



Enviance Services Private Limited



**Natural Forest Standard**

**Project Verification Report**

**TROCANO ARARETAMA CONSERVATION  
PROJECT**

**Project Number:** NFS\_ve\_Bra\_01\_24

**Report Date:** 25/07/2024

**Report Version:** 01

**Project Developer:** Go Balance Ltd.

**Verification Conducted by:** Enviance Services Private Limited

**Validation/Verification Team Leader:** Pankaj Kumar



Quality Manager  
**Vidhya Muralikrishna**

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## 1. EXECUTIVE SUMMARY

Enviance Services Private Limited was contracted by Go Balance Limited to conduct the verification of Trocano Araretama Conservation Project, Project Design Document (PDD) dated March 2013 under Natural Forest Standard (NFS). This project verification report summarizes the findings of the project verification raised during the verification process carried out on the basis of the NFS Standard Requirements (Version 1.2, March 2014) the selected methodology (NFS AM001.1), ISO14064-3:2019, and ISO 14065:2020.

The primary objective of the Trocano Araretama Conservation Project is to mitigate GHG emissions by the conservation of the natural forest ecosystem, protecting the endangered habitats and local communities, as well as protecting the biodiversity of plants and animals' dependent on this fragile habitat. The project has an approach of combatting deforestation while preserving the existing biomass in the region. The project start date is 10<sup>th</sup> June 2011. The start date was verified on the basis of the Project Design Document (PDD) dated March 2013 and the Project Implementation reports of the previous reporting period and thus is acceptable to the verification team. The project is located in the Municipality of Borba, Amazonia, Brazil. The project covers an area of 1,344,635 hectares, located approximately 150 km from Manaus, which is the nearest city. The project utilizes the Natural Forest Standard AM001.1 methodology and Geospatial Platform data layers to estimate a baseline carbon stock of 65,708,138 tC at risk over its 20-year crediting period, from the project start date.

The verification objective is to ensure that the project is in compliance to the NFS Standard, NFS methodology for quantifying carbon benefits and previously verified procedures. Enviance Services Private Limited evaluated (hereafter referred as ENVIANCE) greenhouse gas emission reductions achieved by preventing deforestation, forest degradation, and restoring degraded natural forests. This assessment encompassed scrutinizing the accuracy, suitability, and consistency of quantification processes for potential credit generation during the evaluation period.

Verification procedures adhered to guidelines set forth in NFS documentation: NFS Standard Requirements (Version 1.2, March 2014), NFS Glossary of Terms (Version 1.2, March 2014), NFS Standard Guidance (Version 1.3, March 2014), and the NFS Approved Methodology NFS AM001.1 (June 2014). Enviance Services Private Limited developed and implemented a Verification & Sampling Plan, drawing upon NFS documents and ISO 14064-3 standards as part of its internal verification process.

A summary of all verification findings is included in Appendix B.

ENVIANCE confirms that verification activities detailed in this report, including objectives, scope, criteria, level of assurance, and project documentation, strictly adhere to NFS (Version 1.2). ENVIANCE concludes without any qualifications or limiting conditions that the Trocano Araretama Conservation Project's Project Implementation Report (dated 08 July 2024) for the reporting period from 01 August 2013 to 31 July 2016 fully complies with NFS requirements.

Go Balance Limited has provided GHG assertion which was verified by ENVIANCE. ENVIANCE has concluded that the project has resulted in the GHG emissions reduction or removal of 20,905,343 tCO<sub>2</sub> equivalents during the quantification period of 01 August 2013 to 31 July 2016.

## 2. INTRODUCTION

This verification report adheres to the guidelines stipulated in the Natural Forest Standard (NFS) Version 1.2 (March 2014). ENVIANCE presents the findings from the verification of the Trocano Araretama Conservation Project, which was prepared by Go Balance Limited. This verification was conducted in accordance with the program requirements of NFS for GHG offset projects. Enviance Services Private Limited holds accreditation from the Global Accreditation Bureau under ISO14065:2020, covering validation and verification bodies for greenhouse gases, including ISO 14064-3:2019. ENVIANCE is authorized to validate and verify assertions at the project level for Land Use and Forestry (Group 3) and is approved to conduct validations and verifications for NFS projects.

### 2.1 Project Developer and Other Entities - Contact Information

This project is implemented by Celestial Green Ventures (CGV). However, there was a change in the project developer in September 2015 from the original project developer Celestial Green Ventures (CGV) to Go Balance Ltd. The same was verified on the basis of the submitted agreement that was signed between the two companies to transfer all the project ownership rights. Information regarding the project proponent is included below:

Project Proponent	Point of contact	Roles/ Responsibility	Contact Details
Go Balance Ltd	Ciaran Kelly Chief Executive Officer	Project developer, implementer, manager	<a href="mailto:ciaran@go-bal.com">ciaran@go-bal.com</a>
Go Balance Ltd	Barry MacCarthy Chief Operating Officer	Project developer, implementer, manager	<a href="mailto:barry.maccarthy@go-bal.com">barry.maccarthy@go-bal.com</a>
Go Balance Ltd	Felipe Ramos	Project developer, implementer, manager	<a href="mailto:felipe.ramos@go-bal.com">felipe.ramos@go-bal.com</a>

In addition to the project proponents, there are other individuals and organizations that play an operative role in the project. These entities are presented below:

Other Entities	Point of contact	Roles/ Responsibility	Contact Details
Municipality of Borba	José Maria da Silva Maia, Prefeito (Mayor) de Borba	Represents ownership and management of project lands.	Av May 13, 108 – Centro, Borba - Amazonas – Brazil, CEP: 69200-000 Tel: + 0055 92 35122065 Web: <a href="http://www.prefeituradeborba.am.gov.br">www.prefeituradeborba.am.gov.br</a>
Instituto Amazon Livre (Institute Free Amazon)	Antônio José do Nascimento Fernandes, General Secretary	Project technical consultant	Dr. Almínio Street, 236 – Centro, Manaus - Amazonas – Brazil, CEP: 69005-200 Tel: +55 92 8143 8420 Email: <a href="mailto:antoniojnf@hotmail.com">antoniojnf@hotmail.com</a>

Ecometrica	Karin Viergever, Head of Land Use and Spatial Analysis	Project technical consultant, Geospatial Platform Liaison	Top Floor, Unit 3B, Kittle Yards, Causewayside, Edinburgh, EH9 1PJ Telephone: +44 131 662 4342 Email:karin.viergever@ecometrica.com Web: www.ecometrica.com
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## 2.2 Verification Team - Roles and Responsibilities and Contact Information

<p><b>Accredited Validation Entity:</b></p> <p>Enviance Services Private Limited</p>	<p>Enviance Services Private Limited. 102, Meera Shri Apartment, 87 Mishra Nagar, Indore, Madhya Pradesh, India 452009 Phone: 7092974453 <a href="https://enviance.in/">https://enviance.in/</a></p> <p><b>Lead Verifier:</b> Mr. Pankaj Kumar <b>Verification Team Members:</b> Mr. Vipul Jain, Mr. Debojyoti Chakraborty <b>QA/QC/Internal Reviewer:</b> Mr. Vijayanand</p>
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## 2.3 Project Description

The primary objective of the Trocano Araretama Conservation Project is to mitigate GHG emissions by the conservation of the natural forest ecosystem, protecting the endangered habitats and local communities, as well as protecting the biodiversity of plants and animals' dependent on this fragile habitat.

The project has an approach of combatting deforestation while preserving the existing biomass in the region. The project start date is 10<sup>th</sup> June 2011. The project utilizes the Natural Forest Standard AM001.1 methodology and Geospatial Platform data layers to estimate a baseline carbon stock of 65,708,138 tC at risk over its 20-year crediting period, from the project start date.

The primary objectives of the project are as follows:

- Avoid deforestation within the project area for the duration of the project;
- Categorize the risk of deforestation to the project area, using the ACEU rule as per the NFS AM001.1 methodology;
- Identify the area's most at risk of deforestation and implement effective protection and monitoring;
- Conservation and preservation of the natural forest;
- Raising civic pride and appreciation of the natural forest;
- Strengthening of Local Forest Protection;
- Biodiversity protection of the plants, animals and the ecosystem as a whole;

- Socio-economic enhancements for the local communities, including healthcare, education, employment and infrastructure improvements; and
- Data collection, including inventorying biodiversity, forest, flora and fauna.”<sup>2</sup>

## 2.4 Verification Objective

The verification objective is to ensure that the project is in compliance to the NFS Standard, NFS methodology for quantifying carbon benefits and previously verified procedures. ENVIANCE evaluated greenhouse gas emission reductions achieved by preventing deforestation, forest degradation, and restoring degraded natural forests. This assessment encompassed scrutinizing the accuracy, suitability, and consistency of quantification processes for potential credit generation during the evaluation period.

## 2.5 Verification Level of Assurance

The level of assurance was used to determine the depth of detail that the verifier placed in the verification plan to determine if there were any errors, omissions, or misrepresentations (ISO 14064-3:2019). For this verification, Enviance Services Private Limited duplicated and assessed the analysis of data used in the generation of potential credits to provide reasonable assurance and to meet the materiality requirements of the specific project (NFS).

## 2.6 Verification Criteria

The verification criteria followed the verification guidance documents provided by NFS. These documents included the following:

- *NFS Standard Requirements (Version 1.2, March 2014)*
- *Natural Forest Standard Approved Methodology NFS AM001.1 (June 2014)*
- *NFS Standard Guidance (Version 1.3, March 2014)*
- *NFS Glossary of Terms (v1.2, March 2014)*

## 2.7 Verification Scope

The scope of the verification included the following items:

- Ensure the accuracy, appropriateness and consistency of the quantification process.
- Ensure the quantification of carbon benefits is in accordance with the Standard, the approved NFS methodology and previously verified quantification processes.
- Ensure that the project is conforming to and applying the NFS approved methodology and that the recommended procedures for quantification methods and calculations are being utilized.
- Ensure that the data used for quantification is correct and appropriate.
- Ensure appropriate deductions of potential credits have been applied correctly and in accordance with the approved NFS methodology and previously verified processes.
- Identify any deviations from the Standard, approved NFS methodology or

- previously verified quantifications.
- Assess the extent to which the assertion of carbon benefits quantified is materially accurate.

