



**Verified Carbon
Standard**

REDD+ PROJECT MAGNOLIOS DE YARUMAL



RUBY CANYON ENVIRONMENTAL

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Summary:

South Pole Carbon Asset Management S.A.S. (SP) contracted Ruby Canyon Environmental, Inc. (RCE) to complete the validation and first verification of the REDD+ Project Magnolios de Yarumal (Project) for the crediting period 23 February 2016 to 22 February 2036 and the first reporting period from 23 February 2016 to 23 October 2020.

REDD+ Project Magnolios de Yarumal is a grouped project which seeks to reduce the emission of greenhouse gases (GHG) by implementing five strategic lines: Strengthening local governance, Forest Conservation and Restoration, Promotion environmental education in rural communities, Biodiversity research and Financial Sustainability.

The purpose of this validation and verification was to assess the Project's compliance with the VCS Program rules. The scope of the validation and verification included the assessment of the Project Description (PD), the Monitoring Report and supporting data and documentation against the requirements of the VCS Program Guide, Version 4.0 and the VCS Standard, Version 4.1 as well as the project methodology, VM0015 Methodology for Avoided Unplanned Deforestation, version 1.1 (Methodology).

The validation and verification audit were performed through a combination of document review, interviews with relevant personnel and on-site inspections. During the validation and verification process, RCE issued four rounds of findings including in total 15 Corrective Action Requests, 8 additional documentation requests and 30 clarification requests. The findings are included as Appendix A.

RCE concludes, to a reasonable level of assurance, that the Project, as described in the Project Description (Version 4), meets all relevant AFOLU VCS requirements and correctly applies the Methodology with noted deviations. RCE confirms, to a reasonable level of assurance, that the Project's assertion for the initial reporting period of 23 February 2016 to 23 October 2020 is 19,786 tCO₂e net emission reductions.

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1 INTRODUCTION

1.1 Objective

The purpose of the validation was to conduct an independent assessment of the REDD+ Project Magnolios de Yarumal (“Project”) to determine whether the project complies with the validation and verification criteria, as set out in the guidance documents listed in Section 1.2 of this report, including that the baseline scenario is valid, that the Project is additional, that the Project Description and GHG calculation methods are materially correct and meet the Methodology requirements, that the Project meets the requirements of the VCS program, and that the planned project could reasonably be expected to achieve the claimed emission reductions.

The purpose of the verification is to ensure that the GHG assertion is materially correct, that the data provided to RCE can be documented and if errors or omissions are detected, they be corrected by SP.

1.2 Scope and Criteria

This is the validation for the Project’s first crediting period from 23 February 2016 to 22 February 2036, with an option to apply a second 10-year crediting period. The validation scope is defined as an independent and objective review of the Project including the review of the Project Description (PD) v.9, dated 23 September 2023. This is the verification for the initial reporting period 23 February 2016 to 23 October 2020. The verification scope includes the organizational boundaries of the Project and all associated processes. The GHG emission sources included are above ground biomass, below ground biomass and soil organic carbon. CO₂ is the GHG included in the scope of the Project.

RCE conducted the validation/verification (V/V) based on the following criteria:

- VCS Standard v4.1, 22 April 2021,
- VCS Program Guide, v4.0, 19 September 2019,
- VM0015 - Methodology for Avoided Unplanned Deforestation v 1.1.
- Resolución 1447 de 2018 para el MRV Colombia
- Agriculture, Forestry and Other Land Use (AFOLU) Requirements v4.0
- AFOLU Non-Permanence Risk Tool v4.0
- VCS Validation and Verification Manual version 3.2, 19 October 2016
- Validated VCS PD v.9, 23 September 2023, and
- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”

1.3 Level of Assurance

RCE conducted the validation and initial verification to a reasonable level of assurance.

1.4 Summary Description of the Project

REDD+ Project Magnolios de Yarumal is an initiative developed in the Northern of the Antioquia Department in Colombia to conserve the native forests of the region and preserve highly endangered flora species, such as magnolia (*Magnolia polyhypsophylla*, *M. guatapensis*, *M. yarumalensis*). The Project is a grouped project which, in its first stage, includes 125 holdings belonging to 70 owners of peasant farms and three non-profit entities, located mainly in the Regional Integrated Management District (DRMI) called Alto de Ventanas, and three private reserves managed by non-profit entities. The project expansion area (PEA) includes all forested areas in the municipalities of Yarumal, Briceño, Valdivia and Santa Rosa de Osos. The project zone is located between the coordinates 7° 13'46.09" - 6° 41'6.56" N and 75° 19'32.94" W - 75° 36'14.26" W, covering an area of 7,593 hectares (only 4,319 eligible ha for 2005 – 2016 period).

The Project was developed according to the requirements of AFOLU projects (Agriculture, Forestry and Other land use), and it was classified as an Avoided Unplanned Deforestation and Degradation (AUDD) project to Reduce Emissions from Deforestation and Forest Degradation (REDD).

Prior to the Project, the baseline scenario included cattle ranching and agriculture activities which represent the main drivers of deforestation in the area. In the absence of this project, the most likely land use scenario would be to continue deforestation by converting forests to pasture to develop agricultural activities.

The aim of the project is to reduce the emission of greenhouse gases (GHG) by implementing five strategic lines: Strengthening local governance, Forest Conservation and Restoration, Promoting environmental education in rural communities, Biodiversity research and Financial Sustainability.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

RCE used a risk-based approach to assess the Project against the VCS Program rules including the criteria defined in Section 1.2 of this document.

The validation and verification process included the following independent and objective activities:

- Select a validation/verification team,
- Perform an internal conflict of interest (COI) review,
- Conduct a kick-off meeting with SP to introduce the SP and RCE teams, review the validation and verification objectives, process, VCS requirements, and to confirm the schedule.
- Review the PD against the requirements in Section 3 of the VCS Standard,

- Develop a validation/verification plan and sampling plan,
- 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.
- Perform a risk-based review of the project area to ensure that the project is in conformance with the eligibility requirements of the VCS rules and the applicability conditions of the methodology.
- Review the documents associated with the monitoring period for which emission reductions were issued,
- Conduct a site visit,
- Review the accuracy of the emission reduction projections for the crediting period and the emission reductions for the reporting period,
- Issue corrective action requests (CARs), additional documentation requests (ADRs), and clarification requests (CRs), as necessary,
- Conduct a senior internal review,
- Issue a Joint Validation & Verification Report, and
- Conduct an exit meeting with SP.

The validation/verification team was selected according to RCE's GHG Verification Policies & Procedures to ensure team members are qualified to perform validation activities pertaining to the Project. The validation team consisted of the following individuals:

- Lead Validator/Verifier: Zach Eyler
- Independent Reviewer: Phillip Cunningham
- Validator/Verifier team members: Paulina Fernández Sánchez, Minerva Lopez Pérez
- Technical experts: José Pastor Parra Piedra, Christian Eggleton

RCE's primary validation/verification activity was a review of the PD, the Monitoring Report (Joint Project Description & Monitoring Report) and supporting documents to assess the Project's compliance with VCS Program rules, as discussed in Sections 2.2 through 2.4 of this report. Following its review of the PD and Monitoring Report, supporting documents and data, and the on-site visit, RCE delivered an initial List of Findings to SP. SP provided sufficient responses to all requests. Following the close-out of all open items, RCE completed a joint validation/verification report, and submitted the validation/verification for senior internal review.

2.2 Document Review

The joint validation and verification consisted of a review of the Project's PD the Monitoring Report (Joint Project Description & Monitoring Report) and supporting documents to demonstrate compliance with all relevant criteria. All documents reviewed are listed in Appendix B.

2.3 Interviews

RCE communicated throughout the verification with SP personnel responsible for the project including discussions about the development of the PD, eligibility criteria, and emission reduction estimates and

communicating data and document requests and validation/verification findings. SP personnel interviewed include:

- Juan David Mira Martínez - Manager, Project Development
- Claudia Marcela Rivera Agudelo - Senior Project Coordinator
- Juan Camilo Arroyave Arango - Geospatial Solutions Team
- Sandalee Escobar Upegui – Stakeholder Engagement Adviser

Prior to the site visit, RCE conducted a series of virtual interviews (6 and 7 May 2021) with the personnel of the four Project's proponents: Alto de Ventanas Foundation, Magnolios Foundation, Guanacas Foundation and Salvamontes Corporation to obtain and understand the history and the activities of the Project, monitoring process and data collection and aggregation procedures. People interviewed include:

- Liliana Pérez - Secretary of the Alto de Ventanas Foundation
- Christian Dannecker - Founding Partner of Magnolios Foundation
- José Rodrigo Castaño Díaz - Founder of the Guanacas Foundation
- Maria Alejandra Moreno – Project coordinator of the Guanacas Foundation
- Sebastian Vieira – Program Director of Salvamontes Corporation
- Mauricio Mazo – Conservation Director of the Salvamontes Corporation

During the site visit (18 May 2021 to 21 May 2021), RCE interviewed personnel of the four Project's proponents: the three non-profit entities and local private owners that make up Alto de Ventanas Foundation to understand the history of the land, the activities of the Project, and the social background of the Project. People interviewed include:

- José Rodrigo Castaño Díaz - Founder of the Guanacas Foundation
- Maria Alejandra Moreno – Project coordinator of the Guanacas Foundation
- Henry Alonso Londoño R. – Guanacas Forest ranger
- German Macías Torres - Guanacas Forest ranger
- Juan Carlos Macías Munera - Guanacas Forest ranger
- Mauricio Mazo – Conservation Director of the Salvamontes Corporation
- Libardo, Salvamontes - Forest ranger
- Edier Alcides López H. – Alto de Ventanas local private owner
- Raúl Ariel López H. - Alto de Ventanas local private owner
- Edilberto López - Alto de Ventanas local private owner's son
- Edier Zabala - Alto de Ventanas local private owner
- Javier Arturo Ruiz Naranjo - Alto de Ventanas local private owner

2.4 Site Inspections

RCE conducted an onsite visit to the Project area from 18 May 2021 to 21 May 2021. During the site visit, the validation/verification team performed the activities mentioned below:

- The V/V team interviewed project personnel to gather information regarding the design of the project.

- The V/V team selected samples of data and information for validation in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard.
- The V/V team reviewed and confirmed on site that the geographic area of the project, as reported in the PD and the accompanying KML file, were in conformance with Section 3.10.1 of the VCS Standard.
- The V/V team collected GPS tracking data and waypoints and took photographs to help correlate observations with mapping data supplied by the client in KML files.
- The V/V team collected and recorded data in order to assess whether data collection techniques conform to the monitoring plan and related documentation and to evaluate data quality control systems.

Day	Activity
May 18, 2021	Reserva Guanacas Visit: confirmation of project activities and stakeholder interviews
May 19, 2021	Reserva Salvamontes and Magnolios Visit: confirmation of project activities and stakeholder interviews
May 20, 2021	Visit to properties associated with Alto de Ventanas Foundation: confirmation of project activities and owner interviews
May 21, 2021	Closing meeting of SV in Medellin

A sample of twelve properties covering a surface of 395.45 hectares (ha) of forest land were visited, representing 8.92% of the Project area designated as forest (4,319 ha).

Landowner	Property	Area (ha)
Corporacion Salvamontes and Fundacion Magnolios	Finca El Reposo	75.9175
Corporacion Salvamontes and German Humberto Zabala	Lote La Florida	52.8416
Gustavo Antonio Cuartas Pino y Heriberto Cuartas Pino y Carlos Antonio Cuartas Pino	Lote	5.8281
Edier Hernan Zabala Arroyave	Finca Ventanas	14.1583
Raul de Jesus Lopez Ospina, Yomaira Perez Correa and Eulicer Alcides Lopez Hincapie	Finca Villa Nueva	104.6572
Eduardo de Jesus Elorza Fernandez	NA	23.7813
Jesus Armando Franco Cruz	NA	87.9579
Javier Arturo Ruiz Naranjo	NA	10.7314
Jose Rodrigo Castano Diaz	Guanacas	2.7000
Jose Rodrigo Castano Diaz	Las Palmas	2.1094
Jose Rodrigo Castano Diaz	San Jose	9.1296
Jose Arnulfo Lopez Molina	Lote Valdivia	5.6386
Total verified area		395.450

Also, the V/V team measured 34 point-plots to verify the actual land-use and land-cover. Of those 21 were forest plots with dasometric data and 13 were grassland or roads. The forest cover (m² per ha), canopy height, timber volume (m³ per hectare), latitude, longitude, altitude, GPS accuracy, and non-profit organization were the variables measured. This information was reviewed and analyzed during the desktop sampling to verify that the forest and non-forest areas defined in the Colombian Resolution as any portion of land where tree-covered areas predominate with a minimum canopy density of 30%, a minimum canopy height (in situ) of 5 m at the time of its identification, and a minimum area of 1.0 hectare.

Verified point	Latitude	Longitude	Timber volume*	Forest cover*	Canopy height*
1	7.07598333	-75.4433	140	165	20.5
2	7.07406667	-75.4433833	75	95	12.9
3	7.0738	-75.4432667	75	95	12.9
4	7.07343333	-75.4432667	95	116	15.3
5	7.07301667	-75.4431833	100	122	15.8
6	7.07358333	-75.4433167	50	67	10.0
7	7.04256667	-75.4656	80	100	13.5
8	7.04296667	-75.4652833	80	100	13.5
9	7.0189	-75.4135167	40	57	8.8
10	7.0341	-75.41355	20	35	6.5
11	7.0427	-75.4024667	110	132	17.0
12	7.04616667	-75.39995	150	176	21.7
13	7.04916667	-75.4015833	45	62	9.4
14	7.0514	-75.3986333	150	176	21.7
15	7.05168333	-75.39755	180	208	25.2
16	7.05118333	-75.3958667	20	35	6.5
17	7.05155	-75.39815	170	197	24.0
18	7.05166667	-75.3982167	180	208	25.2
19	7.0525	-75.3993833	70	89	12.3
20	7.05345	-75.3988833	90	111	14.7
21	6.69415	-75.3764833	60	78	11.2

*These values were taken as an estimate on field according to the experience of the forestry expert.

2.5 Resolution of Findings

RCE communicated findings to SP in the List of Findings document. RCE delivered four rounds of List of Findings and included 15 corrective action requests (CARs), 8 additional documentation requests and 30 clarification requests. SP sufficiently resolved all requests during the validation/verification process.

The findings are included as Appendix A to this report.

Update on v2.6 of this Report: The verification team evaluated the latest updates made to PD v9. The update of this latest Report is based on the latest findings raised by the VERRA team on May 30, 2023. The verification team considers that with these latest updates SP resolved all requests adequately.

2.5.1 Forward Action Requests

There were no forward action requests as a result of the validation/verification process.

3 VALIDATION FINDINGS

3.1 Project Details

3.1.1 Project type, technologies and measures implemented, and eligibility of the project

The Project was developed according to the requirements of AFOLU projects (Agriculture, Forestry and Other land use), and it was classified as an Avoided Unplanned Deforestation and Degradation (AUDD) project to Reduce Emissions from Deforestation and Forest Degradation (REDD), as described in Appendix 1 of VCS Standard v4.1.

3.1.2 Project design, including eligibility criteria for grouped projects

REDD+ Project Magnolios de Yarumal is a grouped project which, in its first stage, includes 125 holdings belonging to 70 owners of peasant farms that makes up Alto de Ventanas Foundation and three non-profit entities: Magnolios Foundation, Salvamontes Corporation and Guanacas Foundation.

