

ABC NORTE REDD PROJECT



Project title	ABC Norte REDD Project
Project ID	2558
Crediting period	13-September-2017 to 12-September-2047
Monitoring period	01-April-2023 – 31-December-2023
(CCB) GHG accounting period	01-April-2023 – 12-December-2023; 9 months total period
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Project location	Brazil, state of Pará
Project proponent(s)	ABC Agropecuária Brasil Norte S.A. - Produção e Exportação (PP Primária) Email: luciana.pereira@algarfarming.com.br Sustainable Carbon - Email: tech.eco@sustainablecarbon.com
Validation/verification body	Earthood Services Limited Phone Number: +91 124 4204599 Email: info@earthood.in
History of CCB Status	PDD and 1° MR – Issued in November 2025. This is the second CCB verification period.
Gold Level criteria	Not applicable
Prepared by	Sustainable Carbon Projetos Ambientais Ltda.

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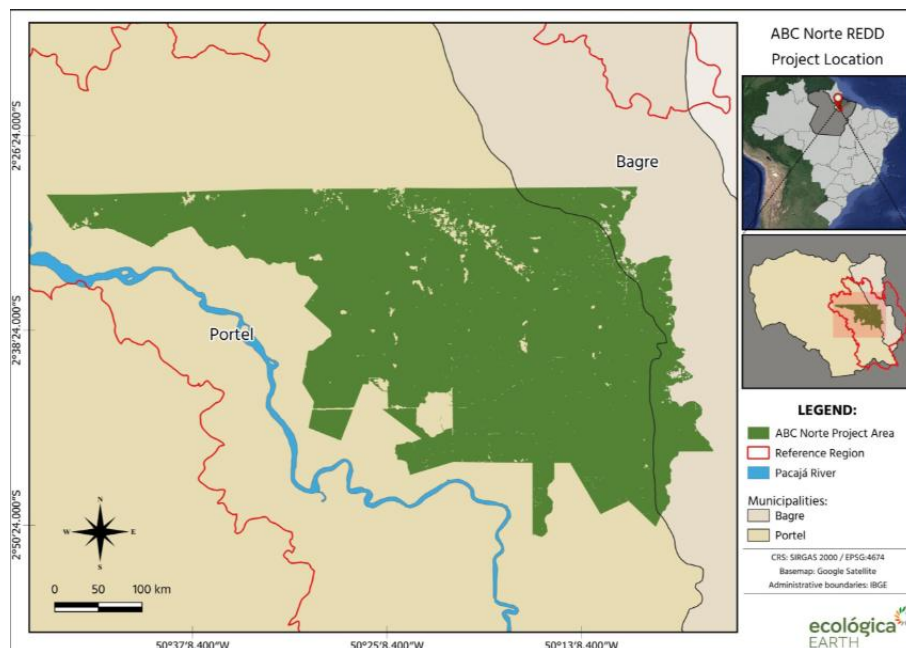
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1 SUMMARY OF PROJECT BENEFITS

In Brazil, 58.39% of its entire 851,029,591.4 ha territory is covered by forests, representing almost 497 million hectares of forest area and putting it in second place for nations with most forest area worldwide. Brazil has also been at times the country with the highest levels of deforestation in the world, having lost almost 15 million hectares of its forest area from 2010 to 2020. The expansion of the agriculture frontier due to cattle ranching, soy farming, timber collection, infrastructure and colonization by subsistence agriculturalists has contributed to this historically high deforestation rate, which is concentrated in the northern portion of the country, where the Amazon Rainforest lies.

In this context, the primary objective of the ABC Norte REDD Project is to avoid the unplanned deforestation (AUD) of the 140,117.09 ha project area. The project area (Figure 1) is located within a private property named “Fazenda Pacajá”, which is located between the municipalities of Portel and Bagre, in the State of Pará, Northeast Amazon.

Figure 1: ABC Norte REDD Project: Project area



Source: Sustainable Carbon (2025)

The project proponent, ABC Agropecuária Brasil Norte SA Produção e Exportação, leased the area to a forestry company that carried out the sustainable forest management activities during almost 20 years. On 13-September-2017, despite a recurrent negative balance over the last years and an increasing deforestation pressure from external agents, the project proponent decided to maintain the Sustainable Forest Management Plan (SFMP) in Fazenda Pacajá through ceasing the contract with the former forestry company, and the investment in a certified reduced impact logging SFMP with other company (Madeireira J&Y) combined with the expansion of social activities to local communities

and enhanced surveillance in the project area. Carbon credits revenues are an important source of income for making such activities feasible.

In addition, the company also opted to maintain an internal team to take over the management in case there is any problem with the tenant, with a team formed by forest engineers, besides to already having all the monitoring control and verification of compliance with the SFMP. This was initiated to ensure the forestry activity and the forest standing, as it is the company's main activity. ABC Norte, recently integrated by Algar Farming, encompasses Forest Management and the Carbon Market, which is directly related to the ABC Norte REDD Project. Thus, 13-September-2017 was defined as the project start date of the present project activity.

Furthermore, the project is located in priority areas for conservation, according to the Ministry of Environment. The main agents of deforestation and degradation in the reference region during the historical period were cattle ranching, primarily for beef production; and timber harvesters, operating both legally and illegally. Deforestation in the region involves spatially overlapping activities: firstly, the extraction of commercially valuable tree species for sale to timber companies. The final step is the slash-and-burn deforestation of the area for pasturelands and cattle ranching.

The increasing complexity and costs associated with the sustainable operation of the forest, along with other factors such as bureaucratic constraints and fluctuations in certified timber prices, make sustainable forest management less competitive than illegal logging. Therefore, revenue from the sales of Verified Carbon Units (VCUs) is essential for the project activity to compete with more lucrative alternative land use scenarios.

It will also contribute to the maintenance of biodiversity in native forest areas within the project area through periodic monitoring of fauna and flora, as well as assessing the impact of its activities on the remaining flora. Moreover, the ABC Norte Project REDD also contributes to the long-term conservation of the region by establishing a barrier against the advancement of deforestation, making it a significant contribution to biodiversity conservation in the Northeastern Amazon and to climate regulation in Brazil and South America.

It is also noteworthy that the first two monitoring periods assessing the benefits to the community and biodiversity of the ABC Norte REDD Project were formulated and verified under the SOCIALCARBON Standard methodology. However, in 2021, the Standard declared its transition from being solely a co-benefit standard to becoming a full standard. Commencing from 01-January-2024, projects that did not migrate to the SOCIALCARBON accounting methodology would lose their certification seal. Therefore, considering the methodological update of the SOCIALCARBON Standard and the need to continue monitoring the implemented actions of the ABC Norte REDD Project, from the second verification onward the project's socio-environmental benefits were conducted under the CCB Standard.

Finally, the present REDD project is estimated to avoid a predicted 82,994.27 ha of deforestation, equating to 30,038,382 tCO₂e in emission reductions over the 30 year of project lifetime (13-September-2017 to 12-September-2047), with an annual average of 1,004,626 tCO₂e.

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Diversity in production, encompassing: quantitative increase per product already produced by the communities; expanded access to local markets and sales channels; improved logistics efficiency; improvement in product quality; reduction of waste in the production chain; diversification of products produced by communities; effective adoption of new cultivation techniques and improvement in production efficiency.	• Technical visit for guidance on poultry farming systems. • Technical visit for guidance on horticulture systems. • Technical visit for guidance on fish farming systems; • Organization of Community Fair.	4.1.1 and 4.3.1	• Technical visit for guidance on poultry farming systems. • Technical visit for guidance on horticulture systems. • Technical visit for guidance on agroforestry systems. • Technical visit for guidance on fish farming systems; • Organization of Community Fair.
2) Structured and effective governance in communities, encompassing: strengthening physical structures for community use; effective participation of communities in collective activities; capacity building for community management; development of community-led community initiatives and projects; implementation of deliberations in a representative manner and strengthening community trust.	• Donation of 82 books and interactive games to local library; • Donation of construction materials for a support facility dedicated to healthcare services.	4.1.1 and 4.3.1	• Lecture on associativism. • Donation of painting materials and termite insecticide for library construction. • Donation of textbooks, children's books and games for school and library. • Donation of school kits. • Construction of the community library. • Lecture on the 5 R's (rethink, refuse, recycle, reduce, and reuse). • Revitalization of the community school. • Lecture on Public Policies in the rural sector. • Donation of construction materials for a support

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
			facility dedicated to healthcare services.
3) Promotion of environmental awareness through initiatives aimed at engaging communities in conservation efforts and adopting sustainable practices.	• Distribution of informational materials related to the environment and conservation. • Sustainable use of natural resources • "Flora monitoring (SFMP)" • Technical visit for guidance on poultry farming system. • Technical visit for guidance on horticulture system. • Technical visit for guidance on fish farming system. • Promotion of product marketing. • Workshop on handicrafts.	4.1.1, 4.3.1, 5.2.2 and 5.3.1	• Community involvement in biodiversity preservation activities • Sustainable use of natural resources • "Flora monitoring (SFMP)" • Monitoring vegetation dynamics through academic research development • Technical visit for guidance on poultry farming system. • Technical visit for guidance on horticulture system. • Technical visit for guidance on agroforestry systems. • Technical visit for guidance on fish farming system. • Promotion of product marketing. • Workshop on natural fiber craftsmanship. • Fabric painting workshop; • Distribution of informational materials related to the environment and conservation.

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	Not applicable	-	Not applicable
	Net estimated emission reductions in the project area, measured against the without-project scenario	445,140 tCO ₂ e	3.2.4	1,712,216 tCO ₂ e
Forest ¹ cover	For REDD ² projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	805.48 ha ³	3.2 ⁴	5,171.87 ha ⁵
	For ARR ⁶ projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not applicable	-	Not applicable

¹ Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO, or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (VCS Program Definitions)

² Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (VCS Program Definitions).

³ To calculate reduced forest loss, the projected deforestation values for the monitoring period (Section 3.4 of the PD) were used in comparison with the actual deforestation that occurred, as reported in the current Monitoring Report (Section 3.2).

⁴ The document containing the data regarding the number of hectares of forest loss reduction in the project area measured in relation to the no-project scenario will be presented to the VVB team.

⁵ This document refers to the second MR under the CCB standard, and third monitoring period under the VCS. The first VCS MR covers the period from September 13, 2017, to December 31, 2020, and the second from January 1, 2021, to March 31, 2023. In the first VCS MR period, the reduced forest loss in the project area, measured against the without-project scenario, considering unplanned deforestation, was 1,789.4 ha. For the second MR period, the value recorded was 2,577 ha.

⁶ Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (VCS Program Definitions).

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Improved land management	Number of hectares of existing production forest land in which IFM ⁷ practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	-	Not applicable
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	-	Not applicable
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	27 ⁸	4.1.1 and 4.3.1	27 ⁹
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities	17	4.3.1	17 ¹⁰

7 Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (VCS Program Definitions).

8 This is a retroactive monitoring period, prior to the development of the Theory of Change. Consequently, the indicators established in the CCB PD were not applied, and participant tracking was not done through attendance lists. Instead, only the total number of participants was recorded. To ensure accuracy and avoid double counting, only participants whose names were mentioned in the monthly reports of the ABC Norte Social Responsibility Program were considered. Additionally, to maintain an accurate count of the impacted individuals, each person was counted only once, regardless of the number of activities they participated in, reflecting the overall impact of the project on the community. The reported number corresponds to Indicator 2 of Section 4.3.1 of this report.

9 For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

10 For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Employment	Total number of people employed in project activities, ¹¹ expressed as number of full time employees ¹²	Not applicable	-	Not applicable
	Number of women employed in project activities, expressed as number of full time employees	Not applicable	-	Not applicable
Livelihoods	Total number of people with improved livelihoods ¹³ or income generated as a result of project activities	27 ¹⁴	4.1.1 and 4.3.1	27 ¹⁵
	Number of women with improved livelihoods or income generated as a result of project activities	17 ¹⁶	4.3.1	17 ¹⁷
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable

11 Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.

12 Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28]).

13 Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. The Sustainable Livelihood Approach to Poverty Reduction. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

14 The reported number corresponds to Indicator 2 of Section 4.3.1 of this report.

15 For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

16 The reported number corresponds to Indicator 2 of Section 4.3.1 of this report

17 For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
Well-being	Total number of community members whose well-being ¹⁸ was improved as a result of project activities	27 ¹⁹	4.1.1 and 4.3.1	27 ²⁰

¹⁸ Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.

¹⁹ The reported number corresponds to Indicator 2 of Section 4.3.1 of this report.

²⁰ For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	Number of women whose well-being was improved as a result of project activities	17	4.3.1	17 ²¹
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation ²² , measured against the without-project scenario	Not applicable	-	Not applicable
	Number of globally Critically Endangered or Endangered species ²³ benefiting from reduced threats as a result of project activities, ²⁴ measured against the without-project scenario	Fauna: 2 vulnerable species Flora: 3 vulnerable species. Total: 5	5.3.1	Fauna: 5 vulnerable species; Flora ²⁵ : 2 critically endangered, 1 critically depleted, 2 endangered, 16 vulnerable species Total: 26

21 For ABC Norte REDD Project, this indicator should reflect the results obtained between September 13, 2017, and December 31, 2023. However, between September 13, 2017, and December 31, 2020, the project's co-benefits were monitored based on the SOCIALCARBON Standard, which uses different metrics than the CCB Standard. Therefore, only the results obtained between January 1, 2021, and December 31, 2023—the period covered by the 1st CCB MR —were reported.

22 Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.

23 Per IUCN's Red List of Threatened Species.

24 In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit.

25 To identify the threat status of flora species over the project lifetime, the analysis was based on data from Table 63 of the CCB Project Description (Table 63 – List of Floristic Species in the ABC Norte REDD Project), which consolidates species information from the Sustainable Forest Management Plan and permanent sample plots. For the previous monitoring period, species were identified using data from the post-harvest report of UPA 18 and for the actual monitoring period, data from UPA 19 was considered. The species identified had their conservation status verified on the official IUCN website: <https://www.iucnredlist.org/>, even the ones already classified in PD for status review.

2 PROJECT DETAILS

2.1 Summary Description of the Implementation Status of the Project

2.1.1 Summary Description of the Project (VCS, 2.1, 3.6; CCB, G1.2)

The primary objective of the ABC Norte REDD Project is to avoid the unplanned deforestation (AUD) of the 140,117.09 ha project area, consisting of 100% Amazon rainforest. The project area is located within a private property named “Fazenda Pacajá”, located between the municipalities of Portel and Bagre, in the State of Pará, Northeast Amazon. For this third monitoring period, the prevention of unplanned deforestation in the Project Area reduced the emission of 445,140 tCO₂e from 01-April-2023 to 31-December-2023, both days included. At Pará State, the main deforestation and degradation agents acting within the reference region during the historical period were cattle ranching and timber harvesters, acting both legally and illegally.

The measures implemented during the monitoring period to prevent unplanned deforestation – and the consequent emission of CO₂e in the project area – are monthly monitoring and reporting of deforestation events through remote sensing technologies, deployment of regular patrols for surveillance purposes and maintenance of security posts 24 hours a day, with a rotating schedule.

Regarding biodiversity, sustainable forest management is carried out in accordance with the Cerflor standard, in compliance with environmental, social, and economic requirements. Its implementation is monitored through monthly reports. The project was also certified under Onça-Pintada standard, recognizing the adoption of practices that contribute to species’ conservation. ABC Norte Project, in partnership with Upbio consultancy, has been conducting fauna monitoring since 2020. Through these activities, best practices adopted and community awareness initiatives, the project aims to enhance biodiversity understanding and establish a barrier against the advance of deforestation, contributing to the conservation of biodiversity in the Northeastern Amazon.

In 2023, during the monitoring period, several community-oriented initiatives were implemented with the support of Upbio, including capacity-building workshops; delivery of healthcare services; provision of construction materials for the establishment of a for healthcare support facility; distribution of educational materials to communities and books and games to schools; and technical assistance and training for local producers, as poultry farming,. These actions are aligned with the community objectives of the project, which include promoting capacity development and knowledge enhancement, fostering production diversification, strengthening the development of community spaces, and improving the quality of life and well-being of the communities engaged by the project.

2.1.2 Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Validation	13-September-2017 to 12-September-2047	VCS + Social Carbon	RINA Services S.p.A	Thirty years
Verification	13-September-2017 to 31-December-2020.	VCS + Social Carbon	RINA Services S.p.A	Three years ²⁶
Verification	01-January-2021 to 31-March-2023	VCS + Social Carbon	EcoLance Private Limited	Two years ²⁷
Validation	13-September-2017 to 12-September-2047	CCB	EcoLance Private Limited	Thirty years
Verification	01-January-2021 to 31-March-2023	CCB	EcoLance Private Limited	Two years ²⁹
Verification	01-April-2023 to 31-December-2023	VCS + CCB	Earthood Services Limited	Nine Months

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Reducing Emissions from Deforestation and Degradation (REDD)
Project Activity Type	Avoided Unplanned Deforestation.

2.1.4 Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	ABC Agropecuária Brasil Norte S.A. - Produção e Exportação (Primary PP)
Contact person	Luciana Di Paula Assunção Pereira
Title	Executive Forestry Manager
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²⁶ Three completed years and four months

²⁷ Two completed years and three months.

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Organization name	Sustainable Carbon Projetos Ambientais LTDA.
Contact person	Stefano Merlin
Title	Stefano Merlin - CEO
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Telephone	+55 (63) 3219-7100
Email	tech.eco@sustainablecarbon.com

2.1.5 Other Entities Involved in the Project

Organization name	Algar Farming S/A.
Role in the project	Operational Coordination of Project Activities (Algar farming is a company who exercises corporate control over ABC Agropecuária Brasil Norte S.A. (ABC Norte).
Contact person	Luciana Di Paula Assunção Pereira
Title	Executive Forestry Manager
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Email	luciana.pereira@algarfarming.com.br

2.1.6 Project Start Date (VCS, 3.8)

Project start date	13-September-2017
Justification	The Project Start Date is 13-September-2017. This was the date of signature of the contract with the new tenant, in order to conduct a more sustainable forest management with less environmental and social impact. Despite a recurrent negative balance over the last years and an increasing deforestation pressure by external agents, ABC Norte (i.e., the primary project

proponent) decided to maintain the Sustainable Forest Management Plan (SFMP) in Fazenda Pacajá through ceasing the contract with the former forestry company. Since the owner owned the farm and has had a relationship with the communities since 1979, it was his personal desire to maintain the area and to search for more sustainable administration, with environmental conservation and benefits for the community.