The scope of The Trocano Conservation Project’s was outlined by the project developer prior to this Verification and Sampling Plan in the project description and is re-defined as follows for the GHG project:

Baseline Scenario	In the baseline scenario, the natural forest faces threats such as extensive illegal logging and mining, slash-and-burn agriculture, and the development of transportation routes. There is no improvement in environmental services within the project area.
Activities/Technologies/Processes	The primary objective of the Trocano Araretama Conservation Project is to mitigate GHG emissions by the conservation of the natural forest ecosystem, protecting the endangered habitats and local communities, as well as protecting the biodiversity of plants and animals’ dependent on this fragile habitat over the 1,344,635 hectares of the total project area. This will be ensured through the implementation of a robust monitoring and management strategy, fostering improved forest governance, and delivering supplementary benefits to local communities and biodiversity in the project area. These efforts encompass: <ul style="list-style-type: none"> <li>- Preserving and safeguarding natural forest habitats.</li> <li>- Protecting biodiversity, encompassing flora, fauna, and overall ecosystem health.</li> <li>- Enhancing socio-economic conditions for local communities through initiatives such as healthcare, education, employment opportunities, and infrastructure development.</li> <li>- Conducting comprehensive data collection, including biodiversity inventories and monitoring of forest flora and fauna.</li> </ul>
Sources/Sinks/Reservoirs	Above-ground biomass, Below-ground biomass
GHG Type	CO <sub>2</sub>
Time Period	<u>Start Date:</u> 10 June 2011 <u>Crediting Period:</u> 20 years (10 June 2011 to 09 June 2031) <u>Current Reporting/Verification Period:</u> 01 August 2013 to 31 July 2016 <u>Current Quantification Period:</u> 01 August 2013 to 31 July 2016
Project Boundary	Portion of the Municipality of Borba – total eligible project area is 1,344,635 hectares

## 2.8 Verification Materiality Threshold

Materiality refers to the potential impact of errors, omissions, or misrepresentations on the GHG reduction assertion and its influence on the intended users (ISO 14064-3:2006). NFS does not explicitly define a materiality threshold, Enviance Services Private limited has established a ± 5% threshold for materiality. According to NFS Requirements (v1.2), verifiers identified major or minor

discrepancies. Enviance Services Private limited identified Major discrepancies, which were resolved before credit issuance. Major discrepancies are defined as quantification errors exceeding the 5% materiality threshold or any non-compliance with NFS Requirements or any other related guidance documentation. Minor discrepancies include errors, omissions or clarifications raised by the verifier and were addressed within agreed timelines.

### 3. VERIFICATION PROCESS

#### 3.1 Overall Process

The Verification process involves checking the compliance of the project with the NFS (v1.2, March 2014), the selected methodology (NFS AM001.1), and the validated PDD. ENVIANCE has assessed that the GHG emission removals are achieved through avoiding deforestation and/or degradation of natural forests, and/or restoring degraded natural forest. Verification and Sampling plan methodology was used in the verification process. The sampling plan is in accordance with the NFS guidance documentation and ISO 14064-3. The verification process does not involve site visit.

A thorough review of all project documentation pertinent to the verification was conducted to ensure compliance with the NFS and the validated Project Design Document (PDD). The review began with an examination of the Project Implementation Report (PIR) and specific calculations for potential credits within the project's Geospatial Platform, where the quantification of greenhouse gas emission reductions and removals was performed. Verifier access was granted to this platform specifically for the verification process. The analysis included extracting and evaluating documentation and credit calculations from the Geospatial Platform to verify their consistency, accuracy, and adherence to NFS program requirements and the validated PDD.

The process involved a strategic analysis to identify potential risks associated with the project, followed by a check of NFS-specific requirements based on established criteria. Risks identified were addressed through planned mitigation activities. The team conducted Control, Strategic, and Analytical testing, with the results forming the basis for the Evidence Gathering Plan. This plan guided the preparation of a detailed Verification Plan, which included the site visit/remote audit schedule, sampling plan, and related activities. Documentation and evidence reviewed during this phase are listed in Appendix A of the report.

Following the communication of the Verification Plan to the client, the assessment team conducted the remote audit. Any gaps identified regarding NFS program requirements, unresolved desk review issues, or material misstatements were recorded using the Resolution of Corrective Action and Clarification Requests format and submitted to the client. Non-conformities and their resolutions are documented in Appendix B.

Once the final response from the client was received, ENVIANCE prepared the draft report. The draft report was then reviewed by an independent reviewer to ensure objectivity. Upon the Technical Reviewer's (TR) satisfaction and recommendation, the draft report was submitted to the Director or Designated Person for final approval. The Director or Designated Person approved and signed the V/V report, which includes the final verification opinion. After confirmation from the project owners, all relevant documents were submitted to the client.



## 4. Verification Framework

### 4.1 Management Plan

#### 4.1.1 Projects Area

The Trocano Araretama Project is located in Borba, within the State of Amazonas, Brazil, about 208 kilometers from Manaus. The project spans three distinct areas—West Zone, Central Zone, and South Zone—along the banks of the Madeira River, a major tributary of the Amazon River.

The total project area at origination was 1,346,541 hectares. In the reporting period, there was a deduction in the extent of the total project area, as a result of an Indigenous Land – Lago do Limão - being extended upon regularization. The Lago do Limão Indigenous Land was regularized on May 15, 2016, extending its area to 8,232 hectares and causing a partial overlap of ~1,900 hectares with the project area. This resulted in a deduction of 1,9006 hectares being removed from the total project area, which results in the total project area being 1,344,635 hectares. Hence The project boundaries were adjusted to exclude the Indigenous Land, with updated geo-coordinates confirmed on the Geospatial Platform. Lago do Limao adjustment files have been submitted to the assessment team along with the assess to the Geospatial platform, based on which the team concluded the project area has been correctly adjusted.

The Acari National Park was created on May 11, 2016, by a Federal Decree from Dilma Rousseff, including some municipal lands from Borba. However, Borba municipality was not consulted or supported by the government for conservation actions in the 543,000-hectare park. This impacts the Trocano Araretama Project as the area remains within the project's boundaries and is still classified as "Unprotected" according to the NFS methodology, thus maintaining the project's additionality for the reporting period.

#### 4.1.2 Stake holder Engagements

Given the vastness of the project area and the travel challenges, various actions are necessary to mitigate threats. These include mapping, identifying, and monitoring the project areas and their surroundings to highlight the most vulnerable locations prone to deforestation and other negative impacts.

