rangers, regular patrols, project area access control, regular over-flights to detect problems, and ongoing communications with surrounding communities. Where incidents of disturbances like illegal logging, wildfire or storms, such as Hurricane Earl, have impacted carbon stocks in the project area, data was collected to estimate the impact on GHG emission reductions and removals. No significant loss of carbon stocks occurred during this period, and thus no reversals needed to be accounted for. AENOR reviewed the following documentary evidences, crosschecked with onsite inspection (verification of land use change random points and illegal logging samples in monitoring period, re measuring a sample inventory plots) and interviews to PFB managerial, technical team and rangers: (3, 4, 6, 14, 18, 21, 24, 25 and 42, see

Appendix 1),

3- FSC Certified selective logging has taken place within some areas of the project boundary. Detailed surveys and a 5-year Sustainable Forest Management Plan have been created to minimize the impact of selective logging, according to the forest management plan legalized by a Long Term Private Forest Permit approved by the Belize Forest Department. No additional roads had been created. The selective logging areas have and will continue to be actively monitored and certified by FSC, and the GHG emissions reductions and removals associated with these activities are accounted for. AENOR verified this through onsite visit (Verification land use -forest strata- in random points along the project area, and sustainable selective logging spots in the monitoring period), interviews (Programme for Belize and The Nature Conservancy Belize heads, managerial and technical team, Belize Forest Department Officer) and documentary evidences (3, 5, 6, 7, 10, 13, 15, 19, 20, 23, 30, 31, 32, 36, 38, 39, 40, see Appendix 1).

4- Lastly, the PP carries out social investment activities in the communities in the area of influence of the Rio Bravo Conservation and Management Area (which includes the limits of the verified project). Periodic meetings are held with the communities, in order to notify of forestry activities (for example, due to the passage of trucks), employment opportunities, communicate the grievance mechanism, fire prevention sensitization (burning stubble is a common practice in the area), etc. When the communities have a request, they can send it to the RBCMA (management staff), through the staff or through the communications and grievances mechanism. These requests are usually for punctual support to the community and in the monitored period, assistance was recorded for the installation of electricity in two schools, school scholarships, road repairs, as well as alternative productive systems training and material (sustainable chicle latex production, sales of seeds and nuts grown around villages and sabal palm thatch production, growing tourism industry in the RBCMA), etc. This was verified through interviews and visits to authorities and staff of the schools of the San Carlos and San Felipe communities (the only ones in the area of influence), and crosscheck with documentary evidence (22, 33, 34, 35, 37, 41, 41, see Appendix 1).

AENOR confirmed, through the means of verification mentioned above, that the Project contributes, through the activities previously mentioned, to meet several of the Sustainable Development Goals laid out by the UN. These are SDGs 8 (Implemented activities increased local tourism), 13 (Implemented activities to increase carbon stocks), and 15 (Implemented activities to increase sustainable forest management).

AENOR confirmed that the project has not participated or been rejected under any other GHG programs since validation or previous verification. It was also confirmed that the project has not received or sought any other form of environmental credit, or has become eligible to do so since the joint validation and first verification. The GHG emission reductions or removals generated by the project have not become included in an emission trading program or any other mechanism that includes GHG allowance trading.

AENOR confirmed that methodology deviations applied during the joint validation and first monitoring period are not applied during this verification, since are no longer applicable to the event

circumstances. The only current methodology deviation applied during this monitoring period is the one reported in section 3.2 of this report.

4.2 Safeguards

4.2.1 No Net Harm

The MR contains an analysis of the environmental impacts of the project activities, both negative and positive, which would be exclusively derived from an inadequate selective logging activity (activity 3 reported in section 4.1 of this report), since no other activities that have an impact on land use, biodiversity, etc. are carried out.

These negative *environmental* impacts can be destruction of habitat, loss of biodiversity, erosion, among other consequences. For its mitigation, the PP has a 5-year Sustainable Forest Management Plan (legalized by a Long Term Private Forest Permit issued by the Belize Forest Department), which includes the measures of prevention, mitigation and compensation of impacts, which are monitored by the Belize Forest Department. In addition, the RBCMA (which fully encompasses the project areas) has FSC¹ certification, which entails an independent annual verification of sustainable forest management standards, including, among other measures: reduced impact logging measures, buffer areas along water bodies, no use of chemicals, High Conservation Values preservation, etc. This was verified through interviews (managerial team, technical team -inventory and forestry team- and rangers, Belize Forest Department Officer) and onsite visit (project boundaries verification, verification land use -forest strata- in random points along the project area, verification of sustainable selective logging spots in the monitoring period) and crosschecked with documentary evidences (15, 19, 20, 23, 30, 31, 32, 38, 39, 40, see Appendix 1), so AENOR verified that the potential negative impacts are prevented and have adequate mitigation measures.

The rest of the project activities generate positive environmental impacts, since they are aimed at protecting forest cover and biodiversity (activities 1 and 2 reported in section 4.1 of this report).

Regarding the negative social impacts, these are minimal, since there were no communities or holdings in the project area. The project area has been privately owned for over a century, and thus the transfer of the land from one private property owner to another did not introduce any new limitations regarding access to resources from the project area. Thus, the only two adjoining communities (San Carlos and San Felipe) could not claim legal access to any of the natural resources found in the project area. Either way, no traditional use of the forest resources of the project area by the communities have been identified (collection of NTFPs, places of cultural importance, dependence on their natural resources for their livelihoods, etc.). On the other hand, during the interviews it were recognized positive impacts, such as employment, social investment in scholarships, infrastructure maintenance,

¹ [The certificate and its annual reports can be consulted here.](#)

environmental education, and surveillance of the area to prevent illegal activities, increased tourism in the area, etc. (see activity 4 in section 4.1 of this report). FSC certification (NC-FM/COC-000031), through its annual third-party audits, also endorses the prevention and mitigation of social impacts, for example through annual consultations, regular communications to communities, grievance mechanisms, etc. The foregoing was verified through on-site interviews with the two neighbouring communities (authorities and school officials), and cross-checked with documentary evidence (20, 21, 22, 28, 30, 31, 33, 34, 35, 37, 41, 42, see Appendix 1), so AENOR verified that the potential negative impacts are prevented and have adequate mitigation measures.

In conclusion, during the audit, interviews with the local stakeholders and documents demonstrated that the PP has properly identified the potential negative impacts, that reasonable steps have been taken to mitigate such impacts and that the project has an overall net positive impact, both from the environmental and social side.

4.2.2 Local Stakeholder Consultation

During the project monitoring period, Pfb communicated regularly with local stakeholders through annual meetings. Documented stakeholder meetings took place alongside development of forest management plans to assess stakeholder understanding of the management activities that are taking place within the RBCMA and to have an opportunity to air grievances about these activities (Documented in evidence 42, see Appendix 1).

In addition to these meetings, there is a permanent communication mechanism (complaints, requests, notices, etc.) through local technical staff to send comments to management. The register of communications and complaints reviewed by AENOR shows that no complaints related to the REDD project and its activities were registered, and all communications were dealt with satisfactorily in a timely manner; the follow-up process is also documented until they are resolved (Documented in evidence 37, see Appendix 1). None of them involved a change in the design of the REDD project or its activities.

On the other hand, as an ongoing effort to maintain FSC certification, socio-economic impacts must be assessed. The 2013 Socio-economic assessment of Pfb's activities on the primary buffering communities of the RBCMA (Documented in evidence 33, see Appendix 1) details that 295 interviews of local communities were conducted. Additionally, in 2021, a consultancy report was published that assessed the socio-economic impacts of the RBCMA (Documented in evidence 22, 34; see Appendix 1). Neither of the two social-environmental impact assessments register major negative impacts or that are not being mitigated in relation to the REDD project and its activities. The annual FSC² audits, carried out by independent Certification Bodies, verify as part of Principle 4 (Community Relations & Workers' Rights) that there are local stakeholders consultations and the feedback provided is considered by the PP.

² [The certificate and its annual reports can be consulted here.](#)

The foregoing was confirmed by AENOR in the referred documents and through interviews with authorities and staff of the San Carlos and San Felipe schools. Also the interviews with the managerial and technical team of PfB provided evidences of compliance.

AENOR confirmed that during this monitoring period there have been no changes to risks, costs, or benefits associated with the project that may have affected local stakeholders. Additionally, there have been no relevant changes to laws or regulations that affect stakeholders of the project.

4.3 AFOLU-Specific Safeguards

The RBCMA is owned in perpetuity by the Program for Belize in trust for the people of Belize based on the MoU signed by the Belize government, and was previously under private ownership since over a century. There are no current disputes over land use rights or land property in the project area. There are also no claims about traditional uses of forest resources by adjacent communities. This has been corroborated through onsite interviews with the authorities and school of the two adjacent communities (San Carlos and San Felipe), Program for Belize and The Nature Conservancy Belize heads, rangers and Belize Forest Department Officer, as well as the MoU signed (evidence 28, see Appendix 1); being confirmed by AENOR that the PP has taken the appropriate measures to ensure that the project does not create negative impacts on local stakeholders, or implements mitigation measures when necessary.

The negative impacts on the stakeholders are minimal, given the nature of the project activities (see section 4.2.1 of this report), and are of an economic nature, mainly due to the fact that the project reduces illegal logging and poaching in the Reserve. To mitigate these potential negative impacts on local communities, PfB has undertaken initiatives to develop economic opportunities based on sustainable land use practices. For example, the RBCMA has been working with communities to establish sustainable chicle latex production, sales of seeds and nuts grown around villages and sabal palm thatch production, growing tourism industry in the RBCMA (which generates more direct and indirect local jobs and increases in consumption of local goods and services) which offset the negative impacts of the project activities by promoting alternative sources of income. This was verified by AENOR through onsite interviews with the authorities and schools of the two adjacent communities (San Carlos and San Felipe), PfB and The Nature Conservancy Belize heads, rangers, PfB technical team (with permanent present in the communities), as well as crosschecking with documentary evidence (evidences 18, 20, 22, 30, 31, 32, 33, 34, 35, 37, 41; see Appendix 1).

On the other hand, RBCMA has social assessments (last in 2013 and 2021), annual stakeholder consultations and regular communications to communities (to notify of forestry activities, grievance mechanism, fire prevention, and raise awareness on illegal logging and poaching prohibition) and a grievance mechanism, etc., as stated in section 4.2.2 of this report.

Regarding the mechanism for complaints, at each main location within the RBCMA PfB has a manager, one at Hill Bank Field Station and one at La Milpa Lodge. These managers receive any local stakeholders' complaints via the rangers, technical team or directly from community members from San Carlos and San Felipe; conduct the necessary investigations related to the issue and documenting the information received and results of any investigations. The manager would proceed according to the

scope of the complaint, attending directly or deriving it to upper instances in PfB, who would then decide to how to proceed. The Executive Director also has an open-door policy and any stakeholder can call for an appointment to discuss any time. If the issue is of a national scale or requires legal advice/recourse, the Executive Director will call upon the PfB Board of Directors to work in coordination. AENOR confirmed through onsite interviews to rangers and technical team, site managers, Executive Director at PfB and the local communities that there are no grievances related to the REDD project and its activities, and all communication are properly attended, documented and resolved; which was cross-checked with the documentary review of the evidence 21, 22, 33, 34, 37, 42).

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Procedures for quantifying the GHG emissions reduction and removals were conducted in accordance with the methodology VCS Methodology VM0007 Version 1.6 REDD Methodology Modules, as well as the following tools:

- VMD0005 Estimation of carbon stocks in the long-term wood products pool (CP-W), v1.1
- VMD0011 Estimation of emissions from market-effects (LK-ME) v1.1
- VMD0013 Estimation of greenhouse gas emissions from biomass and peat burning (E-EPB) v1.2
- VMD0014 Estimation of emissions from fossil fuel combustion (E-FFC) v1.0
- VMD0015 Methods for monitoring of greenhouse gas emissions and removals (M-REDD), v2.2
- VMD0017 Estimation of Uncertainty for REDD+ Project Activities (X-UNC), v2.2
- AFOLU Non-Permanence Risk Tool, v4.0

The verification team performed an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology and associated tools, and the PD validated. PP also provided a step-by-step overview of select calculations to ensure the verification team understood the approach and could confirm its consistency with the methodologies and PD. Conversion factors, formulas, and calculations were provided by the PP in spread sheet format to ensure all formulas were accessible for review. The verification team recalculated subsets of the analysis to confirm correctness. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice.

The following tables summarize the data and parameters used by the PP to calculate the GHG emission reductions, which has been assessed by AENOR.

Data/Parameter available at validation	Value	Assessment procedure and result
A _i (Ha)	Lowland: 933.77	Value is consistent with GIS database (Sentinel 2 imagery) provided and the validated PD and first MR.