Thus, several alternatives for the use of Fazenda Pacajá were evaluated, including carrying out a Carbon Project. Furthermore, as from this first action, the project proponent also decided to invest in a certified reduced impact logging SFMP combined with the expansion of social activities to local communities and enhanced surveillance in the project area. As part of this new strategy, a contract between Madeireira J&Y and ABC Norte to lease its farm for the purpose of carrying out the SFMP in a more sustainable manner.

The contract mentioned with J&Y has much more specific environmental restrictions and obligations than the previous contract, such as:

- specific assignment only for the management exploration area
- prohibition of exploitation of other natural resources in the property
- annual exploration restriction of 100,000 m³
- contract renewal subject to an evaluation report and the evolution of the development of forestry, social, economic, and environmental activities
- mandatory investment in social programs for the local community and the surroundings of the farm and the ABC village
- mandatory recovery of degraded areas
- adoption of a chain of custody system to identify logs produced in the forest management
- SFMP management by a contracted third party, with access to all documents and information
- accountability to ABC Norte, upon submission of reports on forest production and environmental compliance.

Since the project start date, the project implemented socio-environmental responsibility and environmental education programs. Furthermore, the project started the forest management certification in 2017 and received the CERFLOR certification in 2020. The Sustainable Forest Management Plan was renewed in 2019, being valid until 2025, and, in addition, the Rural Activity License (RAL) was obtained, valid until 2025 as well.

The company also opted to maintain an internal team to take over the management in case there is any problem with the tenant, with a team formed by forest engineers, besides to already having all the monitoring control and verification of compliance with the SFMP.

This was initiated to ensure the forestry activity and the forest standing, as it is the company's main activity.

	Therefore, on 13-September-2017 the main action of the company was conducted in terms of reducing GHG emissions and initiating the present REDD project and is thus the designated project start date. Furthermore, project activity also increased the surveillance since the project start date, which helps to avoid unplanned deforestation or illegal logging within the project area by external agents.
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2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	The crediting period of the project is 30 years. According to section 3.9.3 of VCS Standard v4.7 “For all AFOLU projects other than such ALM projects described in 3.9.2, the initial project crediting period shall be a minimum of 20 years up to a maximum of 100 years”. Considering this, the project complies with the VCS Program Requirements.
Start Date of First or Fixed Crediting Period	13/September/2017 to 12/December/2023. ²⁸
Total Number of Years of Crediting Period	30 Years
CCB Benefits Assessment Period	01/January/2021 to 12/September/2047 ²⁹

2.1.8 Project Location (VCS, 3.11; CCB, G1.3)

The ABC Norte REDD project is located in a private property named “Fazenda Pacajá” covered almost in its totality by native vegetation, totaling 145,680.7882 ha., which is situated between the municipality of Portel and Bagre, in the State of Pará, Northeast Amazon.

According to the logistical arrangement, Fazenda Pacajá can be accessed via a route, by river, leaving the city of Belém by the river Pará until the city of Portel at a distance of 304 kilometers. It follows the route, still by river via Pacajá River, from the city of Portel to Fazenda Pacajá, covering 180 kilometers. In total, it travels 484 km from the state capital to the farm.

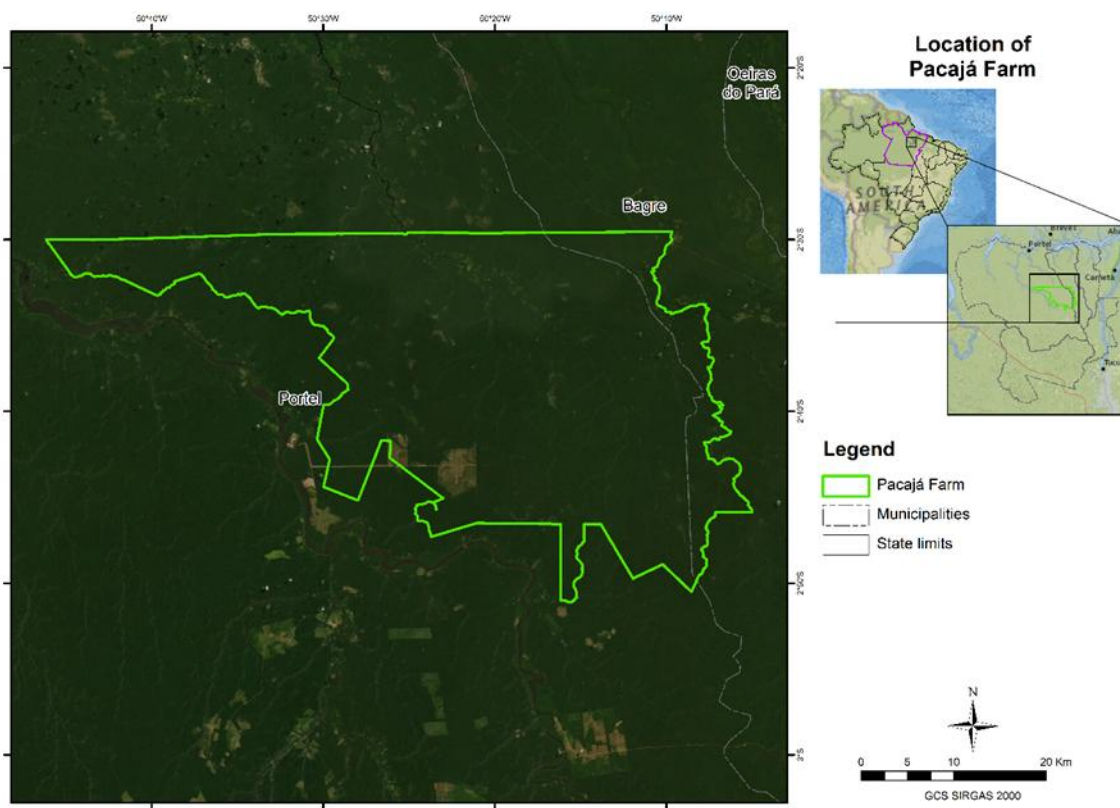
²⁸ Initially, the baseline period extended until September 12, 2027, corresponding to ten years from the project start date. However, due to Verra updates, the baseline period was revised to end on September 12, 2023, which is six years from the start date. In the current MR period, an exemption request letter was submitted to Verra extending the baseline to December of 2023. More information in the sections Methodology Deviations and Project Description deviations.

²⁹ The co-benefits of the project between 13/September/2017 to 31/December/2020 was assed by the Social Carbon standard.

In accordance with VCS requirements, stipulated in Approved VCS Methodology VM0015, version 1.2, the project area may only include areas composed of “forest” for a minimum of ten years prior to the project start date. Therefore, satellite images between 2007 and 2017, were analyzed and classified. The areas within the property that were defined as forest in 2017 and in 2007 were separated and utilized to compose the project area. In addition, some non-forest areas were also excluded, such as rivers, rocks, and non-forest vegetation.

As shown in Figure 2 below, the size of the areas that were considered “non-forest” (i.e. planned roads and non-forest vegetation or rock formations, as the area has never been deforested) within the project area was 5,247,73 ha. This was excluded from the initial area of 145,680 ha, resulting in 140,117.09 ha, which was then defined as project area.

Figure 2: ABC Norte REDD Project Location



☒ KML file has been provided

2.1.9 Title and Reference of Methodology (VCS, 3.1)

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Tool	VT001	Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities	3.0
Tool	Non-Permanence Risk Tool	AFOLU Non-Permanence Risk Tool	4.2
Methodology	VM0015	Methodology for Avoided Unplanned Deforestation	1.2

2.1.10 Double Counting and Participation under Other GHG Programs (VCS, 3.23; CCB, G5.9)

2.1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program, or any other form of community, social, or biodiversity unit or credit?

☐ Yes ☒ No

2.1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

2.1.10.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

2.1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions (VCS, 3.24)

2.1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

2.1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.

☐ Yes ☒ No

2.1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."?

☐ Yes ☒ No

2.1.12 Sustainable Development Contributions (VCS, 3.17)

During the monitoring period, the project implemented a range of activities focused on sustainable development, including technical visits on sustainable production practices such as horticulture and poultry farming, health consultations, and capacity-building workshops on productive skills (e.g., craft-making and food production).

It is important to note that the figures reported for certain indicators, such as participation in workshops, lectures, and healthcare services, reflect cumulative engagement throughout the events. As such, some individuals may have participated in multiple activities over time, resulting in overlapping attendance across different events.

These activities contributed to the achievement of SDGs by improving access to healthcare, building agricultural capacity, and empowering women. The ABC Norte REDD Project main contributions during monitoring period to the Brazilian Priority Goals³⁰ are listed below:

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³⁰ Available at: < <https://odsbrasil.gov.br> >

Table 1: Sustainable Development Contributions

SDG	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1	1.3	Primary-health consultations provided to community members	Expanded community access to essential public health services through free consultations.	849 basic health consultations were carried out during the monitoring period.	During the project lifetime 1641 health consultations were carried out with members of the communities.
	1.4	1. Training in poultry, agroforestry, carpentry 2. Economic revenue from sales	Strengthened economic inclusion by offering technical training and enabling income generation through local sales.	75 participants took part in productive training. No income from community events was reported during this monitoring period.	Over the course of the project, at least 39 community members have participated in productive-skills workshops and training sessions.
2	2.4	Technical support visits for climate-resilient community farming	Supported the adoption of climate-resilient agricultural practices via technical assistance.	37 technical support visits were conducted to promote climate-resilient community farming, including guidance on poultry farming, horticulture, and sustainable food production practices.	Over the course of the project, 49 technical support visits have been conducted to promote climate-resilient community farming practices.
3	3.3	1. Health items distributed – vaccines, medicine etc. 2. Primary-health consultations provided to community members	Improved local disease prevention capacity by distributing essential health items and ensuring primary care.	459 health items were distributed, including vaccines and other basic supplies and 849 primary-health consultations were provided to community members.	During project lifetime 967 health items, including vaccines and other basic supplies, were distributed, and 1 641 primary health consultations were provided to community members.
4	4.4	Participants in capacity-building workshops and environmental education	Enhanced technical and vocational skills through workshops focused on employment and sustainability.	319 participants attended capacity-building workshops focused on crafts, creativity, and environmental education.	During the project lifetime, 673 participants attended capacity building workshops focused on crafts, creativity, and environmental education.

SDG	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
	4.5	Women participating in workshops	Promoted equitable access for women to economic and educational empowerment opportunities.	130 women were reported as participants in community workshop.	Throughout project lifetime, 272 women in total participated in community workshops.
	4.7	Delivery of educational materials (kits, booklets)	Increased awareness of sustainability and development themes through the distribution of educational materials.	A total of 395 educational materials were delivered to community members, including 160 environmental coloring booklets for children and 85 schoolbooks and interactive games to support community learning	Over 1855 educational materials were distributed to community members during project lifetime.
5	5.4	Women participating in craft workshops	Encouraged the recognition of unpaid care work by promoting women's participation in income-generating workshops.	71 women participated in craft-focused workshops, including bio jewelry and other artisanal activities	Over the project lifetime, 213 women have engaged in craft and artisanal workshops.
6	6.1	Communities reached with hypochlorite water-treatment kits	Contributed to safe water access by delivering water purification supplies to rural households.	Donations of hypochlorite dispensers for water treatment were carried out during the Social Action held in December 2023 ³¹ .	During the project lifetime, 11 communities have been supplied with hypochlorite kits for household water treatment, ensuring ongoing access to safe drinking water.

³¹ The total number of hypochlorite dispenser donations was recorded in the December 2023 monthly report, along with other health-related donations such as condoms and medications. For this reason, the quantity donated during the reference period was not specified separately.

SDG	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
8	8.3	Community members trained in productive activities (poultry, agro-forestry, carpentry)	Boosted entrepreneurial capacity through technical training and support for small-scale income generation.	75 community members received training in productive activities such as poultry farming and horticulture.	Over the course of the project, at least 121 community members have participated in productive-skills workshops and training sessions.
12	12.2	Residents attending environmental awareness lecture	Raised awareness on responsible consumption and waste reduction through environmental education.	One environmental awareness lecture was reported during this monitoring period, during Social Action Event.	Over project lifetime, a total of 71 environmental awareness lectures were conducted to community members.
	13.0	Tonnes of CO ₂ e avoided	Prevented greenhouse gas emissions through conservation of forest area.	445,140	1,712,216
13	13.3	Residents reached by climate and forest-preservation lectures	Fostered climate awareness by engaging residents in climate and forest preservation lectures.	6 residents participated in a climate and forest-preservation lecture held at Social Action event	Over project lifetime, a total of 71 environmental or climate awareness lectures were conducted to community members.
15	15.1	Hectares of Forest Area Conserved	Maintained natural ecosystems by preserving forest area within the REDD project zone.	805	5,171.87
	15.2				

SDG	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
	15.5	1. Delivery of educational materials (kits, booklets) 2. Climate/environmental awareness lectures	Reduced biodiversity loss risks through environmental education and outreach materials.	A total of 395 educational materials were delivered to community members, including 160 environmental coloring booklets for children and 85 schoolbooks and interactive games to support community learning No environmental awareness lectures were reported during this monitoring period	A total of 1 855 educational materials were distributed to community members over the course of the project. In addition, 71 environmental and climate awareness lectures were conducted to promote community understanding and engagement.

2.2 Project Implementation Status

2.2.1 Implementation Schedule (VCS, 3.2; CCB, G1.9)

VCS

ABC Norte has maintained the SFMP and the project activities fully operational in this monitoring period and since the starting date of the crediting period. The project activities include banning illegal logging, social education and supervision of deforestation by a management team and through satellite images.

In addition, during the monitoring period, ABC Norte maintained its sustainable forest management plan with CERFLOR certification. That is, it is guaranteed that this project has offered numerous benefits for the sustainable development of the region, contributing to the conservation of local biodiversity, generation of knowledge and income for the local community.

The monitoring data was kept according to the monitoring plan described in the approved VCS PD. This Monitoring Report refers to the third monitoring period of this project and includes data from 01-April-2023 to 31-December-2023.

Deforestation Monitoring and Activities Developed

According to the VCS PD, the main land-uses are cattle ranching, mainly for producing beef cattle; and timber harvesters, acting both legally and illegally.

During the monitoring period, satellite monitoring and field patrols were implemented within the Project Area and the Leakage Belt to prevent and mitigate unauthorized deforestation and burning events.

Monitoring was conducted through the issuance of environmental monitoring reports based on the processing of PRODES satellite images and available satellite images for the region during the monthly analysis period. This report aims to record the monitoring of environmental aspects related to vegetation cover, deforestation, hotspots, and human impact in the project area and leakage belt. This was carried out monthly between April and September. In addition to satellite monitoring, field patrols were also implemented during the monitoring period based on the findings of this report.

When a fire or hotspot is detected in the reports, the patrol team is asked to verify in situ whether the event was unintended or natural (e.g., tree fall). The rounds can also be requested when some riverine denounces anonymously. During the rounds, one hardly finds anyone on site, only traces of the activity that took place. If someone is found, the security team conducts a conversation informing them that the property is private and that only legalized timber is allowed. The guards ask the person to leave the site, showing farm delimitations when needed. The security guards in the guardhouses control the entry and exit of the property, with requests for identification documents and prior authorization of the activity to be carried out on the property

(work, provision of services, search for service in the health center, etc.). The cleaning of the farm limits represents a security measure to inform that there is an area delimitation, that is, they belong to someone. This visual demarcation is widely understood as a delimitation of area by the riverine people.

When an unauthorized cut/deforestation/fire is confirmed, photographs and coordinates are recorded. Reports are made from this information collected, followed by the registration of police reports. With the police report is made a letter to be filed in SEMAS PA requesting inspection on the spot. SEMAS then informs the period for the inspection operation, requesting support for its execution, such as guidelines on how to get to the property, lodging in accommodation, and directions to walk inside the property and go to the place of improper opening. The SEMAS agents and police will then inspect the place and when they find irregularities, perform the proper seizure and action which usually lasts a week.

As Fazenda Pacajá is a private property and ABC Norte has no power of policing and environmental inspection, the actions of tracking and mitigation of unauthorized events are limited to monitoring and reporting to the competent agencies, in addition to the socio-environmental program to prevent these events inside and outside the property.