SP established all eligibility criteria for the new project activity instances in the PD including technical, methodological and administrative criteria. The V/V team confirmed that definition of eligibility criteria complies with the section 3.5.15 of VCS Standard v4.1.

3.1.3 Project proponent and other entities involved in the project

The four Project proponents are Alto de Ventanas Foundation, Magnolios Foundation, Salvamontes Corporation and Guanacas Foundation. SP provides support and project development assistance to the Project Proponents. The V/V team confirmed that all parties involved in the Project are appropriately identified in the PD and confirmed the contact and entity information provided in the PD conforms to the VCS requirements.

3.1.4 Ownership

Alto de Ventanas Foundation, Magnolios Foundation, Salvamontes Corporation and Guanacas Foundation own the Project area and the rights to the emission reductions. RCE confirmed that all the properties making up the Project have a Tradition and Freedom Certificate which guarantees that all-natural persons and legal entities integrating the initiative are the owners of the properties. RCE also reviewed the Letters of Intent signed by the private owners who are grouped under the Fundación Alto de Ventanas and the Fundación Magnolios endorsing these entities as their representatives in the project.

The V/V team confirmed that the project ownership review conforms to the VCS requirements.

3.1.5 Project start date

The start date of the project is 23 February 2016, which corresponds to the hiring date of forest rangers in the Fundación Guanacas to carry out —among other services— control and surveillance tasks, the creation of nurseries, propagation of plant material, and caring for the facilities. RCE confirmed the Project start date through forest rangers' contracts.

This date was chosen according to Resolution 1447 of 2018 —which regulates the Monitoring, Report and Verification System (MRV) of nationwide mitigation actions in Colombia and establishes the mechanism for the National Registry for the Reduction of GHG Emissions (RENARE). The mitigation actions that are valid for less than five years can only be reported in the country for national accounting purposes as of January 1, 2020.

On March 18, 2021, SP submitted to Verra an extension request for the Project since the VCS Standard requires AFOLU projects to complete validation within five years of the project start date. This extension was requested due to the COVID-19 pandemic. On 22 April 2021, Verra approved an extension of an additional six months to complete the validation by August 22, 2021.

3.1.6 Project crediting period

The crediting period is 23 February 2016 through 22 February 2036. However, this period may be renewed for an additional 10 years for a total term of 30 years.

According to section 3.8.3 of VCS Standard v4.1., the crediting period of AFOLU projects has a minimum of 20 years and a maximum of 100 years. Therefore, the project activity is in line with the length of the crediting period. In this regard, RCE confirmed that Project's proponents developed a credible and robust plan for managing and implementing the project over the crediting period in compliance with section 3.8.4 of VCS Standard v4.1.

3.1.7 Project scale and estimated GHG emission reductions or removals

The Project is classified as a "project" according to the requirements of Section 3.9.1 of the VCS Standard v4.1. The average annual estimated emission reductions of the REDD+ project are 7,217 tons of CO₂e (without considering the non-permanence risk) during the 30-year crediting period.

3.1.8 Project location

REDD+ Project Magnolios de Yarumal is located in the Northern region of the Antioquia Department. Most of the holdings are in the Yarumal and Briceño (75%) municipalities with a smaller proportion located in Valdivia and Santa Rosa de Osos (25%) (Table 5). The project zone is located between the coordinates 7°13'46.09" - 6°41'6.56" N and 75°19'32.94" W - 75°36'14.26" W, covering an area of 7,593 hectares.

During the site visit, the V/V team verified the location of the project activity and checked the KML files.

3.1.9 Conditions prior to project initiation

The Project is being developed in a region where deforestation has historically occurred mainly due to cattle ranching. The PD includes the description of the environmental and social preconditions in the municipalities of the Project's expansion zone, including biophysical, biotic and social aspects, in conformance with the VCS Standard.

3.1.10 Project compliance with applicable laws, statutes and other regulatory frameworks

Section 1.14 of the PD provides information related the compliance with the applicable laws, statues and other regulatory frameworks. The main and relevant laws were detailed, and its enforcement analyzed in the PD. According to the information provided and assessed during the interview with the proponents and the interviews with the landowners during the site visit, the Project complies with laws mentioned in the PD. Also, the Project will consider revisions and updates to land use planning guidelines mentioned regarding the compliance with regional and local regulations within the monitoring plans and for future verifications.

RCE concludes that the Project complies with applicable laws, statues, and other regulatory frameworks.

3.1.11 Other forms of credit

The Project is not part of emission trading programs and has not received any other type of credits.

3.1.12 Additional information relevant to the project

Leakage management for AFOLU projects

As stated in Section 4.1.1 of the PD, enrichment and passive restoration activities will be carried out on 607 ha of the project proponent Foundations' land for leakage management.

Commercially sensitive information

The V/V team confirmed that the information designated by the project proponent as commercially sensitive meets the VCS Program definition of commercially sensitive information ("Sensitive Information" definition in VCS Program Definitions v4.1.).

Sustainable development contributions

The Project describes adequately the contributions of the project with the Sustainable Development Goals (SDGs) based on 2030 Agenda Transforming Colombia in conjunction with the Nationally Determined Contributions (NDCs) of Colombia. SDG8, SDG13, SDG15 and NDC4, NDC13, NDC15 were included in the Project's commitments.

Colombia Monitoring, Reporting and Verification System Requirements (Resolution 1447 of 2018)

Resolution 1447 applies broadly to all mitigation projects in Colombia and establishes the regulations for monitoring, reporting, and verification of national mitigation actions through the National Registry of GHG Emission Reductions (RENARE) from the issuance of the Resolution (01 of August 2018). Section 1.17.4 of the PD explains in detail the justifications for the applicability of Resolution 1447 of 2018 in the design of the Project.

The V/V team confirmed the Project's compliance with Articles 2, 10, 13, 39, 40, 41, 42, 43, 44, 45, 47 and 49 of Resolution 1447 of 2018.

National Emission Reduction Registry (RENARE)

The Project has registered and updated information in the National Registry of GHG Emissions Reduction (RENARE), under the guidelines of Art. 54 of Resolution 1447 of 2018. The Project was registered in the feasibility phase on February 9, 2021. With this registration the Project was evaluated for overlaps with other initiatives and no overlaps were found with other REDD+ initiatives.

The V/V team confirmed that the registration of the Project under RENARE was in accordance with Chapter 2 of Title I of Resolution 1447 of 2018.

REDD+ safeguards Colombia

Colombia submitted the country's national interpretation of safeguards for REDD+ to the United Nations Framework Convention on Climate Change (UNFCCC), as part of the adoption of the measures mentioned in paragraph 70 of decision 1/CP.16 (UNFCCC, 2011) of the UNFCCC. These safeguards apply to initiatives to reduce deforestation and forest degradation that are developed in Colombia, whether at local, regional or national scale, becoming a guide of good practices to prevent risks and attract benefits.

Section 1.17.4 of the PD identifies the main instruments available to the Project to ensure compliance with each of the safeguards.

The V/V team confirmed the project's compliance with 15 National Interpretation of Safeguards including Institutional, Social and cultural, and Environmental and territorial themes.

3.2 Participation under Other GHG Programs

The Project has not been registered or applied for registration under any other GHG program.

3.3 Safeguards

3.3.1 No Net Harm

The Project is not expected to have negative environmental or socioeconomic impacts during implementation. However, during consultations within the Strategy for Participation, Communication and Knowledge Appropriation (EPCAC), some stakeholders perceived negative environmental impacts during

project implementation, such as effects on the economy following the reduction in the use of land for livestock and agriculture and possible conflicts of use, occupation and tenure. Those potential negative and positive environmental and socio-economic impacts as well as steps taken to mitigate them were described in Section 2.3 of the PD.

The V/V team considers that the assessment related to the identification of the environmental and socio-economic impacts of the Project's area as inclusive and the steps to mitigate them as adequate.

3.3.2 Local Stakeholder Consultation

For the consultation process with stakeholders in the territory, a Strategy for Participation, Communication and Knowledge Appropriation (EPCAC) was designed, which is framed within the REDD+ principles and social and environmental safeguards, using methodologies and instruments that guide the development of projects from a participatory and differential approach. In summary, the EPCAC consists of the development of planned and concerted actions to ensure REDD+ social safeguards, enhance the benefits of the projects for the parties involved and reduce the socio-environmental risks that may be generated in the contexts where such initiatives are developed. It also ensures participation, assertive communication and adequate implementation and monitoring of the project, through the construction of a participatory baseline with communities, institutions, and local authorities in both the formulation and implementation phases.

Section 2.2 of the PD explains the details of EPCAC, how it has been implemented, the mechanisms of participation, communication and appropriation and the evidence regarding the consultations and meetings with stakeholders (informative brochures, newsletters, records, photographs).

The V/V team concluded that the project communicated to the local stakeholders all information about the Project design and implementation, risks, costs and benefits, relevant laws and regulations and the process of Section 3.16.17 of VCS Standard v4.1.

RCE considers that the summary of the comments received during the consultation process included in the PD and in the Annexes complete after reviewing evidence of the consultations and meetings with stakeholders. Thus, the V/V team concluded that the local stakeholder consultation was carried out in line with the requirements of Section 3.16 of VCS Standard v4.1.

3.3.3 Environmental Impact

The positive and negative impacts of the Project are identified in the PD. As a result of the EPCAC process, key stakeholders identified positive impacts such as prevention of soil erosion, minimization of landslides and natural disasters, improving air quality, ensuring well-being for future generations, providing benefits to animal and human health, conserving biodiversity, and the recovery of vegetation cover and return of native species, among others. Negative impacts were also identified such as limiting the development of the dairy and agricultural sectors, including potential technological farming improvements and possible conflicts of use, occupation, and tenure due to the Project.

The PD included appropriate mitigation actions for the management of negative impacts in the Project. RCE concludes that the environmental impact process was performed adequately.

3.3.4 Public Comments

The draft project document was available during the listing phase for public comment from 16 July 2020 through 15 August 2020 but did not receive any comments. The verification team confirmed this through Verra's webpage.

3.3.5 AFOLU-Specific Safeguards

Local stakeholder identification process

Stakeholders were identified based on secondary information available from official sources from the municipal, regional and national government. Subsequently, the secondary information was complemented with primary information from virtual and face-to-face meetings with Project stakeholders. Annex 3 of the PD presents the methodology, results and analysis of the identification of relevant stakeholders.

Risks to local stakeholders

Risks/Impacts were appropriately identified and strategic lines to mitigate them are described in the PD. Risks including trade-offs with food security, land loss, loss of yields and climate change adaptation were identified and included.

Risks to local stakeholder resources

The project proponents recognize, respect and support local stakeholders' property rights. Apart from the Tradition and Freedom Certificate, the private owners who are grouped under the Fundación Alto de Ventanas and the Fundación Magnolios signed a Letter of Intent endorsing these entities as their representatives in the project.

Communication and consultation

SP communicated to the stakeholders all topics related with project design and implementation, including the results of monitoring; the risks, costs and benefits of the project; all relevant laws and regulations covering workers' rights in Colombia; and the process of VCS Program validation and verification and the validation/verification body's site visit.

Several meetings with the stakeholders were carried out by SP to communicate and consult about the activities of the Project. A future meeting is planned for the presentation of Project results with the project proponents and institutional stakeholders. In addition, other local stakeholders such as environmental committees, forest rangers, rural schoolteachers and presidents of community action boards were also involved in the Project. Also, Annex 10 of PD presents the proposed grievance mechanism for the Project.

The V/V team concluded that SP and Project Proponents designed and implemented plans and processes to ensure that the project will mitigate any negative impacts on local stakeholders according to the VCS Standard v4.1.

3.4 Application of Methodology

3.4.1 Title and Reference

The Project utilizes VM0015 Methodology for estimating and monitoring greenhouse gas emissions of project activities that avoid unplanned deforestation, version 1.1.

In addition, the following tools are applied:

- VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, version 3.0.
- VCS AFOLU Non-permanence Risk Tool, version 4.0.

3.4.2 Applicability

The VM0015 methodology has no geographical restrictions and is applicable globally under the following conditions:

Applicability criteria	Project compliance
Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.	During the site visit the V/V team confirmed that the baseline activities include unplanned deforestation from activities such as dairy farming and agriculture.
Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology.	During the site visit the V/V team confirmed that the scope of the project activity is avoided deforestation without logging, (Scope A of the Methodology).
The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of “forest”.	During the desktop sampling and the site visit the V/V team confirmed that the Project area includes six types of forest: Lower-montane very humid forest (vhf-LM); Tropical humid forest (hf-T); Very humid tropical forest (vhf-T); Pre-montane pluvial forest (pf-PM); Lower-montane humid forest (hf-LM) and Montane pluvial forest (pf-M). Mapping of the Project area and deforestation ensured compliance with the Colombia's forest definition.
At project commencement, the project area shall include only land qualifying as “forest” for a minimum of 10 years prior to the project start date.	Based on aerial imagery review, the V/V team confirmed that for the quantification of carbon credits, the Project area only includes the land

	classified as stable forest during the period 2005-2016.
The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes a forested wetland growing on peat (e.g., peat swamp forests), this methodology is not applicable.	Not Applicable. The V/V team confirmed that the Project does not include wetlands

The applicability conditions of VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, version 3.0 are the following:

Applicability criteria	Project compliance
AFOLU activities the same or similar to the proposed project activity on the land within the proposed project boundary performed with or without being registered as the VCS AFOLU project shall not lead to violation of any applicable law even if the law is not enforced.	During the desktop sampling and the site visit the V/V team confirmed that the AFOLU activities of the Project do not involve any violation of applicable laws.
The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario.	Livestock and agriculture activities were selected as the determined baseline scenario. But only livestock was used to quantify the reduction in emissions, because this scenario is associated with a higher content of carbon in the above-ground biomass than agriculture. Thus, it is guaranteed that ex ante estimates are conservative according to the guidelines of the VM00015 methodology. The V/V team could confirm that the baseline was selected under a progressive approach that justifies the decision over the most plausible scenario for project development.

Based on the desktop sampling and the evidence provided including spreadsheets calculations of the emissions reductions, the V/V team verified that the Project meets the applicability conditions of the tools. In conclusion, the project activity complies with the applicability conditions of the methodology, and any tools or modules selected by the project proponent.

3.4.3 Project Boundary

Carbon pools

According to VCS VM0015 v1.1 methodology, the pools of above-ground and below-ground biomass must be included as a minimum; in the case of the Project, these pools were taken into account for a more conservative approximation both of the baseline scenario and the project scenario. Soil organic carbon was included because it is included by the Colombian NREF.

The exclusion of dead wood and litter is considered conservative because it is not significant for REDD projects according to the methodological requirements of the VCS and is also not included in the Colombian NREF.

The harvested wood products pool is not included in the national NREF and is not significant since it represents less than 5% of emissions according to an assessment carried out by SP. Thus, it was not included in the carbon pool boundaries.

The V/V team concluded that all carbon pools were properly selected and measured by assessing the calculation sheets provided by the proponent.

Sources and GHGs

The Project does not consider biomass burning under the baseline scenario. In the case of the project scenario, biomass burning is included according to the methodology.

The V/V team confirmed that the selected sources, sinks and reservoirs for the project and baseline scenarios are in accordance with the criteria.