Data/Parameter available at validation	Value	Assessment procedure and result
Area of stratum i	Upland: 4,561.40 Upland-South: 800.45 Total: 6,295.63	Correctly inputted in the calculation spreadsheets for the calculation of project emissions
CF (t C/t d.m.) Carbon fraction of dry matter	0.47	Default factor from IPCC ch4 AFOLU Guidance for GHG Inventories. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
CFj (t C/t d.m.) Carbon fraction of biomass for tree species j	0.47	Default factor from IPCC ch4 AFOLU Guidance for GHG Inventories. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
Dj (t d.m./m ³) Basic wood density	0.6	Default value from Reyes et al 1992, basic wood density in the tropical Americas. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
D%planned,i,t (%/year) (Projected annual proportion of land that will be deforested in stratum i at year t)	0	Analysis of remote sensing data and legal records. Baseline stocks were depleted in 2008 and no forest stocks remain to be deforested during the most recent baseline. Correctly inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
L-Di (%) Likelihood of deforestation in stratum i	1	All areas not both under government control and zoned for deforestation L-Di must be equal to 1. Correctly inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
CPAB_tree,i (tCO ₂ -e/ha) Carbon stock in aboveground biomass in trees in the baseline in stratum i	5	IPCC default value of post-deforestation land cover. Baseline stocks were depleted in 2008 and no forest stocks remain to be deforested during the most recent baseline. Correctly inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
CPBB_tree,i (tCO ₂ -e/ha) Carbon stock in belowground biomass in trees in the baseline in stratum i	0	IPCC default value of post-deforestation land cover. Baseline stocks were depleted in 2008 and no forest stocks remain to be deforested during the most recent baseline. Correctly inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
CPWP,i (tCO ₂ -e/ha) Mean carbon stock entering the wood products pool at the time of deforestation from stratum i	0	Not applicable. Baseline stocks were depleted in 2008 and no harvesting took place during the baseline period. Correctly justified in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
EFC,i,t (tCO ₂ -e/ha) Carbon stock in aboveground biomass in trees in the baseline	5	IPCC default value of post-deforestation land cover. Baseline stocks were depleted in 2008 and no forest stocks remain to be deforested during the most recent

Data/Parameter available at validation	Value	Assessment procedure and result
in stratum i		baseline. Correctly justified in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report).
Data/Parameter monitored	Value	Assessment procedure and result
2021 Map of forested area in the project area	Forest: 6,235.8 ha Non-forest: 59.8 ha	Value is consistent with GIS database (Sentinel 2 imagery) provided and the MR. Correctly inputted in the calculation spreadsheets for the calculation of project emissions
$\Delta C_{P,Enh,1,t}$ (tCO _{2e}) Net carbon stock changes as a result of forest carbon stock enhancement in stratum i in the project area in year t	Lowland: 14,908.08 Upland: 331,200.6 Upland-South: (143,036.0) Total: 203,072.7	Value is correctly calculated and imputed in MR and calculation spreadsheets for the calculation of project emissions. Note that enhancement calculations include all strata, though some enhancements were negative due to emissions likely associated with storm damage in the Upland South Stratum.
$C_{P,i,t}$ (tCO _{2e}) Carbon stock in all pools in the project case in stratum i in year t	Lowland: 342,807.7 Upland: 2,860,887.2 Upland-South: 505,908.8	Values from 2000, 2021 Forest Inventories. Values are correctly calculated and imputed in MR and calculation spreadsheets for the calculation of project emissions.
$A_{Enh,PL,i,t}$ (Ha) Project area in stratum i in which carbon stocks are accumulating but that would have undergone planned deforestation in the baseline in year t	6,295.7	Area of deforestation in the baseline that occurred between 1996 and 2008. Note that the baseline deforestation was completed in 2008 when all forest cover would have been removed, therefore the total area where carbon has been accumulating since the end of the last reporting period in 2011 is equal to the area of all the included strata. Values are correctly calculated and imputed in MR and calculation spreadsheets for the calculation of project emissions.
Illegally harvested trees from the project area (Stem count)	329	Value calculated from Degradation Illegal Logging Survey. Value is correctly calculated and imputed in MR and calculation spreadsheets for the calculation of project emissions.
$A_{DefPA,i,u,t}$ (Ha) Area of recorded deforestation in the project area in stratum i converted to land use u at time t	59.8	Value is consistent with GIS database (Sentinel 2 imagery) provided and the MR. Correctly inputted in the calculation spreadsheets for the calculation of project emissions
$A_{DistPA,q,i,t}$ (Ha) Area impacted by natural disturbance in the project stratum i converted to natural disturbance stratum q at time t	0	According to source 'Forest Damage Assessment Hurricane Earl Report', the 2016 Hurricane Earl impacted the entire project area (see document 25 in Appendix x 1), however emissions associated with disturbances such as Hurricane Earl and wildfire are included with estimations of $\Delta C_{P,Enh,1,t}$ where stock changes as measured on re-inventoried plots are representative of the entire project area and includes changes associated with disturbance. Correctly considered for the calculation of project emissions.

$C_{deg,i,t}$ (tCO ₂ e/ha) Biomass carbon of trees cut and removed through illegal logging, fuelwood and charcoal extraction degradation process from plots measured in stratum i at time t	Multiple values per year Total: 9,565.6 tCO ₂ e in the project area in the monitoring period	Value is consistent with Forest Inventory Data provided and the MR. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
$V_{EXT,z,i,t}$ (m ³) Volume extracted from logging stratum z in stratum i at time t	Total per strata in the monitoring period: Lowland: 16.5 Upland: 4,865.8 Upland-South: 127.8	Value is consistent with waybill receipts from mills verified onsite. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
$C_{XB,ty,i}$ (tCO ₂ -e ha ⁻¹) Mean stock of extracted biomass carbon by class of wood product ty from stratum i	Multiple values	The volume of timber extracted from each stratum was distributed into product classes using emission factors. The volumes are then converted to tCO ₂ e and summed to determine meant stocks of biomass in each stratum. Values are correctly calculated and inputted in the spreadsheets for the calculation of project emissions.
$C_{WP,i}$ (tCO ₂ -e ha ⁻¹) Carbon stock entering the wood products pool from stratum i	Multiple values	Carbon stocks remaining in wood products are calculated using wood waste mill efficiency factor of 0.24 for developing countries, according to VMD0005 CP-W v1.1 default value. Values are correctly calculated and inputted in the spreadsheets for the calculation of project emissions.
$E_{FC,j,t}$ (tCO ₂ e) Net CO ₂ e emissions of Fuel consumption in stratum i in year t	Multiple values	Fossil fuels used for logging operations were correctly calculated using fuel bills from harvesting operations in 2021, which were verified onsite during the verification, and according E-FFC Fossil Fuels v1. The average fuel usage per m ³ of timber was used to estimate fuel emissions. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
Average fuel use per volume timber harvested (Liters/m ³)	2.26	Values are correctly calculated according to 'Fuel Details November 2020 – October 2021.xlsx' and crosschecked onsite with physical records. Value was correctly inputted in the spreadsheets for the calculation of project emissions.
LIF (tC m ⁻³) Logging infrastructure factor (skid trails, roads, and logging decks, built to harvest timber)	0.29	Default factor from VMD0011 LK-ME v1.0. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
LDF (tC m ⁻³) Logging damage factor (quantity of emissions that will ultimately arise per unit of extracted timber)	0.67	Default factor from VMD0015 M-REDD v2.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
COMF _i (unitless) Combustion Factor for stratum 1	0.45	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
G _{CO2} (kg t ⁻¹ d.m. burnt) Emission Factor for CO ₂ in stratum i	1580	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.

GWP _{CO2} (tCO ₂ /t gas g) Global Warming Potential for CO ₂	1	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
G _{CH4} (kg t ⁻¹ d.m. burnt) Emission Factor for CH ₄ in stratum i	6.8	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
GWP _{CH4} (tCO ₂ /t gas g) Global Warming Potential for CH ₄	21	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
G _{N2O} (kg t ⁻¹ d.m. burnt) Emission Factor for N ₂ O in stratum i	0.2	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
GWP _{N2O} (tCO ₂ /t gas g) Global Warming Potential for N ₂ O	310	Default factor from VMD0013 v1.2. Correctly inputted in the calculation spreadsheets for the calculation of project emissions.
ΔCBSL _{planned} (tCO ₂ e) Net greenhouse gas emissions in the baseline from planned deforestation	0	Baseline deforestation completed in 2008. Correctly justified and inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report) according to Module BL-PL Eq 3.
A _{planned,i} (ha) Total area of planned deforestation over the entire project lifetime for stratum i	0	The area of planned deforestation in the baseline scenario was exhausted in 2008. Correctly justified and inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report) according to Module BL-PL Eq 26.
CBSL _i (tCO ₂ e/ha) Carbon stock in all pools in the baseline in stratum i	5	The area of planned deforestation in the baseline scenario was exhausted in 2008. Correctly justified and inputted in the calculation spreadsheets for the calculation of baseline reassessment (see 4.4.1 in this report) according to Module BL-PL eq 5, 17, 18, 19, 24, 27.

4.4.1 Baseline Emissions

The baseline was reassessed at the end of the last monitoring period, according to Methodology Module VMD0006, which was completed in 2011. The baseline was completed in 2008, when all eligible lands would have been deforested in the project area and baseline stocks were depleted and no forest stocks remained to be deforested during the most recent baseline. Therefore, no further deforestation takes place in the baseline after 2008 and carbon stock change is zero from that year onward.

However, although the project area would have been entirely converted since 2009 and that there is no ongoing deforestation in the current verification period, it is a standard requirement for Avoided Planned Deforestation projects to reassess its baseline every 10 years (when a specific agent of deforestation has been identified).

Thus, the PP proposed a baseline reassessment based on the results of the baseline reassessment carried out during the previous monitoring period, which was verified and accepted by Verra during the validation and first verification carried out by a different VVB in 2012. For the reasons above mentioned, the parameters at validation (%planned,i,t; L-Di; CPAB_tree,i; CPBB_tree,i; CPWP,i; EFC,i,t) and verification (Δ CBSL,planned; Aplanned,i; CBSL,i) were justified as zero/non applicable/not relevant, as the baseline deforestation was completed in 2008, and 0 additional deforestation was anticipated for the renewed baseline that took place during this reporting period. A different value would imply an inconsistency in the baseline logic throughout the crediting period, and a contradiction with respect to the previous monitoring period.

AENOR verified the consistency of this approach by checking the public information of the Verra Registry corresponding to the PD, MR1, Validation report and first Verification report (PROJ_DESC_852_01DEC2011.pdf, MONIT_REP_852_10JAN2002_31DEC2010.pdf, VALID_REP_852_01DEC2011.pdf, VERIF_REP_852_10JAN2002_31DEC2010.pdf) and it was also confirmed during the site visit that the drivers of deforestation, mainly continued agricultural land clearing, was still evident by the agricultural lands that runs up against the RBCMA borders. Thus, AENOR confirms that this circumstance was properly considered, according to VMD0006 and VCS rules.

4.4.2 Project Emissions

Project emissions were calculated following the module M-REDD VMD0015 for emissions accounted for degradation due to FSC certified selective logging, disturbances, deforestation, fossil fuel usage, and forest carbon stocks enhancements. Once the emissions from each component was monitored and estimated, the total project emissions were summed together based on Equation 1 in VMD0015:

$$\Delta C_{WPS-REDD} = \sum_{t=1}^{t^*} \sum_{i=1}^M (\Delta C_{P,DefPA,i,t} + \Delta C_{P,Deg,i,t} + \Delta C_{P,DistPA,i,t} + GHG_{P-E,i,t} - \Delta C_{P,Enh,i,t}) \quad (1)$$

Where:

$\Delta C_{WPS-REDD}$	Net GHG emissions in the REDD project scenario up to year t^* ; t CO ₂ -e
$\Delta C_{P,DefPA,i,t}$	Net carbon stock change as a result of deforestation in the project area in the project case in stratum i in year t ; t CO ₂ -e
$\Delta C_{P,Deg,i,t}$	Net carbon stock change as a result of degradation in the project area in the project case in stratum i in year t ; t CO ₂ -e
$\Delta C_{P,DistPA,i,t}$	Net carbon stock change as a result of natural disturbance in the project area in the project case in stratum i in year t ; t CO ₂ -e
$GHG_{P-E,i,t}$	Greenhouse gas emissions as a result of deforestation and degradation activities within the project area in the project case in stratum i in year t ; t CO ₂ -e
$\Delta C_{P,Enh,i,t}$	Net carbon stock change as a result of forest growth and sequestration during the project in areas projected to be deforested in the baseline ² in stratum i in year t ; t CO ₂ -e
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the start of the project activity

4.4.2.1 Monitoring emissions resulting from deforestation within the project area

According to the analysis of landcover change data from 2021 Sentinel 2 imagery, it was estimated that 59.8 hectares of forest loss during the monitoring period (01/January/2012 to 31/December/2021) for the three forest strata (Lowland, Upland, Upland-South).

The area deforested in each year in the project area was multiplied by the change in carbon stocks resulting from such deforestation, using equation 3 in Module VMD0015.

$$\Delta C_{P,DefPA,i,t} = \sum_{u=1}^U (A_{DefPA,u,i,t} * \Delta C_{pools,P,Def,u,i,t}) \quad (3)$$

Where:

$\Delta C_{P,DefPA,i,t}$	Net carbon stock change as a result of deforestation in the project case in the project area in stratum i in year t ; t CO ₂ -e
$A_{DefPA,u,i,t}$	Area of recorded deforestation in the project area stratum i converted to land use u in year t ; ha
$\Delta C_{pools,Def,u,i,t}$	Net carbon stock changes in all pools in the project case in land use u in stratum i in year t ; t CO ₂ -e ha ⁻¹
u	1, 2, 3, ..., U post-deforestation land uses
i	1, 2, 3, ..., M strata
t	1, 2, 3, ..., t^* years elapsed since the start of the project activity

The non-forest area detected in this monitoring period likely existed prior to 2012, based on review on forest cover data from the previous monitoring period. However, the area within the project boundaries was considered to be entirely forested in the last monitoring period, so that the non-forest areas being detected in this reporting period were conservatively being treated as forest loss and assumed to have occurred in 2012 (the first year of monitoring for this period). Additionally, biomass removed due to deforestation is conservatively considered to be burned and GHG emissions associated with burning were accounted for based on Equation 1 in VMD0013:

$$E_{biomassburn,i,t} = \sum_{g=1}^G \left(\left(A_{burn,i,t} \times B_{i,t} \times COMF_i \times G_{g,i} \right) \times 10^{-3} \right) \times GWP_g \quad (1)$$

Where:

$E_{biomassburn,i,t}$	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO ₂ , CH ₄ , N ₂ O) (t CO ₂ e)
$A_{burn,i,t}$	Area burnt for stratum i in year t (ha)
$B_{i,t}$	Average aboveground biomass stock before burning stratum i , year (t d.m. ha ⁻¹)
$COMF_i$	Combustion factor for stratum i (unitless)
$G_{g,i}$	Emission factor for stratum i for gas g (kg t ⁻¹ d.m. burnt)
GWP_g	Global warming potential for gas g (t CO ₂ /t gas g)
g	1, 2, 3 ... G greenhouse gases including carbon dioxide ¹ , methane and nitrous oxide (unitless)
i	1, 2, 3 ... M strata (unitless)
t	1, 2, 3, ..., t^* time elapsed since the start of the project activity (years)

The emission per unit area is equal to the difference between the stocks before and after deforestation, applying Equation 5 in Module VMD0015:

$$\Delta C_{pools,Def,i,t} = C_{BSL,i} - C_{P,post,i} - C_{WP,i} \quad (5)$$

Where:

$\Delta C_{pools,Def,u,i,t}$	Net carbon stock changes in all pools as a result of deforestation in the project case in land use u in stratum i in year t ; t CO ₂ -e ha ⁻¹
$C_{BSL,i}$	Carbon stock in all pools in the baseline case in stratum i ; t CO ₂ -e ha ⁻¹
$C_{P,post,u,i}$	Carbon stock in all pools in post-deforestation land use u in stratum i ; t CO ₂ -e ha ⁻¹
$C_{WP,i}$	Carbon stock sequestered in wood products from harvests in stratum i ; t CO ₂ -e ha ⁻¹
u	1, 2, 3, ... U post-deforestation land uses
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the start of the project activity

Wood products produced from deforestation were conservatively excluded from this analysis and there is no baseline deforestation during this monitoring period. The emission associated with deforestation was based on the carbon stock estimates using Equation 6 in VMD0015, for only above-ground and below-ground tree biomass:

$$C_{post,u,i} = C_{AB_tree,i} + C_{BB_tree,i} + C_{AB_non-tree,i} + C_{BB_non-tree,i} + C_{DW,i} + C_{LI,i} + C_{SOC,PD-BSL,i} \quad (6)$$

Where:

$C_{P,post,u,i}$	Carbon stock in all pools in post-deforestation land use u in stratum i ; t CO ₂ -e ha ⁻¹
$C_{AB_tree,i}$	Carbon stock in aboveground tree biomass in stratum i ; t CO ₂ -e ha ⁻¹
$C_{BB_tree,i}$	Carbon stock in belowground tree biomass in stratum i ; t CO ₂ -e ha ⁻¹
$C_{AB_non-tree,i}$	Carbon stock in aboveground non-tree vegetation in stratum i ; t CO ₂ -e ha ⁻¹
$C_{BB_non-tree,i}$	Carbon stock in belowground non-tree vegetation in stratum i ; t CO ₂ -e ha ⁻¹
$C_{DW,i}$	Carbon stock in dead wood in stratum i ; t CO ₂ -e ha ⁻¹
$C_{LI,i}$	Carbon stock in litter in stratum i ; t CO ₂ -e ha ⁻¹
$C_{SOC,PD-BSL,i}$	Mean post-deforestation stock in soil organic carbon in the post deforestation stratum i ; t CO ₂ -e ha ⁻¹
u	1, 2, 3, ... U post-deforestation land uses
i	1, 2, 3, ... M strata in the in the project case

AENOR confirmed that the emissions due to deforestation in the monitoring period were correctly calculated in Evidence 2 and 8-13 (see Appendix 1), based on reasonable assumptions, in accordance with the methodology and tools used, the PD and the VCS rules.