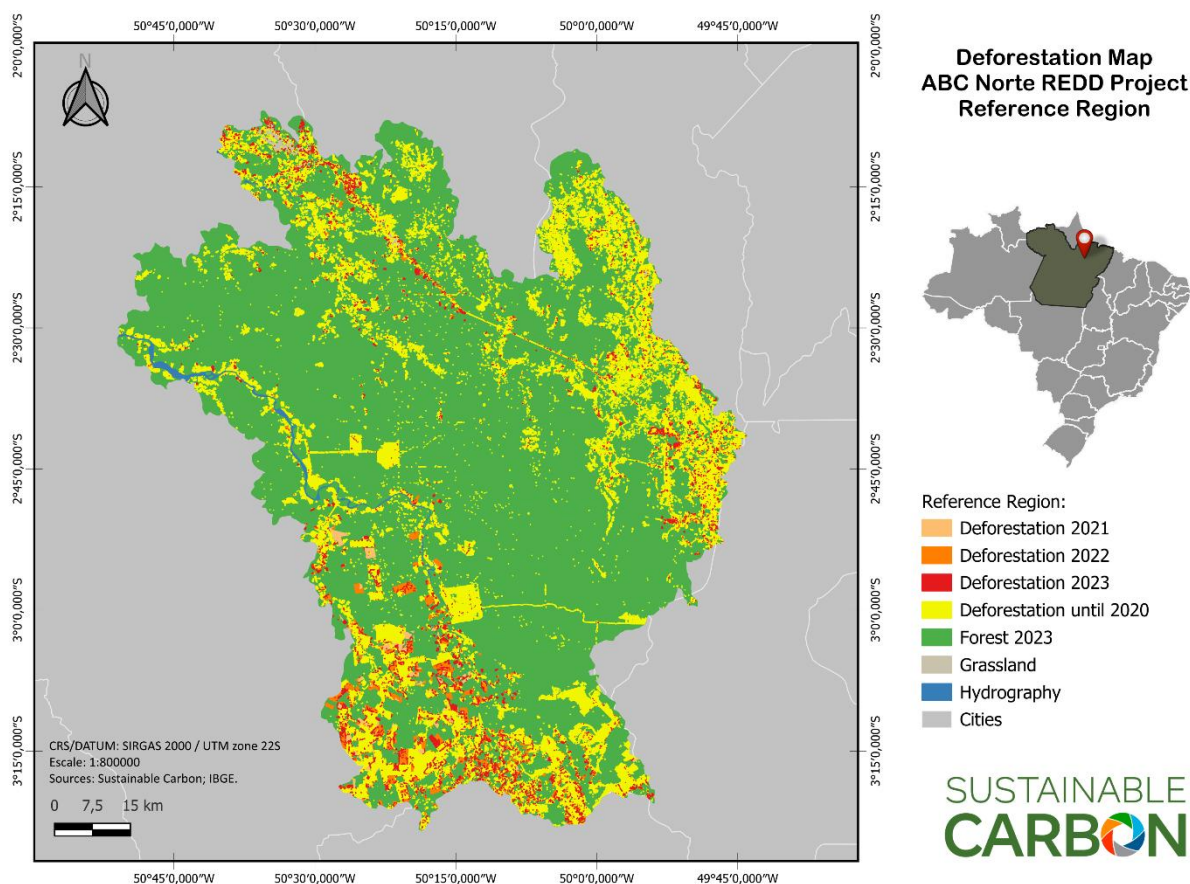
In the Reference Region, the actual classified deforestation during the monitoring period was 3,339.83 ha. Meanwhile, the predicted area in the baseline scenario that would be deforested within the reference region during this monitoring period from April 2023 to December of 2023 would be 9,111.53 ha.³²

Comparing to what occurred during the 2007 – 2016 period (historical reference period), when the annual average deforestation rate within the reference region was of 0.61%, an increased tendency in the deforestation rate in the region could be noted. This figure shows that ABC Norte activities in the region could help reduce the advancement of deforestation towards the project area. The map with the annual areas of deforestation within the reference region during the current monitoring period is shown below.³³

³² The original value predicted area was 12,203.55, to keep the accuracy of the project the baseline deforestation for reference region was adjusted. More information in section 3.2.4.

³³ The deforestation rate between January 2021 and March 2023 (second MR) was 0.89% per year. During the current monitoring period, due to the short time frame (only nine months), the deforestation rate was not calculated. The 2023 deforestation analysis was performed in the second VCS Monitoring Report (MR), which is why the accumulated deforestation using MapBiomas Collection 9 was initially calculated starting from 2021. This approach was adopted because MapBiomas data is annual and reflects deforestation over the entire year. Therefore, when 2023 was analyzed in the second MR, the assessment considered the full year, and a proportional adjustment was applied to account for deforestation during the first three months of the second MR. For the current MR, the 2023 results from the second MR were used, with adjustments made only to the proportion of the monitored deforestation area in the MR spreadsheet. This approach ensures consistency of data between the two monitoring periods.

Figure 3: Deforestation in the Reference Region in 2021-2023



According to VCS Program Definitions v4.5:

Loss Event: In an AFOLU project, any event or group of events that results in a cumulative loss of more than five percent of previously verified emission reductions and removals. An event qualifies as a loss when it affects carbon stocks in pools included in the project boundary and that are expected to be sequestered and/or maintained under the project scenario. Examples include illegal logging, tillage, and fuelwood collection. Considering this, a Loss Event didn't occur during the monitored period, as evidence provided for VVB.

CCB

It is worth noting that the first two monitoring periods assessing the benefits to the community and biodiversity of the ABC Norte REDD Project were formulated and verified under the SOCIALCARBON Standard methodology. However, in 2021, the Standard declared its transition from being solely a co-benefit standard to becoming a full standard. Commencing from 01-January-2024, projects that did not migrate to the SOCIALCARBON accounting methodology would lose their certification seal. Therefore, considering the methodological update of the SOCIALCARBON Standard and the need to continue monitoring the implemented actions of the ABC Norte REDD Project, during the second

verification project's socio-environmental benefits were conducted under the CCB Standard and the Social Carbon label was removed. The current monitoring report also uses CCB to monitor the socio-environmental benefits of the project.

Table below - which outlines the main milestones involving the development and implementation process of the ABC Norte REDD Project - encompasses some activities after the current monitoring period³⁴. However, for the purpose of counting the benefits, only the period between 01-April-2023 and 31-December-2023, was considered.

Table 2: SFMP and REDD Project activities

Year	SFMP	REDD Project
2017	23-January - Feasibility Report conducted by a Carbon Project Developer; 07-March - Board decision for the development of a Carbon Project together with the SFMP³⁵; 13-September - New Tenant Contract (Madeira J&Y); 14/September - Hiring of the new internal forest management team.	23-January - Feasibility Report conducted by a Carbon Project Developer, which included an action plan for the development of the carbon project; 07-March - Board decision for the development of a Carbon Project together with the SFMP; 24-August - Community survey and first meetings with community leaders; 13-September - New Tenant Contract (Madeira J&Y), which included environmental and social restrictions and obligations to the new tenant, which increased the control and surveillance against illegal deforestation. 13-September-2017 to 31-December-2020 - First monitoring period (VCS and SOCIALCARBON).
2018	01-March - Hiring of a social environmental consultancy to conduct a better approach with the surrounding communities regarding the SFMP; May - The company starts to produce monthly environmental monitoring reports; 12-September - Rural activity license on behalf of J&Y to conduct the new Sustainable Forest Management Plan, which includes several activities to mitigate impacts in the forest, besides the development of internal quality	Year of 2018 - The company followed the guidelines of the feasibility study, starting the necessary regularizations and updates, in addition to social responsibility actions; Year of 2018 - ABC Norte start building monitoring bases to expand the area's surveillance and control, together with the monitoring of the property boundaries; May - The company starts to produce monthly environmental monitoring reports; 01-March - Hiring of a social environmental consultancy (Upbio) to implement socioenvironmental activities for the

³⁴ The past activities not encompassed by the current monitoring report were retained for transparency and historical purposes.

³⁵ In 2021, ABC Norte also elaborated an explanatory document to clarify about the decision made to initiate the carbon project in 2017, which also contains the preparatory measures that had to be carried out before the project start date and the confidentiality of the deliberations taken during the transition process in 2017.

Year	SFMP	REDD Project
		surrounding communities, which maintained the services during the following years; 12-September - Rural activity license on behalf of J&Y to conduct the new Sustainable Forest Management Plan, which includes several activities to mitigate impacts in the forest, besides the development of internal quality.
2019	Year of 2019 - J&Y management activities begin at Fazenda Pacajá, under the new SFMP Year of 2019 - Development of the Sustainable Forest Management Plan September - Issuance of the Annual Operational Plan related to UPA 16 10-October - Issuance of the Authorization for Forest Harvesting related to UPA 16 valid until 09-October-2021 November - Issuance of the Annual Operational Plan related to UPA 17.	19-February - Presentation of the Socio-environmental Responsibility Program to the communities and state and municipal secretariats. 10-June - 1st proposal for the elaboration of the carbon project from another project developer. 21-August - Negotiation with the carbon project company and acceptance of the draft contract. 27-December - Completion of the update of the registrations in the responsible notary's office and SIGEF.
2020	15-May - CERFLOR certification for the SFMP. 29-July - Issuance of the Rural Activity License valid until 28-July-2025 03-August - Issuance of the Authorization for Forest Harvesting related to UPA 17 valid until 03-August-2022. November - Issuance of the Annual Operational Plan related to UPA 18.	January - Socioeconomic diagnosis of the communities. 26-March - Acceptance of the project's economic model from the other project developer proposal. 02-June - Contract renegotiation with the carbon project developer. 06-July - First negotiations between the Projects Proponents for the development of the REDD Project. 24-July - First fauna monitoring inventory in the "Fazenda Pacajá" region. 27-November - Contract signature with carbon project developer
2021	17-September - Issuance of the Authorization for Forest Harvesting related to UPA 18 valid until 17-September-2023 October - Issuance of the Annual Operational Plan related to UPA 19	January - The company starts to produce monthly reports regarding the activities of the Socio-environmental Responsibility Program in partnership with Upbio. This practice will be maintained in the following years of the project. 01-January-2021 to 31-March-2023 - Second monitoring period (VCS and SOCIALCARBON). 25-February - Second fauna monitoring inventory in the "Fazenda Pacajá" region June - The company developed, in partnership with Upbio, a Solid Waste Management Plan for Fazenda Pacajá and Vila ABC.

Year	SFMP	REDD Project
		25-June - The consultation with the “ribeirinha” community São Sebastião do Cipoal and Nossa Senhora do Carmo. The meeting had a simplified presentation about the project, exposing the risks and benefits resulting from the project activities for the riverside population. 26-June - The consultation with the “ribeirinha” community Divino Espírito Santo, Cristo Salvador and Vila ABC. The meeting had a simplified presentation about the project, exposing the risks and benefits resulting from the project activities for the riverside population. 27-June - The consultation with the “ribeirinha” community Monte Sião. The meeting had a simplified presentation about the project, exposing the risks and benefits resulting from the project activities for the riverside population. 13-July - Project is published in the VCS Pipeline.
2022	21-September - Issuance of the Authorization for Forest Harvesting related to UPA 19 valid until 20-September-2024 October - Issuance of the Annual Operational Plan related to UPA 20	February - Mental and emotional health awareness in 5 communities (Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal) for 42 residents. April - Lecture about domestic accident prevention held for 78 residents from Divino Espírito Santo community. May - Lecture to 12 residents from São Sebastião do Cipoal community about the 5 R's (refuse, reduce, reuse, repurpose and recycle). 22-June - Fazenda Pacajá was certified by the “Onça Pintada” Institute label. July - Carpentry workshop in “Fazenda Pacajá”, mainly for the employee's wives. 28-July - Third fauna monitoring inventory in the “Fazenda Pacajá” region. September - Natural fiber craft workshop in 5 communities (Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal) for 32 women. November - “Internal Week for the Prevention of Accidents at Rural Work”: lectures regarding health and safety topics to ACB Norte employees. December - First fabric painting workshop during the 3rd Social Action conducted by “Fazenda Pacajá” and Portel City Hall.

Year	SFMP	REDD Project
2023	26-September - Issuance of the Authorization for Forest Harvesting related to UPA 20 valid until 25-September-2025 ³⁶	31-January - Articulation of thanks to the institutional partnership with the City Hall of Portel through the Municipal Secretariats of Health and Social Assistance to carry out the 3rd Social Action - 2022. February - Fabric painting workshop in 3 communities (Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal) with the participation of 25 residents. 22-February - Receipt of the final validation and first verification report by the audit. CURRENT MONITORING PERIOD April - Application of the questionnaire in the Monte Sião community to update the socioeconomic diagnosis of the communities covered by Upbio's Socio-environmental Responsibility Program. 12 families participated in the process. May - Application of the questionnaire in the communities of Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal to update the socioeconomic diagnosis of the communities covered by Upbio's Socio-environmental Responsibility Program. 14 families participated in the process. Biojewelry workshop in 4 communities (Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal) with the participation of 83 residents, predominantly women. Environmental education action with the distribution of informative materials on the importance of wildlife to 4 communities (Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal) with the participation of 87 residents. June - Flower arrangement workshop in 4 communities (Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal) with the participation of 46 residents. 01-June - Forth fauna monitoring inventory in the "Fazenda Pacajá" region. 22-June - Renewal of the Onça-Pintada Certificate.

³⁶ UPA 20 is not considered in the current monitoring period. Nevertheless, the AUTEF for UPA 20 ensures that UPA 19 was correctly exploited, as new AUTEFs are only issued if the previous ones are properly harvested and reported.

Year	SFMP	REDD Project
		July - Fabric painting workshop in 4 communities (Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal) with the participation of 44 residents. 11-July - Renewal of the Onça Pintada Institute certificate. August - Flower-making workshop in the 5 communities covered by Upbio's Socio-environmental Responsibility Program with the participation of 62 residents. September - Workshop for the production of handmade jams in the 5 communities covered by Upbio's Socio-environmental Responsibility Program with the participation of 36 residents. 22-November - Meeting to approach and present the Socio-environmental Responsibility Program for the Camarapi community. Invitation to communities via WhatsApp for the 4th Social Action conducted by “Fazenda Pacajá” and Portel City Hall. 07-December - Meeting with communities to present the CCB certification, apply the SBIA workshop and build the Theory of Change. Occurrence of the 4th Social Action conducted by “Fazenda Pacajá” and Portel City Hall with the participation of 282 people from more than 15 communities.

2.2.2 Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

2.2.3 Methodology Deviations (VCS, 3.20)

Section 5.2.4 of VM0015 v1.2 (section 1.2.4 of v1.1) describes the duration of a monitoring period. “The minimum duration of a monitoring period is one year, and the maximum duration is one fixed baseline period.” The current monitoring period goes from April 1, 2023, to December 31, 2023, covering only 9 months of 2023. Given this, a deviation from the methodology was necessary for the current monitoring report, to inform that the current monitoring report will cover 9 months of 2023.

This deviation was implemented to conclude the first baseline period of the project. Initially, the baseline period was set from September 12, 2017, to September 12, 2027. However, due to changes in the Verra Standard, the baseline period was adjusted to six years, from September 12, 2017, to September 12, 2023. In the current monitoring period, an exemption request letter was submitted to Verra to request an extension of the baseline period until the end of 2023, using version 1.2 of VM0015. Starting in 2024, the project will use the VM0048 methodology, and subsequent monitoring reports will be accounted for using this methodology. With this approach, the project will begin the new baseline period in 2024 (full year), avoiding confusion and ensuring the applicability of the new methodology.

It’s important to note that the deviation relates only to the criteria for the monitoring period and is not associated with any other part of the methodology. Finally, the deviation does not negatively impact the conservativeness of the quantification of GHG emissions reductions, as the quantification is still being conducted in accordance with all procedures and requirements established by the methodology.

2.2.4 Minor Changes to Project Description (CCB Program Rules, 3.5.6)

In the previous CCB Monitoring Report, referring to the second monitoring period, a minor change was reported regarding the frequency of monitoring for Indicator 7 – Impact of project activities on the remaining flora (section 5.3.1 - Biodiversity Monitoring Plan). The validated frequency in the Project Description (PD) was “Annually,” while in the previous, present and upcoming monitoring reports, it will be reported considering frequency as to “Each UPA exploratory cycle (final or partial).” This adjustment was made to ensure consistency with the availability of data for this indicator, which is collected at the end of each UPA exploration phase and consolidated in post-exploratory reports.

In addition, other minor changes were made in the previous Monitoring Report and are now described in the present MR.

In the Biodiversity Changes section (5.1.1), the biodiversity element considered in the Project Description (PD) was defined as: *Species of fauna and flora, including those with some degree of threat according to the IUCN Red List and Ordinance No. 148 from the National List of Endangered Species of the Ministry of the Environment.*

In the first CCB Monitoring Report, referring to the previous monitoring period, the expected changes regarding fauna and flora were detailed in three specific expected outcomes, allowing biodiversity changes to be reported in a more robust manner, taking into account the project's activities. Thus, the expected changes in the first CCB MR were described as: *Sampling of new fauna taxonomic groups and species, including the documentation of vulnerable ones*, during the monitored period as a result of enhanced sampling efforts in fauna monitoring; *Receipt of certifications attesting to the adoption of best practices related to fauna and flora* and *Maintenance of relevant biodiversity within Annual Production Units where sustainable forest management is conducted*.

This minor change aimed to specify the expected change throughout project implementation in relation to the monitored objects—as fauna and flora. For example, regarding fauna, the intention is to indicate which new taxa are recorded in each monitoring cycle compared to previous ones, in addition to identify the threat level of the species observed during the monitoring period covered by the MR.

With respect to flora, the aim is to assess post-harvest results in light of biodiversity conservation achievements in each harvest cycle, whether partial or final.

Finally, the maintenance of the Cerflor forest certification and the Onça-Pintada Institute certification demonstrates that the forest management activities carried out within the project area continue to follow the best practices outlined by these standards, promoting sustainability across economic, environmental, and social pillars.

In addition, regarding fauna monitoring for 2023, corresponding to the 3rd monitoring period (April–December 2023), a single survey campaign was conducted instead of the two campaigns initially planned and stipulated in the contract. This reduction was due to logistical constraints and challenges in securing qualified personnel. ABC Norte is coordinating with Upbio, the consultancy responsible for conducting the activity, to address these limitations and ensure that biannual fauna monitoring is implemented as scheduled in subsequent years.

2.2.5 Project Description Deviations (VCS, 3.21; CCB Program Rules, 3.5.7 – 3.5.10)

PREVIOUSLY MONITORING PERIODS

Change in the Project Participants:

Uezu Planejamento Ambiental S/S LTDA was removed as an Other Entity, as mapping responsibilities have now been assumed by the Project Proponent.

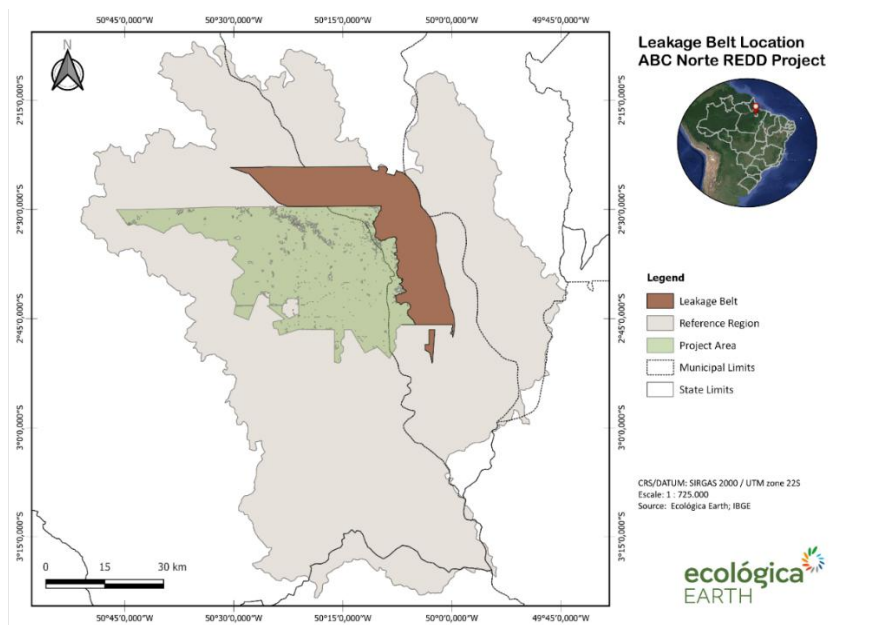
GWP Update:

According to the VCS Standard v4, the six Kyoto Protocol greenhouse gases and ozone-depleting substances shall be converted using 100-year Global Warming Potentials derived from the current and most recent data available. During this second monitoring period, the Global Warming Potential (GWP) for CH₄ and N₂O were updated according to the IPCC Fifth assessment Report (AR5), where GWP for N₂O = 265 and GWP for CH₄ = 28. This requirement was established as a future obligation placed during the validation process for the other monitoring of the ABC Norte REDD Project, including the recalculation of the baseline values, since the previous values of the IPCC Fourth Assessment Report (AR4) were being used, where it was GWP CH₄= 25 and GWP N₂O= 298.