The project team used several methods for monitoring, including comprehensive on-site visits throughout 2014, 2015, and 2016, satellite imagery, aerial photos from chartered aircraft, and data processing using the Geospatial Platform.

Satellite imagery has become a primary monitoring tool for the Trocano Project due to its improved quality and frequency, enabling accurate identification of various threats, their dates, and frequencies. This data is stored in the Geospatial Platform.

For immediate assessments in hard-to-reach areas, the project employs aerial monitoring using chartered aircraft. On-site visits are crucial for identifying and mitigating threats, as they allow the field team to interact with communities and raise awareness about forest preservation. These visits also demonstrate to the communities that the project areas are closely monitored.

There are 105 communities within the project area, each with unique characteristics and needs. On-site visits provide first-hand knowledge of life in these areas, enabling decisions that have a real, long-term, and sustainable impact

The series of meetings conducted under the Trocano Project from August 2013 to July 2016 yielded several significant outcomes and actionable conclusions aimed at fostering sustainable development and improving the quality of life for local communities. Initial meetings focused on promoting health initiatives and laying the groundwork for establishing an NGO to streamline project activities. Key discussions in January 2014 highlighted the need for infrastructure improvements, better communication, and targeted community engagement. For instance, meetings emphasized addressing poor infrastructure, health problems, and educational challenges, leading to suggestions for improved transport solutions and educational facilities.

Subsequent meetings in March 2014 and August 2014 delved into logistical planning for workshops and the critical issue of water quality. Analysis revealed moderate to high bacterial contamination, prompting immediate actions to fix plumbing issues and implement water purification processes. Workshops played a pivotal role in educating locals about project benefits, biodiversity, sustainable agriculture, and economic alternatives, while training programs focused on job creation and wildlife protection. Overall, the meetings underscored the importance of continuous community engagement, the development of sustainable agricultural projects, and the implementation of economic alternatives to reduce forest exploitation. This comprehensive approach aimed to ensure the long-term sustainability of the Trocano Project and empower local communities through education, training, and infrastructure improvements.

By March 2015, a review of health and infrastructure improvements highlighted ongoing needs, leading to recommendations for sustained support and monitoring. In May 2015, the effectiveness of community engagement strategies was assessed, resulting in a more comprehensive communication plan to ensure widespread community involvement. January 2016 emphasized the promotion of sustainable agricultural practices and other income-generating activities to reduce deforestation dependency, with training programs proposed to equip locals with necessary skills. The final meetings in June 2016 evaluated the project's overall impact, acknowledging significant progress in health, education, and community engagement, while recommending continued workshops, water quality monitoring, and expansion of economic alternatives for long-term sustainability.

Collectively, these meetings reinforced the project's commitment to improving local livelihoods and environmental conservation through continuous adaptation and community-focused strategies.

## 4.2 Governance:

### 4.2.1 Legal Basis and Carbon Rights

The partnership between the Municipality of Borba and the developer of the Trocano Project is documented through a legal agreement that outlines the rights and benefits related to carbon credits certified within the project area. This agreement was negotiated and notarized with the involvement of the municipal government. This legal framework is intended to facilitate the project's operations in a transparent manner, with the goal of supporting environmental conservation, sustainable development, and local communities.

In addition, the Municipality of Borba has taken measures to reinforce its long-term commitment to the Trocano Project through the approval of Law No. 113/2013. This legislation, published in January 2014, grants the executive branch the authority to negotiate and transfer carbon credits with international entities. It also establishes the Municipal Management Authority to oversee and monitor environmental protection activities. The project agreement undergoes periodic reviews and

updates to ensure ongoing compliance with current laws. The most recent update, in March 2023, consolidates previous agreements and provides the developer with the necessary rights for carbon and land-use to implement the project and transact Natural Capital Credits.

The partnership between the Borba Municipal Government and the Project Developer in the Trocano Araretama Project has undergone notable developments over time. Initially, the roles were delineated with the Project Developer responsible for the project's development, implementation, maintenance, and verification, while the Borba Municipal Government facilitated cooperation and access to necessary information to prevent deforestation and promote social and economic benefits for local communities. This structure aimed to integrate public sector support with the technical and commercial expertise of the Project Developer to address deforestation and climate change effectively.

Over the project's course, the implementation team expanded to include various local government officials and project management personnel. However, challenges with partner institutions, such as the Institute Amazon Livre (IAL), necessitated a reevaluation of partnerships. From 2014 to 2016, the local NGO Lakira took on a pivotal role in managing on-site activities, supervising implementation, and ensuring alignment with the project's social and environmental objectives. In September 2015, development responsibilities were transferred to Go Balance Limited, which assumed all project rights and continued working with the Municipality of Borba. This transition-maintained project continuity and underscored the municipality's ongoing commitment to environmental sustainability and sustainable economic development.

#### 4.2.2 Additionality

The Trocano Araretama Conservation Project aims to mitigate greenhouse gas emissions through avoided deforestation, conserving the natural forest ecosystem, protecting endangered local communities, and safeguarding both plant and animal biodiversity dependent on this vulnerable habitat. The collaboration between Go Balance Limited and the Municipality of Borba has been essential, given that the municipal budget alone cannot sufficiently address forest protection. The project categorizes areas based on deforestation risk using the ACEU/NFS methodology, identifying high-risk areas near roads, rivers, and urban centers that require additional resources and protection measures to prevent deforestation.