Site visit inspections

The project area and the site inspections were completed to confirm the project boundaries and evaluate the consistency of the presented information. The V/V team reviewed the project boundary on site by taking GPS points and comparing the results with the maps and GIS files provided by SP.

The V/V team deems that the project boundary is correctly defined and in compliance with the applicable methodology and VCS requirements.

Baseline Scenario

The most likely baseline scenario was determined using the general methodological guidelines of the CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities. This tool was applied to the Project to select the baseline scenario based on a stepwise approach consistent with the determination of additionality of project activities.

Considering that the VT0001 tool (to determine project's additionality) considers essentially the same steps as the CDM combined tool, Section 3.2 of the PD presents a summary of the results of the VT0001 tool that are related to the determination of the baseline scenario. The Project baseline was determined as follows:

- Identification of alternative land use scenarios to the AFOLU Project activity: alternative land use scenarios were identified with respect to the proposed project activities, and which could be defined as a baseline scenario (Step 1 of VT0001 tool).
- Identification of barriers preventing the implementation of the proposed project activity, which in general terms included (i) financial barriers related to insufficient budget to address the implementation of the strategic lines and, (ii) institutional barriers derived from lack of financing; in addition to barriers associated with local tradition and social conditions of the project area (Sub-Step 3a of VT0001 tool).

- Show that the identified barriers do not prevent the implementation of at least one of the alternative land use scenarios (except the proposed project activity): within the alternative land use scenarios, cattle ranching is the only land use alternative that does not face any of the identified barriers (Sub-Step 3b of VT0001 tool).

In the absence of the Project, the most likely future land use scenario would be continued deforestation and conversion of land to pasture by the development of traditional livestock and agricultural activities. The Project baseline scenario is a set of biophysical, social, economic and historical conditions that contribute to the identification of deforestation trends in the reference region.

The identification of the baseline scenario was discussed with SP and landowners during the site visit. All assumptions and documentation provided were justified and verified through reviewing national and local information.

The V/V team concluded that the procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project.

3.4.4 Additionality

For the Additionality Analysis, the “Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities - VT0001”, Version 3.0, was employed.

The V/V team verified that the use of this tool is applicable because it meets the following conditions:

- The AFOLU activities of the Project do not involve any violation of applicable laws.
- The baseline was selected under a progressive approach that justifies the decision over the most plausible scenario for project development. Livestock and agriculture activities were selected as the determined baseline scenario. But only livestock were used to quantify the reduction in emissions, because this scenario is associated with a higher content of carbon in the above-ground biomass than agriculture. Thus, the ex-ante estimates are conservative according to the guidelines of the Methodology.

The Project followed the following steps from VT0001:

Step 1: Identification of alternative land use scenarios to the proposed VCS AFOLU project activity

Sub-Step 1a: Identify credible alternative land use scenarios to the proposed VCS AFOLU project activity

The alternative land-use scenarios found were:

- Livestock farming
- Agriculture (subsistence and commercial)
- Mining

- Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project

After reviewing the source documentation and evidence provided by SP, the V/V team agrees with livestock farming, agriculture (subsistence and commercial), mining and project activity on the land within the project boundary performed without being registered as the VCS AFOLU project, as credible alternative land use scenarios for the project activity. Moreover, during the site visit the V/V team confirmed that livestock farming, and agriculture (scenario 1 and 2) were a common practice in the Project and reference areas.

Sub-step 1b. Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations

All the land-use scenarios resulting from Sub-step 1a apply to the Project area since they are ruled by Colombian laws and regulations at national, regional, and local level. Colombia has a Ministry of Agriculture and Rural Development (MADS) whose powers include making policies to develop the Agro-livestock, Fisheries, and Rural Development Sector, to guide and direct the approach of plans, programs, and projects within the areas themselves.

Laws, decrees and resolutions described in table 23 of the PD were reviewed by the V/V team and confirmed as applicable to the credible land-use scenarios.

Sub-step 1c. Selection of the baseline scenario

According to the steps previously conducted (sub-step 1a and 1b) and the analysis of agents and drivers of deforestation (Section 4.1.4 of PD and Annex 5), the activities most likely to occur in the Project expansion area if the project does not take place would be traditional livestock farming and agricultural activities. Livestock and agriculture activities were selected as the determined baseline scenario. But only livestock will be used to quantify the reduction in emissions, because this scenario is associated with a higher content of carbon in the above-ground biomass than agriculture. This results in more conservative ex ante estimates according to the guidelines of the Methodology.

STEP 2: Investment analysis

This was not applicable since the Barriers analysis was applied.

STEP 3: Barrier analysis

Sub-step 3a. Identification of barriers that would prevent the implementation of the type of proposed project activity

The barriers that prevent the implementation of the proposed project activity are Investment barriers, Institutional barriers, Barriers related to local tradition, Barriers posed by social conditions and land-use practices, and Barriers related to land tenure. The V/V team reviewed and agreed with the barriers that prevent the implementation of the project that SP described in the PD.

Sub-step 3b. Showing that the identified barriers would not prevent the implementation of at least one of the alternative land-use scenarios (except the proposed project activity)

Livestock farming was established as the scenario of alternative land use that would occur in the absence of the project. These activities are preferred by the rural inhabitants due to tradition as compared to transitioning to another form of economic activity.

STEP 4: Common practice analysis

Although various initiatives have been undertaken to curb deforestation in several departments and regions of Colombia, the activities of the Project stand out from the others because they encourage the protection of forest species threatened, such as the *Magnolia spp* and *Ceroxylon spp* and the propagation of native species in high-Andean ecosystems. The V/V team confirmed that the Project activities were not common practice.

The additionality analysis presented in the PD was assessed and discussed, based on a document review and interviews with SP. The V/V team examined the documentation that was provided as evidence.

Based on the explanations and justifications in the PD, a review of the submitted evidence, and discussions with SP and the project proponents, the V/V team confirmed that the emission removals from the Project are deemed additional to those that would occur in the absence of the Project activity.

3.4.5 Quantification of GHG Emission Reductions and Removals

The Project followed the nine steps defined by the Methodology. However, according to the Methodology, if sub-national or national baselines exist those must be used. Thus, the Colombian Andean FREL (Forest Reverence Emission Level) is used for the baseline emission reductions of this Project, and therefore, there are deviations from some of the Methodology steps for ex-ante calculations.

Step 1: Definition of boundaries

- Reference region: the delimited reference region covers an area of 90,368 ha which is equivalent to 20 times the Project Area (PA) (4,319 ha) and is in the northern region of Antioquia in the municipalities of Yarumal, Valdivia, Briceño, Santa Rosa de Osos and Belmira. The V/V team confirmed that the reference region was carried out following the criteria of the methodology: 3 of 4 factors were met in which compliance was evaluated.
- Project area: the project area corresponds to the forest cover of 2016, which encompasses an area of 4,319 ha and is located between the coordinates 7°13'44,05" N - 6°41'06,50" N and 75°23'13,23" W - 75°19'44,51" W (WGS84 coordinates system). For the quantification of carbon credits, only the stable forest during the period 2005-2016 was taken into account, corresponding to an area of 4,319 hectares, that means that 100% of the eligible area in 2016 remained as forest since 2005.
- Leakage belt: for the ex-ante estimates the leakage belt was not defined and the associated baseline emissions were not quantified. However, the project used an optional default leakage

deduction proposed by section 3.14.13 of the VCS Standard (15% deduction to gross GHG emission reductions and/or removals).

- Leakage management areas: the project proponents have delimited some non-forest areas outside the project area to compensate for the displacement of emissions that may be generated; specifically 607 hectares between the coordinates 7°06'20.55N - 6°41'11.82"N and 75°20'53.56"W - 75°29'15.17"W, which correspond to non-eligible areas in the reserves of Corporación Salvamontes and Fundación Guanacas and Magnolios, where the foundations are allowing ecosystem recovery through passive restoration and enrichment with native species.
- Historical reference period: for deforestation projection under the historical approach, the reference period corresponds to the years elapsed between at least three spatial data points. Considering the availability of satellite images for the classification and delimitation of forest areas, the historical reference periods selected were 2005 - 2010, 2010 - 2013 and 2013 - 2016 (10 years into the past with respect to the project start date). For more details see Step 2.
- Crediting period: the crediting period selected was 23 February 2016, to 22 February 2036, 20 years from the project start date. Project renewal will be considered for an additional 10 years, for a total crediting period of 30 years.
- Date for revalidation of the baseline: considering that the baseline must be renewed every 10 years after the project start date, the date for this revalidation is 2026.
- Monitoring period: the monitoring period will be a minimum of one year and a maximum of five years. The first monitoring period report is 23 February 2016 to 23 October 2020.

Step 2: Analysis of historical land-use and land-cover change

The historical analysis of land use change for the reference region comes from a supervised classification performed using the polygon digitizing technique to obtain the historical deforestation rate (2005-2016). Specifically, maps were analyzed during the periods of the 2005 - 2010, 2010 - 2013, 2013 - 2016, (Table 32 of PDD). Specific details of the assessment that the V/V team reviewed are described below:

a) Collection of appropriate data sources

150 control Leakage area points plus 100 control land-use random points were taken in field by SP to apply the Supervised Classification Methodology. Also, Multispectral-Landsat 7 and 8 imagery from 2005 (two scenes), 2006 (three scenes), 2010 (three scenes), 2013 (one scene), 2014 (two scenes), 2015 (one scene) y 2016 (one scene) were used to build an appropriate data source in the land-use and land-cover change. The spatial resolution data was 30 x 30 meters from the optical sensor Landsat covering a period of 11 years until the Project start.

A binary system in which 1 and zero represent forest and non-forest respectively were used to build the shapefile attribute table. From the 100 points collected 57 were forest and 43 were non-forest use.

The V/V team used data collected during the site visit to confirm this delineation. 34 data points were collected during the site visit 21 for forest and 13 non-forest. Data collected also included: geographic

location (UTM), forest cover (%), landowner, GPS accuracy (meters) and canopy height (meters). The V/V team confirmed the appropriateness of this data source.

b) Definition of classes of land-use and land-cover

The PD identified and described the land-use (LU) in forest and non-forest use, representing the minimum requirement mentioned in the Methodology. In addition, the land-cover (LC) classes present in the reference region at the Project start date were defined by SP using remote sensing data and a reclassification technique to define the LC. This process allowed a homogenous class across the landscape and allowed the carbon stocks per hectare (tCO₂e ha) to be determined.



Image 1. Forest land (7.07598333 N, -75.4433 W)



Image 2. Non-Forest land (7.04193333 N, -75.4050167 W)

c) Definition of categories of land-use and land-cover change

A land-use change matrix that combines the LU and LC-classes previously defined were used to identify the rate LU/LC-change that could occur within the Project area and leakage belt during the crediting period.

d) Analysis of historical land-use and land-cover change

Using the Multispectral-Landsat imagery data, the Project area and Project region were divided into polygons according to the landowners' properties representing the land-use and the land-cover class. This LU/LC-change analysis excluded any areas with forests that are less than 10 years old at the Project start date. An analysis of historical land-use and land-cover includes images was conducted to ensure they were overlayed properly. The average location error between overlayed images was < 1 pixel. Also, clouds were removed in some areas using field surveys. Below are random-sample polygons that were verified by the V/V team.

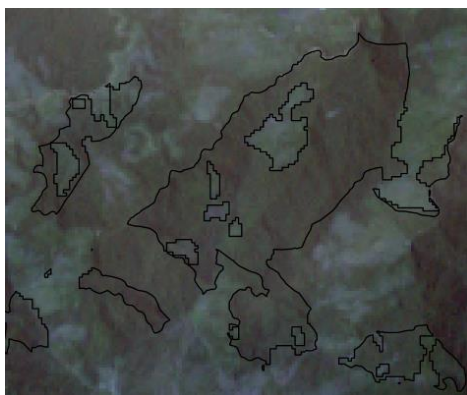


Image 3. Landsat 7, bands 3, 2, 4. Pixel size 30 by 30 meters of year 2005

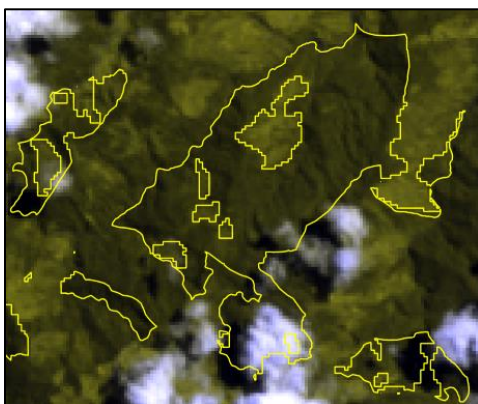


Image 4. Landsat 7, bands 5, 5, 1. Pixel size 30 by 30 meters of year 2010

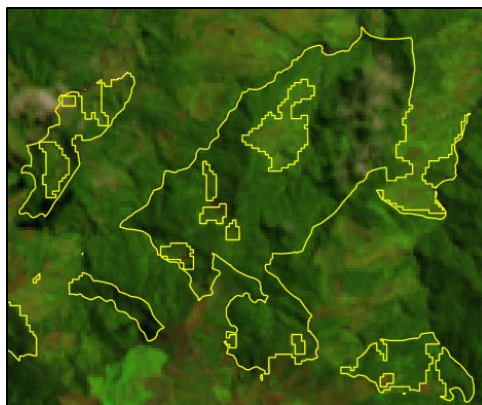


Image 5. Landsat 8, bands 6, 5, 3. Pixel size 30 by 30 meters of year 2013

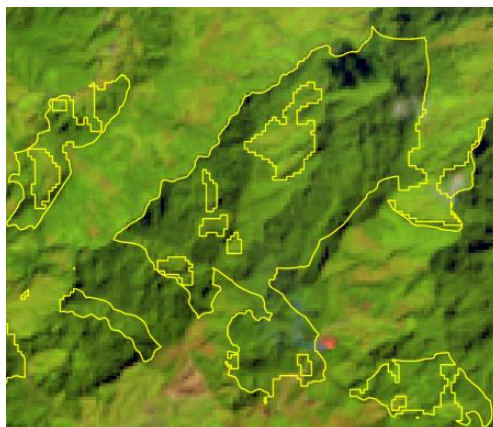


Image 6. Landsat 8, bands 5, 5, 1. Pixel size 30 by 30 meters of year 2015

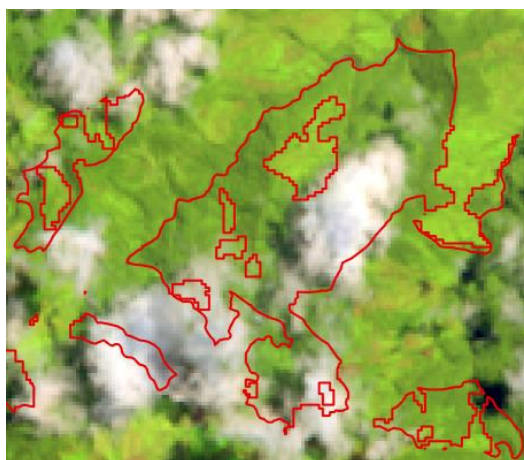


Image 7. Landsat 8, bands 6, 5, 1. Pixel size 30 by 30 meters of year 2016

The verification method was to use RASTER inputs and Shape files to autonomously recalculate the forest area per period of 2005-2010, 2010-2013 and 2013-2016. In a GIS system, the information of each satellite image was verified to obtain the resolution (30 x 30 m) and Metadata attributes. The project developer provided a set of thirteen satellite image clippings in RASTER format, 2 from 2005, 3 from 2006, 3 from 2010, 1 from 2013, 2 from 2014, 1 from 2015, 1 from 2016 and a Shapefile file with information in the attribute table with the classes “Non-Forest”, “Stable Forest”, “Deforestation” and “Non Eligible”. The verification team recalculated the areas of each category using the GIS (Geometric Calculation) tool, verifying that no differences were found in the project proponent's spreadsheet.