4.4.2.2 Monitoring degradation

For the project area, the net greenhouse gas emissions resulting from degradation is equal to the sum of stock changes due to degradation through extraction of trees for illegal timber, fuelwood and charcoal; as well as the extraction of trees for selective logging from forest management areas possessing a FSC certificate (NC-FM/COC-000031) as expressed in Equation 7 of Module VMD0015:

$$\Delta C_{P,Deg,i,t} = \Delta C_{P,DegW,i,t} + \Delta C_{P,SelLog,i,t} \quad (7)$$

Where:

$\Delta C_{P,Deg,i,t}$	Net carbon stock change as a result of degradation in the project area in the project case in stratum i in year t ; t CO ₂ -e
$\Delta C_{P,DegW,i,t}$	Net carbon stock change as a result of degradation through extraction of trees for illegal timber or fuelwood and charcoal in the project area in the project case in stratum i in year t ; t CO ₂ -e
$\Delta C_{P,SelLog,i,t}$	Net carbon stock change as a result of degradation through selective logging of FSC certified forest management areas in the project area in the project case in stratum i in year t ; t CO ₂ -e
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the start of the project activity

In this monitoring period, degradation from illegal logging was considered to be de minimis. PfB staff complete monthly patrols, aerially and by foot (Evidences 18 and 21, see Appendix 1) of the reserve to identify illegal activity, focused around areas of highest risk including roads and property boundaries. The species of each illegally removed tree was identified where possible and a GPS point captured (Evidence 14, see Appendix 1). Between 2012 and 2020, 329 stems from illegal logging were recorded (Evidence 4, see Appendix 1).

To demonstrate that illegal harvests are de minimis, the maximum average volume (0.97 m³) derived from mill delivery of FSC certified logging of commercial species was multiplied by the number of trees illegally removed between 2012 and 2020 to estimate the total volume removed. The volume removed was multiplied by the BCEF for Humid Tropical forests (2.05; Source: 2006 IPCC Guidelines for GHG Inventories. Vol 4. Ch 4: Forest Land) to convert the volume to metric tons of above-ground biomass. The value was then multiplied by 0.47 and 44/12 to convert above-ground biomass to tCO₂e. It is conservatively assumed that all illegally logged timber is immediately emitted. The estimated emission from illegal logging in the reserve between 2012 and 2020 was 1,003 tCO₂e. By the end of the last reporting period, the project generated 1,790,889 tCO₂e emission reductions. A conservative estimate of emissions related to illegal logging makes up 0.056% of emission reductions at the end of the last reporting, then below the 5% de minimis threshold.

Therefore, emissions related to illegal logging was accounted as 0 (zero) tCO₂e in this reporting period and Equation 8 of Module VMD0015 is applied where no degradation is occurring.

$$\Delta C_{P,DegW,i,t} = 0$$

Where:

$\Delta C_{P,DegW,i,t}$	Net carbon stock changes as a result of degradation in stratum i in the project area in year t ; t CO ₂ -e
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4.4.2.3 Monitoring selective logging

Selective logging took place within the project boundary during this reporting period. The geospatial data of timber management areas was provided (Evidence 15, see Appendix 1). The data showed that

2,176.8 hectares were selectively and sustainably logged between 2011 and 2021 within the project area.

The emissions from certified selective logging are monitored through wood volume delivered to mills by PfB and verified through audits conducted by FSC. Annual mill receipts track volume logged annual volume balances were provided to AENOR and positively assessed (Evidence 40, see Appendix 1).

Through the application of VMD0015 Methods for Monitoring GHG Emissions and Removals, emissions arising in the logging gap and emissions from logging infrastructure were estimated annually. Annual timber volumes reported by PfB were used to estimate yearly emissions from degradation. The principle of conservativeness was taken into consideration when estimating emissions during monitoring. Equation 9 from VMD0015 was applied to calculate net carbon stock change as a result of degradation through selective logging of FSC certified forest management areas:

$$\Delta C_{P, SelLog, i, t} = \sum_{t=1}^t (C_{LG, i, t} + C_{LR, i, t} - C_{WP, i, t}) \quad (9)$$

Where:

$\Delta C_{P, SelLog, i, t}$	Net carbon stock change as a result of degradation through selective logging of FSC certified forest management areas in the project area in the project case in stratum i in year t ; t CO ₂ -e
$C_{LG, i, t}$	Actual net project emissions arising in the logging gap in stratum i in year t ; t CO ₂ -e
$C_{LR, i, t}$	Actual net project emissions arising from logging infrastructure in stratum i in year t ; t CO ₂ -e
$C_{WP, i, t}$	Carbon stock in wood products pool from stratum i , in year t ; t CO ₂ -e
t	1, 2, 3, ... t years elapsed since the start of the project activity

Emissions arising in the logging gap

Emissions occurring in logging gaps as a direct result of the death of timber trees and due to death of trees killed when timber is felled are calculated using Equation 10 in VMD0015:

$$C_{LG, i, t} = \sum_{z=1}^Z (C_{EXT, z, i, t} + (LDF_{z, i} * V_{EXT, z, i, t} * \frac{44}{12})) \quad (10)$$

Where

$C_{LG, i, t}$	Actual net project emissions arising in the logging gap, in stratum i in year t ; t CO ₂ -e
$C_{EXT, z, i, t}$	Biomass carbon stock of timber extracted within the project boundary for logging stratum z , in stratum i in year t ; t CO ₂ -e
$LDF_{z, i}$	Logging damage factor for logging stratum z , in stratum i ; t C m ⁻³
$V_{EXT, z, i, t}$	Volume extracted from logging stratum z , in stratum i in year t ; m ³
Z	1, 2, 3, ... Z logging strata
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t years elapsed since the start of the project activity

Biomass of commercial extracted logs is calculated using Equation 11 in VMD0015:

$$C_{EXT,z,i,t} = \sum_{j=1}^S (V_{EXT,j,z,i,t} * D_j * CF_j * \frac{44}{12}) \quad (11)$$

Where:

$C_{EXT,z,i,t}$	Biomass carbon stock of timber extracted within the project boundary for logging stratum z , in stratum i in year t ; t CO ₂ -e
$V_{EXT,j,z,i,t}$	The volume of timber extracted of species j for logging stratum z , in stratum i in year t ; m ³
D_j	Basic wood density of species j ; t d.m.m ⁻³
CF_j	Carbon fraction of biomass for tree species j ; t C t ⁻¹ d.m.
z	1, 2, 3, ... Z logging strata
j	1, 2, 3, ... S_{PS} tree species
t	1, 2, 3, ... t years elapsed since the start of the project activity

The reported yearly volume was multiplied by the wood density following Equation 1 in the VMD0005 module. According to Reyes et al. (1992) the average wood density in the tropical Americas is 0.6 t m⁻³. It was then multiplied by the carbon fraction and converted to tons of CO₂-e.

$$C_{XB,ty,i} = \frac{1}{A_i} * \sum_{j=1}^S (V_{ex,ty,j,i} * D_j * CF_j * \frac{44}{12}) \quad (1)$$

Where:

$C_{XB,ty,i}$	Mean stock of extracted biomass carbon by class of wood product ty from stratum i ; t CO ₂ -e ha ⁻¹
A_i	Total area of stratum i ; ha
$V_{ex,ty,j}$	Volume of timber extracted from within stratum i (does not include slash left onsite) by species j and wood product class ty ; m ³
D_j	Mean wood density of species j ; t d.m.m ⁻³
CF_j	Carbon fraction of biomass for tree species j ; t C t ⁻¹ d.m.
j	1, 2, 3, ... S tree species
ty	Wood product class – defined here as sawnwood (s), wood-based panels (w), other industrial roundwood (oir), paper and paper board (p), and other (o)
$44/12$	Ratio of molecular weight of CO ₂ to carbon, t CO ₂ -e t C ⁻¹

The remaining carbon stored in wood products was then calculated using Equation 2 of the VMD0005 module, by subtracting the amount of wood waste emitted using the mill efficiency factor of 0.24, the default value for developing countries.

$$C_{WP,i} = \sum_{ty=s,w,oir,p,o} C_{XB,ty,i} * (1 - WW_{ty}) \quad (2)$$

Where:

$C_{WP,i}$	Carbon stock entering the wood products pool from stratum i ; t CO ₂ -e ha ⁻¹
$C_{XB,ty,i}$	Mean stock of extracted biomass carbon by class of wood product ty from stratum i ; t CO ₂ -e ha ⁻¹
WW_{ty}	Wood waste. The fraction immediately emitted through mill inefficiency by class of wood product ty ; dimensionless
ty	Wood product class – defined here as sawnwood (s), wood-based panels (w), other industrial roundwood (oir), paper and paper board (p), and other (o)
i	1, 2, 3, ... M strata

Emissions arising through logging infrastructure

Emissions arising from logging infrastructure were estimated using the Logging Infrastructure Factor (LIF) applied in Equation 4 of VMD0011 (See section 3.2 in this report), which is prescribed for estimating logging infrastructure emissions in the baseline scenario:

$$C_{BSL,XBT,i,t} = ([V_{BSL,XE,i,t} * D_{mn} * CF] + [V_{BSL,XE,i,t} * LDF] + [V_{BSL,XE,i,t} * LIF]) * \frac{44}{12} \quad (4)$$

Where:

$C_{BSL,XBT,i,t}$	Carbon emission due to timber harvests in the baseline scenario in stratum i at time t ; t CO ₂ -e
$V_{BSL,XE,i,t}$	Volume of timber projected to be extracted from within the project boundary during the baseline in stratum i at time t ; m ³
D_{mn}	Mean wood density of commercially harvested species; t d.m.m ⁻³ . The value must be the same as that used in the module CP-W if this pool is included in the baseline.
CF	Carbon fraction of biomass for commercially harvested species j ; t C t d.m. ⁻¹ . The value must be the same as that used in the module CP-W if this pool is included in the baseline.
LDF	Logging damage factor; t C m ⁻³ (default 0.53 t C m ⁻³ for broadleaf and mixed forests; 0.25 t C m ⁻³ for coniferous forests)
LIF	Logging infrastructure factor; t C m ⁻³ (default 0.29 t C m ⁻³)
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the projected start of the REDD project activity

The LIF was multiplied by the annual volume of wood extracted through legal FSC certified logging to calculate emissions related to logging infrastructure such as skid trails, road, and logging decks. Thus, the expansion factor of 0.29 t C m⁻³, conservatively derived from the upper bound of the 95% confidence interval, was multiplied by volume extracted for legal FSC selective logging to determine the emissions resulting from skid trails, roads, and logging decks.

Emissions from FSC certified legal logging operations are accounted for based on logging volumes delivered to mills according to mill receipts tracked by the FSC program (Evidence 23, see Appendix 1).

Finally, Equation 9 from VMD0015 (above referenced) was applied to calculate total emissions from selective logging, which includes 1) emissions from logging gaps, 2) emissions from logging infrastructure, 3) and wood products.

AENOR confirmed that the emissions due to degradation due to the extraction of trees for illegal timber, fuelwood and charcoal (see section 4.4.2.2 above) and the degradation due to the extraction of trees for selective logging from forest management in the monitoring period were correctly calculated in Evidence 2, considering information from documentary sources 4, 14, 15, 18, 19, 20, 23, 39 and 40 (see Appendix 1), which based on reasonable assumptions, in accordance with the methodology and tools used, the PD, the previous and the VCS rules.

4.4.2.4 Monitoring areas undergoing natural disturbance

Emissions associated with disturbances such as Hurricane Earl and wildfire are included with estimations of $\Delta CP_{Enh,1,t}$ where stock changes as measured on re-inventoried plots are representative of the entire project area and includes changes associated with disturbance. Therefore, emissions related to storm damage in the Upland, Upland-South and Lowland strata are not estimated separately using Equation 20 in Module VMD0015, where $\Delta CDistPA = 0$.

Hurricane Earl impacted the project site in 2016. The PP authored a report immediately after the hurricane hit, which evaluated the impact across the entire Reserve, not just the project area (Evidence Forest Damage Assessment Hurricane Earl Report. August 25th 2016 - HurEarlNarrative4Aug2016.docs). A re inventory of the project area took place in 2021 and it is representative of standing stocks at the end of this reporting period. These stocks were higher than the stocks measured at the previous inventory (reason why enhancements were accounted, as explained in section 4.4.2.5 of this Verification Report) and are representative of any stock changes (loss or gain) that may have occurred within the project area during the reporting period.