Over time, the Trocano Project has significantly reduced deforestation in its designated area compared to neighboring municipalities and the broader Amazon region. From 2014 to 2016, the deforestation rate in the project area was maintained at  $\leq 1\%$ , while the regional average was approximately 5.9%. This achievement highlights the project's effectiveness, as observed on the Geospatial Platform using INPE PRODES data, where significant deforestation occurred in nearby areas like Apuí but did not encroach upon the Trocano project area. The project's success demonstrates its impact in conserving the forest ecosystem and serves as a model for sustainable conservation and development efforts in the Amazon. Periodic risk assessments are crucial for adapting conservation strategies to evolving threats and environmental conditions, ensuring the project's continued effectiveness and thereby justifying the additionality.

Further no forest restoration activities have been carried out in the project areas within this project reporting period.

#### 4.2.3 Buffer Deductions

In accordance with the Natural Forest Standard requirements, for the preceding project periods from the start date 01st August 2013 to 31st July 2016, the non-permanence buffer deductions were as follows:

<b>Period</b>	<b>Credits Issued</b>	<b>Buffer Deductions (10%)</b>
1st August 2013 to 31st July 2014	7,012,751	701,275
1st August 2014 to 31st July 2015	6,919,877	691,988
1st August 2015 to 31st July 2016	6,972,716	697,272
<b>Totals</b>	<b>20,905,344</b>	<b>2,090,534</b>

The calculations for this reporting period are demonstrated in the offline carbon calculations spreadsheet provided for the Carbon Calculations Module. Same has been checked and verified by the assessment team.

### 4.3 Social and Biodiversity

#### 4.3.1 Social and Community Benefits:

The Trocano Araretama Project, running from August 2013 to July 2016, aimed to foster sustainable development and improve the quality of life for local communities. The project focused on implementing a fair and transparent benefit-sharing system to ensure equitable distribution of benefits, addressing the economic and infrastructural needs of the local population.

The project identified and mapped 105 communities within the project area, recognizing their dependence on the forest for livelihoods. Community visits were conducted to understand the dynamics, needs, and expectations of these communities.

Key achievements included the installation of water filtration systems, which provided access to clean water, significantly improving public health. The project also enhanced educational infrastructure by constructing and renovating schools, thereby improving educational opportunities and resources for children.

Community centers were built to serve as social hubs, fostering cohesion and resource sharing among residents. In healthcare, new clinics were established to offer affordable medical services, enhancing overall community health.

The project involved regular community visits to assess local needs related to water, energy, housing, and education. Workshops and training sessions were held to promote proper waste disposal and conservation of endangered species, raising environmental awareness and empowering locals in sustainability efforts.

Tree Day celebrations in the Axinim Community highlighted the project's commitment to environmental education and biodiversity preservation through informative sessions and tree planting activities.

A robust dispute resolution mechanism was implemented, based on guidelines from the Forest Stewardship Council (FSC). This system facilitated conflict resolution through dialogue and negotiation, ensuring transparency, efficiency, and fairness in addressing disputes.

In summary, the Trocano Araretama Project made significant social contributions through infrastructure improvements, health and education enhancements, and active community engagement, all while maintaining a strong focus on sustainable development.

#### 4.3.2 Biodiversity Conservation

The Trocano Araretama Project was dedicated to preserving biodiversity through a comprehensive conservation approach. This included advanced monitoring systems and detailed assessments to manage and protect local ecosystems.

The project-initiated field research and biological inventories to catalog local flora and fauna, identifying major threats to biodiversity. A detailed monitoring system, combining field visits with advanced technologies, enabled effective management of wildlife dynamics and response to ecological changes.

Critical species were identified through project assessments, with targeted strategies developed to ensure their protection. The project identified five key animal species for conservation: the Woolly Monkey, Giant Otter, Pink River Dolphin, Tucuxi Dolphin, and White-nosed Saki Monkey. It also prioritized ecosystems for protection and implemented strategies to preserve biodiversity, such as environmental education programs and partnerships with research institutions.

The Normative Biodiversity Metric (NBM) methodology was used to analyze biodiversity value, guiding conservation efforts. Regular monitoring of flora and fauna populations was conducted to track the impacts of the project's actions and to ensure the effectiveness of conservation strategies.

Sustainable production systems, such as Agroforestry Systems (AFS), were implemented to allow continued food production while preserving habitats. Responsible ecotourism initiatives enabled communities to benefit economically from natural attractions without compromising biodiversity.

Partnerships with research institutions and NGOs supported continuous data collection and innovative conservation technologies, enhancing evidence-based practices and adaptability.

The project extended its conservation efforts beyond its geographic scope by sharing results, participating in international networks, and contributing to broader conservation goals. Regular monitoring of flora and fauna populations ensured effective conservation strategies and prompt corrective actions when needed.

In conclusion, the Trocano Araretama Project's biodiversity efforts were comprehensive and effective, integrating advanced monitoring, sustainable practices, community involvement, and strategic partnerships to preserve the region's rich biodiversity.

## 5. VERIFICATION FINDINGS

### 5.1 Project Reporting Period and Project Quantification Period

The project reporting and quantification period for this verification is 01 August 2013 to 31 July 2016. The project start date is 10th June 2011. The crediting period for this project is 20 years from 10 June 2011 and 09 June 2031.

Net GHG emission reductions for the Trocano Araretama Conservation Project are 20,905,343 tCO<sub>2</sub>e for the current quantification period. A risk buffer of 10% was estimated for the previous reporting period and a risk buffer will be determined by the NFS Risk Panel for the current quantification period. The Risk Panel assesses each project on an individual basis and set appropriate buffer levels of credits accordingly.