The deforestation rate was recalculated from the forest areas for each period, from 2005-2010, from 2010-2013, 2013-2016 the deforestation rate was -0.49%, -0.72% and -1.29% respectively, taking an average deforestation of -0.83%. The set of Satellite imagery used for eligibility assessment is presented in the following table.

Item	Type of map	Path	Row	Date (YYYYMMDD)
1	Landsat 7 (ETM+)	9	55	20050123
2	Landsat 7 (ETM+)	9	55	20050819
3	Landsat 7 (ETM+)	9	55	20060619
4	Landsat 7 (ETM+)	9	55	20060822
5	Landsat 7 (ETM+)	9	55	20060923
6	Landsat 7 (ETM+)	9	55	20100121
7	Landsat 7 (ETM+)	9	55	20100513
8	Landsat 7 (ETM+)	9	55	20100529
9	Landsat 8 (OLI)	9	55	20130716
10	Landsat 8 (OLI)	9	55	20140719
11	Landsat 8 (OLI)	9	55	20141226
12	Landsat 8 (OLI)	9	55	20151229
13	Landsat 8 (OLI)	9	55	20160521

ETM+= Enhanced Thematic Mapper Plus. From: <https://landsat.gsfc.nasa.gov/satellites/landsat-7/>; OLI = Operational Land Imager (OLI) and the Thermal Infrared Sensor (TIRS). From: <https://landsat.gsfc.nasa.gov/satellites/landsat-8/>

The techniques and procedures used by SP to correct atmospheric conditions and regions not scanned by the satellite were evaluated by producing satellite images. The method used to evaluate was the documentary review of scientific contributions that support the proposed techniques and professional judgment to determine that said techniques are conservative for estimating the area of forest use. The analysis evaluated was supervised classification, radiometric, geometric, and atmospheric correction, as well as the use of parts of other temporal satellite images to fill gaps.

It was observed that the loss of information in the RR and AP due to cloudiness and voids was critical and the cloudiness threshold is high in the satellite images from 2005 to 2016, so processing is justifiable to obtain reliable and more precise results. Flores (2015) applied a methodology resulting from the deterministic method as used by the proponent with a geostatistical algorithm to solve problems of pixels not scanned in Satellite Landsat 7. On the other hand, in a study of land use and ecological processes Conde *et al.* (2009) carried out the radiometric, geometric, and atmospheric correction

processes as a usual practice to correct errors associated with the size of the pixel and its attributes; process that was also applied by the project developer. Flores (2015) and Wang *et. al.* (2021) describes that there is a linear relationship between pixel values between time periods, so it is feasible to infer missing information from previous or subsequent information (images) with the same or different sensor and, in this context, the developer used what he called a “mask” in his PD following the same principle to cover the areas not scanned by the Landsat 7 and 8 satellite.

According to experts (Zakeri, *et. al.* 2021), cloudiness in images and information gaps is common in satellite images, especially in regions with a tropical climate. The deterministic method used by SP is simple but useful and practical to repair satellite images. The practices, methods and processes used by the developer are considered conservative and reliable to obtain forest area from satellite images.

In conclusion, the verification team ensured that the satellite imagery approach met the requirements of methodology VM0015 section 2 step 2: “analysis of historical land-use and land-cover change” to calculate the forest area and the deforestation rate in the RR and PA.

e) Map accuracy assessment

A set of 12 random sample polygons were used to assess the map accuracy by forest class using the correct correspondence with the Project’s maps. This set covers 395.450 hectares and represents 8.92% of the total Project area. This process allowed assessment of the maps by class and the V/V team confirmed the accuracy of the forest cover benchmark map to be greater than 90%. The forest class covers a total of 4,319 hectares, mixed with a chronological multispectral Landsat imagery from 2005, 2010, 2010 – 2013 and 2013 and 2016. The summary matrix is presented below:

Type of map	Area ha	%
Total mapping of the Project	4,319.00	100
Visited area on-site	395.450922	8.92

f) Preparation of a methodology annex to the PD

The PD includes a LU/LC-change analysis methodology to ensure that the Project has a procedure in place to use the same protocol for the life of the Project. The methodology includes the source of remotely sensed data and data analysis techniques. If new and higher resolution remotely sensed data is available during the next period, these can only be used if the images overlap based on a comparison of the old and new data. The images also need to be calibrated to acceptable levels based on the same remote sensing methodology used previously.

Step 3: Analysis of agents, drivers and underlying causes of deforestation and their likely future development

a) Identification of agents of deforestation

The main agent of deforestation has been farming. Based on interviews conducted during the site visit with members of Alto de Ventanas Association, in 1980 the region was converting land for agricultural purposes at a high rate. At that time, demand of charcoal and low cost for deforestation were factors in the decisions of landowners.

During the 1990s, armed groups and other social conflicts caused farms to leave as well as causing increased migration and increased costs of production for charcoal. From 2000-2010 the Yarumal region became one of the most important dairy and cattle zones in Colombia. Today, some areas remain forested because deforestation has slowed due to higher investment costs for dairy production.

b) Identification of deforestation drivers

The drivers of deforestation in the Project expansion area were defined, including expansion of the livestock frontier, expansion of the agricultural frontier without coca cultivation, expansion of the agricultural frontier with coca cultivation and mining.

c) Identification of underlying causes of deforestation

The underlying causes of deforestation for the Project expansion region are low land productivity, land tenure uncertainty, local tradition, armed conflict, population density, demographic parameters, high levels of poverty, state support for agricultural production and low state presence.

d) Analysis of chain of events leading to deforestation

The most important factors driving deforestation are mainly influenced by economic variables determined by access to markets, climatic and ecological conditions allowing market growth, few financing opportunities and low productivity that makes livestock and agriculture take precedence over other activities that have less impact on forests. In addition, the expansion area of the Project has had agriculture and cattle ranching for almost a century. They are considered traditional activities because they have been passed from generation to generation and conservation is not considered an option to ensure their economic viability.

e) Conclusion

There is conclusive evidence of the relationship between the agents evaluated and deforestation, since throughout the entire period evaluated there is a positive deforestation rate as well as an increase in the number of agents that have been expanding into previously undisturbed areas, dramatically affecting the forests.

The V/V team evaluated Step 3 and concluded that the identification assessment was following the criteria established in the Methodology. Analysis and conclusion are presented and described in PD.

Step 4: Projection of future deforestation

a) Projection of the quantity of future deforestation

Historical average deforestation was selected to estimate the amount of future deforestation. The average historical deforestation resulted in -1.18% future deforestation rate during the 30 years crediting period.

The annual baseline deforestation area that applies in year t for stratum i within the reference region was calculated as follows:

$$ABSLRR_{i,t} = APA_{i,t-1} * RBSLRR_{i,t}$$

b) Projection of the location of future deforestation

For the review of compliance with step 4.2 of the methodology, the verification team reviewed the following points:

- Through the review of the model prepared by the developer, as well as the explanation presented in the PD and Annex 12, the verification team agreed that the influence deforestation in the Project area are the roads, constructions, and population that show the human presence in the territory, the influence of the mining areas, the pasture and crops locations that could be working as deforestation by the expansion of those areas.
- In order to prepare the factor maps, South Pole used the forest cover (2005 – 2010, 2010 – 2013 and 2013 to 2016), distance to roads, distance to pasture, distance to crops, distance to mining, elevation, distance to constructions and population data to model the spatial data and create digital maps representing the spatial features of each variable. Then, the methodology requires identifying the spatial variables that most likely explain the patterns of baseline deforestation in the reference region. South Pole used historical data and expert opinion to display suitability class in maps. The verification team confirmed that Dinamica EGO was employed as geo-statistical method of evidence weights to generate a map of transition probabilities. The verification team also confirmed that an empirical approach to create the factor maps was applied by creating predefined classes in meters and this classification is a plausible rate of each variable: a) using historical data, provided by the imagery data as information source, the PD and Annex 12 lists all relevant criteria that facilitate and constrain the development of change in forest cover; b) for each criteria, South Pole generated a map using a GIS and Dinamica EGO.

Projections of unplanned infrastructure development are considered conservative projections in forested areas. To create the factor maps South Pole used the empirical approach categorizing each distance map in a number of predefined distance classes (0 to 200 meters). The PD and Annex 12 describe the rule used to build classes and the deforestation likelihood assigned to each distance class. The deforestation likelihood is estimated as the percentage of pixels that were deforested during the period of analysis (historical reference period).

- In order to prepare the risk maps for deforestation, South Pole include in his PD a list of factor maps (variables), including the maps used to produce them and the corresponding sources together with a flow-chart diagram illustrating how the risk map is generated, as requested in table 10 of VM0015 methodology. Several risk maps were produced using different combinations

of factor maps and modeling assumptions to allow comparison and select the most accurate map. Risk maps show at each pixel location the risk of deforestation on a numerical scale. With that said, the verification team confirmed the compliance with the requirements in step 4.2.2 of the methodology.

- According to the data obtained through the projection of deforestation, it is expected that during the period 2016–2045, the forest area in the project zone will decrease by 11.59%. In 2026, it will have been deforested 218.89 ha, in 2036 it will be deforested 360.24 ha and in 2045 (end of the simulation) it will be deforested 500.73 ha in comparison with the year the simulation started (2016). The verification team confirmed that those results were gotten directly from Dinamica EGO. The Prediction Map resulted is the best fit and shows the actual deforestation in the confirmation period, which was assessed using Maximum Likelihood. Dinamica Ego included in the package appropriate assessment techniques as “Transition Rates”, which were used under this methodology allowing to predict the quantity of total deforestation.
- The map of the location of future deforestation, showed in terms of probability of deforestation, used a range of low, medium and high supported by South Pole and in absolute values per hectare as well. Future deforestation is assumed to happen first at the pixel locations with the highest deforestation value. The final map was confirmed by the verification team to be presented in the PD and follows the criteria required by step 4.2.4 to determine the location of future deforestation.

Step 5: Definition of the land-use and land-cover change component of the baseline

Given that the national NREF for the baseline scenario considers as activity data only the change in the area covered by forest, the Project did not consider the definition of post-deforestation scenarios associated with specific land cover or land use, nor activity data associated with these changes.

Thus, for the estimation of carbon stock changes the Project considered only the gross change from forest to non-forest and the general emission factor proposed by the national NREF. This was a deviation from the Methodology.

Step 6: Estimation of baseline carbon stock changes and non-CO₂ emissions

Considering that the NREF assumes the release of all carbon in above and below ground forest biomass at the time of deforestation, the change in carbon stocks was calculated by multiplying the annual deforested area by the change factors proposed by the NREF for the Andean biome.

$$\Delta C_{BSLPA} = \sum_{P=1}^P \left(\sum_{icl=1}^{icl} ABSLPA_{icl,t} * \Delta Cp_{icl,t=t*} - \sum_{z=1}^z ABSLPA_{z,t} * \Delta Cp_{z,t} + \dots \sum_{icl=1}^{icl} ABSLPA_{icl,t-19} * \Delta Cp_{icl,t=t*+19} - \sum_{z=1}^z ABSLPA_{z,t-19} * \Delta Cp_{z,t=t*+19} \right)$$

Step 7: Ex ante estimation of actual carbon stock changes and non-CO2 emissions in the project area

Changes in carbon stocks in the Project under the project scenario correspond to changes due to unplanned deforestation that cannot be avoided. SP established an effectiveness index (EI) in controlling deforestation of 0.70. The V/V team confirmed that this EI was appropriate. The baseline projections were multiplied by the factor (1 - EI) and the result was taken as the carbon emissions due to unplanned and unavoidable deforestation within the Project area in year t.

$$\Delta\text{CUDdPA}_t = \Delta\text{CBSLPA}_t * (1 - EI)$$

Step 8: Ex ante estimation of leakage

For the quantification of activity displacement leakage, the Project applied an optional deduction of 15% to gross GHG emission reductions.

Step 9: Ex ante total net anthropogenic GHG emission reductions

The net emissions reduction of the project was calculated using the following equation:

$$\Delta\text{REDD}_t = \Delta\text{CBSLPA}_t - \Delta\text{CPSPA}_t - \Delta\text{CLK}_t$$

According to the non-permanence risk analysis and Methodology guidelines, a buffer of 22% of the total gross emission reductions was determined. The net emission reductions to be generated by the Project were calculated considering the following equations:

$$\text{VCU}_t = \Delta\text{REDD}_t - \text{VBC}_t$$

$$\text{VBC}_t = (\Delta\text{CBSLPA}_t - \Delta\text{CPSPA}_t) * \text{RF}_t$$

The V/V team reviewed and assessed the PD, the calculations tools and the evidence regarding the GHG emission reductions and removals estimates and confirmed that all relevant assumptions and data are listed in the PD, including their references and sources. All data and parameter values used in the PD are considered reasonable in the context of the Project; and all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PD.

The V/V team confirmed that the Methodology has been applied correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals during the Project crediting period.

3.4.6 Methodology Deviations

The Project identified two deviations from the Methodology. According to the Methodology, if sub-national or national baselines exist those must be used. Thus, the Colombian Andean FREL (Forest Reverence Emission Level) is used for the baseline emission reductions of this Project, and therefore, there are deviations from some of the Methodology steps for ex-ante calculations.

The Project identified two deviations from the Methodology. Both deviations were applied to comply with the methodological and regulatory guidelines of Resolution 1447 of 2018 and the proposed reference level of forest emissions from deforestation in Colombia for payment for REDD+ results under UNFCCC. The deviations only impacted quantification components for the Project. The deviations are presented below.

Deviations	Justification
Definition of the land cover and land use change component and land use transition matrix.	The Methodology considers the calculation of the activity data of the initial forest classes that will be deforested and the activity data of the post-deforestation classes that will replace them in the baseline and project scenarios. The national NREF for the baseline scenario considers as activity data only the change in the area covered by forest; that is, areas for which forest is detected on the first date and no forest on the second date, so that there is certainty that the deforestation event occurred in the time period analyzed. The Project does not consider the definition of post-deforestation scenarios associated with specific land cover or land use or activity data associated with these changes. Thus, for the estimation of carbon stock changes for the Project only consider the gross change from forest to non-forest and the emission factor of the Andean biome proposed by the national NREF. A matrix of land use changes proposed by the Methodology was not applied. The V/V team confirmed that this deviation is acceptable because it pertains to quantification and does not negatively impact the conservativeness of the quantification of GHG emission reductions. In addition, this ensures that the Project is in compliance with the provisions of MADS Resolution 1447 of 2018 on mitigation actions at the national level.
Below ground biomass emission factors	For the calculation of the factors of change in carbon values, the Methodology applies predetermined linear functions to take into account the decrease in carbon value in the initial forest classes and the increase in carbon value in the class after deforestation. Specifically for belowground biomass, the annual release of one-tenth (1/10) of the carbon value of the initial forest class at the end of the year in which deforestation occurs and the accumulation of one-tenth (1/10) of the final carbon value of the post-deforestation class are assumed. However, the national NREF assumes that all carbon contained in the aboveground and belowground biomass pool is emitted in the same year that the deforestation event occurs. The V/V team confirmed that this deviation is acceptable because it pertains to quantification and does not negatively impact the conservativeness of the quantification of GHG emission reductions. In addition, this ensures that the Project is in compliance with the provisions of MADS Resolution 1447 of 2018 on mitigation actions at the national level.