Reduction of the Leakage Belt Area Due to Overlap with Another REDD+ Project:

In addition, during the second monitoring period an overlap was found between the ABC Norte REDD Project leakage belt and the Jutaituba REDD+ Project project area. Following the requirements of the methodology, the opportunity was taken to remove such overlaps reformulating the leakage belt during this monitoring period. The original Area of Leakage Belt was 81.217,32 ha and the overlapping represented a 6,686.81 ha area. Thus, the area of the leakage belt was delimited with 74,530.51 ha, as Figure 5 illustrates below:

Figure 4: Leakage belt location



Adjustment in the total forest area of the Project:

Furthermore, during the second period, an adjustment was made to the project area to ensure exclusively comprise forest areas on the Project Start Date. The area previously described was 140,432.27 ha. After reassessment, the area was adjusted to 140,117.09 hectares. With this adjustment, only 315,18 ha were removed, which represents 0.22% of the total project area. This adjustment reflects a minimal impact on the overall credit generation, remaining well under 5%.

The revision ensures the project area is accurately represented, without significant impacts on the project's environmental or financial outcomes.

The Ex-ante Calculations for the Leakage belt and project area were updated:

Table 3: Ex ante Annual areas deforested per forest class icl within the project area in the baseline case (baseline activity data per forest class)

Area deforested per forest class icl within the project area		Total baseline deforestation in the project area	
IDicl	1	annual ABSLPAt (ha)	ABSLPA cumulative (ha)
Name	Forest		
Project year t	ha		
2017	141.87	141.87	141.87
2018	333.20	333.20	475.07
2019	954.42	954.42	1,429.49
2020	933.64	933.64	2,363.13
2021	1,057.13	1,057.13	3,420.25
2022	1,338.99	1,338.99	4,759.25
2023	1,578.84 ³⁷	1,578.84	6,338.09
2024	1,712.21	1,712.21	8,050.29
2025	2,009.38	2,009.38	10,059.68
2026	2,278.70	2,278.70	12,338.37
2027	2,534.01	2,534.01	14,872.38
2028	2,666.88	2,666.88	17,539.25
2029	2,944.23	2,944.23	20,483.48
2030	2,992.23	2,992.23	23,475.71
2031	3,147.96	3,147.96	26,623.67
2032	3,332.59	3,332.59	29,956.25
2033	3,454.75	3,454.75	33,411.00
2034	3,463.71	3,463.71	36,874.71
2035	3,575.52	3,575.52	40,450.23
2036	3,626.22	3,626.22	44,076.45
2037	3,627.35	3,627.35	47,703.80
2038	3,640.82	3,640.82	51,344.62
2039	3,588.58	3,588.58	54,933.20
2040	3,555.99	3,555.99	58,489.19
2041	3,735.73	3,735.73	62,224.91

³⁷ This value was numerically adjusted in the current MR. More details are provided in Section 3.2.4, GHG Emission Reductions and Carbon Dioxide Removals.

2042	3,522.97	3,522.97	65,747.88
2043	3,457.32	3,457.32	69,205.20
2044	3,443.70	3,443.70	72,648.91
2045	3,488.36	3,488.36	76,137.27
2046	3,369.09	3,369.09	79,506.36
2047	3,300.59	3,300.59	82,806.94

Table 4. Annual areas deforested compared to PD in percentage in the project area

Area deforested per forest class icl within the project area		Total baseline deforestation in the project area	
IDicl	1	annual ABSLPAt (ha)	ABSLPA cumulative (ha)
Name	Forest		
Project year t	Ha		
2017	2.37%	2.37%	2.37%
2018	30.90%	30.90%	24.29%
2019	-16.24%	-16.24%	1.32%
2020	0.89%	0.89%	1.15%
2021	0.49%	0.49%	0.95%
2022	0.46%	0.46%	0.81%
2023	0.43%	0.43%	0.72%
2024	0.47%	0.47%	0.66%
2025	0.25%	0.25%	0.58%
2026	0.33%	0.33%	0.54%
2027	0.25%	0.25%	0.49%
2028	0.20%	0.20%	0.44%
2029	0.11%	0.11%	0.40%
2030	0.08%	0.08%	0.36%
2031	0.18%	0.18%	0.34%
2032	0.13%	0.13%	0.31%
2033	0.17%	0.17%	0.30%
2034	0.13%	0.13%	0.28%
2035	0.13%	0.13%	0.27%
2036	0.25%	0.25%	0.27%
2037	0.20%	0.20%	0.26%
2038	0.24%	0.24%	0.26%
2039	0.18%	0.18%	0.26%
2040	0.19%	0.19%	0.25%
2041	0.13%	0.13%	0.24%
2042	0.18%	0.18%	0.24%

2043	0.16%	0.16%	0.24%
2044	0.13%	0.13%	0.23%
2045	0.20%	0.20%	0.23%
2046	0.17%	0.17%	0.23%
2047	0.17%	0.17%	0.23%

Table 5: Annual areas deforested per forest class icl within the leakage belt in the baseline case (baseline activity data per forest class)

Leakage Belt			
Area deforested per forest class icl within the leakage belt		Total baseline deforestation in the leakage belt	
IDicl	1	annual ABSLLKt (ha)	ABSLLK cumulative (ha)
Name	Forest		
Project year t	ha		
2017	75.67	75.67	75.67
2018	253.40	253.40	329.08
2019	330.73	330.73	659.74
2020	379.41	379.41	1,039.87
2021	353.23	353.23	1,393.10
2022	432.03	432.03	1,825.13
2023	432.14 ³⁸	432.14	2,257.27
2024	484.48	484.48	2,741.75
2025	514.03	514.03	3,255.77
2026	524.28	524.28	3,780.05
2027	586.51	586.51	4,366.56
2028	628.35	628.35	4,994.91
2029	626.73	626.73	5,621.64
2030	695.03	695.03	6,316.67
2031	801.45	801.45	7,118.12
2032	788.55	788.55	7,906.67
2033	910.52	910.52	8,817.19
2034	938.07	938.07	9,755.26
2035	995.54	995.54	10,750.80
2036	1,038.30	1,038.30	11,789.10
2037	1,115.25	1,115.25	12,904.35
2038	1,140.20	1,140.20	14,044.55
2039	1,184.56	1,184.56	15,229.11
2040	1,286.97	1,286.97	16,516.08

³⁸ This value was numerically adjusted in the current MR. More details are provided in Section 3.2.4, GHG Emission Reductions and Carbon Dioxide Removals.

2041	1,270.80	1,270.80	17,786.88
2042	1,264.58	1,264.58	19,051.46
2043	1,323.33	1,323.33	20,374.79
2044	1,359.86	1,359.86	21,734.65
2045	1,368.53	1,368.53	23,103.17
2046	1,355.64	1,355.64	24,458.81
2047	1,370.88	1,370.88	25,829.69

Table 6: Annual areas deforested compared to PD in percentage in the leakage belt

<i>IDicl</i>	1	annual ABSLPA (ha) (%)	ABSLPA cumulative (ha) (%)
Name	Forest		
Project year t	Ha (%)		
2017	0.94%	0.94%	0.94%
2018	0.03%	0.03%	0.23%
2019	0.02%	0.02%	0.13%
2020	-0.19%	-0.19%	0.01%
2021	0.04%	0.04%	0.02%
2022	0.04%	0.04%	0.02%
2023	0.03%	0.03%	0.03%
2024	0.02%	0.02%	0.02%
2025	0.17%	0.17%	0.05%
2026	0.02%	0.02%	0.05%
2027	0.00%	0.00%	0.04%
2028	-0.06%	-0.06%	0.03%
2029	0.23%	0.23%	0.05%
2030	0.13%	0.13%	0.06%
2031	0.25%	0.25%	0.08%
2032	0.53%	0.53%	0.13%
2033	0.45%	0.45%	0.16%
2034	1.27%	1.27%	0.27%
2035	1.52%	1.52%	0.38%
2036	1.09%	1.09%	0.45%
2037	1.32%	1.32%	0.52%
2038	2.53%	2.53%	0.69%
2039	1.93%	1.93%	0.79%
2040	1.88%	1.88%	0.87%
2041	2.29%	2.29%	0.97%
2042	2.97%	2.97%	1.11%
2043	2.48%	2.48%	1.20%
2044	2.92%	2.92%	1.31%
2045	2.72%	2.72%	1.39%

2046	3.77%	3.77%	1.53%
2047	3.21%	3.21%	1.62%

The net GHG emission reductions and removals expected by the project activity of ABC Norte REDD project during the crediting period, including the changes to the project area and leakage belt are summarized in the table below:

Table 7: Summary of net GHG Emission Reductions and Removals

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Ex ante buffer credits (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
2017	87,608	126,634	13,141	0	0
2018	206,998	478,073	31,050	0	0
2019	593,526	499,220	89,029	7,277	0
2020	589,033	498,974	88,355	6,899	0
2021	673,447	503,593	101,017	14,600	0
2022	856,743	513,621	128,511	31,291	0
2023	1,016,556	522,365	152,483	45,857	171,919
2024	1,112,709	527,625	166,906	54,645	363,532
2025	1,311,182	538,484	196,677	72,736	503,284
2026	1,495,047	548,543	224,257	89,509	632,737
2027	1,670,645	558,151	250,597	105,532	756,365
2028	1,770,937	563,638	265,641	114,712	826,946
2029	1,953,955	573,651	293,093	131,387	955,823
2030	2,001,274	576,240	300,191	135,752	989,091
2031	2,113,711	582,391	317,057	146,029	1,068,233
2032	2,242,072	589,414	336,311	157,746	1,158,600
2033	2,331,593	594,312	349,739	165,933	1,221,609
2034	2,351,663	595,410	352,749	167,810	1,235,693
2035	2,431,879	599,799	364,782	175,140	1,292,157
2036	2,473,126	602,055	370,969	178,925	1,321,176
2037	2,482,043	602,543	372,306	179,765	1,327,427
2038	2,498,068	603,420	374,710	181,250	1,338,687
2039	2,470,461	601,910	370,569	178,758	1,319,224
2040	2,455,299	601,080	368,295	177,398	1,308,525
2041	2,569,050	607,303	385,357	187,745	1,388,643
2042	2,440,233	600,256	366,035	176,049	1,297,893
2043	2,399,661	598,036	359,949	172,362	1,269,314
2044	2,391,147	597,570	358,672	171,587	1,263,317
2045	2,416,994	598,984	362,549	173,930	1,281,530
2046	2,341,875	594,874	351,281	167,098	1,228,621

2047	1,604,970	413,894	240,778	113,905	836,393
Total	55,353,503	17,012,064	8,303,058	3,681,627	26,356,739

Table 8: Comparison between PD projected Emission reductions and post-deviation values

Current Total	55,353,503	17,012,064	8,303,058	3,681,627	26,356,739
Previous Total	55,479,763	17,018,972	8,321,997	3,684,665	26,454,119
%	0.23%	0.04%	0.23%	0.08%	0.37%

In Summary above the difference between the approved version and the updated one was less than 1%, so there was no need to recalculate the credits from the first MR.

The specific summary of GHG reductions and removals in the ABC Norte REDD project is included in the table below, which includes estimates of GHG emissions reduction (REDDt), calculations of buffer and leakage, and the calculation of tradable Verified Carbon Units (VCUt).

Adjustment to Community Names:

In earlier versions of this MR and associated documents, it was reported that the project involved 15 communities instead of the 13 indicated in the VCS PD. Upon thorough review, this information was found to be inaccurate. This deviation is intended to correct the discrepancies identified in previous submissions.

The VCS PD version 5, mentions 13 communities in its text and Figure 19 “Location of the communities around the Project Area”, these communities are:

1. Caminheiro do Bem
2. Deus Proverá
3. Divino Espírito Santo
4. Nossa Senhora de Aparecida
5. Nossa Senhora da Luz
6. Nossa Senhora do Bom Remédio
7. Nossa Senhora do Carmo
8. Nova Jerusalém
9. Santa Rosa

10. São Sebastião
11. Vista Alegre
12. Fonte de Luz
13. Cipoal

It's important to note that two communities cited in "Table 6—Summary of meetings and inputs to the ABC Norte REDD Project" were not included in the map: Cristo Salvador and Monte Sião (Santa Teresinha). Consequently, the number of communities in the VCS PD would be 15.

14. Cristo Salvador
15. Monte Sião

However, from the project's inception, some communities have merged, like São Sebastião and Cipoal known as São Sebastião do Cipoal, and "Santa Rosa" and "Nossa Senhora de Aparecida", others have changed names due to religious beliefs, such as Santa Teresinha now known as Monte Sião, and some have relocated in search of better living conditions.

Considering this, the correct number of communities is still 13. Are those:

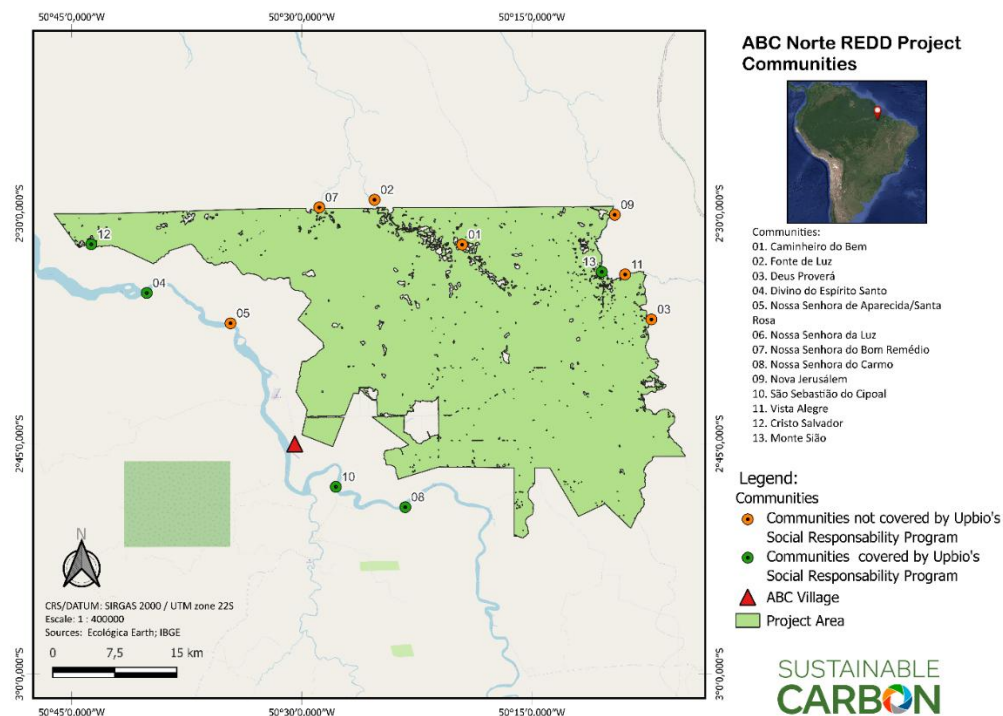
1. Caminheiros do Bem
2. Fonte de Luz
3. Deus Proverá
4. Divino do Espírito Santo
5. Nossa Senhora de Aparecida/Santa Rosa
6. Nossa Senhora da Luz
7. Nossa Senhora do Bom Remédio
8. Nossa Senhora do Carmo
9. Nova Jerusalém
10. São Sebastião do Cipoal (São Sebastião/Cipoal)
11. Vista Alegre
12. Cristo Salvador
13. Monte Sião

This error in the PD resulted in an additional mistake in the current MR, where it was incorrectly stated that 15 communities were identified by the ABC Norte REDD+ Project. This deviation serves to rectify both inaccuracies reported in previous documents.

The riverside communities are recognized as traditional communities with unique forms of social organization. Typically composed of people with kinship ties, these communities start with one or two families and grow over time as they settle in the region¹. However, conflicts between families can disrupt this unity and lead to the formation of separate communities.

In addition to kinship, religiosity plays a significant role in the formation of new communities, the creation of community identity, and the dynamics of social systems. Changes in religious beliefs within a group can lead to the separation of communities. These influences were identified in the diagnosis carried out by Upbio for ABC Norte (2023), as part of the PRS (Social Responsibility Program), which showed that most communities were founded by matriarchs and patriarchs, with names derived from their patron saints.

Therefore, it's important to reinforce that the numbers/names of communities can change over the years, due to the natural dynamics of riverside people. Despite these changes, the ABC REDD Project intends to consult all the communities foreseen in PD, even after changes of names or communities merging. Additionally, the benefits of certain activities implemented by the project extend beyond a single community. For example, environmental education programs and health initiatives have the potential to benefit multiple communities. All these changes were identified by Sustainable Carbon Team and reported to VVB.



Additionally, it is worth noting that the previously mentioned Camarapi community is, in fact, composed of three distinct community groups that are part of the Alto Camarapi region, a geographically state-recognized area along the Camarapi River. These communities are: Caminheiros do Bem and Fonte de Luz.

According to Article 3 of Decree 6040-2017, which establishes the National Policy for the Sustainable Development of Traditional Peoples and Communities:

“Traditional Peoples and Communities are culturally differentiated groups who recognize themselves as such, who have their own forms of social organization, who occupy and use territories and natural resources as a condition for their cultural, social, religious, ancestral, and economic reproduction, using knowledge, innovations, and practices generated and transmitted by tradition.”

Thus, the community group of Alto Camarapi identifies itself as two separate communities and will henceforth be addressed as such.