## 5.2 Project Implementation Status

The project activities and Management Plan, as outlined in the validated Project Design Document (PDD), have been fully initiated as detailed in the Project Implementation Report (PIR) dated 08 July 2024, covering the reporting period from 01 August 2013 to 31 July 2016. There are no open issues from the previous verification. The assessment of the project's implementation status focused on reviewing the methods used for quantifying potential credits. A summary of this evaluation is provided in the next section of this report.

## 5.3 Accuracy of GHG Emission Reduction or Removal Calculations

The verification team conducted an intensive review of all data, parameters, formulas, calculations, and conversions to ensure consistency with NFS and the methodology. Further, the verification team reproduced calculations for selected samples to ensure accuracy of the results. As the Project stores its information in its Geospatial Platform, the verification team downloaded data in order to perform independent computations for comparison and correctness. Data according to project area was available in Microsoft Excel format for efficient computation review. The Project Developer also provided a step-by-step overview of calculations to ensure Enviance Services Private Limited understood the approach and could confirm its consistency with validated PDD.

During the verification process, it was noted that the geospatial platform utilizes NFS-approved methodology and associated maps to assess the carbon benefits of the project, incorporating a risk map covering the 2011-2016 period. The project developer has provided the verification team with the required documents (mentioned in Appendix B) to verify the geospatial Platform.

The verification team has cross checked the Project Implementation report submitted by the Project Developer and verified that the quantifications are carried out in line with the NFS-approved methodology, including the NFS-approved risk maps and carbon stock maps. Also, the results are presented Separately for each 12 months period of the quantification period as mentioned in section 24.4.1 to 24.4.3.

A comprehensive assessment of data collection and storage procedures was reviewed in the previous verification to ensure all opportunities for error in transposition of data between data were minimized.

During the verification, the evidence provided by the Project Developer was sufficient in both quantity and quality to support the determination of GHG emission removals reported by the project. Throughout the verification, the Project Developer demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

## 6. VERIFICATION CONCLUSION

Following a thorough review of all project information, procedures, calculations, and supporting documentation, ENVIANCE verifies that the carbon benefit quantification procedures asserted by the Project Proponent are precise and align consistently with the Natural Forest Standard Requirements and the selected methodology. ENVIANCE further confirms that the Trocano Araretama Conservation Project's Project Implementation Report (dated 08 July 2024) has been executed in accordance with the validated Project Design Document and NFS criteria.

ENVIANCE affirms that all aspects of the verification, encompassing objectives, scope, criteria, level of assurance, and project documentation related to quantification, adhere fully to the Natural Forest Standard (including all relevant updates) as detailed in this report. Enviance Services Private Limited concludes unequivocally that the Trocano Araretama Conservation Project's Project Implementation Report (dated 08 July 2024) meets the requirements stipulated by the Natural Forest Standard and all associated updates, without any reservations or conditions.

The GHG assertion provided by the Project Proponent and verified by ENVIANCE has resulted in the GHG emission reduction or removal of 20,905,343 tCO<sub>2</sub>e equivalents by the project during the current quantification period (01 August 2013 – 31 July 2016). This does not include any deduction based on the non-permanence risk assessment as calculated and applied by the Natural Forest Standard.

APPENDIX A – Documents Reviewed

Serial Number	Document
1	Go Balance Trocano Project Verification Governance Module
2	Go Balance Trocano Project Management Plan Module
3	Go Balance Trocano Project Verification Social C Biodiversity Module
4	Consulta Jurídica Trocano Araretama de 31 de janeiro de 2013_Original Portuguese
5	Legal Consultant Legal Review of Trocano Araretama 31 January 2013 Translation English
6	Lei 113-2013 Publicada_ Diário Oficial dos Municípios do Estado do Amazonas_ 28 01 2014
7	Diario oficial dos municipios do Amazonas Official Gazette Completo_280114
8	Borba Letter Oficio nº 069-2015_ GPMB Empresa CGV 03 junho 2015
9	Borba only GCS Original project areas [zip folder comprising of shapefiles]
10	Borba only GCS buffer leakage areas GCS [zip folder comprising of shapefiles]
11	Official Letter No 217_ 2023 GPMB Original PT
12	Official Letter No 217_ 2023 GPMB English translation
13	Consolidated GB MoB Contract Signed and Notarized 26 April 2023
14	Example Deforestation monitoring forms_080715
15	Publicação no diário oficial 12 January 2023_ Original
16	Diario Oficial 12 January 2023_ English Translation
17	Prefeito de Borba email para 050915
18	Community Visits Completed Forms July 2015
19	Community Registry for the project period August 2013 to July 2016
20	Brochure Summary of Activities supported by the Trocano Araretama Project
21	Trocano Project Management Plan v1.4_010813 to 310716
22	Timeline of Key Project Activities 010813 to 310716
23	Trocano Project Dispute Resolution Mechanism
24	Lago do Limao Adjustment Files
25	Trocano Updated Project Area KMZ Files [folder including 5 kmz files]
26	Go Balance Trocano Project Carbon Calculations for periods 2014 2015 2016 v1.1 [Excel spreadsheet]
27	Go Balance Trocano Project Carbon Calculations for periods 2014 2015 2016 v1.1 [PDF format]
28	Diario Oficial publication of the Contract Consolidation dated 9 November 2023 Original PT
29	Diario Oficial publication of the Contract Consolidation dated 9 November 2023 ENG translation
30	Trocano Project Implementation Report 1 - June 10 to May 13
31	Trocano Project Implementation Report 2 - May 13 to July 13
32	Go Balance Geospatial Platform Explainer 090524
33	NFS-AM001.1b-Risk-Based-Methodology-for-NCC- Quantification
34	PWC Ecometrica ISAE 3000 Report - 14.06.2022_
35	Frontierra QAQC Report_GoBalance_FINAL_v2_1 (Zip file containing 5 documents)
36	Go Balance Trocano Calculations Methodology final
37	Go Balance Trocano PRODES Deforestation Layers Methodology
38	Assessment of Trocano PRODES data and Undetected Deforestation FINAL
39	Go Balance Trocano Carbon Map Adjustment Methodology
40	Example Report from Go Balance Geospatial Platform – Project Area 13