3.4.7 Monitoring Plan

The monitoring plan presented in the PD complies with the requirements of the Methodology. The V/V team checked all parameters presented in the monitoring plan against the requirements of the Methodology.

The list of parameters available at validation and the values used was also checked by the V/V team and it was concluded that the monitoring plan is complete and consistent with calculations and assumptions considered.

Data/Parameter	Value applied	Purpose of data
Eligible Project area (PA)	4,319 ha	Estimated emission reductions in the baseline scenario and the project scenario
Annual Average deforestation in the reference region (ABSLRRt)	344.26 ha/year average	Annual Average deforestation in the reference region
Average deforestation rate in the reference region between 2005 and 2016 (RBSLRRt)	0.83 % per year	Estimated emission reductions in the baseline scenario
Area deforested at time t within the project area under the baseline scenario (ABSLAPt)	16.7 ha/year on average	Estimated emission reductions in the baseline scenario
Carbon stocks in forest biomass in the Andean Biome of Colombia (includes aboveground and belowground biomass) (Ctot)	326 tCO ₂ e/ha	Estimated emission reductions in the baseline scenario and the project scenario.
Emissions factor for soil organic carbon in forests in the Andean Biome of Colombia ((1/20) *Csocicl)	23 tCO ₂ e/ha	Estimated emission reductions in the baseline scenario and the project scenario
CO ₂ e factor (FCO ₂ e)	3.667	Estimated emission reductions in the baseline scenario and the project scenario
Effectiveness index of deforestation reduction activities under the project scenario (EI)	0.70	Estimated emission reductions in the project scenario
Discount factor for non-permanence risks (RFt)	22 %	Quantification of net mitigation results

The parameters to be monitored during the crediting period are presented below.

Data/Parameter	Frequency of monitoring/recording	Purpose of data
Area deforested at time t within the project area and under the project scenario (APSAPt)	At least every 5 years	Estimated emission reductions in the project scenario

The V/V team checked all the parameters presented in the monitoring plan against the requirements of the Methodology. Each parameter and associated monitoring procedure were evaluated by comparing

what was described in the applied methodology and the PD. Additionally, it was also confirmed by reviewing procedures defined by IDEAM (national authority in charge of forest monitoring in Colombia).

The monitoring plan also includes the monitoring of Project activities, which will consist in monitoring of resources invested in the strategic lines and Project activities described in Section 1.11 of PD; monitoring of the direct impacts of the implemented Project activities, according to the defined indicators; and recording of Project activities led or implemented with the support of other institutions. A monitoring plan was designed for the next five years, with the possibility of modifying or including new indicators according to the dynamics of the Project and the fulfillment of the Project's long-term objectives.

Natural disturbance monitoring and unplanned deforestation monitoring are also detailed in the PD according to the Methodology guidelines.

The V/V team confirmed the Monitoring Plan contains all necessary parameters, with adequate descriptions for the source of data, measurements procedures, monitoring frequency and QA/QC procedures to be applied.

3.5 Non-Permanence Risk Analysis

A non-permanence risk analysis was performed by SP using the AFOLU Non-Permanence risk tool v4.0.

Risk factor	Risk rating	Risk factor and/or mitigation description	Corrective actions/Clarifications
Internal Risks			
Project Management	-4	a) Not applicable. Risk rating=0 is justified. b) The project count with the help of more than 4 rangers who roam the reservations with the aim of controlling and overwatching, contributing to the propagation and planting of species while avoiding the exploitation of flora and fauna. Risk rating=0 is justified. c) Fundación Guanacas, Fundación Magnolios and the Corporación Salvamontes are made up of a team of trained professionals with the experience needed to successfully develop all of the project's activities such as forestry management and conservation, different activities with the community, environmental education, follow-up of flora and fauna. Risk rating=0 is justified.	The V/V team asked a clarification about f) <i>Mitigation: Adaptive management plan in place</i>, which was clarified by SP through the List of Findings.

		d) None of the parts of the management team are located outside the country, quite the opposite, they are located less than 5 hours away from the project's area. Risk rating=0 is justified. e) South Pole enjoys a great technical trajectory in the formulation and implementation of AFOLU initiatives, as well as a deep knowledge on the accounting and report of carbon and national/international emissions' trade schemes (ETS). Risk rating=-2 is justified. f) Fundación Guanacas and Corporación Salvamontes developed an adaptative management in place. Risk rating=-2 is justified	
Financial viability	0	a) Not applicable. Risk rating=0 is justified. b) Not applicable. Risk rating=0 is justified. c) Not applicable. Risk rating=0 is justified. d) The project reaches its breakeven point in 2020 (before the 4th year of the current risk assessment). Risk rating=0 is justified. e) Not applicable. Risk rating=0 is justified. f) Not applicable. Risk rating=0 is justified. g) Not applicable. Risk rating=0 is justified. h) The project count with 82% of the total necessary costs before it reaches breakeven. Risk rating=0 is justified. i) The project's proponent, through received donations and through charging use and transit of servitude, has 82% of the resources needed before the project reaches breakeven. Risk rating=-2 is justified.	The V/V team asked a clarification about i) <i>Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven, which was clarified by SP through the List of Findings.</i>
Opportunity cost	6	a) The calculations concluded that cash flow for cattle	The V/V team asked a clarification about g)

		raising generates a higher profit than the conservation activities proposed by the Project. Risk rating=8 is justified. b) Not applicable. Risk rating=0 is justified. c) Not applicable. Risk rating=0 is justified. d) Not applicable. Risk rating=0 is justified. e) Not applicable. Risk rating=0 is justified. f) Not applicable. Risk rating=0 is justified. g) The Project includes the Fundación Guanacas, Fundación Magnolios and the Corporación Salvamontes as non-for-profit entities. Risk rating=-2 is justified. h) Not applicable. Risk rating=0 is justified. i) Not applicable. Risk rating=0 is justified.	<i>Mitigation: Project proponent is a non-profit organization, which was clarified by SP through the List of Findings.</i>
Project longevity	18	a) The project's participants expect to continue the conservation activities described in the project for at least the 30 years of the accreditation process. Risk rating=18 is justified. b) Not applicable. Risk rating=0 is justified.	No Corrective Actions or Clarifications were requested
Total Internal Risk (PM + FV + OC + PL)	20		
External Risks			
Land tenure and Resource Access/Impacts	5	a) Not applicable. Risk rating=0 is justified. b) The area of the project registers 120 properties where 7% are part of the Fundación Guanacas, 4.19% are part of the Corporación Salvamontes and 2.07% are part of both organizations and the Fundación Magnolios. The rest are landowners (86.75%). Risk rating=2 is justified. c) Not applicable. Risk rating=0 is justified. d) Three properties have annotations in the certificate	The V/V team asked a clarification about d) <i>There exist disputes over access/use rights (or overlapping rights)</i> and g) <i>Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims.</i> Both items were clarified by SP through the List of Findings.

		of tradition and freedom related to the fact that the owners cannot sell the properties. Risk rating=5 is justified. e) Not applicable. Risk rating=0 is justified. f) Not applicable. Risk rating=0 is justified. g) A review of the legal situation of the properties was carried out by SP, where it was found that three of them had precautionary measures carried out by the Incoder (Colombian Institute for Rural Development). Risk rating=-2 is justified.	
Community engagement	-5	a) Several socialization spaces were developed to present the progress, clarify doubts and compile suggestions. Risk rating=0 is justified. b) Socialization spaces involved more than 20% of households within 20km of the project's area. Risk rating=0 is justified. c) The Guanacas reserve is part of this basin and plays an important role as an area of conservation and protection of hydrological resources. Risk rating=-5 is justified.	No Corrective Actions or Clarifications were requested
Political Risk	0	a) Not applicable. Risk rating=0 is justified. b) Not applicable. Risk rating=0 is justified. c) Not applicable. Risk rating=2 is justified. d) Average (2014-2018) of the punctuation from the World Bank's Governance indicators for Colombia is -0,193. Risk rating=0 is justified. e) Not applicable. Risk rating=0 is justified. f) Colombia is a member of the World Bank Forest Carbon Partnership Facility (FCPF) and is an active member of the REDD+ negotiations with the Framework Convention of the United Nations on Climate	The V/V team asked a CAR about d) <i>Governance score</i> , which was addressed by SP through the List of Findings.

		Change. Risk rating=-2 is justified.	
Total External Risk (LT + CE + PC)	0		
Natural Risks			
Fire (F)	2	Risk rating=2 is justified through official evidence well documented and explained in PD.	No Corrective Actions or Clarifications were requested
Pest and Disease Outbreaks (PD)	0	Risk rating=0 is justified through official evidence well documented and explained in PD.	No Corrective Actions or Clarifications were requested
Extreme Weather (W)	0	Risk rating=0 is justified through official evidence well documented and explained in PD.	No Corrective Actions or Clarifications were requested
Geological Risk (G)	0	Risk rating=0 is justified through official evidence well documented and explained in PD.	No Corrective Actions or Clarifications were requested
Other natural risk (ON)	0	Risk rating=0 is justified through official evidence well documented and explained in PD.	No Corrective Actions or Clarifications were requested
Total Natural Risk (as applicable, F + PD + W + G + ON)	2		
Overall Risk Rating (a + b + c)		22	

The non-permanence risk deduction to be applied for the Project is 22%.

The V/V team reviewed the information provided in the Non-Permanence Risk Report and confirmed that it is consistent with the supporting documents and evidence provided. The V/V team deems the information provided reliable and confirms the overall risk rating of the Project.

4 VERIFICATION FINDINGS

4.1 Accuracy of GHG Emission Reduction and Removal Calculations

The data and parameters that were used to calculate the GHG emission reductions and removals for this reporting period (23 February 2016 to 23 October 2020) are identified and described clearly in the PD. Baseline emissions associated with the Project did not present changes with respect to the estimate of baseline deforestation, location of deforestation or carbon content in aboveground biomass or dead wood as compared to those confirmed for the crediting period. However, quantification of actual deforestation during the reporting period years (2016 – 2020) was performed for the project area (PA) and leakage belt (LB) (See section 4.2 of this report for detailed information).

The parameters monitored during the first crediting period are presented below.

Data/Parameter	Source of data	Purpose of data
Area deforested at time t within the project area and under the project scenario (APSAPt)	Landsat 7 and Landsat 8 satellite images from ETM+ and OLI missions	Estimated emission reductions in the project scenario
Area deforested at time t within the leakage belt and under the project scenario (APSLBt)	Landsat 7 and Landsat 8 satellite images from ETM+ and OLI missions	Estimated emission reductions in the project scenario

Once actual deforestation in the Project area was estimated, project emissions from unplanned and unavoidable deforestation were estimated following the same methodology as for the baseline scenario. The ex-post emissions in the Project area during the monitoring period are presented below.

Project year (t)	Calendar year	Actual deforestation not avoided (ha) APSAPt	Annual issuance (Change in C stock) in tCO ₂ e	
			ΔCPSPAt	ΔCPSPA
1	2016	12.3	4,302	4,302
2	2017	14.5	5,345	9,646
3	2018	14.5	5,678	15,325
4	2019	14.5	6,012	21,337
5	2020	13.1	5,840	27,177

The estimation of expected emissions from leakage for the reporting period was performed following the same methodology as used for the baseline scenario. The ex-post emissions in the leakage belt during the reporting period are presented below.

Project year (t)	Calendar year	Actual deforestation not avoided (ha) APSLB _t	Annual issuance (change in C stock) in tCO ₂ e	
			ΔCPSLB _t	ΔCPSLB
1	2016	12.2	4,263	4,263
2	2017	14.4	5,296	9,559
3	2018	14.4	5,627	15,185
4	2019	14.4	5,958	21,143
5	2020	12.9	5,787	26,930

Regarding leakage, there are no emissions because deforestation in the leakage belt in the reporting period was less than expected from the baseline, therefore, ΔCADLK_t = ΔCLK_t = 0.

Estimates of net GHG reductions attributed to the Project are made following equation 19 of the Methodology. The net emissions reduction of the project was calculated using the following equation:

$$\Delta REDD_t = \Delta CBSLPA_t - \Delta CPSPA_t - \Delta CLK_t$$

Project year (t)	Calendar year	Emissions or removals at baseline (tCO ₂ e)	Emissions or removals from the project scenario(tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net emissions reduction (tCO ₂ e)	
		ΔCBSLP _t	ΔCPSP _t	ΔCLK _t	ΔREDD _t	ΔREDD
1	2016	7,467	4,302	-	3,165	3,165
2	2017	8,883	5,345	-	3,538	6,703
3	2018	10,653	5,678	-	4,975	11,678
4	2019	9,444	6,012	-	3,432	15,110
5	2020	10,516	5,840	-	4,676	19,786

The net emissions reductions per year and considering the buffer for non-permanence risk is presented below. The non-permanence risk deduction that was applied to the project is 22%.

Project year (t)	Calendar year	Net emissions reduction (tCO ₂ e)	Reserving issues for non-permanence risk (tCO ₂ e)	Net emissions reduction (tCO ₂ e)	
		ΔREDD _t	VBC _t	ΔREDD _t	ΔREDD
1	2016	3,165	696	2,468	2,468
2	2017	3,538	778	2,759	5,227
3	2018	4,975	1,094	3,880	9,107
4	2019	3,432	755	2,677	11,784
5	2020	4,676	1,029	3,647	15,431

The V/V team reviewed and assessed the accuracy of GHG emission reductions and removals, including accuracy of spreadsheet equations, conversions and aggregations, and consistent use of the data and parameters.

The V/V team also reviewed and analyzed the monitoring of co-benefits and sustainable development indicators of the Project.

The V/V team concludes that GHG emission reductions and removals have been quantified correctly in accordance with the PD, monitoring plan and Methodology for this reporting period.

4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

Quantification of actual deforestation during the 2016 - 2020 monitoring period was performed for the project area (PA) and leakage belt (LB).

To determine the deforestation during 2005-2016, a Multispectral-Landsat 7 and 8 imagery from 2005 (2 scenes), 2006 (three scenes), 2010 (three scenes), 2013 (One scene), 2014 (two scenes), 2015 (One scene) y 2016 (One scene) were used. A cartographic combination was made between the 2016 layers and the one obtained for 2020 to determine the change in the period, thus obtaining deforested areas and forest regeneration. During the assessment control points were randomly selected for the entire Project area and leakage belt to evaluate the accuracy of classifications.

During the site visit, the V/V team got 34 points, 21 were forest and 13 non-forest. Data recorded included geographic location (UTM), forest cover (%), landowner, GPS accuracy (meters) and canopy height (meters). This data was used to confirm the reported Project data.