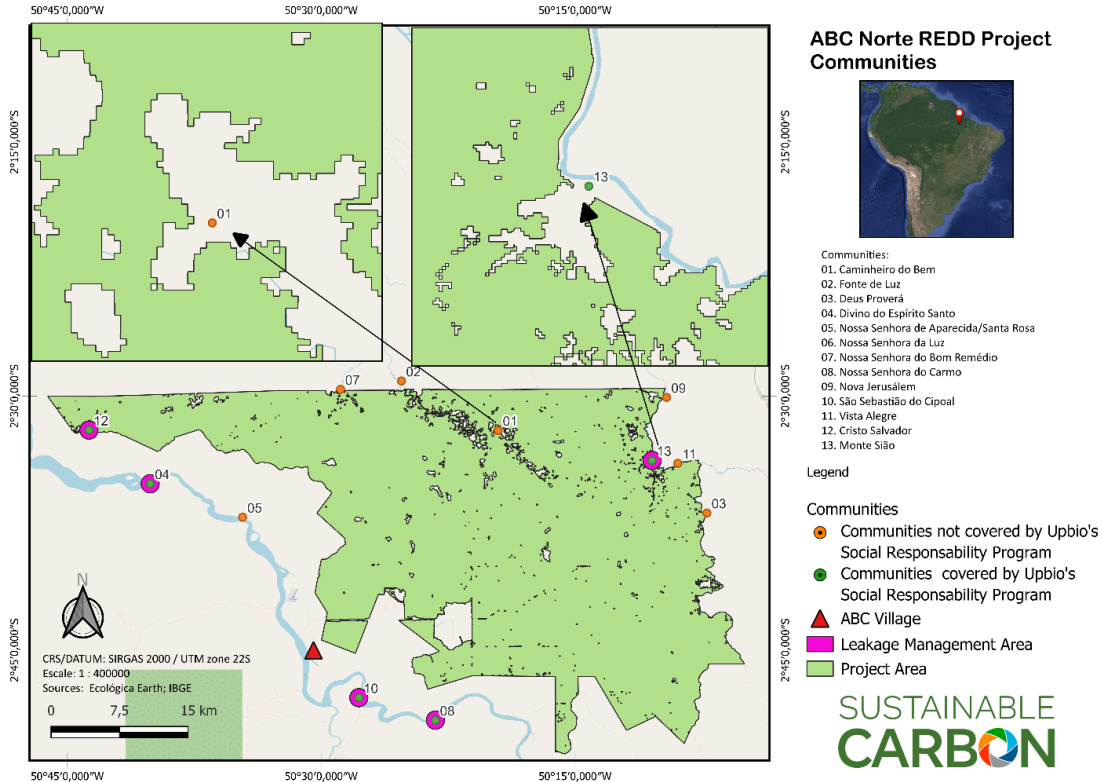
Mechanism for ongoing communication, grievance redress procedure and inclusion of communities in the Social Responsibility Program

In section 2.2, the VCS PD for the ABC Norte REDD Project presents a mapping of local stakeholders who may be affected by the project's activities. The list includes institutional stakeholders, private companies, educational institutions, as well as 13 communities within the project's reference area. During the project validation phase, 05 of these communities participated in the formal stakeholder consultation process. In the first monitoring period, ABC Norte maintained communication with institutional stakeholders and these 05 communities. However, due to the prolonged COVID-19 pandemic, the validation process, which was only finalized in January-2023, the distance of the communities, and other logistical challenges, a formal consultation was not conducted with 10 of the 13 communities identified by the project.

According to Section 3.18.18 of the VCS Standard v4.4, “The Project proponent shall take all appropriate measures to communicate and consult with local stakeholders in an ongoing process throughout the life of the project”. In line with this guideline, a Deviation is being proposed to present the engagement plan that ABC Norte will implement with the communities that were not included in the formal consultation process during the project validation phase. This engagement includes both formal communication about the project and the potential inclusion of these communities in the Social Responsibility Program (or PRS).

The following figure shows the current locations and names of the 13 communities identified as stakeholders in the ABC Norte REDD Project.

Figure 5: Location of the communities around the Project Area



The stakeholder consultation process for the validation of the ABC Norte REDD Project began in 2021 and, due to the COVID-19 pandemic, was conducted in two formats. Consultations with the communities took place in person from 25-June-2021, to 27-June-2021, while consultations with other stakeholders were conducted remotely on 13-July-2021. During this phase, members of the Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal communities were formally consulted about the project's objectives and stages, as well as the risks, costs, and benefits associated with the activities to be developed. Formal communication with these five communities was initiated for various strategic reasons.

The first reason was geographic distribution: the communities were required to be located upstream and downstream of the river, as well as on the opposite side of the property, creating a strategic barrier to contain potential deforestation areas. Additionally, the initially consulted locations were chosen for their proximity to other communities, which would facilitate the implementation of the future expansion plan. Another important factor considered was the presence of community leaders who already had prior contact with ABC Norte, enabling a swift and effective approach.

Moreover, the existing infrastructure at the time of the consultation played a crucial role in engaging with these 05 communities. For the communities accessed by land, priority was given to those closest to the main roads already established within “Fazenda Pacajá”, which helped optimize travel time, reduce resource usage and avoid deforestation for new road construction.

Additionally, for communities accessed by river, the proximity of community leaders to ABC Norte was taken into account, facilitating the execution of formal consultation.

As for the other communities located around “Fazenda Pacajá”, the absence of a formal consultation process regarding the project between 2017-2023 was due to various challenges.

Among the most critical challenges, logistics stand out. The communities are located in remote areas, often with limited or nonexistent infrastructure. The lack of adequate transportation routes necessitates rigorous logistical planning and the allocation of additional resources, complicating direct and continuous communication with these communities.

In addition to logistical challenges, people management becomes a critical factor as the increase in the number of communities leads to higher operational costs, including additional expenses for transportation, vehicle maintenance, hiring new professionals, training and others. In “Figure 11. Location of the communities around the Project Area” of the VCS MR, the number of communities as well as their locations are highlighted.

Another relevant factor, beyond the logistical and management challenges, is the absence of negative impacts on the communities resulting from the activities carried out under the project's scope. Although they were not formally consulted about the project until the conclusion of the second verification, the communities participate in various services and programs promoted by ABC Norte, ensuring a level of engagement and awareness of the organization's activities. Among these services are the ABC Norte's Social Responsibility Program, Social Action event, the Educator of Tomorrow Program, and healthcare services provided by the Basic Health Unit located at the Fazenda Pacajá headquarters, which are regularly offered and directly benefit members of these communities.

These communities include Caminheiros do Bem, Deus Proverá, Fonte de Luz, Nossa Senhora da Aparecida/Santa Rosa, Nossa Senhora da Luz, Nova Jerusalém, Santa Rosa, São Sebastião e Vista Alegre. These records demonstrate that these communities are engaged in the actions and initiatives promoted by ABC Norte, regularly accessing and utilizing the services offered by the company. This participation shows that, even without formal consultation, there is a positive and trusting relationship between ABC Norte and the communities.

In addition to these actions, ABC Norte holds the CERFLOR certification, which assesses five principles of sustainable forest management, one of which is “Principle 5 - Environmental, economic, and social development of the regions where forestry activities are carried out.” Obtaining this certification involved a third-party audit, in which the potential impacts and possible conflicts related to the management activities were analyzed. The conclusion of the audit was that there are no significant adverse impacts or conflicts between ABC Norte's activities and the neighboring communities, which supports the company's commitment to socio-environmental responsibility.

Recognizing the importance of expanding and strengthening communication with all stakeholders, including communities not yet formally consulted about the project, an Action Plan was developed. The Action Plan consists of four phases, discussed in Section 2.2.

Thus, from this Deviation, it was established that: a) during the baseline revalidation, all local stakeholders will be formally informed about the project, and b) from this revalidation, efforts will be directed towards the inclusion of these communities in the PRS.

It's important to note that since 2023 – after the end of this Monitoring Period, efforts have been made to initiate engagement with these communities, with an initial focus on Fonte de Luz and Caminheiros do Bem. In October-2023, the Program began systematic work in the community, promoting the structured dissemination of information about its areas of action, as well as the ABC Norte REDD Project. As a result, in the Program's strategic planning for 2024, the community was formally incorporated into the scope of monthly visits.

October-2023: on 28-October, an engagement visit was conducted in the community with 14 local residents present. The meeting took place at the home of Mrs. Neca, one of the oldest residents of the community, and was attended by the socio-environmental project manager of UPbio, along with representatives from “Fazenda Pacajá”. During the visit, an open dialogue about the PRS was established, sparking interest among community members, particularly regarding health services and support for productive activities. It was agreed that in a subsequent meeting, the community would be mobilized for an official presentation of the program. Additionally, the residents requested logistical support from the farm to participate in the Social Action at Vila ABC, scheduled for December.

Figure 6: Visit to the Fonte de Luz and Caminheiros do Bem Community on 28-October-2023



Source: PRS Monthly Report (October-2023)

November-2023: on 22-November, a presentation meeting of the PRS was held in the community with the aim of integrating it into the program's initiatives. The meeting brought together 14 residents, including local community leaders. During the meeting, the objectives of the PRS and the actions already implemented in the communities near “Fazenda Pacajá” were discussed, with an emphasis on the educational axis, promotion of productive activities and social and health support. Participants expressed interest in discussing the proposal with other community members to build trust in the PRS actions.

Figure 7: Visit to the Fonte de Luz/Caminheiros do Bem Community on 22-November-2023



Source: PRS Monthly Report (November-2023)

December 2023: on 07-December, Algar Farming - Fazenda Pacajá held the 4th Social Action at Vila ABC, an annual event aimed at providing health services, social assistance, beauty services, recreational activities for children, citizenship, and quality of life improvements for residents of the communities near the farm, including the Fonte de Luz and Caminheiros do Bem Communities. Additionally, the initiative included the promotion of productive activities with the organization of a community product fair, encouraging commercialization and generating income for local producers.

Figure 8: 4th Social Action by Algar Farming - “Fazenda Pacajá” (07-December-2023)



Source: PRS Monthly Report (December-2023)

October 2024: On 23-October-2024, an informational activity was held in the Nossa Senhora Aparecida/Santa Rosa community to strengthen engagement and share relevant information about sustainability and initiatives promoted by ABC Norte. During the meeting, details were presented on wildlife monitoring activities, the ABC Norte REDD+ Project, and training programs focused on income generation for local communities. Additionally, informational materials were distributed to the nine residents in attendance, enhancing understanding of the company's actions and encouraging active participation in socio-environmental development initiatives.

Figure 9: Visit to the Nossa Senhora Aparecida Community on 23-October-2024



Source: PRS Monthly Report (October-2024)

In the case of the Nossa Senhora da Luz and Santa Rosa communities, an initial approach was made in the first half of 2024. Although this visit was not carried out by the PRS, it played a crucial role in the engagement between the communities and the proponent, establishing the connections for future engagements within the stipulated timeframe.

Regarding the other communities, the engagement, communication and implementation of a formal communication channel and a grievance mechanism will occur in the baseline reassessment – which shall occur from 01-April-2023 onwards. This planning aims to ensure that all communities identified in this project are gradually and systematically engaged, allowing for effective integration and the continuous implementation of socio-environmental activities aligned with the objectives of the ABC Norte REDD Project. Furthermore, once all the planned communities are reached, the project will focus on maintaining ongoing communication and activities in these locations, including the grievance redress mechanism, as mentioned earlier, as required by Section 3.18.19 of the VCS Standard v4.4.

In any case, during the revalidation of the baseline, the LSC will be conducted to ensure that the communities are informed about the project's objectives and stages, as well as the benefits arising from the activities to be developed, enabling the improvement of the well-being and quality of life of the community members. Thus, considering that approximately 33% of local stakeholders have been consulted since the beginning of the ABC Norte REDD Project, and adopting a conservative approach, the risk score in the NPRR was adjusted from “-5” to “0”, according to updates made in the project's second VCS MR.

CURRENT MONITORING PERIOD

Initially, the baseline period of ABC Norte REDD Project was set from September 12, 2017, to September 12, 2027. However, due to changes in the Verra Standard, the baseline period was adjusted to six years, from September 12, 2017, to September 12, 2023. In the current monitoring period, an exemption request letter was submitted to Verra to request an extension of

the baseline period until the end of 2023, using version 1.2 of VM0015. Starting in 2024, the project will use the VM0048 methodology, and subsequent monitoring reports will be accounted for using this methodology. With this approach, the project will begin the new baseline period in 2024 (full year), avoiding confusion and ensuring the applicability of the new methodology. This deviation doesn't impact the applicability of the methodology, the project additionality, or the appropriateness of the baseline scenario, since the changes are related only to the monitoring period. As a result, the first baseline of the project starts on September 12, 2017, ending on December 31, 2023.

Project Proponent and Other Entities Change

The Project Design (PD) and 1st and 2nd MR of ABC Norte REDD Project were developed by Ecológica Assessoria, Sustainable Carbon was reported as Other Entities. During the third MR preparation, Sustainable Carbon replaced Ecológica Assessoria as one of the Proponents and as the carbon project developer. Consequently, Sustainable Carbon is now the Project Proponent and was removed from the "Other Entities Involved in the Project" section.

Pursuant to a contractual assignment, all responsibilities of Ecológica Assessoria were fully transferred to Sustainable Carbon. The deeds related to the changes in the Project Proponent were submitted to Verra via Project Hub and sent as evidence for the VVB.

Algar farming is now reported as Other Entity Involved in the Project. Algar Farming, a company under the corporate control of the Algar Group and founded in 2014, operates in the areas of Forest Management, Furniture Manufacturing, and the Carbon Market, the latter being directly related to the ABC Norte REDD Project. Algar Farming exercises corporate control over ABC Agropecuária Brasil Norte S.A. (ABC Norte), one of the project proponents. Together, they manage a total area of 145,000 ha, 110,286.67 ha of which are allocated to sustainable forest management. In this context, although the proponent remains ABC Agropecuária Brasil Norte S.A., both staff and the implementation of project activities are carried out under the structure and operational coordination of Algar Farming.

This deviation doesn't impact the applicability of the methodology, the project additionality, or the appropriateness of the baseline scenario, since the changes are related only to changes in the Project Proponent.

Adjustments of baseline values

During the current monitoring period, a reality check analysis was applied to ensure the adherence of the baseline values to the ex-post values. Consequently, a 25% reduction was applied to the projected baseline values in the current MR.

This deviation does not impact on the applicability of the methodology (reality check is a requirement of VM0015 methodology), the project's additionality, or the appropriateness of the baseline scenario (the adjustments were made only to the numbers; the project baseline remains applicable). Additionally, the analysis confirmed that the project continues to face deforestation pressure. The adjustment was made to ensure conservativeness and accuracy.

2.2.6 Grouped Projects (VCS, 3.6; CCB, G1.13-G1.15, G4.1)

Not applicable. This is not a grouped project.

2.2.7 Risks to the Project (CCB, G1.10)

The risk to the project analysis was carried out following the guidelines of the Climate, Community & Biodiversity Standards, v3.1, Section G1.10 and VCS AFOLU “Non-Permanence Risk Tool” v4.2, issued on 20-January-2023. The tables below presents all identified risks, their potential impacts and the mitigation measures necessary to minimize risks related to the project's climate, community and biodiversity.

Table 9. Risks identified according to Climate, Community & Biodiversity Standards, v3.1 Section G1.10

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Illegal logging and forest degradation	Reduction of forest carbon stocks, degradation of habitats, loss of biodiversity and weakening of project credibility.	Continuous monitoring of the project area through field surveillance activities and operational controls via satellite; implementation of forest management activities, which indirectly contribute through their presence in the project area, potentially preventing third parties from entering the area for degradation and illegal harvesting. Furthermore, continuous communication with stakeholders through the Social Responsibility Program (SRP) to encourage conservation practices and the reporting of illegal activities.
Forest Fires	Risk of fire spreading into the Project Area, causing forest degradation, biodiversity loss and safety risks for communities.	Continuous monitoring of the project area through field surveillance and satellite monitoring contributes to the early identification and monitoring of fire occurrence within the Project Area. In addition, project workers receive fire prevention and firefighting training to support rapid response and mitigation measures when necessary.

Illegal hunting within the Project Area	Decline of wildlife populations, particularly threatened and keystone species, leading to habitat imbalance, loss of ecosystem functions and reduced biodiversity benefits; potential indirect impacts on ecosystem resilience and community relations.	Continuous monitoring and surveillance of the project area combined with environmental awareness and stakeholder engagement activities conducted through the Social Responsibility Program (PRS).
Reduced willingness of communities to participate over time	Weakening of social benefits, increased conflicts, and indirect pressure on forest resources.	Maintenance of continuous stakeholder engagement through regular meetings, technical visits, consultations and ongoing communication activities conducted by the Social Responsibility Program (PRS). Development of socio-environmental initiatives aligned with community demands and local realities, as well as maintenance of accessible communication and grievance channels to encourage long-term participation and dialogue with stakeholders.

Table 10. Risks identified according to VCS AFOLU “Non-Permanence Risk Tool” v4.2, issued on 20-January-2023

Risk Category	Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Internal Risk	Financial Viability Project has secured 80 percent or more of the funding needed to cover the total cash out before the project reaches breakeven.	If the project does not have available callable financial resources to cover the total cash out before the project reaches breakeven, could impact on the maintenance of project activities, as well as the expected benefits for climate, community, and biodiversity.	The project has already reached the breakeven point, as shown in the Cashflow spreadsheet. Therefore, the risk associated with funding until the project reaches breakeven is no longer applicable.
	Opportunity Cost NPV of the most profitable alternative land use activity is expected to be greater than 50 percent and up to 100 percent more than that of project activities.	As described on the VCS Joint PD MR, the most likely alternative scenario is livestock production, as it is the most profitable one. The livestock production scenario has a higher NPV 72% higher than the REDD project scenario), as demonstrated in the cashflow spreadsheet.	Carbon credits will compose a significant income to the project activity to maintain its conservation operations and socio-economic benefits. The project is protected by legally binding commitment to continue management practices that protect carbon stocks, and they do cover the entire monitoring period. The contract between Sustainable Carbon and ABC Norte is valid for 40 years and ensure the management practices that protect the carbon stocks of the project ensuring the emissions reductions for the project's longevity. In addition, at the beginning of the project, in 2017, the project area already has a management plan implemented, which got

Risk Category	Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
			renewed in 2019, extending the sustainable forest management for more 35 years, i.e. management practices should be maintained until 2054. However, the ABC Norte, will certainly renew the SFMP after the end of the 35-year cycle. It is important to note that ABC Norte is allowed (and has the intention) to request the renewal of the sustainable forest management plan for more 35 years once this first period is over.
External Risk	Community Engagement More than 50 percent of stakeholders living within the project area and who are reliant on the project have been consulted.	The lack of communication and inclusion of all communities in a carbon project can lead to local conflicts and undermine the effectiveness of forest preservation. This may result in resistance, uncontrolled deforestation, and the loss of sustainable development opportunities for the affected areas.	A plan of action, encompassing both formal communication with other communities and potential inclusion in the ABC Norte Social Responsibility Program, has been developed. The Action Plan comprises four phases. The first phase involved reaching out to the remaining communities, informing them about the project and the grievance channels. The second phase took place during an edition of the Social Action at Fazenda Pacajá, with a session led by the ABC Norte and UPbio teams to present the project's objectives, expected benefits, and grievance resolution channels.