The PP presented a retrospective analysis of the impact of the Hurricane that shows that a loss of carbon stocks equal to or greater than 5% of total credits issued to date (~129,000 tCO₂e) did not occur, per VCS definition. Using the most recent inventory data (2021), a demonstration was provided of the annualized calculation of stocks in a scenario where there is steady growth (growth rate around 1.6% per year) and no storm impact, against a scenario where there is steady growth, but a minimum 5% loss of stocks due to disturbance in 2016. If the storm had resulted in the minimum loss of 129,000 tCO₂e in year 2016, it would have expected to see the growth rate of the forest almost double (to get the 2021 inventory results) following the hurricane, which is biophysically unlikely.

Additionally, Landsat imagery of the project pre-dating the storm (2014) and following the storm (2017) do not show any major changes in forest canopy cover that would indicate significant loss due to disturbance.

Last, the forest inventory conducted in 2021 covered a representative sample of the project area and its current stocks. Overall, above-ground stocks in the forest are substantially larger than they were when measured during the previous forest inventory. Therefore, enhancements that are being credited

to this period comprehensively include all gains and losses in carbon stocks over the previous 10 years that are accounted for in this reporting period.

That said, in opinion of AENOR it sufficiently demonstrated that Hurricane Earl could not have generated a loss event, reason why a loss event report was not submitted. AENOR verified the comparative studio mentioned (Evidence: RioBravo_LossReportAssess_2023-04-21.xlsx), the Landsat imagery provided (pre and post disturbance), and crosschecked the inventory carried out in 2021 (by re measuring a sample -16%- of the inventory plots covering the complete project area, interviewing the forest inventory cruise, and crosschecking the digitalization of 2021 forest inventory filled templates – in Evidence 2 and 3, 13 of Appendix 1; see section 2.3 and 2.4 of this Verification report).

On the other hand, about 313 hectares of forest were subject to burning along the western edge of the project boundary in one fire that took place during the monitoring period in April 2019 (Evidence: Forest Fire in April 2019 in West Botes north-eastern blocks and San Felipe Triangle Area). The fire did not result in heavy mortality of the area as the 2021 classification of forest cover did not show any forest loss in the areas affected by the fire, and was therefore, *considered de minimis*.

AENOR confirmed that the emissions due to natural disturbances in the monitoring period were correctly considered based on reasonable assumptions and reliable documentary evidences, in accordance with the methodology and tools used, the PD and the VCS rules. [4.4.2.5 Monitoring areas undergoing carbon stock enhancement](#)

Forest carbon has been increasing in the project area since the initiation of the REDD project in 1996. Though the project initially, conservatively, excluded enhancements from emissions calculations, the 2021 re-inventory revealed that a substantial increase in carbon stocks occurred over 20-years due to effective conservation activities. Accounting for enhancements is, therefore, an accurate accounting of emissions during the project crediting period and enhancements were accounted for this period between 2012 and 2021.

Equation 25 from VMD0015 was applied to determine the net carbon stock changes as a result of forest carbon stock enhancements for years 0-20 of the project:

$$\Delta C_{P,Enh,i,t} = \sum_{t=1}^t \sum_{i=1}^M ((C_{P,i,t} - C_{BSL,i}) * A_{Enh,PL,i,t}) \quad (25)$$

Where:

$\Delta C_{P,Enh,i,t}$	Net carbon stock changes as a result of forest carbon stock enhancement in stratum i in the project area in year t ; t CO ₂ -e
$C_{P,i,t}$	Carbon stock in all pools in the project case in stratum i in year t ; t CO ₂ -e
$C_{BSL,i}$	Carbon stock in all pools in the baseline in stratum i ; t CO ₂ -e ha ⁻¹
$A_{Enh,PL,i,t}$	Project area in stratum i in which carbon stocks are accumulating but that would have undergone planned deforestation in the baseline scenario in year t ; ha
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the start of the project activity

Enhancements due to forest growth are credited to areas within the project only after it would have been deforested in the baseline. The area of the project determined to be deforested in each year of the baseline was calculated using Equation 26 from VMD0015 for a planned REDD project:

$$A_{Enh,PL,i,t} = D\%_{planned,i,t} * A_{planned,i,t} \quad (26)$$

Where:

$A_{Enh,PL,i,t}$	Project area in stratum i in which carbon stocks are accumulating but that would have undergone planned deforestation in the baseline scenario in year t ; ha
$D\%_{planned,i,t}$	Projected annual proportion of land that will be deforested in stratum i in year t ; %
$A_{planned,i}$	Total area of planned deforestation over the entire project lifetime for stratum i ; ha
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the projected start of the project activity

Baseline deforestation took place between 1996 and 2008, which means that at the start of this monitoring period, in 2012, baseline deforestation was completed and all growth could be attributed to project activities; then enhancements are only credited during the crediting period from 2012-2021. Carbon stocks generally increased across the project site, although it should be noted that stocks decreased in the Upland-South stratum and the loss is being accounted here as an emission, likely reflective of hurricane damage.

An annualized net stock change was calculated using the difference in mean carbon stock values for each stratum from the 2000 and 2021 inventories of the project area and divided by 20 years.

Because baseline deforestation was completed in 2008, all hectares in the project area underwent stock changes that would not have otherwise occurred in the baseline. The annual net stock change was multiplied against the total area of each stratum in each year of the monitoring period to calculate the overall emissions from enhancements during the monitoring period 2012-2021, as it was verified in inventory spreadsheet (Evidence 3, see Appendix 1) by AENOR.

4.4.2.6 Monitoring project emissions

Carbon emissions are also generated in the project scenario through usage of machineries that consume fossil fuels, potential biomass burning occurring within the project boundaries, and fertilizers used within the project boundary.

Project emissions due to fossil fuel consumption

Monitoring of emissions from fossil fuel consumption was conducted by keeping track of the annual amount of fuel consumed by PfB and by logging contractors to conduct operations in the project area and applying Equation 30 in VMD0015:

$$GHG_{P,E,i,t} = E_{FC,i,t} + E_{BiomassBurn,i,t} + N_2O_{direct-N,i,t} \quad (30)$$

Where:

$GHG_{P,E,i,t}$	Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t ; t CO ₂ -e
$E_{FC,i,t}$	Emission from fossil fuel combustion in stratum i within the project area in year t ; t CO ₂ -e
$E_{BiomassBurn,i,t}$	Non-CO ₂ emissions due to biomass burning in stratum i in year t ; t CO ₂ -e
$N_2O_{direct-N,i,t}$	Direct N ₂ O emission as a result of nitrogen application on the alternative land use in stratum i within the project area in year t ; t CO ₂ -e
i	1, 2, 3, ... M strata
t	1, 2, 3, ... t^* years elapsed since the start of the REDD VCS project activity

Fuel consumption was estimated from logging activity in 2021 (Evidence 5, see Appendix 1): PfB keeps records of fuel purchased for maintaining the project, such as utilizing vehicles including trucks, all-terrain vehicles, tractors, generators, lawnmowers, etc. Additionally, a survey was applied to the logging contractor to identify fuel consumption for conducting logging practices (e.g. chainsaw, skidder, loaders and trucks). Monthly fuel costs were divided by the cost of fuel (predominantly diesel fuel) per liter to calculate volume of fuel consumed in each month of the year. Total fuel consumption was summed for the year and then divided by the total m³ of timber harvested to get liters/m³. This annual average was then applied across all years of the monitoring period by multiplying the total volume harvested in each year by the average fuel consumption value.

Module VMD0014 for fossil fuels was then applied to convert fuel consumption to tCO₂e as a contribution to project emissions, using Equation 2 in VMD0014 to convert the amount of fuel consumed to Terre joules (TJ). It was multiplied total liters of fuel by the Density Fuel default density of 0.8439 kg/ltr, and the default of 43.0 TJ/Gg as Net Caloric Value (NCV), both valued provided by the module:

$$Fuel_{a,i,t} = Liters_{Fuel\ a,i,t} \times Density_{Fuel\ a} \times NCV_{Fuel} \div 10^6 \quad (2)$$

Where:

$Fuel_{a,t}$	Amount of Fuel type a consumed in stratum i in year t ; TJ
$Liters_{Fuel\ a,t}$	Quantity of Fuel of type a consumed in stratum i in year t ; ltr
$Density_{Fuel\ a}$	Density of Fuel type a ; kg/ltr
$NCV_{Fuel\ a}$	Net Calorific Value of Fuel type a ; TJ/Gg

Applying Equation 1 in VMD0014, it was multiplied Terre joules of fuel consumed in each year and each stratum by the default emission factor (EF) for diesel of 74.1 tCO₂/TJ (valued provided by the module), to obtain the total emissions from fossil fuel consumption related to harvesting activity between Jan 2012 and Dec 2021:

$$E_{FC,i,t} = \sum_{a=1}^A (Fuel_{a,i,t} \times EF_a) \quad (1)$$

Where:

$E_{FC,i,t}$	Net CO ₂ -e emissions of Fuel Consumption in stratum i in year t ; t CO ₂ -e
$Fuel_{a,i,t}$	Amount of Fuel of type a consumed in stratum i in year t ; terrajoule (TJ)
EF_a	Emission Factor of Fuel type a ; tCO ₂ -e/TJ
a	1,2,3,...A fuel types (e.g. diesel, gasoline, etc.)

Project emissions due to biomass burning

Fires within the project boundary have been monitored over time by both field crews and satellite imagery. One fire occurred during the monitoring period, in 2019, burning about 313 ha of forest area in the Upland stratum (Evidence 25, see Appendix 1).

The occurrence of fires has also been monitored using the MODIS Burned Area Monthly L3 Global 500m (MCD45A1), which was used to investigate the risk of wildfire inside the project boundary.

The fire that took place in 2019 did not cause substantial mortality area and based on the 2021 inventory and 2021 satellite imagery analysis, this forest area has maintained its canopy cover.

No biomass burning took place in the project area. However, the above-ground biomass from areas deforested during the monitoring period is conservatively considered to be burned. Emissions were calculated using Equation 1 in VMD013 (see section 4.4.2.1 above) by multiplying stocks by area deforested and converting the standing stocks to non-CO₂ emissions to estimate N₂O and GHG emission associated with deforestation activities taking place between 2012-2021 as follows:

$$E_{biomassburn,i,t} = \sum_{g=1}^G \left(\left(A_{burn,i,t} \times B_{i,t} \times COMF_i \times G_{g,i} \right) \times 10^{-3} \right) \times GWP_g \quad (1)$$

Where:

$E_{biomassburn,i,t}$	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO ₂ , CH ₄ , N ₂ O) (t CO ₂ e)
$A_{burn,i,t}$	Area burnt for stratum i in year t (ha)
$B_{i,t}$	Average aboveground biomass stock before burning stratum i , year (t d.m. ha ⁻¹)
$COMF_i$	Combustion factor for stratum i (unitless)
$G_{g,i}$	Emission factor for stratum i for gas g (kg t ⁻¹ d.m. burnt)
GWP_g	Global warming potential for gas g (t CO ₂ /t gas g)
g	1, 2, 3 ... G greenhouse gases including carbon dioxide ¹ , methane and nitrous oxide (unitless)
i	1, 2, 3 ... M strata (unitless)
t	1, 2, 3, ... t* time elapsed since the start of the project activity (years)

Project emissions due to fertilizers use

No fertilizer was applied in the project area and no N₂O emissions occurred during the monitoring period in this regard.

AENOR confirmed that the emissions due to usage of machineries that consume fossil fuels and biomass burning occurring within the project boundaries were correctly considered in Evidence 2, based on reliable information from evidences 5, 8-12 and 24 (see Appendix 1), crosschecked onsite, and in accordance with the methodology and tools used, the PD and the VCS rules. It was also confirmed onsite that no fertilizers were employed.

4.4.3 Leakage

No baseline deforestation took place during this reporting period, therefore no market effects leakage or activity shifting leakage would have taken place during this period and are accounted as 0 (zero). AENOR verified that this circumstance was properly considered, according to previous MR, VM0007, VMDO011 and VCS rules.

4.4.4 Net GHG Emission Reductions and Removals

Net GHG emissions and VCU are calculated using Equation 2 in VM0007, where $\Delta C_{BSL-REDD} = 0$ and $\Delta C_{LK-REDD} = 0$, as reported in calculation spreadsheet (Evidence 2, see Appendix 1):

$$NER_{REDD} = \Delta C_{BSL-REDD} - \Delta C_{WPS-REDD} - \Delta C_{LK-REDD} \quad (2)$$

Where:

NER_{REDD}	Total net GHG emission reductions of the REDD project activity up to year t^* (t CO ₂ e)
$\Delta C_{BSL-REDD}$	Net GHG emissions in the REDD baseline scenario up to year t^* (t CO ₂ e)
$\Delta C_{WPS-REDD}$	Net GHG emissions in the REDD project scenario up to year t^* – from Module <i>M-REDD</i> (t CO ₂ e)
$\Delta C_{LK-REDD}$	Net GHG emissions due to leakage from the REDD project activity up to year t^* (t CO ₂ e)

The buffer pool contribution is the minimum 10% (Evidences 16 and 17, see Appendix 1). The buffer contribution was calculated using Equations 13 and 14 from VM0007:

$$Buffer_{Total} = Buffer_{Planned} + Buffer_{Unplanned} + Buffer_{Degrad -FW / C} + Buffer_{WRC} + Buffer_{ARR} \quad (13)$$

$$Buffer_{Planned} = \left(\left(\Delta C_{BSL,Planned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2O_{direct,i,t}) \right) - \left(\Delta C_{P,Planned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2O_{direct,i,t}) \right) \right) \times Buffer\% \quad (14)$$

Uncertainty was calculated using Equation 21 in Module X-UNC, VM0017:

$$NER_{REDD+ERROR} = \frac{\sqrt{(Uncertainty_{REDD_BSL,t^*} \times \Delta C_{BSL-REDD,t^*})^2 + (Uncertainty_{REDD_WPS} \times \Delta C_{WPS-REDD,t^*})^2 + (Uncertainty_{WRC_BSL,t^*} \times GHG_{BSL-WRC,t^*})^2 + (Uncertainty_{WRC_WPS,t^*} \times GHG_{WPS-WRC,t^*})^2}}{(\Delta C_{BSL-REDD,t^*} + \Delta C_{WPS-REDD,t^*} + GHG_{BSL-WRC,t^*} + GHG_{WPS-WRC,t^*})} \quad (21)$$

Where:

$NER_{REDD+ERROR}$	Cumulative uncertainty for the REDD+ (REDD and WRC) project activities up to year t^* (%)
$Uncertainty_{REDD_BSL,t^*}$	Cumulative uncertainty in REDD baseline scenario up to year t (%)
$Uncertainty_{WRC_BSL,t^*}$	Cumulative uncertainty in the WRC baseline scenario up to year t (%)
$Uncertainty_{REDD_WPS}$	Total uncertainty in the REDD project scenario (%)
$Uncertainty_{WRC_WPS,t^*}$	Cumulative uncertainty in the WRC project scenario up to year t (%)
$GHG_{BSL-WRC,t^*}$	Net GHG emissions in the WRC baseline scenario up to year t (t CO ₂ e)
$GHG_{WPS-WRC,t^*}$	Net GHG emissions in the WRC project scenario up to year t (t CO ₂ e)
$\Delta C_{BSL-REDD,t^*}$	Net GHG emissions in the REDD baseline scenario up to year t^* (t CO ₂ e)
$\Delta C_{WPS-REDD,t^*}$	Net GHG emissions in the REDD project scenario up to year t^* (t CO ₂ e)
t	1, 2, 3, ... t^* time elapsed since the project start (year)

Net emission reductions were adjusted for uncertainty using Equation 22 in VM0007:

$$Adjusted_NER_{REDD+} = NGR_{ARR} + (NER_{REDD} + NER_{WRC}) \times (100\% - NER_{REDD+ERROR} + 15\%)$$

$$Adjusted_NER_{REDD+} = NGR_{ARR} + (NER_{REDD} + NER_{WRC}) \times (100\% - NER_{REDD+ERROR} + 15\%) \quad (22)$$

Where:

$Adjusted_NER_{REDD+}$	Total net GHG emission reductions of the REDD+ project activities up to year t^* adjusted to account for uncertainty (t CO ₂ e)
NER_{REDD}	Total net GHG emission reductions of the REDD project activity up to year t^* (t CO ₂ e)
NER_{WRC}	Total net GHG emission reductions of the WRC project activity up to year t^* (t CO ₂ e)
$NER_{REDD+ERROR}$	Cumulative uncertainty for the REDD+ (REDD and WRC) project activities up to year t^* (%)
NGR_{ARR}	Total net GHG removals of the ARR project activity up to year t^* (t CO ₂ e)

Because the overall uncertainty is 7.2% (Evidence 2, see Appendix 1), below the 15% threshold, there was no required adjustment to NERs for the monitoring period.

To estimate total verified carbon units (VCUs) for this reporting period, Equation 19 of VM0007 was applied:

$$VCU_t = (Adjusted_NER_{REDD+,t_2} - Adjusted_NER_{REDD+,t_1}) - Buffer_{Total} \quad (19)$$

Where:

VCU_t	Number of Verified Carbon Units at year $t = t_2 - t_1$ (VCU)
$Adjusted_NER_{REDD+,t_2}$	Total net GHG emission reductions of the REDD+ project activity up to year t_2 and adjusted to account for uncertainty (t CO ₂ e)
$Adjusted_NER_{REDD+,t_1}$	Total net GHG emission reductions of the REDD+ project activity up to year t_1 and adjusted to account for uncertainty (t CO ₂ e)
$Buffer_{Total}$	Total permanence risk buffer withholding (t CO ₂ e)

Thus, for the current event (second and last verification), which covers from 01 January 2012 to 31 December 2021, it was estimated 130,629 tCO₂e in total net removals from the enhancement of forest carbon stocks, which corresponds to 117,566 VCUs considering the non-permanence risk buffer of 10% and means 13,063 of buffer credits.

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
2012	0	(42,256)	0	(42,256)	-	(42,256)
2013	0	19,573	0	19,573	-	19,573
2014	0	18,274	0	18,274	-	18,274
2015	0	18,606	0	18,606	1,420	17,186
2016	0	18,638	0	18,638	1,864	16,775
2017	0	20,307	0	20,307	2,031	18,277
2018	0	19,845	0	19,845	1,984	17,860
2019	0	18,605	0	18,605	1,861	16,745
2020	0	19,609	0	19,609	1,961	17,648
2021	0	19,427	0	19,427	1,943	17,485
Total	0	130,629	0	130,629	13,063	117,566

AENOR reproduced the calculations to achieve the same results and deems they are depicted clearly and correctly in the provided sheets. AENOR verification team was able to trace them directly from the data sources. Formulae used are in compliance with monitoring plan, PD, and methodology and tools, as well as the default values used to determine the parameters. Thus, the net amount of VCUs to be issued is accurate and realistic. Assumptions used by PP at verification were appropriately cross-checked and assessed with requested evidence.

To assess if manual transposition errors between data sets have occurred, AENOR team crosschecked a field fulfilled templates of a sample of 9 2021-inventory plots of all strata against its transcription in inventory spreadsheet (Evidence 3, see Appendix 1). Additionally, a subset of 7 (out of 44) 2021-inventory plots were re measured during the onsite visit (March 2022). The results are consistent with those measured for the inventory carried out in 2021, since a +1.8% in 2022 volume is noted regarding 2021, which correspond to time window (9 months of difference) and 3 missing trees in one plot (which was noted during the verification, and what finally is a conservative result).

AENOR carried out a deep review of the technical annex and the calculations and others provided by the PP that feed data values shown in the spreadsheets RioBravo_MR_Calcs_2022-06-01.xlsx and RioBravo_Carbon_Calcs_Inventory_2022-05-25.xlsx.

AENOR verified the consistency and accuracy of each parameter detailed in sections 4.1 and 4.2 of the MR by crosschecking the information with the information of the PD as well as checking values and reproducing the calculations in the calculation spreadsheets and did not find inconsistencies between them after the closing of CARs and CLs requested. Therefore, AENOR deems that values reported for the parameters are accurate and consistent. Information was deemed accurate and consistent taking into account sources used. Other default values used are from sources well accredited and validated at validation stage.

In order to verify the accuracy and consistency of parameters monitored and used to calculate the avoided emissions achieved for the monitoring period, AENOR verification team reproduced table by table using the sequence established in the methodology, checking the correctness of the formulae applied and assumptions used, when applicable and that values used matched with data sources.

After a deep and thorough review and reproduction of calculation sheets and sample inventory plots, AENOR deems the parameters monitored and available at validation are correct, reliable and consistent. Information in the MR is in compliance with the PD, the calculations provided and the applicable methodology. Then, the results showed in the MR are reliable, consistent and accurate.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The data and parameters used to determine GHG emission reductions are listed in sections 4.1 (for validation) and 4.2 (for verification) of the MR.

As mentioned in the MR, the monitoring plan consists of several parts:

- Organizational Structure: PfB is governed by a board of directors that decides policy directions, approves the yearly budgets, and support fund raising activities. The immediate link between the staff and the board is the executive director. The executive director oversees the organization to ensure that the board policies are being followed. PfB has a clear organizational chart, trained staff, and well-defined task assignments, which were known to the interviewed staff (see interviewed staff in section 2.3 of this report; and evidences 31, 32, and 38 in Appendix 1). Two permanent field stations exist with permanent station managers and support staff in RBCMA (outside the project area): La Milpa and Hillbank, which allows having permanent follow up in project activities.
- Monitoring data generation, recording and storage: Programme for Belize follows a set of standard procedures for the monitoring of the project area and the project activities. All activities related to the project have procedures, which are detailed in the general management plans for the RBCMA (Evidence 31, see Appendix 1) and the forest management plan for the project area (Evidence 32, see Appendix 1), and additionally the forest inventory procedure (Evidence 7, see Appendix 1). All records are kept on file for the duration of the project in the onsite offices and/or in Belize City central office, inventory data on carbon stocks, monitoring plans, GIS database, trainings, communications/grievances, vigilance reports, etc. During the verification, all the documentary evidence applicable to the scope of the event was provided digitally or physically on site, for which AENOR confirms that data generation, recording and storage processes are implemented.
- Internal auditing and non-conformities: PfB's management plan is based on "Adaptive Management" principles. This means that activities within the approved management plans can be deleted or new activities added based on the prevailing conditions. However, given PfB's experience in managing the Rio Bravo Conservation Management Area, most potential threats or opportunities are identified in the plan, at least from a global perspective. Any major change in management actions will be presented by the executive director to the PfB board of directors for approval; while other minor changes can be assumed in a more operational way without going through higher instances if it is not required. PfB's staff, including the administrator, field station manager or the technical coordinator will lead the new activities that became necessary. From the Rio Bravo Climate Action Project perspective, project oversight is provided by a board of directors comprised of a representative from each financial participant, TNC and PfB. The board approves annual plans, including the annual budget. In AENOR's opinion, the PP demonstrates that it has the capacity to detect changes for continuous improvement and take effective measures. The FSC reports for forest management were reviewed (Evidence 20, see Appendix 1), and a high performance is shown, with non-conformities that are closed in a short time. In the same way, the reports of communication/complaints (Evidence 37, see Appendix 1) show the quick

attention for its closure.

- Carbon stocks monitoring: A new inventory to measure above and below-ground live tree biomass was implemented in the project area in 2021 to estimate carbon stocks for quantification of enhancements. An independent sample of biomass was derived from the 2021 inventory by randomly selecting a subsample of the plot points established in the 2000 inventory. The standard operating procedures for 2021 were reviewed by AENOR (Evidence 7, see Appendix 1) and contain QA/QC internal procedures to avoid errors during the measurement, information capture, calculations, etc. 44 plots were sampled in the 2021 inventory across 3 strata: Lowland, Upland, and Upland-South. The inventory targeted a precision of +/- 15% of the mean biomass value at a 95% confidence interval as required by Module VMD0017 X-UNC. The overall uncertainty from the inventory was 14.3% at a 95% confidence interval, according to evidence provided to AENOR (Evidences 3, 7, 13, 36; see Appendix 1); what was crosschecked during the onsite visit: a subset of 7 (out of 44) 2021-inventory plots were re measured during the onsite visit (March 2022). The results are consistent with those measured for the inventory carried out in 2021, since a +1.8% in 2022 volume is noted regarding 2021, which correspond to time window (9 months of difference) and 3 missing trees in one plot (which was noted during the verification, and what finally is a conservative result).

- Land use change monitoring: The program maintained the Forest Stewardship Council (FSC) certification throughout the entire monitoring period when selective logging occurred. Landcover change analysis was conducted to evaluate forest and non-forest classes in the project area. Due to high cloud contamination of all available Landsat imagery, Sentinel 2 imagery collected on 03 Feb 2021 was used. The imagery was collected at multiple spatial and spectral resolutions. The highest spatial resolution available is 10m, and all available bands (B2, B3, B4, and B8) were used for classification. Imagery was downloaded from USGS Earth Explorer and imported into TerrSet. An unsupervised clustering classification algorithm was used to group pixels into spectrally based classes. These were then grouped into information classes based on expert opinion to distinguish forest and non-forest. Last, an accuracy assessment of the classification maintained 92.9% accuracy, exceeding the 90% threshold required by VMD0015. AENOR verified this through documentary revision (Evidences 8-12, 14, 15, 20) and onsite (verification land use (forest strata) in random points along the project area, verification of land use change random points in monitoring period) and confirms the accuracy of the information provided.

In conclusion, the PP demonstrated that has standardized data collection and processing procedures. Several QA/QC procedures are in place, including regular training, staff internal revisions, multiple quantifications, etc.

AENOR has verified that the monitoring plan is being implemented as the described in the PD and consistent with the previous MR. AENOR checked that key workers are fully involved in monitoring events (training, measuring, archiving, reporting, quality control, etc.). QA/QC procedures are considered strict at identifying, reviewing, and handling inconsistencies found in order to improve the management of the project. AENOR carried out a cross check of the information of a sample of plots, amongst the data collected onsite and the captured information for inventory calculations and no inconsistencies were found. Because the overall uncertainty is 7.2% (Evidence 2, see Appendix 1),

below the 15% threshold, there was no required adjustment to NERs for the monitoring period.

Roles and responsibilities along with data management and archival system are also detailed in the MR and other supported documents.

Interviews with the project staff and inspection of data and results demonstrated that the PP possess all of the competencies required for reporting of GHG emissions removals on accurate way.

Data presented to the audit team were clear and coherent and processing steps could be traced to the corresponding sections of the methodology and monitoring plan with transparency.

4.6 Non-Permanence Risk Analysis

PP has elaborated a VCS Non permanence Risk Report (NPRR) for the verification process according to the AFOLU Non-Permanence Risk Tool v4.0 (Evidences 16 and 17, see Appendix 1). As required by the VCS Program, the non-permanence risk rating is reassessed for each verification event.

Below, it is explained the assessment and the issues raised on regard the non-permanence risk rating determined by the PP in the NPRR.