After obtaining the forest and non-forest for the year 2020 by means of supervised classification, the raster was processed and converted to vector format. Then a cartographic cut was made with the Project area to calculate the forest and non-forest areas. The same procedure was carried out with the 2020 land cover layer. The V/V team checked the same values (ha) reported in the PD and used for the GHG estimation reductions.

The leakage belt of the Project covers an area of 10,457ha and corresponds to those forest areas located within the reference region, in which deforestation could be displaced by the implementation of the project activity within the boundaries of the PA. The leakage belt boundaries were defined based on a spatial correlation analysis in which a selection of explanatory variables of deforestation was made, considering the results of the agent and drivers deforestation analysis. In addition, Forest / Non-forest data generated by supervised classification methodology in the period 2005-2016 were used to predict the behavior of deforestation in a future period of 10 years (first fixed crediting period). The V/V team confirmed the same values (ha) reported in the PD and used for the GHG estimation reductions.

The V/V team evaluated the information to estimate the areas of unplanned deforestation in the reporting period including pre-processing and cartographic processing and concluded that the analysis performed by SP is sufficient in terms of quality and quantity.

The information flow from data generation and aggregation, to recording, calculation and final transposition into the monitoring report is clear and well established in the monitoring report.

The V/V team concluded that the GHG reductions and removals for this reporting period have been estimated with sufficient data and information.

5 VALIDATION AND VERIFICATION CONCLUSION

RCE performed the validation and initial verification of the project REDD+ Project Magnolios de Yarumal. The validation was performed according to the VCS Agriculture, Forestry and Other Land Use (AFOLU) Requirements, v4.0 and VCS Standard, Version 4.1.

RCE confirms that the validation was performed in accordance with the VCS Program Guide, Version 4.0, and VCS Standard, Version 4.0 in addition to the Methodology and applicable tools with no qualifications or limitations. RCE concludes that the baseline is valid and that the emission reductions attributable to the Project Activity are additional to any emission reductions that would occur in the absence of the Project.

All CARs, ADRs, and CRs raised by RCE have been satisfactorily resolved by SP and the Project Proponents. The ex-ante emission reductions from the Project Activity are estimated to be 216,518 tonnes of CO₂e over a 30-year crediting period from 23 February 2016 to 22 February 2046, resulting in an average of 7,217 tonnes of CO₂e annually throughout the crediting period. RCE considers it likely that the estimated quantity of emission reductions may be achieved by the Project Activity should the assumptions and operational conditions remain the same.

RCE conducted a risk-based analysis of the REDD+ Project Magnolios de Yarumal including a strategic review of the Project data, documentation, and emission reduction calculations. RCE concludes to a reasonable level of assurance that the GHG assertion is free of material misstatement. The emission reductions for the reporting period 23 February 2016 to 23 October 2020 can be considered in conformance with the following criteria:

- VCS Standard version 4.1 (22 April 2021);
- VCS Methodology for Avoided Unplanned Deforestation (VM0015 v1.1)
- Validated VCS Project Description v.9, dated 23 September 2023;
- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”

Verification period: From 23 February 2016 to 23 October 2020. Verified GHG emission reductions and removals in the above verification period are presented below.

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
Year 2016	7,467	4,302	-	3,165	696	2,468
Year 2017	8,883	5,345	-	3,538	778	2,759
Year 2018	10,653	5,678	-	4,975	1,094	3,880
Year 2019	9,444	6,012	-	3,432	755	2,677
Year 2020	10,516	5,840	-	4,676	1,029	3,647
Total	46,963	27,177	-	19,786	4,353	15,431

Lead Validator/Verifier Signature

Independent Reviewer Signature




Zach Eyler

Phillip Cunningham

Vice President

Environmental Scientist

APPENDIX A: LIST OF FINDINGS

Corrective Action Requests:

Action Item	Resolution
<u>Project Description (PD)</u>	
1. In Table 21. Sources and GHGs included or excluded within the boundaries of the project area of the PD, the analysis of the estimation of leaks, as mentioned in the VM0015 v1.1 methodology, was not included.	16/07/2021. Table 21 included the analysis of the sources and GHGs included or excluded in the leakage belt in the most current version of the PD.
2. The risks related to local actors in matters of compensation with food security, loss of land, loss of yields and adaptation to climate change, as requested in section 3.16.13 of the VCS Standard v4.1, are not specified.	16/07/2021. This information was included in Section 2.1 Non-net damage of the PD.
3. Please update the donation initiatives of the Guanacas Foundation found on page 27 of the PD.	03/07/2021. The wax palm bond was included in the donation initiatives of the Guanacas Foundation of the PD in Spanish (Page 28, Section 1.11.5, Table 4). Please include it in the English version as well. 16/07/2021. SP shared the updated English version of the PD.
4. Please confirm that all pd text in the English version is in that language. Fragments of Spanish text were found, mainly in the titles and headers of tables.	16/07/2021. SP replied as follows: The English version of the PD was verified, and adjustments made. The new version with change tracking is attached.
5. Page 123 of the PD mentions VCS Standard v-4.0, however, the most recent to date is v4.1. Please update it in that section and in any part of the PD and/or annexed documents.	16/07/2021. The new version of the VCS Standard was modified in the PD and annexes.
6. The assessment of section 1.1.5 Forest within spatial boundaries is not included in the PD. according to the VM0015 methodology. Please add the analysis of that section in the document.	16/07/2021. Added forest definition in PD section 4.1.1.
7. In section 4.1.2. Temporal limits of the PD, the content of that section is not complete according to the one requested in the VM0015 methodology. Please review and update it.	16/07/2021. Added monitoring period in pd time limits section 4.1.2.
8. Within the PD, the Sections of Carbon pools and Sources of GHG emissions after section 4.1.2 Temporal limits (as the order appears in the VM0015 methodology) were not included. Please include the missing sections and add description and/or mention where part of the PD they are located.	16/07/2021. SP replied as follows: The PD was made with the VCS template "VCS-Joint-Project-Description-Monitoring-Report-Template-v4.0" and the order of the sections cannot be changed. According to this template, carbon sinks and GHG emission sources should go in section 3.3.

	Added section 4.1.3 Carbon sinks and 4.1.4 Sources of GHG emissions in the PD, where it is referenced that the information is in section 3.3. It is clarified that all methodological steps applicable to the project are presented in the PD according to the VCS template.
9. Section 2.1 <i>No Net Harm</i> of the PD mentions that the project does not expect to have negative environmental or socio-economic impacts. However, section 2.3 lists two lines of potential negative impacts. Please mention it in general in Section 2.1 of the PD.	16/07/2021. The two potential negative impacts mentioned in section 2.3 were added in section 2.1 of the PD.
10. Please update PD Table 36 as the values in the Cumulative projected deforestation (ha) column are out of date compared to the spreadsheet.	19/08/2021. PD Table 36 was adjusted
11. Please mark Soil Organic Carbon as Included in table 20 of the PD English version, since this reservoir was included in the project limits.	19/08/2021. PD Table 20 was adjusted
<u>Non-permanence Risk Report</u> 12. In the <i>Political Risk</i> section of External Risks, the risk rating is not evaluated in the correct row (subsection d).	16/07/2021. The risk rating was changed to subparagraph (c). RCE Response: Changed, however, the value must be positive, not negative. Please correct it. 27/07/2021. SP corrected the value in the document.
13. In subsection (i) <i>Mitigation of the Financial Viability</i> section, the risk rating is assessed at -2 when it should be 0.	16/07/2021. SP replied as follows: risk rating corresponds to -2 because Colombia is a member of the World Bank Forest Carbon Partnership Facility (FCPF) (https://www.forestcarbonpartnership.org/countries), as detailed in point (i) Mitigation of the Financial viability section. RCE Response: However, this corresponds to another point. Please attend to point (i) of the financial viability section. 16/07/2021. SP replied as follows: In Annex 1 of the third round of findings, the accounting information presented to the DIAN of the Foundations is presented with the concept of the donations received during 2019. In the case of Guanacas, a donation was taken into account in the cash flow for purchase of properties by the World Land Trust (See Annex 2 of the third round of findings) that took place in 2019 but due to financial issues the income was recorded for the year 2020.

<u>Annex 10 Mecanismo complaints and claims</u> 14. Annex 10, which describes the Complaints and Grievance Mechanism, does not detail points 2 and 3 of section 3.16.18 of the VCS Standard v4.1.	16/07/2021. SP included conciliation as a mechanism for resolving disputes when a solution is not reached amicably. Annex 10 of the PD (Annex 10_Mecanismo complaints and reclamos_revJul2021) included the requirements for access to this mechanism. In the event that an agreement is not reached, or the conciliation act is not complied with, an executive process will be proceeded with. Arbitration does not proceed as mediation because in Colombian law this mechanism requires a prior clause in the contract established between the parties (Law 1563 of 2012).
<u>Requirements Resolution 1447 of 2018</u> 15. Please add in <i>Table 10 Compliance with the requirements of Resolution 1447 of 2018</i> of the PD the information regarding Article 41 of the Resolution.	16/07/2021. Information related to compliance with Article 41 was presented in Annex 04 of the PD, this information was added to Table 10 of the PD.

Additional Documentation Requests:

Action Item	Resolution
<u>Certificates of Tradition</u> 1. Please deliver the certificate of tradition with the registration number 025-2441 of the Guanacas Foundation. 2. Clarify the owner to whom the certificate of tradition belongs with the registration 025-07465 and / or provide the missing documentation. The last entry recorded in the Certificate of Tradition (No. 4) indicates Jose Leonel Perez Agudelo as the owner.	03/07/2021. The certificate of tradition and freedom of the updated property was received (Annex 1). It is clarified that in the annotation #8 of the certificate, it is indicated that through a false tradition acquired the property in 1993, Messrs. Miguel Ángel Londoño and Luis Javier Londoño Mesa, but according to deed 631 of 2009 (Annex 2), Mr. Rodrigo Castaño bought the inheritance rights of the property and since that date has been holding rights of use, enjoyment and enjoyment of the property, and paying the associated taxes. 03/07/2021. The following comments were received: The certificate of tradition and freedom presented is dated July 7, 2020 and, for this reason, the registration certificate was also presented with annotation # 7 of July 10, 2020 that certifies that Mr. Rodrigo Castaño is the owner of the property. Attached is the updated certificate of tradition and freedom (Annex 3), which already includes annotation #7.
<u>Checkpoints</u> 3. Please provide or indicate in which <i>shape</i> file are the 100 control points that were taken in the field for the project area.	03/07/2021. The 100 control points for the project area were received and it was clarified those 150 points were selected for the leak belt. The shapesfiles these points were also received in Annex 4 (Annexes/Annex 4/Accuracy_Assessment_Point_B_NB_LB (Leakage Belt) and Accuracy_Assessment_Point_B_NB_PZ (project area).

<u>Letters of intent</u> 4. Please provide the signed letter of intent of the owner Ramon Nicolas Jaramillo Ruiz of the Lote El Castillo property.	03/07/2021. The letter of intent was received from the owner Ramón Nicolas Jaramillo Ruíz of the Lote El Castillo property in Annex 5.
<u>RENARE Registration</u> 5. Please update the information in the RENARE register regarding the project start date, verification body, number of strategic lines and the information that needs to be updated.	16/07/2021. Updated information on the platform. However, it is important to mention that under the provisions of Article 15 of Resolution 1447 of 2018 on the periodicity of information, the holders of the initiative registered in feasibility or formulation must complete the registration of the information corresponding to the phase in a maximum period of 2 years, so there is no risk to date for the project with respect to the information that rests in RENARE on the initiative.
<u>Supports folder – Social strategy</u> 6. In the <i>Reunion Corporate Salvage</i> folder within the Socializations folder, the name of the files is different, however, it is the same document. Please submit the <i>Presentation Magnolios Salvamontes</i>.	16/07/2021. Annex 01 of the second round of findings encloses the presentation.
<u>Leakage management areas</u> 7. According to the VM0015 methodology, the limit of leak management areas should be defined according to existing management plans. Please provide the management plan for the Magnolia Reserve. Only the Guanacas and Salvamontes plan is available. 8. Please provide polygons for leak management areas, which are mentioned on page 124 the PD and represent 607 ha.	16/07/2021. SP replied as follows: The management plan of Fundación Magnolios is articulated within the plan of Corporación Salvamontes, since these entities work together and the El Reposo property (037 – 15314) of the Magnolios reserve is also shared with Salvamontes. 16/07/2021. In Annex 02 of the second round of findings, the shapefile of the leak management area was attached.

Clarification Requests:

Action Item	Resolution
<u>Certificates of Tradition</u> 1. Clarify why the certificate of tradition and freedom with registration 037-48578 of Corporación Salvamontes is listed as a demand in the process of belonging (Annotation N.10).	03/07/2021. SP replied as follows: The property 037-48578 is listed in the process of claiming ownership because the owner of 50% of the property is Mr. Jesús María Estrada who acquired the property in 1916 (Annotation # 1) and no information is known about his heirs. Since 2007 Mr. German Zabala is the owner of the property and in 2019 he began the process of claiming ownership for the award of 50% of the property. However, to date the court has not issued a ruling, so the updated certificate of tradition and freedom is attached (Annex 6). It is clarified that the owner of the other 50% of the property is the Salvamontes Corporation. Attached is a letter of intent from Mr. German Zabala (Annex 7) and an extrajudicial declaration on the sound possession of the property (Annex 8).

2. Clarify why the property of Nohelia Restrepo (3_037-15825.pdf) is not in the document of owners (Annex 01_InformacionPropietarios_REDD+Magnolios.xlsx)	03/07/2021. SP replied as follows: The property is not in the owners' document because despite meeting the land tenure requirements, at the time of evaluating the historical land use analysis the property did not have a forest area for the year 2016 (start date of the project) and, therefore, was excluded from the area of the REDD+ Magnolios initiative.
3. Clarify the current situation of ownership of the PROPERTY LOTE VALDIVITA (5_037-17561.pdf). The letter of intent is signed by Jose Arnulfo López Molina, however, the last annotation (No. 17) of the corresponding Certificate of Tradition is in the name of Angel Miro Ruiz Mazo.	03/07/2021. SP replied as follows: Annotations 16 and 17 of the certificate of tradition and freedom (Annex 9) refer to the sale of 1.15% and 0.75% of share rights of the property to Yolanda Vásquez and Ángel Ruiz. The letters of intent of both persons are attached as a guarantee of the participation of the entire area of the property in the REDD+ Project (Annexes 10 and 11).
4. Explain what the folio refers to with the status of CLOSED in the Certificate of Tradition with registration 037-58627 (32_037-58625 & 037_58627CERRADO.pdf). Final annotation No. 3 is specified as ENGLOBE.	03/07/2021. SP replied as follows: The Folio of the registration 037 -58627 is closed because it comes from a process of division, redistribution or modification (known in Colombia as reloteo) of the property 037 - 22826 and later an englobe was made. The registration 037 - 58625 comes from lot # 1 of 037 - 22826 and is the property of Mr. Jesús Armando Franco Ruiz who is part of the REDD + Magnolios Project. Attached is a certificate of tradition and freedom updated (Annex 12).¹
5. Clarify why the property of Fernando León Perez Correa with registration 037-36075 (40_037-36075 & 037_24852 & 037-50792 & 037-36541 & 037-3839.pdf) is not in the document of owners (Annex 01_InformacionPropietarios_REDD+Magnolios.xlsx)	03/07/2021. SP replied as follows: The property with registration number 037-36075 is in the owners' document (Annex 01_InformacionPropietarios_REDD+Magnolios.xlsx) in row 35 and with the ID 40_1.
5.1. Clarify why the property of Fernando León Perez Correa with registration 037-24852 (40_037-36075 & 037_24852 & 037-50792 & 037-36541 & 037-3839.pdf) is not in the document of owners (Annex 01_InformacionPropietarios_REDD+Magnolios.xlsx)	16/07/2021. SP replied as follows: The property with registration 037 - 24852 is not in Annex 01 the PD because it was not included in the REDD + Magnolios project because in addition to Mr. Fernando León Pérez other 14 people are owners of the property as a product of a succession, and it was not possible to obtain all the letters of intent.
6. Clarify why the property of Aleida Maria Correa Lopez with registration 037-56174 (51_037-11317 & 037-29329 & 037-3721 & 037-56174.pdf) is not in the document of owners (Annex	16/07/2021. SP replied as follows: The property with registration number 037 - 56174 is not in Annex 01 the PD because it was not included in the REDD+ Magnolios project because Mrs. Aleida María Correa owns 50% and it was not possible to obtain the signature of the owner of the other 50%.