41	Go Balance Geospatial Platform Guidance for Results Generated in the PDF Reports
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## APPENDIX B– CAR (Corrective Action Required), CL (Clarifications) Raised

<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL/CR <input type="checkbox"/> FAR	<b>Number:</b>	CL01
<b>Raised by:</b>	Pankaj Kumar	<b>Document Reference</b>	
<b>Finding Description</b>	<b>Date:</b>		20/06/2024
<p>The carbon module should have a separate report similar to the other modules. This module should summarize the following (see NFS Verification guidelines for details)</p> <p>3.2 Project Monitoring System 3.3 Project Reporting 4.1 Factors, Assumptions &amp; Data 4.2 Carbon Pools 4.3 Baseline Assessment 4.4 Leakage 4.5 non-permanence 4.6 Quantification of Emissions Reductions Calculation of applied deduction(s)</p>			
<b>Client/Responsible Party/Project Proponent Response</b>		<b>Date:</b>	25/06/2024
<p>The separate carbon calculations module report has been produced following the NFS Verification guidelines that are detailed above. This module is numbered 037 in the documentation folder.</p>			
<b>Validation/Verification Team Assessment</b>		<b>Date:</b>	15/07/2024
<p>PO provided a detailed carbon calculation module (for the period 1<sup>st</sup> Aug 2013-31<sup>st</sup> July 2016). This report provided the required assumptions and the calculation methods for reporting the carbon credit values. The report is accompanied by the revised version of the carbon calculation summary reported in “Carbon Calculations Module Appendix 1 Full Carbon Calculations 2014 to 2016 June2024.xls” which contains the formulas and values trailing from biomass to CO<sub>2</sub> eq as per NFS-AM001.1b methodology. The verifiers were granted access to the Geospatial Platform that holds all spatial data relevant to the project to crosscheck the carbon calculation methodology and CO<sub>2</sub> eq figures. Finding closed.</p>			

<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL/CR <input type="checkbox"/> FAR	<b>Number:</b>	CL02
<b>Raised by:</b>	Pankaj Kumar	<b>Document Reference</b>	
<b>Finding Description</b>	<b>Date:</b>		20/06/2024
<p>Risk map report available for the period 2016-2021. PO (Project Owner) shall Clarify where to find the risk map for 2013- 2016.</p>			
<b>Client/Responsible Party/Project Proponent Response</b>		<b>Date:</b>	25/06/2024
<p>The original risk map was produced as part of the development and approval process of the NFS methodology. As such, the equivalent report for the risk map covering the period of 2011-2016 (and therefore corresponding to the reporting period 2013-2016) is found within the “ACEU Risk Based Methodology for Quantifying Natural Capital Credits under the Natural Forest Standard” (NFS AM001.1b) methodology, as Annex 1 therein. For clarity and transparency in verification, this has been supplied</p>			

separately as document 038 in the supporting documentation folder.

<b>Validation/Verification Team Assessment</b>	<b>Date:</b>	<b>15/07/2024</b>
PO provided the methodology for risk calculation in the Annex1 of NFS-AM001.1b. This is a generic risk assessment method that can be applied for any observation period. Based on this methodology the risk categories are given in the Geospatial Platform. The verifiers checked the risk categories for the 13 project areas to clarify these categories and hence finding is closed		

<b>Classification</b>	<input type="checkbox"/> CAR FAR	<input checked="" type="checkbox"/> CL/CR	<input type="checkbox"/>	<b>Number:</b>	<b>CL03</b>
<b>Raised by:</b>	Pankaj Kumar			<b>Document Reference</b>	
<b>Finding Description</b>				<b>Date:</b>	<b>20/06/2024</b>

PO (Project Owner) shall provide Project Implementation reports for 2014, 2015 and 2016.

<b>Client/Responsible Party/Project Proponent Response</b>	<b>Date:</b>	<b>25/06/2024</b>
We intend to follow the NFS guidance on this and amalgamate the verified modules to produce a comprehensive Project Implementation Report for the entire project period. We have written the modules that have been presented for verification in a way that can be collated and published as the combined Project Implementation Reports for 2014, 2015 and 2016. This is in accordance with the Natural Forest Standard guidance for periodic verification manual, where it is stated that the project developer may use the submitted modules to compile the PIR for the period. As these 3 periods are being reported and verified as a combined project period, we will produce the report to cover all three years in one comprehensive PIR report. As such, the combination of the 4 written modules we have submitted should be considered as our PIR and is aligned with the NFS requirements.		

<b>Validation/Verification Team Assessment</b>	<b>Date:</b>	<b>15/07/2024</b>
PO response is accepted. Hence, this finding is closed.		

<b>Classification</b>	<input type="checkbox"/> CAR FAR	<input checked="" type="checkbox"/> CL/CR	<input type="checkbox"/>	<b>Number:</b>	<b>CL04</b>
<b>Raised by:</b>	Pankaj Kumar			<b>Document Reference</b>	
<b>Finding Description</b>				<b>Date:</b>	<b>20/06/2024</b>

In carbon adjustment calculations, spatial resampling "nearest neighbour" was used although the data was continuous. Using "Bilinear" resampling would have been a better approach. Nearest neighbor is mostly recommended for String or factor data or categorical variables.