Risk Factor	Risk rating	Assessment
INTERNAL RISK (PM+FV+OC+PL) = 0		
Project Management	-4	a) Non native species are not planted. The project only considers the conservation and management of tropical rainforest. AENOR verified this onsite, and in documentary evidences 20, 30, 31, 32 (see Appendix 1). Risk rating = 0 is justified b) There is no current potential encroachment. The PP has succesful measures in force to prevent this: regular patrols, communications in communities, clear land tenure and delineated boundaries. AENOR verified this onsite through interviews to local stakeholders (San Carlos and San Felipe communities), local staff and Belize Forest Department; as well as documentary evidences (Evidences 4, 14, 18, 20, 21, 22, 30, 31, 32, 33, 37, 42). Risk rating = 0 is justified c) Management team includes experienced individuals to properly undertake all project activities. The managerial and technical team and rangers are trained periodically, and the organizational chart is clear. AENOR verified this through onsite interviews to Programme for Belize and The Nature Conservancy Belize heads, managerial team, technical team and rangers; as well as documentary evidences 31, 32, 38 (see Appendix 1). Risk rating = 0 is justified

		d) PfB has offices within less than a day drive from the project area, and staff are regularly on site for patrols, research, or other purposes, based in two field stations (La Milpa and Hillbank) AENOR verified this through onsite interviews to Programme for Belize and The Nature Conservancy Belize heads, managerial team, technical team and rangers; as well as documentary evidences 31, 32 (see Appendix 1) an the visit to the two field stations. Risk rating = 0 is justified e) Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting under the VCS Program or other approved GHG programs. AENOR verified this through onsite interviews to Programme for Belize and The Nature Conservancy Belize heads, managerial team, technical team and rangers; as well as documentary evidences 31, 32, 38 (see Appendix 1). Risk rating = -2 is justified f) PfB has an adaptive management plan in place: management plans for RBCMA and annual workplans for the Carbon project area, which comply with the definition of adaptive management plan of the NPR tool. AENOR verified this through onsite interviews to Programme for Belize and The Nature Conservancy Belize heads managerial team, and Belize Forest Department; as well as documentary evidences 31 and 32 (see Appendix 1) and onsite inspections to the project area (see section 2.4 in this report). Risk rating = -2 is justified
Financial Viability	0	a-c), e-g) N/A d, h) The breakeven point has already been reached during the project lifetime and the REDD project activities have been implemented (see section 4.1 in this report). As project has reached the end of the crediting period and it will not be renewed, as confirmed per the PP, the financial viability of the project is no longer relevant. Risk rating = 0 is justified
Opportunity Cost	-2	a) PP conservatively estimates \$0 revenue from project activity. Risk rating = 8 is justified b-f) N/A g) The project proponent, PfB, is a non-profit organization. AENOR positively assessed this through the Agreement amongst Government of Belize and Program for Belize (28 July 1998), reason why PfN was created; and interviews with Programme for Belize and The Nature Conservancy Belize heads. Risk rating = -2 is justified h) N/A. The crediting period has finished and will not be renewed. i) The project is part of a permanent protected area. PfB holds the property in trust for the Government and People of Belize in perpetuity, as verified

		in Articles of Incorporation and the Agreement amongst Government of Belize and Program for Belize (28 July 1998), which was positively assessed by AENOR. Risk rating = -8 is justified
Project Longevity	0	a) N/A b) The carbon project is ending after 20 years, but the project area is part of the Rio Bravo Conservation Management Area, a protected area which must be managed in perpetuity (100+ years), as verified by AENOR in Agreement amongst Government of Belize and Program for Belize (28 July 1998). Risk rating = -20 is justified
EXTERNAL RISK (LT+CE+PC) = 4		
Land Tenure and Resource Access/Impacts	2	a) N/A b) Ownership and resource access/use rights are held by different entities. The land is government-owned and PfB holds a lease or concession, as it was verified in evidence Agreement amongst Government of Belize and Program for Belize (28 July 1998) and crosschecked in interview with Belize Forest Department and Programme for Belize head. Risk rating = 2 is justified c-d) There are no disputes over land tenure or ownership, nor over access/use rights (or overlapping rights), as verified by AENOR (see findings in this regard in section 4.2 and 4.3 in this report). Risk rating = 0 is justified e) N/A f) N/A. The crediting period has finished and will not be renewed. g) N/A (see clauses c and d above).
Community engagement	0	a) N/A. No households in the project area. b) There are no households that are directly reliant on the project area. Although surrounding communities have been consulted about project activities (see findings in section 4.2.2 in this report), no census of households living within 20km of the project area has been conducted to determine which households are reliant on the project area and to ensure the project reaches a 20% consultation level, then: Risk rating = 5 is justified c) The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area. This was verified by AENOR and the evidences were reported in sections 4.1 and 4.2.1 of this report. Risk rating = -5 is justified
Political Risk	2	a)-b) N/A c) Governance Score is -0.27, as it was provided in NPR Tool Excel. AENOR verified the sources and results were correct. Risk rating = 5 is justified

		d-f) N/A
NATURAL (F+Pd+W+G+ON) = 2.5		
Fire	LS*M=0.5	Less than every 10 years: The reserve is bordered to the west by agricultural fields and is thus susceptible to fire mostly along forest edges. However, extreme dry conditions must align with human-caused burning events for a fire of significant size to take hold. Insignificant (less than 5% loss of carbon stocks): During the past 10 years, the project area has experienced one instance of fire (April 2019), which burnt a total of 313 ha, or around 4.9% of the 6,296 ha project area. However, the fire did not result in heavy tree mortality, as demonstrated by the fact that the 2021 classification of forest cover did not show any forest loss in the fire-affected areas. Therefore, this fire impacted less than 5% of carbon stocks and is considered de minimis. AENOR verified this through onsite visit to the area affected by the fire, and crosschecked documentary evidence 3, 24 and 36 (see Appendix 1), which was found reliable and with quality enough. Confirmation was also obtained by Belize Forest Department. Thus, Natural Risk Score (LS) = 2 Fire prevention measures: PfB has implemented an active fire management program under National Fire Management Strategy to help mitigate the impact of fires on the reserve and surrounding communities (evidences 31 and 32, see Appendix 1). Activities include 1) training a fire brigade made up of rangers and technical team (evidence 38, see Appendix 1) to address fires before they spread out of control, 2) regular communication to communities in order to coordinate the burning of stubble and raise awareness (evidence 42, see Appendix 1), 3) establishment of fire breaks (verified by AENOR onsite). Fire prevention history: PfB's successful containment of the April 2019 fires demonstrates a proven history of effectively controlling fire risk. It has been the only event in the last 10 years (which is the monitoring period). Thus, Mitigation measures = 0.25
Pest and Disease Outbreaks	LS*M=0	There were no records of disease or pest outbreaks causing any significant impacts to carbon stocks in project area. The forests of the project area have a high diversity of tree species, and like other diverse tropical forests, are not known to be subject to catastrophic disturbance by insect pests or forest diseases. AENOR cross checked this in interview with Belize Forest Department and during the onsite visit, and there are no evidences of any episode of pest and disease in the past. AENOR considers that the risk calculation has been done correctly.
Extreme Weather	LS*M=2	Every 25 to less than 50 years, Major (25% to less than 50% loss of carbon stocks): In the Orange Walk district of Belize, the recurrence interval of F2 hurricanes, of a magnitude sufficient to cause "extensive blowdowns", (i.e. major forest destruction, 25-50% loss of carbon stocks), is approximately 40 years (Boose et al 2003, reconstruction of regional hurricane strikes from 1851-2000, see especially Figure 27.9 The

		project area is split between 100-year return interval and 40-year return interval, therefore using a 40-year return interval is conservative. Evidence 48 in Appendix 1). Note that Boose et al estimate return intervals greater than 150 years for F3 hurricanes (resulting in “most trees down”, corresponding to devastating impacts of 50-70% loss) in the Orange Walk district of Belize. The last major hurricane to strike the project area was Hurricane Iris in 2016. AENOR verified the documentary evidence provided, and determined positively its quality and sufficiency to support the the risk score, which matches the internal report ‘Forest Damage Assessment Hurricane Earl Report. August 25th 2016’ and the 2021 inventory (which reports forest carbon loss due to Hurricane Earl, as considered in calculations explained in sections 4.4.2.4 and 4.4.2.5). While extreme weather events in the region include drought, flooding, and disturbance by wind, this analysis is limited to disturbance by wind as this is the only disturbance which has a direct effect on carbon stocks. Drought does not have a direct effect on existing forest carbon stocks, but instead can increase the severity of forest fires and hence is covered above in the section on fire risk. Thus, Natural Risk Score (LS) = 2 No mitigation measures.
Geological Risk	LS*M=0	The project area has no recorded history of geological risk; neither are volcanoes or active tectonic fault lines present within the project area. Landslides are not likely to occur within the project area due to the absence of steep slopes. AENOR has asked to different stakeholders about their knowledge of possible geological risks, and nobody were aware of any geological disturbance within the project area.
OVERALL RISK RATING (9+0+0.25) = 6.5% Then, a minimun risk of 10% is considered		

AENOR checked that information provided in the NPRR for the monitoring period was consistent with supporting documents provided. The assumptions and justifications provided to determine the risk rating of each risk factor are elaborated and they are based on provided documents using conservative assessments. CAR 11 (see Appendix 2) was issued to attend some findings in relation to evidences to be provided or justifications to be added, and it was finally successfully addressed.

AENOR deems that information provided is reliable and appropriate from reliable sources, thus, the overall risk rating is credible and realistic. Thus, the overall risk rating of 10% is credible and realistic.

5 VERIFICATION CONCLUSION

AENOR has verified that Rio Bravo Climate Action Project is in compliance with the Verified Carbon Standard version 4.2 without qualifications or limitations. The project has been implemented in accordance with the validated Project Description.

Verified GHG emission reductions and removals provided by the project proponent and verified by AENOR has resulted in a total on net GHG Emissions Reduction and Removals of 130,629 tCO₂e by the

project during the monitoring period (01 January 2012 to 31 December 2021). Considering 10% of buffer withholding based on the VCS Non-Permanence Risk Assessment Tool v4.0, which means a buffer allocation of 13,063 tCO₂e; and the Verified Carbon Units (VCU) to be issued are 117,566 tCO₂e.

Verification/monitoring period: 01 January 2012 to 31 December 2021.

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
2012	0	(42,256)	0	(42,256)	-	(42,256)
2013	0	19,573	0	19,573	-	19,573
2014	0	18,274	0	18,274	-	18,274
2015	0	18,606	0	18,606	1,420	17,186
2016	0	18,638	0	18,638	1,864	16,775
2017	0	20,307	0	20,307	2,031	18,277
2018	0	19,845	0	19,845	1,984	17,860
2019	0	18,605	0	18,605	1,861	16,745
2020	0	19,609	0	19,609	1,961	17,648
2021	0	19,427	0	19,427	1,943	17,485
Total	0	130,629	0	130,629	13,063	117,566

Net change in carbon stocks: 130,629 tCO₂e.

Overall non-permanence risk rating: 10%

VCUs buffer to be deposited: 13,063 tCO₂e.

Total VCUs to be issued: 117,566 tCO₂e.



Carlos Jiménez

Lead auditor, Madrid, 10 May 2023

APPENDIX 1: LIST OF EVIDENCES PROVIDED

N°	Evidence
Project document	
1	Rio_Bravo_REDD_MR_2023-05-12
Calculations	
2	RioBravo_MR_Calcs_2022-06-01.xlsx
3	RioBravo_Carbon_Calcs_Inventory_2022-05-25.xlsx
4	IllegalLoggingData_2011_2020_OriginalArea2.xlsx
5	Fuel Details November 2020 - October 2021.xlsx
6	Carbon Data audited March 2022.xlsx (Inventory QA/QC. Remeasurement and analysis of plots: 1S9005, 1S9011, IU7008, B41001, 1F6001, 1B4018, 1U3021)
7	Inventory SOPs: RioBravo_2021Monitoring_SOPs_2022-04-22
48	Demonstration of absence of loss event: RioBravo_LossReportAssess_2023-04-21
Land use classification	
8	Procedure for land use classification: Rio_bravo_methods_122821_rd.docx
9	Analysis shape (shapes: classification_10m__project_FNF, classification_10m__project_FNF_bystrata, classification_10m__project_strata, classification_10m_buffer10km, ProjectBoundary_2021_10m_classification122821)
10	Final shapes: Rio_bravo_carbon_project_with_forest_strata_OriginalArea, projectArea_bystrata_1228.xlsx, Project Boundary-original shape
11	Sentinel Imagery
12	Accuracy Assessment of land use classification (shape 100-points_classesall)
GIS Database	
13	Inventory plots (2000 and 2021) shape
14	Illegal logging spots shape (2011-2021) (IllegalLogging_2011_2020_OriginalArea.shp)
15	Sustainable selective logging areas maps (2011-2021) (ProjArea_Logged2011_2021.shp)
Non Permanence Risk Report	
16	Rio_Bravo_REDD_VCS-Non-Permanence-Risk-Report-2022-05-24.docx
17	Rio_Bravo_REDD_VCS-Risk-Report-Calculation-2022-05-25.xls
Supporting documents (digital)	
18	Illegal logging surveys
19	Selective logging volumes per year (2011-2021) and compartment
20	FSC sustainable forest management audit reports (2014-2021)

N°	Evidence
21	Regular patrol reports (2012-2021)
22	Stakeholder consultation records 2021
23	FSC Timber delivery data (2011_2021 Timber Delivery Data.zip)
24	Forest Fire in April 2019 in West Botes (north-eastern blocks) and San Felipe Triangle Area.
25	Forest Damage Assessment Hurricane Earl Report. August 25th 2016 (HurEarlNarrative4Aug2016.docx)
26	Hodell, D.A., Brenner, M. & Curtis, J.H. Climate and cultural history of the Northeastern Yucatan Peninsula, Quintana Roo, Mexico. Climatic Change 83, 215–240 (2007). https://doi.org/10.1007/s10584-006-9177-4
27	J.C. Meerman & W. Sabido. Central American Ecosystems Map: Belize. 2001.
28	Agreement amongst Government of Belize and Program for Belize, 28 July 1998.
29	Timothy R H Pearson et al 2014. Environ. Res. Lett. 9. Carbon emissions from tropical forest degradation caused by logging. 034017.
30	Programme for Belize. Rio Bravo Conservation And Management Area. Management Plan. 2006-2010.
31	Programme for Belize. Rio Bravo Conservation And Management Area. Management Plan. 2015-2019.
32	Ramon Pacheco and PfB Forestry Staff. Programme for Belize. August 2021. Sustainable Forest Management Plan 2022 - 2026.
33	Salas & Castillo, 2013. Socio-economic assessment of PfB's activities on the primary buffering communities of the RBCMA.
34	Gonzalo O Castillo. 7/12/2021. GC Professional Consulting Services. Updated Socio-economic Section of Programme for Belize's (PfB) Management Plan 2021-2025.
35	Sandra Brown. Winrock International. Carbon and Co-Benefits from Sustainable Land-Use Management November 2005.
48	Geographical and historical variation in hurricanes across the Yucatan Peninsula. Boose, E., Foster, D., Barker Plotkin, A., & Hall, B In Lowland Maya Area: Three Millennia at the Human-Wildland Interface. Haworth Press, New York, 2003.
Supporting documents (verified onsite)	
36	Forest carbon 2021 inventory templates
37	Grievances and communication records in the monitoring period
38	Training to technical team (forest inventory, sustainable forest management, fire prevention and combat) and rangers (illegal activities procedures, grievances mechanism, fire prevention and combat, etc.).
39	Legal selective logging license
40	Legal logging records (transportation documents, volume harvested balance, seasonal reports to Belize Forest Department, waybills, payrolls, etc.)
41	Social investment in communities in the area of influence (scholarships, light installation and environmental education in schools; maintenance of roads and infrastructure; alternative productive systems, etc.).