¹ Registration of the modifications that occur in the boundaries of the properties either by an action of aggregation (englobe) or segregation (desenglobe) without being conditioned on the change of owner or possessor.

01_InformacionPropietarios_REDD +Magnolios.xlsx)	
7. Clarify why the property of Gloria Elena Castro de Zabala with registration 037-54917 (82_037-54917.pdf) is not in the document of owners (Annex 01_InformacionPropietarios_REDD + Magnolios.xlsx)	16/07/2021. SP replied as follows: Property 037-54917 is not in the owners' document because despite meeting the land tenure requirements, at the time of evaluating the historical land use analysis the property did not have a forest area for the year 2016 (project start date) and was therefore excluded from the REDD+ Magnolios initiative area.
8. Clarify why the property of Julia Inés Barrientos Martinez with registration 037-7403 (83_037-7403.pdf) is not in the document of owners (Annex 01_InformacionPropietarios_REDD + Magnolios.xlsx)	16/07/2021. SP replied as follows: Property 037-7403 is not in the owners' document because despite meeting the land tenure requirements, at the time of evaluating the historical land use analysis the property did not have a forest area for 2016 (project start date) and was therefore excluded from the REDD+ Magnolios initiative area.
<u>Annex 12 Modelacion future deforestation.doc</u> 9. Explain what the 1.3% percentage obtained from the deforestation rate results refers to (page 20) Does it refer to the area of activity or the project area? Why is the deforestation rate positive?	03/07/2021. SP replied as follows: The deforestation rate was positive because the software with which the modeling was done (Ego Dynamics) generates the data as an absolute value, but it must be interpreted negatively (-1.3%). Document is presented again with this setting.
<u>Project Description (PD)</u> 10. On page 14 of the PD it is mentioned that agreements were signed for the purchase of the ERs between the three foundations participating in the project: Magnolios, Alto de Ventanas and Guanacas. Why is the Salvamontes Corporation not mentioned?	16/07/2021. SP replied as follows: There is no mention of the Salvamontes Corporation because this entity has no agreement with South Pole. The Salvamontes Corporation works together with the Magnolios Foundation and signed a letter of intent with this entity to be part of the initiative. On the PD brackets is the document (see Ground Supports/3_Tenencia/76_037-21472 & 037-15527 & 037-21473 & 037-8577 & 037-48578 & 037-14839).
11. In section 3.4 of the baseline scenario, it is mentioned that this scenario was determined using the CDM Combined tool methodology to identify the baseline scenario and demonstrate additionality in A/R CDM project activities. If this was the case, please explain how this methodology was selected.	16/07/2021. SP responded as follows: In accordance with the requirements of the methodology, additionality was demonstrated with the VT0001 tool for additionality assessment in AFOLU project activities in VCS. The ² conditions of applicability of this module state that the use of this tool requires a methodology that provides a step-by-step or step-by-step approach that justifies the determination of the most likely baseline scenario. However, in accordance with Section 3.12 of the VCS Standard V 4.1 and the requirement of the Template Project Description VCS Version 4.0, in Section 3.4 Baseline Scenario, the baseline scenario must be identified and justified in accordance with the procedure established by the applied methodology and its relevant tools. The VM0015 methodology does not have a specific methodological tool for the definition of this scenario, and, in this case, the project proposer stood on the same

² <https://verra.org/wp-content/uploads/2017/11/VT0001v3.0.pdf>

	criteria of applicability of the VT0001 tool where it is established that project proponents proposing new baseline methodologies must ensure consistency between the determination of the baseline scenario and the determination of additionality. In this sense, the consistency between baseline determination and additionality, starts from the fact that the VT0001 tool to demonstrate additionality was created based on the "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" tool of the CDM, which corresponds methodologically with the "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" v 1.0, which unlike the previous one provides is active and also a general framework and a step-by-step approach to identify the baseline scenario and, at the same time, demonstrates additionality. Finally, considering that tool VT0001 considers essentially the same steps as the combined CDM tool, Section 3.2 presents a synthesis of the results of Additionality Section 3.3 that relate to the determination of the baseline scenario. In this way, there is no repetition of information in the PD that has already been addressed in considerable detail in other sections of the document. RCE Response: As far as we understand, the CDM Combined tool was not used directly to identify the baseline scenario and demonstrate additionality in A/R CDM project activities. If not, that the same tool with which additionality was demonstrated was used. If so, please remove the tool reference from the CDM. 27/07/2021. SP responded as follows: The Combined tool to identify the baseline scenario and demonstrate additionality in A / R CDM project activities was used, but it is essentially contemplating the same steps of the VT0001 tool that is only applicable for the assessment of additionality and not the baseline. Therefore, in section 3.4 Baseline Scenario, the combined tool was applied, but only a synthesis of the information and the results of each step was presented so as not to repeat the information in section 3.5 Additionality. The explanation of the previous answer seeks to show the coherence between the VCS tool VT0001 and the combined CDM tool and, consequently, the coherence between the determination of the baseline scenario and the determination of additionality according to the requirements. of the standard
12. In section 3.4 of the baseline scenario, the first paragraph of page 91 mentions that in the selected baseline scenario the	16/07/2021. The wording of the paragraph in the PD was changed.

project includes actions related to carbon emission reduction. Explain and/or modify the wording if necessary.	
13. According to the VM0015 methodology, significant carbon reserves must be determined with the Tool for testing significance of GHG emissions in A/R CDM project activities, however, this was not used, and the PD does not explain the reason.	16/07/2021. SP responded as follows: The Tool for testing significance of GHG emissions in A/R CDM project activities was used to assess the significance of lumber product reservoirs. Added the methodology reference in Table 20 of section 3.3 of the PD.
14. Please update the numbers of the owners and property to the most recent. Page 13 of the PD mentions 71 owners and 125 properties; while page 71 writes 67 owners and 106 properties.	16/07/2021. SP clarified as follows: The most recent number of properties and owners of the initiative is 71 and 125, respectively. On page 71 of the PD, the number of owners (67) and properties (106) refers only to peasant properties without including the reserves of the proponents.
15. Please explain which area the 3,828 ha described on page 117 of the PD refer to, which do not match the project area (2,774 ha).	16/07/2021. SP replied the following: According to the VM0015 methodology, the project area is the forest on the project start date, for REDD+ Magnolios the project area is the forest in 2016 and corresponds to 3,828 ha, but only 2,774 ha are eligible to generate carbon credits (those forest areas that remained as a forest for at least 10 years before the start date of the initiative), as it is the stable forest during the historical reference period (2005 – 2016). 16/03/2023. During the VERRA review the PA area underwent a surface update. A second eligibility analysis was carried out using supervised classification based on visual and manual digitization of polygons on satellite images where a greater number of years were included (2005, 2010, 2013, 2014, 2015, and 2016) in order to give a greater precision of the eligible area within the PA. This new update increased the eligible area of PA from 2,774 ha to 4,319 ha, an area that was confirmed by the verification team. This new analysis is explained in the PD v8 eligibility analysis section. The verification team reviewed in a call with the PP the process of determining the new eligible area of the PA and LB to know the methods and inputs used. After the call, the verification team reviewed the cartographic information, the raster files of each of the layers used (2005, 2010, 2013, 2014, 2015, and 2016) and through replication exercises, the new updated surfaces were verified.
16. Please explain which area the 2,693 ha described on page 122 of the PD refer to,	16/07/2021. SP replied as follows: The information in the PD was modified, the project area corresponds to

which do not coincide with the project area (2,774 ha).	3,828 ha (see the B_NB2016 area of the PD shapefile found in the following GIS/Eligibility/_Elegibilidad_Clasificacion_2005_2016 Magnolios_PZ_conprediosdescartados path) RCE Response: In the PD, 2,693 ha are still mentioned. In addition, the file that is mentioned corresponds to 2,774 ha and not 3,828 ha. 27/07/2021. SP replied as follows: The value change was made in the English version of the PD. The 2016 forest area (3,828 ha) can be verified in the forest summation of the B_NB2016 field of the indicated shapefile. 16/03/2023. During the VERRA review the PA area underwent a surface update. A second eligibility analysis was carried out using supervised classification based on visual and manual digitization of polygons on satellite images where a greater number of years were included (2005, 2010, 2013, 2014, 2015, and 2016) in order to give a greater precision of the eligible area within the PA. This new update increased the eligible area of PA from 2,774 ha to 4,319 ha, an area that was confirmed by the verification team. This new analysis is explained in the PD v8 eligibility analysis section. The verification team reviewed in a call with the PP the process of determining the new eligible area of the PA and LB to know the methods and inputs used. After the call, the verification team reviewed the cartographic information, the raster files of each of the layers used (2005, 2010, 2013, 2014, 2015, and 2016) and through replication exercises, the new updated surfaces were verified.
High Windows Foundation 17. Please explain the relationship of the San Fermin project in Alto de Ventanas (DRMI initiative) with the Magnolios project. What kind of project is it? Does it occur in the same areas of the Magnolias project of the Alto de Ventanas Foundation?	16/07/2021. SP responded as follows: The San Fermin project mentioned in the participatory baseline socialization act (200709_Actasocializacion) refers to a socialization of the management plan of the Alto de Ventanas DRMI. Because this conservation figure has a similar name to Fundación Alto de Ventanas, initially in this socialization there was a confusion between the two, but during the socialization the differences were clarified. The DRMI Alto de Ventanas is a conservation figure declared by Corantioquia in 2018 for the sustainable use of natural resources in accordance with the provisions of

	Article 2 of Decree 1974 of 1989.³ It was clarified that some REDD+ Magnolios properties are located within the Alto de Ventanas DRMI, so Table 7 of the PD explains the compatibility of the project within the framework of this conservation figure.
<u>Annex 10 Mecanismo complaints and claims</u> 18. Was Annex 10 made public with the participants and stakeholders of the project?	16/07/2021. SP replied as follows: Yes, by email, Annex 10 of the PD (Complaints and Claims Mechanism) was sent to the proponents and also all the information related to the characterization of actors and proposals for information management (see Annex 03 of Findings 2.0). Additionally, within the framework of phase 4 of the EPCAC during the month of March 2021, socializations were held with the proponents and institutional actors where the complaint and claims mechanisms were presented, in Annex 04 of Findings 2.0 the evidence of these meetings is presented.
<u>Non-permanence Risk Report</u> 19. In the internal risk analysis project <i>management</i> subsection f) it is mentioned that the Guanacas Foundation has a management plan. In addition to this foundation, does any other have another management plan? Otherwise please argue the rating awarded (-2).	16/07/2021. SP replied as follows: Corporación Salvamontes who works together with Fundación Magnolios also has a management plan for the period 2020 – 2025. This information was added in the non-permanence risk document. The work of the Magnolios Foundation with respect to the project does not differ from those that Corporación Salvamontes proposed in its management plan, considering the agreements that have been made between both entities regarding the implementation of activities in the field.
20. In paragraph g) <i>Mitigation of Opportunity Cost</i>, please argue the rating granted (-2) taking into account that the three entities mentioned only correspond to 15.37% of the total area of the project, while the Alto de Ventanas Foundation that belongs to private owners corresponds to the remaining 84.63%.	16/07/2021. SP replied the following: Fundación Alto de Ventanas is also a non-profit entity since it does not seek an economic benefit but has the purpose of conserving, protecting and improving the environment (see Annex 05 of Findings 2.0), only that it does not have a Special Tax Regime like the other proponents of the initiative, because this entity is recently created and the only income received to date corresponds to the contributions initially made by the associates to be able to legally constitute the Foundation. In Colombia, non-profit entities can access a Special Tax Regime, which has as its main benefit a rate of 20% of income tax on the net or surplus profit and the possibility of being exempt when it is destined directly to the development of the corporate purpose. To be registered with this regime, entities must annually submit a large number of requirements such as website update and, however, reaching the Special Tax Regime does not

³ An Integrated Management District is a space that by environmental or socioeconomic factors is delimited so that within the criteria of sustainable development the use and management of renewable natural resources and the economic activities that develop there are ordered, planned and regulated.

	imply that the Alto de Ventanas Foundation does not apply as a non-profit entity, since the nature of its activity is not focused on obtaining a profitability.⁴ RCE Response: Please include this explanation within the corresponding subsection of the Non-permanence Risk Report. 27/07/2021. The information was added in subsection g) Opportunity Cost Mitigation of the Non-permanence Risk Report.
21. Please clarify subparagraph (b) of <i>Land Tenure and Resource Access/Impacts</i> of External Risks. Are the numbers presented there the most recent? 120 properties in total?	16/07/2021. SP replied as follows: The most recent number of properties is 120, this information was updated in the document. This can be verified in Annex 01 of the PD Owners Information REDD+ Magnolias. See Request for Clarification No. 24.
22. Please explain subparagraph (d) of <i>Land Tenure and Resource Access/Impacts</i> of External Risks. Are the numbers presented there the most recent, and are there disputes over 3 of the 132 Magnolias project properties?	16/07/2021. SP replied as follows: The most recent number of properties is 120, the three properties mentioned in subsection d) have no disputes over tenure, they have entries in the certificate of tradition and freedom related to the owners not being allowed to sell the properties.
23. In subparagraph (g) <i>Mitigation</i> of Land Tenure and Resource Access/Impacts of External Risks, in addition to chapter 8 on the RUPTA, is there any documented evidence that the project has implemented activities to resolve disputes? Otherwise please argue the rating awarded (-2).	16/07/2021. SP replied as follows: The resolution of disputes related to claims or disputes corresponds to the Special Administrative Unit for the Management of Restitution of Dispossessed Lands and to the administration of the Single Registry of Abandoned Properties and Territories (RUPTA). Within the framework of the formulation of the REDD+ Magnolias project, a review of the legal situation of the properties was carried out, where it was possible to show that three of these had precautionary measures carried out by the Incoder (Colombian Institute of Rural Development). This entity was liquidated 6 years ago and as the owners had no knowledge of this situation, it is most likely that the measure may be related to a registration error, to resolve the situation the owners are in the process of raising consultation with the Land Restitution Unit to clarify the annotation on the properties RCE Response We accept that the project cannot resolve disputes as it does not have the authority. However, we are unclear

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	how the activity of not selling the credits actually mitigates the risk of disputes/ownership issues. The validator and Verra has no control/review over what the Project does with the credits after they are issued. Should properties with issues related to disputes/ownership/rights have credits issued to them? 27/07/2021. SP replied as follows: To date, in the property 037 - 26127 with 111 ha belonging to Mr. Gerardo Antonio Zabala, the entry in the RUPTA has already been canceled, that is, the measure has already been lifted. For the other two properties, the annotations in the RUPTA are related to the fact that the owners cannot sell their property due to violence, this is done with the objective that the owners are not dispossessed of their assets due to the armed conflict in the territory. In other words, there is no doubt about the ownership of the property, but rather a restriction of temporary alienation for the protection of the owner. For the cancellation of the annotation, the owners must make the request before the Public Ministry. Not selling the bonds of these properties is done in a preventive manner while the owners carry out the process, but there is no dispute or claims about the ownership of these properties or about carbon rights. It is noted that these properties were acquired by the current owners between 1994 and 1996, and the RUPTA annotation was made in 2008 to prevent them from being forced to sell their properties due to the intense armed conflict that occurred in the region in that region. epoch. For these cases where there is no doubt about who the owners of the property are, but rather a restrictive measure for the protection of dispossession owners, if there is the possibility of enjoying and usufruct of the property and therefore receiving the benefits of the sale of the credits carbon.
24. Please provide the names of the owners and the registration plates of the properties mentioned in the previous point (23), as well as the total number of hectares of each one.	27/07/2021. SP replied as follows: Property with annotation canceled: Gerardo Antonio Zabala - 037 - 26127 - with 111 ha total Properties with annotation: Roberto Antonio Jaramillo Ruiz - 037-36560 - with a total of 226 ha Ramón Nicolas Jaramillo - 037-7924 - with a total of 230 ha
<u>Additionality Tool</u> 25. Substep 3b of the <i>VCS-approved tool VT0001Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities</i> does not clearly explain how the identified barriers are not preventing the implementation of at least one of the alternative land use scenarios.	16/07/2021. SP clarified that in substep 3b livestock was established as an activity that by tradition and despite the barriers it presents in terms of efficiency as the scenario of alternative land use that would occur in the absence of the project, since rural inhabitants prefer to continue implementing this type of activities instead of making a transition to a new one.