Risk Category	Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
			The third phase will occur during the stakeholder consultation for the project's revalidation, following the new methodology. The fourth phase involved renewing the contract with Uppio to include all 13 communities in the Socioenvironmental Responsibility Program. The Action Plan is further detailed in Appendix IV of the 2 VCS Monitoring Report, and in cases where communities cannot be reached, an additional plan outlined in Appendix V will be carried out.
Natural Risk	Fire (F) Increase of fires outbreaks	The increase in fire outbreaks can negatively impact the climate and biodiversity in the project area, as it can cause the loss of biodiversity (reducing species of fauna and flora, as well as their habitats) and also cause a loss of carbon stock in the region.	The management team performs monthly monitoring of the heat spots detected by INPE's program, allowing them to identify the spots that are most susceptible to fire outbreaks to send a team to assess their possible occurrence and take the appropriate measures to contain the possible fire outbreak, if necessary. Until 2022, the report was prepared annually. However, aiming to improve the collected information and enhance the monitoring of the environmental aspects, ABC Norte started developing the

Risk Category	Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
			reports both monthly and annually from 2023 onwards.
	Extreme Weather (W)	The extreme increase in weather is directly related to negative impacts on the climate and, consequently, on biodiversity and local communities, which can be negatively affected by an increase in the level of seas and oceans (consequently rivers), a decrease in animals used as a source of food (fish for example), loss of fauna and flora, etc.	No extreme weather events damaging the project area have been reported by the management team since the project start date. No measures are taken to address this matter, since it is a risk that does not depend on continuous monitoring neither will be mitigated through some action.

Risk Category	Rating
Internal Risk	11.0
External Risk	0.00
Natural Risk	6.00
Overall Risk Rating (a+b+c)	17

2.2.8 Benefit Permanence (CCB, G1.11)

The entire project has been designed and is being implemented to ensure that benefits are maintained beyond the project lifetime. Thus, in order to sustain and enhance climate, community and biodiversity benefits beyond the useful project lifetime, the project has been undertaken and will undertake a set of actions identified as a result of the demands raised by community members since the start date of the project (13-September-2017), especially through Upbio. These actions include promoting the creation of cooperatives or associations to diversify production, increase sales, and organize logistics. Additionally, providing cost-effective home storage solutions, ongoing diversification of cultivation and production techniques considering the skills of community members, and defining a dedicated space for community use have been determined. Other initiatives include implementing community engagement strategies, establishing formal consultation and deliberation processes, providing ongoing technical training activities for processing products, and developing a schedule of activities based on the community's willingness to explore alternative sources of income, along with maintaining studies on local fauna.

Concerning financial support, the proponents had the necessary resources to sustain project activities until the first VCS verification, which took place from 3-September-2017 to 31-December-2020. After this period, with the sale of part of the carbon credits generated by the project, the income was reinvested in socio-environmental actions for local communities and the conservation of local biodiversity.

Climate

The ABC Norte REDD Project aims to reduce and avoid deforestation, thus promoting the reduction of GHG emissions, benefiting the climate. To generate more climate benefits, constant and effective monitoring of the project area will be maintained during the project lifetime. Firefighting training sessions are conducted as a preventive measure to ensure that, in the event of adverse situations, employees can respond promptly to control potential damage. Additionally, revenue from Sustainable Forest Management implemented within the project area collaborates with the proponent's actions to monitor the project area and prevent invasion, illegal deforestation, and other actions that may harm the forest conservation project beyond its useful life.

Community

Community activities aim to improve the quality of life and well-being of people in local communities in various aspects. Training, workshops, fairs, conversation circles, and support for sustainable practices can enhance the community's relationship with the project and the environment, promoting capacities and alternatives for generating income for residents beyond the useful life of the project.

Collaborating with local communities ensures that project activities are tailored to their specific needs, leading to sustainable development and long-term economic growth. With these permanent extra incomes, local communities will ensure the permanence of social benefits while reducing pressure on adjacent forests, resulting in positive impacts on climate and biodiversity.

In addition, the consistent delivery of social and healthcare services over time provides improved access to better health conditions and contributes to an enhanced quality of life.

Ongoing communication and participatory consultation will be maintained with local communities throughout the project's life to ensure that activities achieve goals, considering their recommendations, feedback, and complaints. If necessary, activities can be adapted, excluded, and rebuilt as they aim to create environmental awareness that will benefit biodiversity, climate regulation, and the well-being of the community indirectly over generations.

Biodiversity

The project will conduct constant monitoring of biodiversity to observe impacts and changes in the population, behavior, and use of the area. This study is crucial to understanding the local fauna and flora and improving the conservation of priority species (threatened, threatened, endemic, etc.) by designing effective activities to protect them. Engaging local communities in biodiversity conservation is essential, emphasizing the importance of activities related to environmental conservation and education with these communities.

2.3 Stakeholder Engagement & Safeguards

2.3.1 Stakeholder Identification (VCS, 3.18, 3.19; CCB, G1.5)

ABC Norte REDD Project's stakeholders were identified through research and previous social activities developed by ABC Norte in the project area. The main stakeholders included representants from communities located within the project's reference region and near the project area's boundary, Governmental agents, Environmental and Agricultural Agencies, and private sector.

The criteria considered for the identification and analysis of stakeholders in the ABC Norte REDD Project considered:

- Regional influence;
- Institutional importance;
- Socio-environmental involvement;
- Direct and/or indirect involvement in the project;
- Location and relationship with the project area.

These criteria are well discussed in section 2.1.6 Stakeholder Identification of CCB Project Description.

Considering the criteria and stakeholders identification analysis, the main stakeholders considered in this project are:

Government agency and/or representatives - Direct public administration (State and Municipality)

- Prefeitura de Portel;
- Secretaria Estadual de Meio ambiente e Sustentabilidade;
- Secretaria Municipal de Meio Ambiente - Portel;
- Secretaria de Educação de Portel;
- ITERPA - Instituto de Terras do Pará;

Public Administration Company (Autarchy)

- INCRA - Instituto Nacional de Colonização e Reforma Agrária;
- IBAMA - Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais (IBAMA);
- ICMBio - Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio);
- SFB - Serviço Florestal Brasileiro.

Private companies

- NBX Serviços Florestais;
- AMPLA Consultoria Financeira;
- M&D Advogados;
- Sysflor Certificações Florestais;
- Upbio;
- Madeireira J&Y;
- JPR;
- Grupo Martins.

Communities

- Caminheiros do Bem
- Fonte de Luz;
- Cristo Salvador;
- Deus Proverá;
- Divino do Espírito do Santo;
- Monte Sião (Santa Terezinha) ;
- Nova Jerusalém;
- Nossa Senhora da Aparecida / Santa Rosa;
- Nossa Senhora da Luz;
- Nossa Senhora do Bom Remédio;
- Nossa Senhora do Carmo;
- São Sebastião do Cipoal;
- Vista Alegre.

Universities and education institutes

- Universidade Federal Rural da Amazônia - UFRA.

Non-governmental Organizations (NGOs)

- WWF Brasil;
- Instituto Florestal Tropical - IFT.

There have been no changes in the composition of stakeholders since the previous Monitoring Report (2nd MR, covering the period from January 2021 to March 2023).

Different phases of the project may require the inclusion of new actors or the reduction of involvement of others as priorities and challenges evolve. Therefore, the continuous analysis and adaptation of stakeholders are crucial to ensure that the project maintains its effectiveness and sustainability over time. Additionally, socio-economic diagnosis is carried out every year to identify changes in the local communities. Any future significant changes will be informed in this section.

2.3.2 Stakeholder Access to Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

The full ABC Norte REDD Project documentation, including project summary and monitoring report, are available on the VERRA website, along with other mandatory documents. Therefore, anyone interested in accessing it or obtaining more information can do so through the platform³⁹. Also, all projects supported by Sustainable Carbon are available on its website on which updated documents are accessible for consultation⁴⁰.

Regarding communities, the results of the referred monitoring period to communities were presented at a Social Action event held at Vila ABC on June 26th 2023, at Fazenda Pacajá, through a collective presentation to local residents.

In addition, the Project documentation – Monitoring Report Summary – corresponding to the 3rd VCS CCB MR (01-April-2023 to 31-December-2023) was made available in printed form, in the local language (Portuguese), at the ABC Norte office, at the Pacajé farm headquarters in Vila ABC, and at the different access checkpoints (security posts) to the project area.

For other stakeholders, as institutional ones, periodic meetings are conducted to update them on the project's activities, particularly regarding actions developed based on the project's Theory of Change (section “2.1.8 - Project Activities and Theory of Change” of CCB PD), and those related to emissions reductions and reduced forest loss in the project area, as those regarding spatial monitoring, patrolling and sustainable forest management. At the end of each meeting, communication channels are reiterated, and stakeholders are informed of the option to request project reports, which will be accessible on the VERRA Registry website.

2.3.3 Dissemination of Summary Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

³⁹ Available at: <<https://registry.terra.org/app/projectDetail/CCB/2558>>. Accessed on: 24 Apr. 2025.

⁴⁰ Project information can be found on <https://sustainablecarbon.com/en/projetos/abc-norte-project/> (English) and <https://sustainablecarbon.com/projetos/abc-norte-redd/> (Portuguese). Accessed on: 24 Apr. 2025.

Summary documents related to the ABC Norte REDD Project are made available and presented to local communities in the local language, ensuring a complete understanding of the project's objectives and the activities to be developed, especially within the communities. Additionally, the roles of the actors involved, their importance and responsibilities will also be detailed.

To ensure the access of project documentation and information on the referred monitoring period to communities, the results were presented at a Social Action event held at Vila ABC on June 26th 2023, at Fazenda Pacajá. The presentation of the results were through a collective presentation to local residents.

Figure 10. Presentation of the results of the third monitoring period, during the social event in Vila ABC, on 26 June 2025.



On this occasion, topics such as the project timeline up to that point, the certification process, auditing and MRV, the development and monitoring process of a carbon project, the role of related institutions, the presentation of emission reduction results, and social actions were addressed among other topics. In addition, community members were able to share their experiences regarding the activities carried out and clarify questions related to the project.

Regarding institutional stakeholders, during the site visit held in August 2025, an informational brochure about the project and the results of the 3rd VCS CCB MR was provided to institutional stakeholders, as well as to those interviewed remotely⁴¹. The brochure included a QR code providing direct access to all project documentation available on the Verra website⁴², and access to this documentation was reinforced at the time the material was delivered.

For subsequent monitoring reports, the approach will remain consistent, with adjustments made as needed to reflect the specific context of each community and the ongoing activities of the ABC Norte Project. Accordingly, summary reports and results in the local language will continue to be delivered and communicated to communities by a representative of Algar Farming or Upbio, through the ABC Norte Socio-environmental Responsibility Program.

Any questions regarding the project can be addressed at the time of delivery or through the established communication channels (see section “2.3.11 – Stakeholder Consultation Channels” and “4.3.2 – Monitoring Plan Dissemination”), ensuring that all necessary information is accessible to interested parties.

2.3.4 Informational Meetings with Stakeholders (VCS, 3.18, 3.19; CCB, G3.1)

In order to inform both local stakeholders and other stakeholders about the project results for the third monitoring period, as well as the upcoming audit and verification process, the following outreach activities will be organized:

- Local communities: Through in-person visits conducted prior to the site visit, targeting community representatives and local residents.
- Online meeting: To be held with other project stakeholders, particularly institutional stakeholders, scheduled prior to the verification visit.

These meetings will aim to:

- Present the project results for the monitoring period;
- Provide information about the audit process, including details on the verification body, the period of the site visit, and reinforce the importance of community and other stakeholders participation in the process;

⁴¹ Informational materials were delivered to representatives of the Secretariat of Environment and Sustainability of Pará, the Tropical Forest Institute (IFT), and the Federal Rural University of the Amazon (UFRA) in person, and sent online to a representative of the Chico Mendes Institute for Biodiversity Conservation (ICMBio) and Brazilian Forest Service (BFS).

⁴² <https://registry.verra.org/app/projectDetail/VCS/2558>

- Create space for questions and suggestions;
- Reinforce the communication channels and the grievance mechanism established within the project.

With respect to the CCB Standard, given that the CCB project for the ABC Norte REDD Project was developed with a retrospective approach, informational meetings with stakeholders began in December-2023, through a workshop focused on informing about CCB Standards and the development of the Theory of Change for the ABC Norte REDD Project. The activity took place during the year-end social action promoted by Algar Farming in Vila ABC, with the presence of six representatives of four of five communities involved in the Social Responsibility Program of the of the ABC Norte at the time (Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal). The invitation was sent through the WhatsApp channel, a widely used means of communication to engage with communities by Upbio.

Following the completion of the Theory of Change, a stakeholder consultation was conducted to present and validate the tool with Algar Farming and other stakeholders. This meeting took place in March-2024, with invitations extended to institutions such as IBAMA (Brazilian Institute of Environment and Renewable Natural Resources), ITERPA (Institute of Land of Pará), UFRA (Federal Rural University of Amazon) and SEMAS-PA (Secretary of State for the Environment and Sustainability of Pará), among others. No modifications to the project were suggested during this meeting. As a result, a streamlined document detailing the Theory of Change for the project was presented, outlining the key activities to be implemented based on the methodology, with a particular focus on community aspects due to their complexity.

Additionally, on 22-March-2024, Yara Fernandes, the Coordinator of Sustainable Carbon, conducted an online meeting with Bruno Moura Monteiro, a representative from UFRA, to address issues related to the CCB. This meeting was supplementary to the one held with other stakeholders on 18-March-2024, which UFRA was unable to attend. An in-person meeting was also conducted during the audit process with Bruno and other university representatives on 03-April-2024 to further discuss the issues covered during the online meeting.

Additional consultations with communities were conducted throughout 2023 and 2024 to strengthen engagement with other neighboring communities in the project zone beyond those attended by Social Responsibility Program. As a result, by the end of 2023 and throughout 2024, meetings were held with the Caminheiros do Bem, Fonte de Luz, Santa Rosa/Nossa Senhora Aparecida, Nossa Senhora da Luz, Deus Proverá, Nova Jerusalém, and Vista Alegre communities

to provide information on the co-benefit carbon project, communication channels, High Conservation Values (HCVs), and other relevant topics.

In the context of communities, activities are duly communicated in advance through the communication channel on Whatsapp (+55 91 98517 3832). Furthermore, through the PRS, Upbio conducts monthly visits to the communities to ensure continuous communication, allowing any issues involving the project to be reported and addressed by ABC Norte and Sustainable Carbon. The communication channels currently established for the communities can be found in section “2.3.11 - Stakeholder Consultation Channels”. As Upbio is committed to the social and environmental responsibility of these communities, respect for their cultural and organizational aspects is also ensured.

This approach aims to ensure that members are aware and informed about the planned initiatives, enabling effective participation and better coordination among all those involved.

2.3.5 Risks from the Project and No Net Harm (VCS, 3.18, 3.19)

The risk to the project analysis was carried out following the guidelines of the VCS AFOLU “Non-Permanence Risk Tool” v4.0, issued on 20-January-2023. The table below presents all identified risks, their potential impacts and the mitigation measures necessary to minimize risks related to the project.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Natural and human induced risks to stakeholders' wellbeing	Increase of fire outbreaks	The increase in fire outbreaks can negatively impact the climate and biodiversity in the project area, as it can cause the loss of biodiversity (reducing species of fauna and flora, as well as their habitats) and also cause a loss of carbon stock in the region.	The management team performs monthly monitoring of the heat spots detected by INPE's program, allowing them to identify the spots that are most susceptible to fire outbreaks in order to send a team to assess their possible occurrence and take the appropriate measures to contain the possible fire outbreak, if necessary. In addition, the team working on the farm in sustainable forest management activities receives training on firefighting and first aid.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
	Extreme Weather	The extreme increase in weather is directly related to negative impacts on the climate and, consequently, on biodiversity and local communities, which can be negatively affected by an increase in the level of seas and oceans (consequently rivers), a decrease in animals used as a source of food (fish for example), loss of fauna and flora, etc.	No extreme weather events damaging the project area were reported by the management team since the project start date. No measures are taken for addressing this matter, since it is a risk that does not depend on continuous monitoring neither will be mitigated through some action.
Risks to stakeholder participation	Lack of communication; Lack of participation of communities in the carbon project.	The lack of effective communication in a carbon project can lead to low engagement in project activities and, consequently, result in a misalignment between community needs and the proposed interventions. Inadequate communication can also lead to limited participation and/or local conflicts among community members, resulting in weakened local commitment and reduced engagement in activities that support sustainable development opportunities in the affected areas, undermining the effectiveness of forest conservation efforts.	The project implements the Socio-environmental Responsibility Program, which aims to support the communities surrounding Fazenda Pacajá, with the objective of contributing meaningfully to local development and to the quality of life of community members, taking into account the specific context and realities of each community. During the monitoring period, activities related to sustainable production practices, educational initiatives, and healthcare services were carried out in the communities supported by the Program. ⁴³