<b>Client/Responsible Party/Project Proponent Response</b>	<b>Date:</b>	<b>25/06/2024</b>
Whilst bilinear resampling should have been used for creating the Adjusted Carbon Map, the factor used to resample is exactly 100x (100 of the new 9.2833m grid cells fit exactly within a 928.33m cell of the original data), therefore we have determined that this will have no effect on the value of the new cells in the resulting Adjusted Carbon Map.		

<b>Validation/Verification Team Assessment</b>	<b>Date:</b>	<b>15/07/2024</b>
The response of the PO regarding the resampling approach is satisfactory. Findings closed		

<b>Classification</b>	<input checked="" type="checkbox"/> CAR FAR	<input type="checkbox"/> CL/CR	<input type="checkbox"/>	<b>Number:</b>	<b>CAR01</b>
<b>Raised by:</b>	Pankaj Kumar			<b>Document Reference</b>	
<b>Finding Description</b>				<b>Date:</b>	<b>20/06/2024</b>

Add the carbon calculations in xl table as appendix to the Carbon module report. This xl table should trail from biomass to CO <sub>2</sub> eq. for each of the 13 areas showing deductions due to leakage and emissions and finally to the accrued CO <sub>2</sub> eq. Corrective action sought.		
<b>Client/Responsible Party/Project Proponent Response</b>	<b>Date:</b>	<b>25/06/2024</b>
This excel file has been created and produced as requested and is provided as an appendix to the carbon calculations module, as Appendix 1 and is supplied as document 037b in the supporting documentation folder.		
<b>Validation/Verification Team Assessment</b>	<b>Date:</b>	<b>15/07/2024</b>
Verifiers have checked the revised version of the carbon calculation summary reported in “Carbon Calculations Module Appendix 1 Full Carbon Calculations 2014 to 2016 June2024.xls” which contains the formulas and values trailing from biomass to CO <sub>2</sub> eq as per NFS-AM001.1b methodology. The verifiers crosschecked the values stated in the xl spreadsheet with the Geospatial Platform that holds all spatial data relevant to the project carbon calculation methodology and CO <sub>2</sub> eq figures. Finding closed.		

<b>Classification</b>	<input type="checkbox"/> CAR <input type="checkbox"/> FAR	<input checked="" type="checkbox"/> CL/CR	<input type="checkbox"/>	<b>Number:</b>	<b>CAR02</b>
<b>Raised by:</b>	<b>Pankaj Kumar</b>			<b>Document Reference</b>	
<b>Finding Description</b>				<b>Date:</b>	<b>20/06/2024</b>
PO has submitted the Document018_project Mgt plan, however PO shall modify the table of contents to refer to page numbers. Corrective action sought.					
<b>Client/Responsible Party/Project Proponent Response</b>				<b>Date:</b>	<b>25/06/2024</b>
The Management Plan module has updated the table of contents to include page numbers. This document has been resubmitted to the as document 018b in the supporting documentation folder.					
<b>Validation/Verification Team Assessment</b>				<b>Date:</b>	<b>15/07/2024</b>
Verifiers confirm that the revised Management Plan (document 018b) has been edited to include page numbers corresponding to the table of content. Findings closed					

## APPENDIX C– Verification Team Competency

- **Mr. Pankaj Kumar** worked as team leader – Bihar for South Asia Climate Proofing and Growth Development (CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India, Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO (Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA, Applus certification as Team Leader for validation, verification of around 200 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1, 4.1, 13.1, 14 and 15 by Enviance. on roster of UNICEF’s WASH experts. He is an experienced, qualified and result oriented Environment Professional having more than 19 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, ESG, Sustainability, GHG accounting (ISO 14064) and Carbon foot printing. Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).
- **Dr. Debojyoti Chakraborty** is a Principal Scientist and holds positions at the Austrian Research Centre for Forests (BFW) in Vienna, Austria. His research and academic pursuits center around several key areas, including the adaptation of forests to climate change. Currently, he serves as a sectoral advisor for sector 14.1.
- **Mr. Vijayanand** is an experienced professional, a strategic HSE expert with 16 years of leadership in environmental consulting, audit, and regulatory compliance. He has successfully implemented HSE/ESG rules across Asia and Europe, managing corporate and site-level HSE functions. His roles have involved EIA, waste management, and policy development. He is leading HSE and ESG efforts at Hero Future Energies, demonstrating budgeting, due diligence, and international standard implementation skills. He has contributed to impactful projects like ESIA, renewable energy initiatives, and audits. He is also having accreditation as a Lead Auditor in CDM and Verra by various DOEs/VVBs, he is qualified by Enviance as a TL, TR and Technical expert in Section 1.2, 3.1, 14.1.
- **Mr. Vipul Jain** holds Bachelor of Technology from VIT University Vellore in 2020. He has gained valuable work experience as a site engineer at Light House Energy Developers, where he was employed from May 2020 to August 2022. Vipul holds an IRCA certification as an ISO 9001 Lead Auditor, demonstrating his expertise in quality management systems. He is well-versed in ISO 14064-1, ISO 14064-2, and ISO 14064-3, which are standards for greenhouse gas accounting and reporting. Furthermore, Vipul has received training in ISO 17029 and ISO 14065, highlighting his proficiency in environmental auditing and conformity assessment. He has also completed Clean Fuel Regulation training from Environment and Climate Change Canada, demonstrating his expertise in environmental management and sustainability.