N°	Evidence
42	Periodic communications with the communities to notify of forestry activities, grievance mechanism, fire prevention (due to burning stubble in adjoining agricultural plots), raise awareness on illegal logging and poaching prohibition, etc.
Previous reports	
43	PD: PROJ_DESC_852_01DEC2011.pdf
44	MR 1: MONIT_REP_852_10JAN2002_31DEC2010.pdf
45	NPRR 1: AFOLU_ELEMENT_852_23NOV2011_NPRR.pdf
46	Validation report: VALID_REP_852_01DEC2011.pdf
47	Verification 1 report: VERIF_REP_852_10JAN2002_31DEC2010.pdf

APPENDIX 2: CORRECTIVE ACTIONS AND CLARIFICATIONS REQUESTED

VCS CORRECTIVE ACTION REQUESTS (CARS)

CAR ID	01	Date: 22/03/2022
Description		
Section MR 1.8: - The approved VCS Methodology indicated is VM0007 v1.1. However, the equations indicated in section 5.4 from this methodology are from VM0007 v1.6 (which, on the other hand, is the current methodology). Indicate the version finally used. - VMD0011 LK-ME, used to calculate LIF, is not indicated. - VMD0013-E-BPB-v1.2, used to calculate Ebiomassburn n,i,t, is not indicated.		
Project proponent response		Date: 29/04/2022
The appropriate modules have been added to the MR in section 1.8.		
Documentation provided by Project proponent		
NA		
VVB Assessment		Date: 19/05/2022
Closed. The PP indicated the correct methodology and tools used.		

CAR ID	02	Date: 22/03/2022
Description		
Section MR 1.11. In the introduction, according to the template, provide: A- A summary description of project activities implemented during the monitoring period that result in SD contributions (i.e., technologies/measures implemented, activity location). B- Identification of which SD contributions described in Table 1 of this report contribute to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting the same. C- In table 1 (per row number): - Row 1) 'Current Project Contributions'. Provide quantification of this contribution - Row 2) 'Current Project Contributions', according to calculations, removals for this monitoring period are 129,250 tCO₂e. - Row 2) 'Contributions Over Project Lifetime', according to previous monitoring report, for the accreditation period 1,660,260+129,250 tCO₂e of ER or Removals have been achieved. - Row 3) 'Current Project Contributions'. Provide quantification as specific as possible of this contribution ('Tens of thousands of board feet volume'). - Row 4) 'Current Project Contributions'. Provide quantification of this contribution		

- For the four contributions, please refer in 'Current Project Contributions' the specific evidenced provided (e.g. name of the file, path of the file), according to template ('Evidence of the project's SD contributions shall be provided as appendices to this report.').	
Project proponent response	Date: 29/04/2022
A) A reference to the project activities, described in more detail in Section 1.1 and 3.1 has been added to the summary. All project activities contribute to SDs directly or indirectly by protecting the forests at Rio Bravo. B) A link to the Belize SDGs has been added to the MR in reference to the SDGs that these project activities contribute to. C) Row 1 -The exact area of forest protected has been added to Row 1. Row 2 – The exact total amount of removals has been added to Row 2. Row 2 – The total contributions over the project lifetime has been added to Row 2. Row 3 – An estimated 501 cubic meters of timber are harvested annually from the project area. Row 4 – The quantified amount of illegal logging that has occurred relative to the project emission reductions and removals has been added to Row 4. Evidence for each contribution has been cited in the table.	
Documentation provided by Project proponent	
VVB Assessment	Date: 19/05/2022
A- Closed. B. Not closed. Nationally stated sustainable development priorities are included (aligned with the UN SDG), however, 'any provisions for monitoring and reporting the same' are missing. C. No closed. Please attend: - Row 1) 'Current Project Contributions'. The quantification requested is regarding the contribution of the tourism (not the forest area), which is the point of the SDG indicator (e.g. benefits from the activity, % of contribution to the conservation area maintenance, number of visitors, etc.).	
Project proponent response	Date: 26/05/2022
B. Some language has been added to Section 1.11 to describe how the SDGs are monitored and reported. C. SDG 8 has been updated to include annual % revenue from tourism for PFB.	
Documentation provided by Project proponent	
Rio_Bravo_REDD_MR_2022-05-20	
VVB Assessment	Date: 01/06/2022
B, C. Closed. The information has been provided according to the request.	

CAR ID	03	Date: 22/03/2022
Description		
Section MR 2.1: 1. Having mentioned the potential negative impacts, "Summarize the steps taken to mitigate them" according to the template. 2. Besides the potential socioeconomic impacts related, mention as well potential environmental		

impacts and the steps taken to mitigate them.	
3. Revise the wording, since it seems contradictory: “Nonetheless, of these communities could claim legal access to any of the natural resources found in the project area.” “It is important to note that as privately owned land, neither of these communities could claim legal access to any of the natural resources found in the project area.”	
Project proponent response	Date: 29/04/2022
1. A paragraph has been added to page 11 of the MR to address this finding. 2. Potential environmental impacts and steps to mitigate them have been added to the MR. 3. The first sentence contains a typo and meant to say that none of these communities could claim legal access to any of the natural resources found in the project area. This has been updated in the MR.	
Documentation provided by Project proponent	
“PFB_SMFP_2021-2026v_FINAL.pdf” “Pfb_RBCMA_plan_Socioeconomic_Assessment_Consultancy_Report_July_12_2021_RP_GC.pdf”	
VVB Assessment	Date: 19/05/2022
Closed. The information regarding “No net harm” safeguard has been provided.	

CAR ID	04	Date: 22/03/2022
Description		
Section MR 2.2: 1- It is mentioned “Ongoing efforts to coordinate and work with local stakeholders are described in more detail in the most recent forest management plan (see “PFB SMP 2022-2026vFinal.docx”)”. Please provide a summary of this in section 2.2, according to the request by the template: “• The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought). • The procedures or methods used for documenting the outcomes of the local stakeholder communication. • The mechanism for on-going communication with local stakeholders. • How due account of all and any input received during ongoing communication has been taken. Include details on any updates to the project design or justify why updates are not appropriate.” 2- Provide information in the MR on how: “• The results of project implementation, including the results of monitoring. • The process of VCS Program verification and the validation/verification body’s site visit.” To the extent that is applicable, considering the characteristics of the Project Area.		
Project proponent response		Date: 29/04/2022
Additional language has been added to Section 2.2 the MR to address these findings.		
Documentation provided by Project proponent		
Socio-economic_Assessment_Final_ReportvRP.pdf Pfb_RBCMA_mgmt_plan_final_Volume I_Socioeconomic_Section_Consultancy_Report_July_12_2021.pdf		

VVB Assessment	Date: 19/05/2022
Closed. “Local Stakeholder Consultation” safeguard has been completed.	

CAR ID	05	Date: 22/03/2022
Description		
Section MR 2.3. It is mentioned “Efforts to combat illegal activities and also efforts to work with local stakeholders to address project impacts are described in greater detail in the most recent forest management plan (see “PFB SMP 2022-2026vFinal.docx”). Please provide a summary on how: • Activities implemented to mitigate risks local stakeholders due to project implementation. • The processes used to communicate and consult with local stakeholders during the monitoring period, including any information about any conflicts that arose between the project proponent and local stakeholders and whether any such conflicts were resolved via the established grievance redress procedure.” Regarding the last point, please, include a brief description the grievance redress procedure.		
Project proponent response		Date: 29/04/2022
Additional language has been added to Section 2.3 in the MR to address these findings.		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Not closed. Regarding the second point, it is missing: information about any conflicts that arose between the project proponent and local stakeholders and whether any such conflicts were resolved via the established grievance redress procedure.” Regarding the last point, please, include a brief description the grievance redress procedure. Please, provide a brief description the grievance redress procedure (further than the periodical stakeholder consultation described in 2.1) and if grievances or conflicts have come up during the monitoring period. If there are records of grievances/communications, please also provide them.		
Project proponent response		Date: 26/05/2022
A brief description of the grievance redress procedure has been added to Section 2.3 of the MR. An example of a grievance being handled by Pfb has been included here as well.		
Documentation provided by Project proponent		
Rio_Bravo_REDD_MR_2022-05-20		
VVB Assessment		Date: 01/06/2022
Closed. A summary of the grievance redress procedure has been provided. No records of the of grievances in the monitoring record is provided, since no major complaints were issued (also confirmed during the onsite visit).		

CAR ID	06	Date: 22/03/2022
Description		
Section MR 3.2.1: 1) It is stated that “In the with-project scenario, it is more accurate to apply the Logging Infrastructure		

Factor (LIF) from Module VMD0011 LK-ME, Equation 4". More accurate with respect to which alternative? Indicate the deviation from what the methodology proposes.	
2) Include evidence to demonstrate that "The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals."	
3) Include evidence to demonstrate that "The deviations relate only to the criteria and procedures for monitoring or measurement, and do not relate to any other part of the methodology."	
Project proponent response	Date: 29/04/2022
Additional language has been added to section 3.1.1 of the MR to address the above findings.	
Documentation provided by Project proponent	
VVB Assessment	Date: 19/05/2022
Closed. Information regarding the use of parameter LIS has been provided.	

CAR ID	07	Date: 22/03/2022
Description		
Section MR 3.2.2:		
1) “Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome” regarding the inclusion of enhancements for this monitoring period.		
2) Describe and report on any project description deviations applied in previous monitoring reports.		
3) The use of VM0007 v1.6 (instead of v1.1) is not indicated as a PD deviation (related with CAR 1).		
Project proponent response		Date: 29/04/2022
1) Additional language has been added to section 3.2.2 to address this finding.		
2) No monitoring plan deviations applied during the previous monitoring period were included in this monitoring report because they were not relevant to the quantification of emission reductions and removals during this period. An explanation has been added to the MR.		
3) A PD deviation has been added to the MR to use v1.6 instead of v1.1.		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. The requested information on project deviations has been included and is accurate.		

CAR ID	08	Date: 22/03/2022
Description		
Section MR 4.3.4:		
1) Inventory SOP (RioBravo_2021Monitoring_SOPs_2021-02-25) mentions 14 plots, however the MR mentions 44 plots. Although the two monitoring subsets (14+30) were explained in the field, clarify the MR and SOP so that both documents are aligned.		
2) Table 4-1 in MR do not show same results for Upland and Upland-South as RioBravo_Carbon_Calcs_Inventory_2021_07_20 (Tab 2021PIVOT_Carbon) nor parameter 'CP,i,t' in MR 4.2 , and Tab '2021 Inventory Stats' in 'RioBravo_MR_Calcs_2022-02-15.xls' . The spreadsheet also		

shows a 95% CI % of mean=21.4%, instead of 13.2% indicated in MR 4.3.4.

3) In spread sheet: 'RioBravo_Carbon_Calcs_Inventory_2021_07_20':

- Indicate in the Equations tab that vegetation categories 3 and 8 have the same equation as 1.
- The Equations tab indicates an equation for category 2 that was subsequently not used in the calculations of the 2021 inventory tabs. However, no live vines were recorded, so it does not affect the calculations.

Project proponent response

Date: 29/04/2022

1) The SOPs have been updated to include the additional 30 plots measured in the field along with a list of the plot names and locations.

2) There were 3 plots that were remeasured that were originally considered to be part of the Upland-South stratum, however it is apparent from the shapefile boundaries that these three plots are actually in the Upland stratum. They were moved to the correct stratum for the inventory stock estimations and the inventory calculations have been updated to reflect this correction. The MR calcs have also been updated to use the new stock estimates. There was an error in the calculation of error in the inventory spreadsheet. This has been fixed and the error in the inventory spreadsheet now matches the calculation workbook.

3) A note has been added to indicate that equations 3 and 8 are the same as equation 1. Equation 2 is not relevant for this inventory because lianas are not included.

Documentation provided by Project proponent

RioBravo_2021Monitoring_SOPs_2022-04-22.docx
 RioBravo_MR_Calcs_2022-04-22.docx
 RioBravo_Carbon_Calcs_Inventory_2022-04-22.docx

VVB Assessment

Date: 19/05/2022

Closed. Inventory and calculations were corrected, and the accurate spreadsheets and MR were provided.

CAR ID

09

Date: 22/03/2022

Description

Section MR 5.2.4:

1. 2021 inventory results are different:

- Table 4-1 in MR:

	Lowland	Upland	Upland-South
mean tCO2e/ha	367.1	629.8	625.8
total tCO2e	342,807.7	2,872,716.5	500,898.5

- RioBravo_Carbon_Calcs_Inventory_2021_07_20 (Tab 2021PIVOT_Carbon):

mean tCO2e/ha	367.1	618.1	645.3
total tCO2e	342,807.7	2,819,462.6	516,503.1

- 'CP,i,t' in MR 4.2:

	Lowland	Upland	Upland-South
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	total tCO2e	342,807.7	2,819,462.6	516,503.1
- Tab '2021 Inventory Stats' in 'RioBravo_MR_Calcs_2022-02-15.xls':				
	Lowland	Upland	Upland-South	
mean tCO2e/ha	367.1	629.8	625.8	
total tCO2e	42,807.7	2,872,716.5	00,898.5	
See also finding in 4.3.4 (CAR 8 at this regard).				
2- Units in table 5-13 are missing.				
Project proponent response				Date: 19/05/2022
1) See response #2 to finding CAR ID 08				
2) Units have been added to table 5-13				
Documentation provided by Project proponent				
VVB Assessment				Date: 29/04/2022
Closed. Inventory and calculations were corrected, and the accurate spreadsheets and MR were provided.				

CAR ID	10	Date: 22/03/2022
Description		
Section MR 5.4. Table 5-18:		
1) Round off the final figures.		
2) 'Project emissions or removals (tCO2e)' does not match RioBravo_MR_Calcs_2022-02-15 (Tab summary).		
Project proponent response		Date: 29/04/2022
1) The values have been rounded using standard rounding rules		
2) The table has been updated to match the RioBravo_MR_Calcs workbook.		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. The figures have been corrected and rounded.		