⁴³ With the aim of expanding and strengthening communication with all stakeholders, an Action Plan was developed to include communities that had not yet been formally consulted about the project. The Action Plan is incorporated into the 2nd Monitoring Report of the ABC Norte REDD Project (VCSSocialCarbonMR_ABC Norte REDD Project_2nd_01 01 2021_31 03 2023_v08.3 (1).pdf), available at the Verra registry: <https://registry.verra.org/app/projectDetail/VCS/2558>. Accessed on May 15, 2025.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			In addition, although a formal grievance mechanism had not yet been established at that time, given that the project was developed using a retrospective approach, the Standard Operating Procedure for Conflict Resolution (SOP 11) was in effect. This procedure outlined the communication process between the company responsible for the Sustainable Forest Management Plan (SFMP) of Pacajá Farm and the surrounding communities.
Working conditions	Occupational hazards inherent to the activity, such as: risks of physical accidents; risks of accidents due to exposure to chemical substances; and biological risks resulting from encounters with animals.	For workers, the main potential impact of occupational accidents is physical injuries, which may result in temporary or permanent health impairments. For the company, such risks can cause operational delays, increased financial costs, legal liabilities, reputational damage, and potential non-conformities with certification standards.	To ensure the implementation of health and safety measures, the company has developed a Standard Operating Procedure – SOP 10: Occupational Health and Safety. This document outlines the responsibilities related to the identification and implementation of actions to eliminate risks, the identification of preventive occupational health and safety measures, and details the procedures and actions to be taken in the event of an accident. In addition, an Internal Commission for the Prevention of Accidents in Rural Work (CIPATR) is maintained and workers are provided with Personal Protective Equipment (PPE). During the monitoring period, workers received training aimed at preventing workplace accidents. The forest management activities are also periodically audited under the Cerflor standard, which, among other aspects, monitors occupational health and safety conditions. The management activities as well as related accidents or incidents are monitored and recorded, when applicable, in the monthly reports of forest management activities

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Safety of women and girls	Involvement of any entity in any form of discrimination or sexual harassment	Any involvement in discrimination or sexual harassment can cause significant harm to the dignity, well-being, and mental health of affected individuals, particularly women and girls. It undermines social cohesion, damage stakeholder relationships, and negatively impact the social sustainability of the project.	The project proponent or any other entity involved in the design, implementation or monitoring of the project is not engaged in any form of discrimination or sexual harassment. The project does not endorse any form of discrimination or harassment.
Safety of minority and marginalized groups, including children	Social vulnerability resulting from limited access to essential services.	The lack of access to basic services, including education, health, housing and food, poses a safety risk to minority and marginalized groups by increasing their vulnerability to diseases, crises, and natural disasters.	The project develops social actions that promote the inclusion of these groups and reduce their vulnerability. During monitoring period
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Soil contamination resulting from fuel and lubricant spills.	Degradation of soil quality, affecting species dependent on soil for habitat and food; health risks from contamination of water sources; increased costs related to the remediation of contaminated areas.	The sustainable forest management plan includes the adoption of mitigation measures aimed at reducing the impact of the activity, such as: - Regular inspection and maintenance of machinery and chainsaws; - Do not wash equipment in the field; - Training for personnel handling fuel and workers involved in operations. In addition, the project has a solid waste management program, and in the monthly forest management activity reports, issues related to waste management, such as storage and transportation, are monitored and analyzed for compliance under Cerflor certification requirements.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Discrimination	Discrimination based on race, gender or ethnicity.	Discrimination at workplace can lead to inequitable access to opportunities, affecting people who are marginalized or discriminated against; a discriminatory workplace culture may hinder cooperation and can reduce morale and productivity. Considering activities related to communities, discrimination may result in economic inequality, if minority groups may lack access to income opportunities that could improve their livelihoods and can lead to increased tensions and conflicts between different community groups.	Regarding the communities, the activities carried out under the Socio-environmental Responsibility Program aim to broadly support local populations. The activities are designed to engage women, children, and the elderly, for example, by providing access to educational initiatives, technical guidance on sustainable production practices, and healthcare services, as implemented during the monitoring period. In terms of conduct, ABC Norte and Sustainable Carbon have a code of ethics that addresses issues related to the prevention of discrimination and prejudice of any kind, harassment — particularly moral and sexual harassment — and the promotion of fair, equitable, and safe working conditions for all. In their contractual agreements, the parties explicitly prohibit the adoption of illegal labor practices and, in particular, the acceptance of sexual harassment, moral harassment, or discrimination of any nature within their activities.
Sexual harassment	Cases of sexual harassment in the workplace. Lack of clear prevention policies.	Sexual harassment can impact, especially in the workplace, on employee well-being, leading to reduced job satisfaction, absenteeism, and turnover. It can also lead to a toxic work environment, resulting in decreased productivity and to a lack of trust in the management, affecting overall organizational performance	The project proponents comply and follow with all relevant laws and regulations covering workers' rights in Brazil and they are communicated to each employee upon hiring. The same can be verified through research in labor justice institutions, via the Negative Labor Debt Certificate (CNDT). In addition, both companies have reporting channels available for the registration of complaints: https://www.algar.com.br/canaldeetica/ and https://www.contatoseguro.com.br/pt/carboncommunicationchannel, by Sustainable Carbon.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Equal pay for equal work	Pay gap between men and women. Lack of transparency in remuneration policy.	Gender inequality payment can lead to reduced perception of fairness, dissatisfaction, and conflicts among employees and contractor. In addition, can lead to legal risks and reputational damage.	In terms of conduct, ABC Norte and Sustainable Carbon have a code of ethics that addresses issues related to the prevention of discrimination and prejudice of any kind, harassment — particularly moral and sexual harassment — and the promotion of fair, equitable, and safe working conditions for all. The project proponents comply and follow with all relevant laws and regulations covering workers' rights in Brazil and they and are communicated to each employee upon hiring. The same can be verified through research in labor justice institutions, via the Negative Labor Debt Certificate (CNDT). In addition, both companies have reporting channels available for the registration of complaints: https://www.algar.com.br/canaldeetica/ and https://www.contatoseguro.com.br/pt/carboncommunicationchannel
Gender equity in labor and work			
Forced labor ⁴⁴	Exploitation of workers.		Both proponent companies have a code of ethics that addresses human rights issues, aiming to combat child labor, forced labor, or labor analogous to slavery, including among their suppliers. Regarding project development, the parties incorporated this topic into the contract, stipulating that they "do not employ labor that constitutes child labor nor allow practices of degrading labor or labor analogous to slavery, in accordance with the provisions of the Federal Constitution, the Consolidated Labor Laws (CLT), the Penal Code, the Statute of Children and Adolescents, and other applicable legislation." All relevant laws
Child labor	No risk identified	Not applied, as no risk was identified	
Human trafficking	No risk identified	Not applied, as no risk was identified	

⁴⁴ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			and regulations covering workers' rights in Brazil are followed by the Project's instances and are communicated to each employee upon hiring. The project is in full compliance with applicable labor laws and regulations which can be verified through research in labor justice institutions, via the Negative Labor Debt Certificate (CNDT). In addition, both companies have reporting channels available for the registration of complaints: https://www.algar.com.br/canaldeetica/ and https://www.contatoseguro.com.br/pt/carboncommunicationchannel, by Sustainable Carbon.
Recognition of, respect of, and promotion of the rights to IPs, LCs and customary rights holders	No risk identified	Not applied, as no risk was identified	The project follows the Convention on Human Rights and the declaration of rights of indigenous and original peoples and there has been no disrespect. The project is being developed in a private area and respects all the rights of the nearest community and supports the community close to the project area.
Preserving and protecting cultural heritage	Imposed development models and disregard of sustainable practices embedded in cultural norms.	Imposed activities and disregard for traditional practices may lead to a lack of trust in project activities and to low engagement and commitment to proposed interventions. This can result in weakened relationships between the communities and the project, and consequently, reduced community cooperation in ecosystem management due to lack of inclusion or recognition.	This aspect is audited under the Cerflor certification obtained by the company, following the guideline: "The rights of local, traditional, and Indigenous populations regarding the use and occupation of forest lands must be respected, in accordance with applicable legislation." In addition, the project implements the Socio-environmental Responsibility Program, which aims to support the communities surrounding Fazenda Pacajá, with the objective of contributing

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Protecting and preserving property rights, customary rights, or protecting legal or customary tenure/access rights to territories, property, and resources, including collective and/or conflicting rights	No risk identified	Not applied, as no risk was identified	meaningfully to local development and to the quality of life of community members, taking into account the specific context and realities of each community. Some of the communities located near the project area are continuously engaged through the Social Responsibility Program and an action plan has been developed to include other neighboring communities that are not yet covered. Also, during PD CCB inception (section 2.1.8), a workshop was conducted with local communities representatives to build the Theory of Change, a participatory framework used to guide the actions to be developed with local communities.
Impacts on biodiversity and ecosystems	Disturbance to wildlife due to machinery movement and trail opening	Disturbance to wildlife, including stress, displacement, or habitat disruption, as a result of machinery movement and trail opening, which may temporarily affect ecosystem health and local biodiversity.	The sustainable forest management plan includes the adoption of mitigation measures aimed at reducing the impact of the activity, such as: - Adoption of careful planning to optimize the layout of roads in order to reduce their density within the forest project area; - Monthly monitoring of forest management activities, including felling, skidding, bucking, transportation, and the maintenance of roads and log landings. - Operational training for workers involved in forest operations. During the monitoring period, the project was certified according Onça-pintada certification, attesting the adoption of practices that contribute to the species' sustainability.
Soil degradation and soil erosion	Soil compaction due to machinery traffic in forest operations;	Soil compact from machinery traffic and increased soil erosion on slopes and	The sustainable forest management plan includes the adoption of mitigation

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
	Increased soil erosion on slopes and exposed areas.	exposed areas can lead to reduced soil fertility, impaired water infiltration, and sedimentation in nearby water bodies, ultimately affecting ecosystem health and biodiversity.	measures aimed at reducing the impact of the activity, such as: - Planning of extraction routes to minimize traffic intensity; - Restricting machine access in wet conditions to avoid rutting; - Use of equipment specifically designed for forest operations, featuring undercarriage systems equipped with low-pressure tires or tracks. - Operational training for workers involved in forest operations In addition, a monthly monitoring of forest management activities is conducted, including felling, skidding, bucking, transportation, and the maintenance of roads and log landings.
Water consumption and stress	Siltation and water pollution, resulting from the construction of forest roads and the movement of equipment near rivers and streams.	Siltation and water pollution can lead to the degradation of aquatic habitats, affecting fish and other aquatic organisms that are essential for ecosystem balance and for the subsistence of local communities. For local stakeholders, reduced water quality may negatively affect access to clean water for domestic use, subsistence fishing, and small-scale agriculture.	The sustainable forest management plan includes the adoption of mitigation measures aimed at reducing the impact of the activity, such as: - Adoption of careful planning to optimize the layout of roads in order to reduce their density within the forest project area. - Construction of roadside ditches and retention boxes to prevent the transport of solid particles into water bodies. - Construction of bridges with appropriate measures to prevent water impoundment, erosion, and damage to Permanent Preservation Areas (PPAs); - Operational training for workers involved in forest operations. In addition, a monthly monitoring of forest management activities is conducted, including felling, skidding, bucking, transportation, and the maintenance of roads and log landings.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Habitats (and areas needed for habitat connectivity) for rare, threatened, and endangered species	Damage to the remaining forest; Opening of clearings during forest harvesting operations;	Loss of ecosystem services; loss of habitat for threatened or endemic species; disruption of ecological processes and population decline; reduced landscape connectivity; barriers to wildlife movement; degradation of forest structure and increased fragmentation.	The sustainable forest management plan includes the adoption of mitigation measures aimed at reducing the impact of the activity, such as: - Road planning supported by the base map (topographic unit), taking into account the spatial distribution of species; - Identification of remnant trees, legally protected species, and rare species on the felling and skidding map; - Application of directional felling techniques; - Protection of nesting trees; - 100% vine cutting during forest inventory; - Training courses for workers involved in operations
Areas needed for habitat connectivity	Reduction in biodiversity.		
Invasive species	No risk identified	The project's main objective is forest conservation, the planned activities do not involve the use or introduction of species, whether fauna or flora. Thus, it is not expected that the population of any invasive species will increase as a result of the project activities.	The continuation of Sustainable Forest Management practices, along with the fauna monitoring campaigns and the Social Responsibility Program in communities adjacent to "Fazenda Pacajá", is essential for monitoring the presence of invasive species in areas impacted by the ABC Norte REDD Project.
Ecosystem conversion	Loss of forest cover; Loss of biodiversity; Loss of ecosystem services (forest-related, water, soil, climate).	Conversion of native forest to non-forest land uses may lead to severe impact on ecosystem health which may be compromised through soil erosion, altered hydrological cycles, and habitat fragmentation, posing risks to both flora and fauna populations.	The project implements a Sustainable Forest Management Plan (SFMP) that is certified under the Cerflor scheme (Brazilian Forest Certification Program recognized by PEFC where reduced impact logging techniques are employed to minimize disturbance. Additionally, the project conducts spatial monitoring of both the project area and adjacent buffer zone to detect heat spots, deforestation events, and other anthropogenic activities that

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
		These impacts may lead to reduced access to forest resources.	could pose risks to forest integrity. When potential risks are identified, the field patrol team is deployed to respond promptly. The project also maintains continuous engagement with local communities through its Social Responsibility Program, fostering stakeholder involvement and cooperation via sustainable development initiatives, social support actions, and educational activities.

2.3.6 Community Costs, Risks, and Benefits (CCB, G3.2)

Since its inception, the ABC Norte REDD Project has conducted participatory consultations with the communities to understand their real needs and potential activities to be developed based on the demands of the communities involved in the Socio-environmental Responsibility Program. Additionally, the project has been designed to bear no costs for the communities, as all project activities will be funded by the project proponents. On the contrary, activities are planned to enhance the well-being of people living in the project area, including income generation.

During the visit to implement the workshop for the elaboration of the Theory of Change with the communities in 07-December-2023, the socio-environmental technical team of Sustainable Carbon made a presentation reinforcing that the project will not negatively impact the communities. The activities already developed in the communities and those that will continue to occur have the sole objective of positively impacting and offering improvements (according to the context and demands of the residents) for local well-being. During the visit, it was evident that the community members had a positive perception of the project, as they witnessed improvements in their way of life (such as fish and poultry farming) after the commencement of the visits and activities from the Socio-environmental Responsibility Program carried out by Upbio.

Thus, based on the Theory of Change outlined in section “2.1.8 - Project Activities and Theory of Change” of CCB's PD and considering the concept of risk presented by SBIA as “pre-existing conditions”, i.e., something that can prevent the success of the project's outcome, possible risks were identified in the causal chain of the proposed activities for the communities. These risks include internal conflicts, unfair competition, weather fluctuations, low community participation, barriers to access to information, misalignment of objectives among community members and lack of adherence to formal consultation and deliberation processes (see section “2.3.4 - Community Costs, Risks and Benefits” of CCB's PD).

On the other hand, it is observed that the strategies for mitigating the identified risks are, to a certain extent, integrated with the causality developed in the aforementioned section. For example, the mitigating measure related to the implementation of robust communication strategies to elucidate community members about the importance of the procedures and their benefits is encompassed in the activity “establish formal processes of consultation and deliberation”. This activity, among other expected results, seeks the implementation of deliberations in a representative manner.

It is also important to highlight that continuous communication between the project team and the local communities through Upbio's monthly field visits ensures not only the dissemination of information but also the prompt identification and mitigation of any complaints related to risks in the communities.

The communication of risks and mitigation measures coincided with Upbio's scheduled visit to the communities covered by the Socio-environmental Responsibility Program, that occurred on 29-February-2024 (see section “2.2.2 - Dissemination of Summary Project Documents ”). It is noteworthy that the visit to the Alto Camarapi communities (Caminheiros do Bem and Fonte de Luz communities), given its preliminary nature, will primarily focus on presenting the ABC Norte REDD Project.

Finally, all communities have an online message number with the project proponents “Comunicação Fazenda Pacajá Algar Farming” (+55 91 98517 3832). This channel is used to facilitate communication and the management of information on local activities and actions, including potential risks.

2.3.7 Information to Stakeholder on Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

Multiple measures have been taken since the project's inception to ensure that stakeholders, including community members, are informed about the audit process and the auditors' site visits. The project has previously undergone validation and two verification periods under the VCS and

SOCIALCARBON standards, as well as validation and first verification under the CCB standard. Throughout these processes, communication with stakeholders regarding the audit was consistently maintained. During the CCB Project Design Document (PDD) development, community members actively participated in the Theory of Change workshop, during which the validation and verification procedures were thoroughly explained. It was emphasized at the time that a team would later visit the communities to verify the information gathered during the workshop and other project activities.

For the current monitoring period, stakeholders will be informed about the verification process through multiple channels:

- Integration of visits: The field visit for CCB verification will be coordinated with Upbio's scheduled community visits to optimize engagement and maximize community participation during meetings with the audit team.
- Verbal communication by Upbio representatives: Communities will be informed in advance about the auditors' visit through verbal communication during regular monthly visits, as well as via WhatsApp messages related to activities under the Social and Environmental Responsibility Program (PRS).
- Distribution of Summary Project Documentation: a summary of the project, including results from the referenced monitoring period, will be delivered in Portuguese (the local language) to community leaders to ensure they have access to relevant information prior to the site visit.
- Stakeholder Consultation: a consultation prior to the audit visit including stakeholders beyond local communities will be conducted and will provide an explanation of the verification processes and results as part of the project presentation.

Additionally, the ABC Norte REDD Project has established a dedicated grievance redress mechanism, through which any interested party can request clarifications and access information related to the project and its processes.

2.3.8 Site Visit Information and Opportunities to Communicate with Auditor (VCS, 3.18.6, 3.19; CCB, G3.3)

Multiple measures have been undertaken to ensure that stakeholders, including community members, are informed about the audit process and the auditors' site visits. These efforts includes:

- Ongoing communication since project inception: The project had previously been validated and underwent two VCS and SOCIALCARBON verification periods, during which communication with stakeholders regarding the audit process was consistently maintained.

- **Workshop on Theory of Change:** Community members actively participated in the Theory of Change workshop, during which the validation and verification processes for CCB standard were thoroughly explained. It was emphasized that a team would later visit the communities to verify the information gathered during the workshop and other project activities.
- **Integration of visits:** The field visit for the CCB project validation and first CCB verification was organized alongside Upbio's visits to the communities. This approach was intended to maximize community participation during the auditors' meetings.
- **Use of verbal communication by Upbio representatives:** Communities were informed in advance about the auditor's visit through verbal communication by Upbio representatives during the monthly visits held in the communities, as well as via WhatsApp regarding activities planned under the Social and Environmental Responsibility Program (PRS).

During the field visit regarding the third monitoring period, community members will be informed about the audit process, including its objectives and the importance of their participation. They will also be invited to engage in discussions with the auditor.