26. In Table 24. <i>Alternative land uses and identified barriers</i> does not describe scenario No. 4 of substep 1a: <i>Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project.</i>	16/07/2021. SP responded as follows: Scenario No. 4 "Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project" was not included in Table 24 because according to substep 3b of the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, the proposed project activity is not included in this analysis.
<u>ANNEX 01 of the PD</u> 27. According to Annex 01 of the PD, there are 125 properties and 70 owners that make up the project, however, in the PD 125 properties and 71 owners are mentioned. Clarification No. 17 mentioned that the most recent number of properties corresponds to 120. Please clarify and/or modify the correct information.	27/07/2021. SP responded as follows: It is clarified that there are 70 owners and 125 properties, Annex 01 is attached with the count of owners and corrected properties. The adjustment was also made in the PD.
<u>Annual deforestation monitoring</u> 28. The PD mentions that the resulting forest area for the year 2020 was 4,142 ha. However, in the spreadsheet the value used in the calculations is 2,728 ha (cell B7). Please explain how this value was obtained. Is it mappable or is it an estimate?	19/08/2021. SP responded as follows: As mentioned in Section 6.4.2 after performing the GIS procedure for monitoring the Forest / Non-forest covers by 2020, the forest area obtained was 4,142 ha within the project area, it is that is, within the limits of the private properties that make up the initiative. Subsequently, the monitoring results were cut with the limits of the project area (eligible forest area 2005-2016 that according to the guidelines of the standard is eligible to generate carbon credits) to obtain the 2,728 ha of eligible forest that as of October 23, 2020, they were within the limit of the AP. Both values are mappable considering the information presented in Section 6.4.2 of the PD. Response from RCE: The same reported value is not found. Please specify how it was obtained. 19/08/2021. SP answered the following: The values presented in the first version of the PD (2,728 ha) were wrong and were corrected in all the corresponding sections and in the spreadsheet. It is modified to 2,713 ha. Shapefile 20210819_B_NB_2016_2020_Magnolios_Project_Area is attached.
<u>Reference region</u> 29. For the information processing, the SP GIS team developed a tool that takes the information from IDEAM as input and based on that a raster was generated with the combination of the years. The average historical deforestation rate obtained by the SP team with this analysis was 1.18%. Please explain the selection of the selected approach and how it adheres to the	19/08/2021. SP answered the following: In accordance with the guidelines of the VM0015 methodology, the historical deforestation rate with which the baseline for the project area and the leakage belt is established is calculated from the historical behavior of the covers Forest / No forest in the historical reference period, which in the case of the REDD + Magnolios project was 2005-2016. The historical deforestation rate of 1.18% comes from the historical average of the annual or biannual

conservatism and precision of Resolution 1447 of 2018.	deforestation rates for the period 2005-2016. These historical annual rates were estimated based on the raster layers of the IDEAM coverage monitoring (see Table 32 of the PD), whose results were cut with the limit of the project's reference region. The procedure and results were detailed in Section 4.1.5 of the PD. The project proponent defined the project baseline considering the articles of Resolution 1447 of 2018 that the OVV mentions in the non-conformity. However, it is important to clarify that for the purposes of applying the VM0015 Avoided Unplanned Deforestation Methodology and the rules and requirements of the VCS standard, the baseline for REDD + projects is established on the assumption of a reference region for risk estimation. deforestation. This reference region by methodology is delimited considering parameters related to the agents and drivers of deforestation, the configuration of the landscape and the ecological conditions, and the socioeconomic and cultural conditions, for which the project proponent must guarantee a minimum similarity percentage. with the project area and in this way, demonstrate that the conditions that determine the probability of deforestation in the project area are similar or are expected to become similar to those found in the reference region. Consequently, the reference region is an analytical domain that then determines the projection of the annual areas and the location of deforestation in the reference region in the scenario without project and provides information on the rates, agents, drivers and patterns of land use and cover change with which the proponent establishes the project baseline and projects it into the future under the objective of preventing deforestation from reaching the project area. Now, according to Art. 39 of Resolution 1447 of 2018, the owner of the REDD + project must use methodologies that meet the following characteristics: • Follow the guidelines dictated by the UNFCCC regarding REDD + • Have a mechanism for managing the risk of GHG emissions leaks • Have a mechanism for managing the risk of non-permanence of GHG emission reductions and removals. • Have a mechanism for managing uncertainty in the quantification of the baseline and mitigation results. The VM0015 Methodology meets these criteria and its approach to establishing the baseline is based on the definition of the limits of the proposed project activity to avoid deforestation, including the reference region. Additionally, in communications with IDEAM, administrator of the country's Reporting, Monitoring and Verification System (Art. 4 of Resolution 1447 of 2018), it has been clarified that projects can establish the
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	reference region as defined in the selected methodology, as long as this methodology complies with the guidelines established by Resolution 1447 of 2018, in its articles 39 and 44 (in the case of REDD + Projects), including the contained paragraphs (communication with IDEAM is attached). On the other hand, Resolution 1447 of 2018 mentions in its article 41 that the establishment of the baselines of REDD + Projects must consider, among other things, the information provided by the SMByC; information that was actually used in the calculation of the historical deforestation rate. For the definition of the eligible project area and the monitoring of deforestation within this geographic limit, the Resolution does not explicitly mention that the SMByC information should be used and furthermore, in the deforestation analyzes for the entire reference region it was found that the Information from the SMByC significantly underestimates the forest area within the properties that make up the project area compared to aerial photographs, satellite images, the knowledge of the proponents about the coverage on their properties and other cartographic inputs at the local level. This is why it was decided that the monitoring of the coverage within the properties, project area and leakage belt was done by supervised classification of satellite images as detailed in Sections 1.3 and 6.4.2. This information showed a historical deforestation rate 2005-2016 of 1.61% for the properties (project area) and 0.77% for the project area; information that was shared on May 13, 2021 with the OVV (see support file 20210513_REDD_Magnolios_Areas_Deforestacion_JMI). Finally, it should be clarified that the supervised classification of images is not far from the guidelines that, for the monitoring of deforestation, be it historical or the monitoring period, the VM0015 methodology has in its steps 2 and 5. In addition, this classification yielded an overall accuracy of 95%; value higher than the thresholds required by the methodology
<u>Net change in forest cover</u> 30. In cell C7 of the Annual_deforestation_monitoring tab of the ex-post emissions calculation tool, why is 9.7 out of 46.5 assigned to the year 2020, if the monitoring period lasts until February 2020? The same is true for cells C11 and H11 on the Exposure_Emissions_Reduction tab.	13/08/2021. SP answered the following: in the project area table of the Annual_ofresting_monitoring tab, the comment for the year 2020 is not correct because the monitoring period runs until February 23, 2020 until October 23, 2020, then in the change column net in forest cover (ha), it should really be divided by 56 which are the months of the monitoring period. I also adjusted the proportion of the months for the year 2016 and 2020 which correspond to 10.2 and 9.8, respectively. Taking these fixes into account, I also adjusted the information on the Exposure_Emissions_Reduction tab in columns M and R. Response from RCE:

	According to the PD, the monitoring period runs from February 23, 2016 to February 10, 2020. If this is correct, please change the spreadsheet settings to be consistent between the PD and the worksheet calculation. 19/08/2021. SP answered the following: The monitoring period runs from February 23, 2016 to October 23, 2020 considering the date of the most recent 2020 image used for monitoring the Forest / non-Forest coverage (see Table 50 of the PD). The monitoring period and the ex ante and ex post estimates in the PD and the supports were adjusted.
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APPENDIX B: DOCUMENTS REVIEWED

#	Document	Description
1	Anexo 01_InformacionPropietarios_REDD+Magnolios	Relationship of landowners and ID number of the official documents.
2	Anexo 02_CaracterizacionSocial	Description of the main social characteristics of the territory where the Project is being developed.
3	Anexo 03_Mapa de actores	Stakeholder map document of the Project. The final document distributes the identified stakeholders into the following five sectors: institutional, civil society and NGOs, productive and business, community, academic and knowledge.
4	Anexo 04_Reconstruccin NREF	Compliance with MADS Resolution 1447 of 2018: the selection of activity data and emission factors in the baseline scenarios is made to comply with the provisions of MADS Resolution 1447 of 2018 on mitigation actions at the national level.
5	Anexo 05_Non-Permanence Risk	AFOLU Non-Permanence Risk Tool with all the evidence requested in the tool.
6	Anexo 06_Analisis_Agentes y motores deforestacion	Analysis of actors, drivers, and underlying causes of deforestation for the Project (Step 3 of the VM0015 methodology).
7	Anexo 07_Gestion_información	Information Quality Control (QC) and Quality Assurance (QA) System Standard Operating Procedure - Information management and document control.
8	Anexo 08_Teoría del cambio	For the construction of the scopes per project activity, the Theory of Change approach was used to explain how the activities will achieve the benefits expected by the initiative.
9	Anexo 09_Propuesta de comunicacion	Annex 9 presents the communication proposal to give continuity to the Participation, Communication and Knowledge Appropriation Strategy (EPCAC) in the implementation phase.

10	Anexo 10_Mecanismo quejas y reclamos	Annex 10 presents the proposed grievance mechanism for the Project.
11	Anexo 11_Emisiones HWP e incendios	Significance analysis of sawn timber products.
12	Anexo 12_Modelacion deforestacion futura	Modelling future deforestation of the Project using EGO Dynamics.
13	230928_VCSProject Description_REDD+Magnolios_English_JMI_Adjust_CRI _JHE_MAM_MAM_CORRECTED	Last version of PD of the Project (v.9)
14	20210819_VCSProject Description_REDD+Magnolios_Spanish_JMI	Previous version of PD of the Project (v.4)
15	Elegibilidad folder (5 shape files)	GIS information about the eligibility, spatial boundaries, maps and reporting period. José has reviewed and assessed that information.
16	Limites espaciales folder (28 shape files)	
17	Mapas folder (13 png files)	
18	Monitoreo folder (31 shape files)	
19	FCM 20-01 Safeguards_EN_FINAL	Interpretation of Social and Environmental Safeguards for REDD+ in Colombia. MADS, WWF Colombia, ONU REDD+ Colombia. Bogotá-Colombia.
20	VM0015-Avoided-Unplanned-Deforestation-v1.0	Methodology used for the project.
21	13 shape files	Shapes of the project areas.
22	Linea 1_Fortalecimiento gobernanza local	Evidence of activities carried out for the strategic line 1 Strengthening local governance such as: Participation in institutional spaces such as the Rio Grande and Rio Chico River basin council, Recognition of public and private actors for their work in the territory in favor of conservation.
23	Linea 2_Conservacion y restauracion de bosques	Evidence of activities carried out for the strategic line 2 Forest conservation and restoration such as: Forest Rangers contracts (date considered as the start of the project), Database and certificates of tradition and freedom (Acquisition of lands for forest conservation), Strategy for the conservation of magnolias (Magnoliaceae), Program to increase wax palm (Ceroxylon spp) populations, Propagation of native cloud forest species, Passive restoration.

24	Linea 3_Educacion Ambiental	Evidence of activities carried out for the strategic line 3 Promotion of environmental education in rural communities such as: Databases and photographs of environmental education workshops.
25	Linea 4_Investigacion	Evidence of activities carried out for the strategic line 4 Biodiversity research such as: Database, photographs, scientific paper of Wildlife inventories.
26	Linea 5_Sostenibilidad financiera	Evidence of activities carried out for the strategic line 5 Financial sustainability such as: Database, photographs, ecotourism project formulation for grant applications, donation campaigns through social networks and websites and Visits and development of long-term tourism strategies.
27	Cert_Existencia_CorporacionSalvamontes	Certificates of existence and legal representation of the proponents (foundations).
28	Cert_Existencia_FundacionAltodeVentanas	
29	Cert_Existencia_FundacionGuanacas	
30	Cert_Existencia_FundacionMagnolios	
31	117_Guanacas folder	Tradition certificates (ownership documentation) and letters of intent.
32	71 pdf files	
33	200225_Lista de especies_Reservas	Database wildlife inventories, photographs and scientific paper.
34	Vieira & Moreno 2019	
35	Boletines	Boletines that were issued digitally and in print for the Strategy for participation, communication and appropriation of knowledge.
36	Concurso logo	Bases of the contest and participants of the project logo design.
37	Socializaciones	Each folder has evidence documentation with meetings, information, consultations, workshops and agreements with stakeholders or interest groups carried out by South Pole.
38	20230203_Estimaciones_Magnolios_JMI_CRI_MAM_English	Last version of emission calcs spreadsheet for the Project
39	Plan de manejo -Reserva Guanacas	Management plan of Guanacas Reserve 2019-2024.
40	Plan Estrategico 2020-2025_Salvamontes	Estrategic plan of Salvamontes Corporation 2020-2025.
41	20230126_Future_deforestation_Model_Magnolios (1)	Description of the model for future deforestation of the project

42	Raster, shape of Project area	Graphic inputs of the layers of the updated eligible area of the project
43	Folder Variables_Models_Annex12	Raster inputs and variables used in the model to estimate future deforestation
44	20221013_REDD_Eligibility_2005_2016_REDD_Magnolios	Description of the second approach used for the eligible area of the project

APPENDIX C: LITERATUD CITED

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