CAR ID	11	Date: 22/03/2022
Description		
NPR Report:		
1. Project Management:		
b) Justify why 'ongoing enforcement' is considered "de minimis".		
d) Describe the permanent presence of PfB in the project area.		
f) Describe in the NPR how the 'SUSTAINABLE FOREST MANAGEMENT PLAN 2022 TO 2026'		

provided complies with the definition of Adaptive management plan in NPR Tool 2.2.1.5).	
2. Opportunity Cost:	
i) Provide the evidences mentioned.	
3. Community Engagement:	
b) Justify why the households living within 20 km of the project boundary outside the project area are not reliant on the project area.	
c) Refer the evidences provided and describe briefly the net positive impacts on the social and economic well-being of the local communities in the monitoring period. Consider also NPR Tool 2.3.2.3).	
4. Natural Risk – Fire	
- Provide evidence about the Significance (Insignificant, <5% loss of carbon stocks.	
- Provide evidence about the Likelihood (Less than every 10 years).	
- Describe the ‘Prevention measures applicable to the risk factor are implemented’ and justify how the ‘Project proponent has proven history of effectively containing natural risk’ to comply with a 0.25 mitigation score.	
5. Natural Risk – Extreme Weather	
- Likelihood is not correctly indicated in the text [‘100 years - Major (25% to less than 50% loss of carbon stocks’) according to the score selected (5).	
- Provide the sources (documents) of the information and relate it to the case of Belize.	
6. Table ‘Score for each natural risk applicable to the project’, ‘Total Natural Risk’ score is not correct.	
7. ‘4.2 Calculation of Total VCUs’. Review the table according to findings for section 5.4 of the MR; eliminate mentions to buffer release requested to Verra.	
Project proponent response	Date: 29/04/2022
1) Language has been added to the risk report to address each of the findings.	
2) The Memorandum of Agreement has been added to the dropbox folder for review	
3) Additional evidence has been added to the community engagement section of the NPR	
4) Additional evidence has been added to the natural risk assessment	
5) The risk scores were corrected for natural risks	
6) The total natural risk score has been updated.	
7) The total VCU table has been updated. Mention of buffer release has been removed.	
Documentation provided by Project proponent	
MoA_PfB_GoB_v28July98.pdf	
“Boose et al 2003.pdf”	
VVB Assessment	Date: 19/05/2022
Closed. 2, 3, 4, 6, 7.	
Not closed.	
1. Project Management:	
- In Excel, clause a) point allocation is not correct.	
- According to the information, b) point allocation is not correct in Word.	
- Total score is not correct.	
5. Natural Risk – Extreme Weather. Evidence not provided: Boose, Emery R, David R Foster, Audrey Barker Plotkin, and Brian Hall. “Geographical and Historical Variation in Hurricanes Across the Yucatán Peninsula,” 2003, 23, p.511.	

Project proponent response	Date: 26/05/2022
1. The risk score for Project Management has been updated. 5. The Boose et al 2003 paper has been added to the dropbox folder.	
Documentation provided by Project proponent	
Rio_Bravo_REDD_VCS-Non-Permanence-Risk-Report-2022-05-24 Rio_Bravo_REDD_VCS-Risk-Report-Calculation-2022-05-25	
VVB Assessment	Date: 01/06/2022
Closed. Non permanence risk points allocation has been corrected and the required evidence provided.	

VCS CLARIFICATION REQUESTS (CLS)

VCS CL ID	01	Date: 22/03/2022
Description		
Section MR 1.1: A- "The project was one of the first Planned REDD+ projects globally and was registered under the VM0007 methodology retroactively in 2016." According to the PD was in 1996. B- '129,250 emission reductions and removals'. 1) Indicate the unit (tCO2e), the figure corresponds to removals for this monitoring period, not emissions reductions. C- According to the template, is requested: "A summary description of the implementation status of the technologies/ measures (e.g., plant, equipment, process, or management or conservation measure) included in the project." Please, 1) provide a brief summary on how the current report removals are achieved, 2) provide a brief description of the project activities implemented in the project area during the monitoring period (e.g. logging, vigilance, etc.) D- Mention that the current event is the second verification (second monitoring report). E- Clarify the difference amongst the project area and 'Rio Bravo Conservation and Management Area (RBCMA)' (this last not mentioned actually).		
Project proponent response		Date: 29/04/2022
A) The project activities began in 1996, however the methodology was not yet available. The start date was 2002, and the project was officially registered in 2016. B) "Emissions reductions" has been removed from the text. C) A summary has been added to Section MR1.1 to elaborate the methods around how removals were achieved and how project activities were implemented during the reporting period. D) Language has been added to the MR to address this finding. E) A description of the RBCMA has been added to the summary in the MR. It is further elaborated in section MR 3.1		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. A, C, D, E. Not closed: B) Indicate the unit (tCO2e).		
Project proponent response		Date: 26/05/2022
Unit has been added to text.		

Documentation provided by Project proponent	
Rio_Bravo_REDD_MR_2022-05-20	
VVB Assessment	Date: 01/06/2022
Closed. Units have been indicated.	

VCS CL ID	02	Date: 22/03/2022
Description		
Section MR 1.2: AFOLU project category (as REDD+) is not indicated, besides the activity type (APD).		
Project proponent response		Date: 29/04/2022
The project category, REDD+ has been added to section MR 1.2.		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. AFOLU project category (as REDD+) is indicated.		

VCS CL ID	03	Date: 22/03/2022
Description		
Section MR 3.1. Please, report: 1) "The operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring. " 2 "Where applicable, describe how leakage and non-permanence risk factors are being monitored and managed for AFOLU projects." 3) Refer briefly on the last paragraph how, according to the 'yield model' provided by Belize Forest Department, after the compartment demarcation and inventory, a number of standing trees and variety of species remains to ensure the objectives of the sustainable forest management (in terms of production and conservation). Also indicate how Belize Forest Department, as the competent authority, oversees this process annually.		
Project proponent response		Date: 29/04/2022
1) Events that may have impacted GHG emission reductions and removals have been added to Section 3.1. 2) Leakage is not applicable to this reporting period because the baseline deforestation was completed in the previous reporting period. Language stating that non-permanence risk is being monitored using the VCS risk tool and through monitoring of stocks as outlined in sections 1.1 and 3.1. 3) Additional details regarding the demarcation, inventory, and harvesting operations has been added to Section 3.1 to address the questions in this finding.		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. The information requested was clarified in the text.		

VCS CL ID	04	Date: 22/03/2022
Description		
Section MR 4.2: 1) ΔCP,Enh,1,t. QA/QC not indicated. 2) AEnh,PL,i,t “The Upland-South stratum is conservatively excluded from enhancement calculations, therefore the total area is equal to the area of Lowland and Upland strata.” In the case of the Upland-South stratum there was a decrease in stocks probably due to the hurricane, however, due to the wording it seems that this decrease was not considered (which is not the case, since they have been considered as emissions, since according to 5.2.4 “It should be noted that stocks decreased in the Upland-South stratum and the loss is being accounted here as an emission, likely reflective of hurricane damage”). Please, clarify in Table AEnh,PL,i,t. 3) ‘Degradation Illegal Logging Survey’ Table. Two supporting documents have been provided: - Calculations\IllegalLoggingData_2011_2020_OriginalAreav2.xlsx - Supporting Documents\Protection program Reports\IllegalLogging_2011_2020_compilation.xlsx Please, explain: A) the difference amongst them and refer the final evidence in the 4.2 table, B) Although in section 4.2 ‘292 stems illegally harvested’ are reported, the evidences show 329 and 366 stems respectively. Thus, explain in 5.2.1 the process of the raw data processing, particularly how each ‘illegal incident’ is considered for the accounting, and how only the incidents occurred within the Project Area were considered (not for the complete RBCMA), how the 292 (or 329 or 366) final figure was obtained. 4) ADistPA,q,i,t , field ‘Value monitored’ is not completed with the information from ‘HurEarlNarrativev4Aug2016’ and reported in MR 5.2.3. Include also Fires (April 2019 Fire Report to TNC) under this parameter if proceeds, referring the process reported in MR 5.2.5. 5) CDeg,i,t. Indicate in ‘Source of data’ how this information is part of the Forest Inventory realized in 2021 (or it is a different monitoring done by rangers, instead of the plots inventory), and how this is complementary to parameter ‘Degradation Illegal Logging Survey’. Complete section ‘Monitoring equipment’. 6) VEXT,z,i,t. Indicate ‘QA/QC procedures to be applied’. 7) EFC,j,t. Indicate ‘Value monitored’. 8) LIF and LDF are not included as Parameters monitored. 9) Avg (litr/m3) is not included as Parameter monitored. 10) Some of the mentions to section 4 in the tables are not correct now (due to the movement of calculations to section 5).		
Project proponent response		Date: 29/04/2022
1) QA/QC procedure added to ΔCP,Enh,1 2) The comment in AEnh,PL,i,t has been corrected to include enhancements from all strata in the project area. 3) The document “Illegal_Logging_2011_2020.xlsx” was shared with the VVB in error. This documents all illegal logging incidents across the entire RBCMA. The		

“IllegalLoggingData_2011_2020_OriginalAreaV2.xlsx” represents incidents only within the project boundary. The correct number of trees illegally removed is 329. It is explained in the MR that each incident has a GPS point which allows us to identify which incidents occurred specifically within the project area. The following paragraph provides a detailed explanation of how the data is processed and used to calculate volume harvested.

4) Area of disturbance is not estimated as a parameter in the reporting period because it is assumed that emissions associated with these disturbances have been accounted for in the estimation of enhancements. A comment has been added to this parameter.

5) Additional details were added to monitoring equipment in parameter table CDeg,i,t.

6) QA/QC procedure is detailed in parameter VEXT,z,i,t.

7) Values added to table

8) LIF and LDF were added to the parameter tables.

9) Avg (litr/m3) was added as a parameter in Section 4.1

10) References to Section 4 have been corrected where appropriate.

Documentation provided by Project proponent

VVB Assessment

Date: 19/05/2022

Closed. The information requested was clarified in the text.

VCS CL ID

05

Date: 22/03/2022

Description

Section MR 5.2.1:

- ‘IllegalLogging_2011_2020_OriginalArea.shp’ mentioned is not provided.
- ‘2006 IPCC Guidelines for GHG Inventories. Vol 4. Ch 4: Forest Land’. Subscript is not indicated in the text.

Project proponent response

Date: 29/04/2022

IllegalLogging_2011_2020_OriginalArea.lpk uploaded to the dropbox GIS folder.

Documentation provided by Project proponent

IllegalLogging_2011_2020_OriginalArea.lpk

VVB Assessment

Date: 19/05/2022

Closed. The information requested was provided.

VCS CL ID

06

Date: 22/03/2022

Description

Section MR 5.2.2:

- Provide: ProjArea_Logged2011_2021.shp
- Folder is: GIS\Treesharvested_2011_2021_RBCAP, not ‘Logging Data’
- Provide: ‘2011_2021 Timber Delivery Data’
- Explain how ‘CWP,i’ was calculated in section 5.2.2. Indicate the conversion factors from roundwood to products in section 4.2.
- Table 5-5, 5-7 and 5-9, in column 4th, it would be helpful if it shows ‘Actual net emissions from logging (tCO₂e) + Logging infrastructure (tCO₂e)’ to match Table title.
- Tables 5-6, 5-8, 5-10 are not correct in the last column (ΔCP,SelLog,i,t), do not match the title of the

table.	
Project proponent response	Date: 29/04/2022
1. ProjArea_Logged2011_2021.shp has been uploaded to dropbox 2. The folder name has been updated in the MR 3. The 2011_2021 Timber delivery Data has been added to the dropbox folder 4. A description of CWP calculations was added to the MR along with the relevant equations from the CP-W module. Parameter tables for CXB and CWP were also added to Section 4.2 with conversion factors for wood products and mill efficiency. 5. The title has been changed in the tables. 6. The $\Delta CP, SelLog, i, t$ column has been removed from tables 5-6, 5-8, and 5-10.	
Documentation provided by Project proponent	
ProjArea_Logged2011_2021.shp 2011_2021 Timber Delivery Data	
VVB Assessment	Date: 19/05/2022
Closed. The information requested was clarified in the text and/or provided as external evidence.	

VCS CL ID	07	Date: 22/03/2022
Description		
Section MR 5.2.5: - Mention the evidence provided to AENOR for the calculation of the 'Avg annual fuel usage estimated from 2021 harvest records (litr/m3)' (Fuel Details November 2020 - October 2021.xlsx). - 'Emissions from fossil fuels are calculated using Equation 30', indicate that is from VMD0015. - EBiomassBurn,i,t. Indicate in the MR the process of calculation: equations used and default values used (CO ₂ , CH ₄ , N ₂ O) before the results in Table 5-6. - Units in tables 5-15 y 5-16 are missing.		
Project proponent response		Date: 29/04/2022
VMD0015 added to the paragraph Calculation of EBiomassBurn,i,t including the equations and default values were added to the MR. Units added to Table 5-15 and 5-16		
Documentation provided by Project proponent		
VVB Assessment		Date: 19/05/2022
Closed. The information requested was clarified in the text.		

VCS CL ID	08	Date: 22/03/2022
Description		
According to "Revised standard field operating procedures for the Rio Bravo REDD Project" "On a weekly basis, each team will re-measure the trees and dead wood of at least one plot done by another team. The re-measurement of permanent plots is to verify if measurement procedures were conducted properly. New field sheets will be used and compared against the original one. For the rechecked plots, double data sheets for some components will serve as the record that the procedure was followed.		

At the end of the field work, the PLC and the team crew chiefs should revisit 10-20%.” Please provide evidence of this QA/QC implemented, considering the 14+30 plots measured in 2021.	
Project proponent response	Date: 29/04/2022
The remeasurement of plots occurred concurrently with the verifier site visit. The data was collected as independent measurements of the original plots. The data sheets are provided on Dropbox to the verifier. The main purpose of the QA/QC process is to ensure that the inventory successfully passes muster under review of the VVB, which has already taken place.	
Documentation provided by Project proponent	
Data sheets and data entry from plot remeasurements shared in Dropbox Folder – QA/Plot_Remeasurements_2021	
VVB Assessment	Date: 19/05/2022
Not closed. The filled templates of the re measurement of 7 (out of 44) plots has been provided. However, as requested by the verifier by email on April 8th, it has not been evaluated whether the results of the plots re measured during March 2022 are consistent with those measured for the inventory carried out in 2021, which was the objective of the PP’ missing SOP procedure, regardless of the independent verifier’s analysis.	
Project proponent response	Date: 26/05/2022
The remeasured data collected in March 2022 was compared to the 2021 data. The comparison demonstrates that the remeasured plots were within 1.7% of the mean of the original measurements. In one plot, it was discovered that three cohune palms were not recorded. These missing trees had the largest impact on stocking estimates. Though it is not ideal, it is generally more likely that a tree may be missed on a plot and it is likely that we conservatively underestimated carbon stocks in the with-project scenario. Additionally, because the check cruise was done several months after the initial cruise, it appears that some growth occurred and the audited measurements are consistently larger than the original measurements by fractions of a centimeter. I am attaching an updated inventory calculation spreadsheet with the audited data comparison.	
Documentation provided by Project proponent	
RioBravo_Carbon_Calcs_Inventory_2022-05-25	
VVB Assessment	Date: 01/06/2022
Closed. The results of the plots re measured during March 2022 are consistent with those measured for the inventory carried out in 2021, since a +1.8% in 2022 volume is noted regarding 2021, which correspond to time window (9 months of difference) and 3 missing trees in one plot (which was noted during the verification, and what finally is a conservative result).	