For other stakeholders, information about the visit and opportunities to communicate with the auditor will be shared through an online consultation. Additionally, the Sustainable Carbon team will make itself available to clarify any questions and share the main communication channels to ensure accessibility.

Communication efforts will also focus on ABC employees and subcontracted companies, who are directly involved in the project activities. These stakeholders will be informed about the site visit and related processes through oral communication, ensuring they keep up to date and have the opportunity to clarify any questions.

The site visit process will be facilitated by the teams from Sustainable Carbon, ABC and Upbio, who will be present throughout the audit. The audit interviews between the auditors and the community members will be conducted confidentially. During the CCB verification audit, the VVB shall have a local expert to support translate auditor's information for the community and other stakeholders' representatives. This approach aims to ensure a transparent and effective audit process, fully meeting the requirements and expectations of all stakeholders.

2.3.9 Stakeholder Consultation (VCS, 3.18; CCB, G3.4)

Ongoing consultation	During the monitoring period (April to December 2023), the project proponent, in partnership with Upbio, maintained regular communication with stakeholders, particularly local communities,
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	through the Socio-environmental Responsibility Program (PRS). Monthly visits were conducted to the five participating communities (Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal), during which verbal communication was used to share information about project activities and the upcoming audit process. Regarding CCB Standard, given that the CCB project for the ABC Norte REDD Project was developed with a retrospective approach, informational meetings and consultation with stakeholders began in December-2023 (CCB PD ABC Norte REDD Project). However, other consultations were conducted after the monitoring period to expand communication and integration of the other communities identified in the project zone into the project. The consultations and meetings are detailed below.
Date(s) of stakeholder consultation	Before and during the monitoring period, stakeholder consultations were conducted for the validation and verification of the first two periods of the ABC Norte REDD project, under the VCS and SocialCarbon standards. Due to the retrospective nature of the CCB PD development, the first formal consultation, in accordance with this standard, took place in December 2023. The dates of the consultations held with the communities are detailed below.
Communication of monitored results	Information about the project was presented through informational materials, with indication of communication channels to the project, dialogue among the UpBio team during community visits, and presentation of information, such as the Theory of Change workshop. Informational meetings regarding the current monitoring period will be conducted prior to site visit.
Consultation records	Records of consultations were documented through attendance lists, photos, and reports produced by Upbio. The project also maintains a permanent communication channel via WhatsApp. The results of the December 2023 Theory of Change workshop and community feedback are detailed in Section 2.1.8 of the PD CCB and serve as evidence of participatory consultation aligned with CCB requirements.
Stakeholder input	Based on the consultations with communities, for the validation of the Theory of Change in the December 2023 workshop, some activities were adjusted and integrated into ABC Norte's Social Responsibility Program (PRS), according to what was said by the communities in accordance with the local reality. The demand for increased capacity-building and income-generating activities, such as fish farming and reforestation with agroforestry systems, were incorporated into the PRS schedule for 2024. In addition, inputs from consultations for HCV identification were considered for the development of the CCB PD, as well as the inclusion of communities in the PRS, such as Santa Rosa/Nossa Senhora Aparecida.

Stakeholder consultations conducted between 2017-2023 addressed aspects related to the VCS Standard and the SOCIALCARBON, as the first two monitoring periods of community and biodiversity benefits of the ABC Norte REDD Project were conducted and verified in accordance with the SOCIALCARBON Standard methodology⁴⁵. During the current monitoring period, third VCS MR, the verification of the second monitoring period site visit was conducted in July 2023 where stakeholders had the opportunity to engage with auditors in previous verification. At that occasion, four out of the five communities participating in the PRS were visited: Monte Sião, Divino Espírito Santo, São Sebastião do Cipoal and Nossa Senhora do Carmo communities. Unfortunately, the Cristo Salvador community could not be included in the site visit due to logistical challenges.

Stakeholder consultations specifically related to the CCB Standard for co-benefits began in 2023. The first consultation was held during the site visit of Sustainable Carbon Socio-environmental technical team in December-2023, as PD CCB was developed in retrospective approach. The workshop was conducted in a participatory manner with the aim of Theory of Change development, that is, allowing community perspectives to directly influence the design and outcomes of the project. The workshop involved community leaders from the communities already included in the ABC Norte Social Responsibility Program at that time and served as a way to demonstrate the project's benefits in improving the well-being and quality of life of the communities (see 2.1.8 - Project Activities and Theory of Change PD CCB).

After completing the Theory of Change, a stakeholder consultation was held to present and validate the tool with Algar Farming and other stakeholders. The meetings took place on March 2024, with invitations sent to institutions such as IBAMA (Brazilian Institute of Environment and Renewable Natural Resources), ITERPA (Land Institute of Pará), UFRA (Federal Rural University of the Amazon), and SEMAS-PA (State Secretariat for Environment and Sustainability of Pará), among others. No modifications were suggested during the meeting. As a result, a simplified document was shared, outlining the main activities to be implemented based on the methodology, with a particular focus on community aspects due to their complexity. Contact information for Sustainable Carbon and ABC Norte was made available at the end of the meeting. Communication can be carried out via letter, email or telephone.

The influence of this consultation process on the design and implementation of the Project is evident in the way the activities defined in the Theory of Change were incorporated into the scope of activities of the ABC Norte Social Responsibility Program. The strategic planning of PRS

⁴⁵ Stakeholder consultations were described in corresponding sections of both the PD Joint 1st MR VCS Social Carbon and the 2nd MR VCS Social Carbon, detailing the stakeholders consulted and comments made during consultation. Both documents are available at: <<https://registry.terra.org/app/projectDetail/VCS/2558>>. Accessed on: May 22, 2025.

activities is also a participatory process that takes place at the beginning of each year, aimed at designing the Program's activities starting in 2024. What occurred in March 2024 was that, following the community consultations conducted by Upbio, a meeting was held between Sustainable Carbon and Upbio to include activities that would directly or indirectly influence the Project's Theory of Change. This collaborative process resulted in an action plan for 2024, which integrates the community's contributions into a strategic schedule of activities. This plan not only includes community-focused initiatives but also actions that contribute to climate and biodiversity conservation.

Furthermore, through the PRS, Upbio conducts monthly visits to the communities to ensure continuous communication, allowing any issues involving the project to be reported and addressed by ABC Norte and Sustainable Carbon.

In October 2023 the project initiated engagement with another community (Caminheiros do Bem), which is located within the farm area, although it is not situated within the Project Area. On October 28 of that year, an introductory visit was conducted with 14 residents of the Caminheiros do Bem community at the residence of Mrs. Neca. The visit aimed to establish a dialogue and explain the PRS and the Carbon Project and its objectives. It was agreed that another meeting would be held for the official presentation of the PRS, including participation from the community.

On November 22, 2023, a second meeting took place with fourteen participants from Caminheiros do Bem and Fonte de Luz communities. On this meeting, the project was presented, focusing on the objectives of the PRS, historic of the social and environmental actions carried out since 2018 in communities near Fazenda Pacajá. It was highlighted that the PRS and Upbio Team serve as a communication channel for the project.

As a means of community inclusion in the PRS, there was a planned activity scheduled for February 20, 2024. However, the activity did not take place due to lack of consent due to absence of established leadership at the time. Out of respect for the request, the activity was canceled. To address this situation, the project continued to maintain contact, and representatives from the Camarapi communities participated in the consultation held in 2025, as presented below.

In July 2024, the project initiated the identification of High Conservation Values (HCVs). As part of this process, the communities of Santa Rosa/Nossa Senhora Aparecida and Nossa Senhora da Luz were visited, and communication channels were established. Following this initial contact, the Santa Rosa/Nossa Senhora Aparecida community reached out to the Proponent to request inclusion in the Social Responsibility Program, which was implemented starting in October 2024.

On 23-October-2024, an informational activity was held in the Nossa Senhora de Aparecida/Santa Rosa community to strengthen engagement and share relevant information about sustainability and initiatives promoted by ABC Norte. During the meeting, details were presented on wildlife monitoring activities, the ABC Norte REDD+ Project, and training programs focused on income generation for local communities. Additionally, informational materials were distributed to the nine residents in attendance, enhancing understanding of the company's actions and encouraging active participation in socio-environmental development initiatives.

On November 15, 2024, ABC Norte carried out another planned action, sending a team to visit the communities of Deus Proverá, Nova Jerusalém, and Vista Alegre. During the visits, the REDD+ carbon project, communication channels, and grievance mechanism were presented.

On December 6, 2024, a Social Action event was held as part of the Social Responsibility Program. The event brought together representatives from 12 of the 13 communities identified for the project, including Cristo Salvador, Caminho do Bem, Deus Proverá, Divino Espírito Santo, Fonte de Luz, Santa Rosa/Nossa Senhora Aparecida, Nossa Senhora do Carmo, Nossa Senhora da Luz, Nova Jerusalém, Monte Sião, São Sebastião do Cipoal, and Vista Alegre. As part of this event, a stakeholder consultation for the ABC Norte REDD Project took place. To ensure equal access to key information, printed materials with detailed project insights were distributed to all attendees. The VVB engaged with the participating communities and confirmed that the communication channels and grievance mechanisms had been effectively shared. Additionally, it was verified that the project has not caused any negative impacts, including land or resource conflicts.

In June 2025, a new consultation was conducted with community members from the project area, with the objective of presenting the results of the 3rd monitoring period under the VCS and CCB standards. The meeting was attended by representatives of 11 communities and one representative from the local municipal school, totaling 15 participants.

Communities	Number of representatives
Nossa Senhora do Carmo	2
Cristo Salvador	1
Santa Rosa	2
Vila ABC	1
Deus é Amor	1
Fonte de Luz	2
Vila ABC	1
Divino Espírito Santo	1
São Sebastião do Cipoal	1

Nossa Senhora Aparecida	1
Jerusalém	1
Municipal school	1
Total	15

Figure 11. Record of the consultation held to report the results of the 3rd monitoring period (top photos); informational material about the project displayed on a banner (bottom left photo); and leaflet on the grievance mechanism (bottom right photo).



The consultation provided an opportunity to share monitoring outcomes, gather feedback (section 2.3.10 Continued Consultation and Adaptive Management), and ensure transparency with stakeholders. The presence of multiple community representatives highlights the continued engagement of local stakeholders. In addition, some community members had the opportunity to communicate directly with the VVB regarding the project during the site visit in August 2025.

Through these efforts, a direct line of communication and consultation was established with 12 of the 13 communities involved in the project. The only community yet to be consulted is Nossa Senhora do Bom Remédio, primarily due to access limitations and the lack of contact with a local leader.

To ensure engagement with all communities, a new consultation with the stakeholders will be conducted for the VCS project's revalidation, following the new methodology. For the 13 communities surrounding Fazenda Pacajá, these activities will be organized in person to facilitate direct dialogue and foster closer engagement. For institutional stakeholders, companies, NGOs, and other involved groups, a remote consultation will be organized to accommodate their needs and availability.

Additionally, the renewal of the contract with UPBIO – the third-party company responsible for the Socioenvironmental Responsibility Program – is planned to include all 13 communities in its activities starting in February 2025. This will ensure that all communities are directly impacted by the ABC Norte REDD+ Project, fostering greater engagement with the communities and reinforcing the use of communication and grievance channels.

The project will take all necessary measures to communicate and consult with local stakeholders continuously throughout its duration. A permanent communication channel has been established to receive comments, suggestions, and criticisms regarding the REDD project. During local consultations, an informative brochure containing the address, email, and phone number of Sustainable Carbon and ABC Norte was distributed. Thus, the channel is always available for any feedback. Additionally, the communities have direct contact with the Social Responsibility Program team through messaging apps and during the monthly visits conducted by the Upbio team.

The project proponents have also committed to maintaining this participatory approach throughout the entire project lifetime. This includes the ongoing documentation of consultations, and the potential revision of project activities based on future inputs, including the possibility of conducting additional Theory of Change workshops as the project evolves, ensuring that it remains responsive to the changing needs and conditions of the communities.

Finally, 12 out of the 13 communities identified by the project have been formally consulted. To ensure engagement with all communities, the project developed an Action Plan, presented in previous MR – that corresponds to second monitoring period – verified under VCS and SocialCarbon standards⁴⁶, detailed in Appendix IV and V.

2.3.10 Continued Consultation and Adaptive Management (VCS, 3.18; CCB, G3.4)

⁴⁶ Available at: <<https://registry.terra.org/app/projectDetail/VCS/2558>>. Accessed on: May 22, 2025.

The project takes all necessary steps to communicate and consult with local stakeholders in an ongoing process throughout the project's lifetime. In addition to the monthly consultations conducted by Uppio through the ABC Norte Social Responsibility Program, the project aims to conduct an average of at least one consultation with local stakeholders per year. Each consultation should cover:

- The implementation stage of the project, including the outcomes and the significance of the activities from climate, social and biodiversity perspectives.
- The risks and benefits that the project brings to local stakeholders in the current implementation stage.
- Procedures related to the resolution of any disputes with interested parties, if applicable.
- The validation and verification process of VCS and CCB Programme and the site visit of the validation or verification body, if applicable.

Additionally, a permanent communication channel has been established with local stakeholders to receive any comments or suggestions regarding this REDD project. All communities have an online messaging group with the Fazenda Pacajá Algar Farming (+55 91 98517 3832). This channel was used to facilitate communication and the management of information about local activities and actions carried out by the company.

Given that the first CCB MR for the ABC Norte REDD Project was developed with a retrospective approach, at the time of the project's inception, there were no specific guidelines or requirements for establishing a grievance redress mechanism tailored exclusively to the project. In this context, and as the forest management activities carried out by “Madeira J&Y” began concurrently with the start of the REDD project, the Standard Operating Procedures (SOPs) that J&Y had already developed for community communication and conflict resolution related to forest management were adopted as an initial reference for managing grievances within the project (section 2.3.9 Stakeholder Consultation Channels of CCB PD ABC Norte REDD Project).

Recognizing evolving standards and the need for a more tailored approach, between 2023-2024, a specific grievance redress mechanism was developed for the ABC Norte REDD Project, in collaboration between Sustainable Carbon and ABC Norte. This mechanism is aligned with the requirements of the CCB Standard v3.1, particularly as detailed in section G.3, Item 8, which describes the necessary components of a feedback and grievance redress procedure.

With the enhancement of the grievance procedure, permanent communication channels have been made available, including:

- Email of the ABC Norte Forestry Operations Supervisor: antonio.cardoso@algarfarming.com.br
- Sustainable Carbon Email: tech.eco@sustainablecarbon.com
- WhatsApp Fazenda Pacajá Algar Farming: +55 91 98517-3832
- Algar Farming Ethics Channel: 0800 034 2525
- Fazenda Pacajá Guardhouses
- Periodic visits by the Upbio team to communities through ABC Norte's Socio-Environmental Responsibility Program

The monthly consultations carried out by Upbio in the communities covered by ABC Norte's PRS constituted the primary communication channel for sharing information about the Project. Upbio's multidisciplinary team maintains a close relationship with the communities, ensuring that any issues related to the project are promptly communicated and, if necessary, forwarded to ABC Norte and Sustainable Carbon through the existing grievance mechanism.

The ABC Norte REDD project adopts an adaptive management approach based on continuous dialogue with communities and other stakeholders, ensuring that its activities are aligned with local demands and contribute to the region's sustainable development.

Through the ABC Norte Socio-Environmental Responsibility Program, Upbio representatives carry out periodic visits to communities, creating a direct channel to map topics of interest, gather perceptions about the project, and identify specific local demands. These visits also enable the implementation of training and technical activities, strengthening community engagement and active participation in the project.

In addition, the project conducts periodic consultations with local and institutional stakeholders, and the comments from these consultations are duly recorded in previous ABC Norte REDD project documents available on the Verra certification website.

For the 3rd monitoring period, as reported in the Stakeholder Consultation section, a consultation was conducted to present the monitoring results to the local communities, and the comments provided during this meeting are recorded below:

Table 11. Comments received during the consultation to present the results of the 3rd MR of the VCS CCB ABC Norte REDD Project

Summary of comments received	Suggestions
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<i>The issue of degradation caused by “outsiders” was raised by community members from Nossa Senhora do Carmo and São Sebastião do Cipoal. According to these members, individuals from the local communities, as well as the ABC Norte company, demonstrate care for forest conservation. However, they reported that people from other areas sometimes engage in degrading activities, by purchasing land from local community members, using these transactions as a means to carry out deforestation.</i> <i>Additionally, representatives from the Fonte de Luz community also reported instances of degradation near the community.</i>	<i>As a recommendation, it was suggested that, when illegal practices are observed, the competent authorities should be notified.</i> <i>The session also provided information on ABC Norte’s sustainable forest management process, highlighting that activities are conducted with minimal impact and subject to inspections, with sites selected randomly. Records ensure traceability of harvested timber to the corresponding stumps in the forest. The legal framework was also emphasized, noting that all forest management activities require authorization from the competent authorities.</i> <i>Finally, the importance of the partnership between the company and the community was emphasized. Community members were advised that, in situations where they observe or witness activities that appear irregular or harmful—such as deforestation or fires—they should use the established communication channels to contact the company for potential support and/or investigation.</i>
<i>A representative from the Nossa Senhora do Carmo community inquired about the possibility of strengthening poultry and fish production within the community.</i>	<i>With the support of a UpBio representative, it was reported that this is the community with the highest number of poultry farms, totaling three production sites. The discussion highlighted the importance of community ownership of the project and the use of technical knowledge shared with the participating residents. An example was provided of a community member who, although not initially selected for participation in the project, developed their own poultry farm through knowledge exchange with a participating resident and by following the technical guidance provided. Conversely, another local individual expressed interest in production but did not pursue it.</i> <i>Finally, the overall importance of community organization, ownership, and active participation in the project was emphasized, including the need for residents to communicate their requirements so that project activities are aligned with local realities.....</i>
<i>A resident of the São Sebastião do Cipoal community shared her experience, explaining that,</i>	<i>No recommendation was made by the project, as it is understood that the comment reflected</i>

<i>although she did not participate in the soap-making workshop, she obtained the recipe from others who attended. Through this exchange of experiences, she was able to start producing soap, which she now sells. She also reported that, due to a disability that prevents her from working in agricultural production, opportunities such as soap-making enable her to engage in productive activities within the home environment.</i> <i>A resident of the Fonte de Luz community (Camarapi), who also reported being unable to participate in the workshop, expressed appreciation for the quality of the soap produced and indicated her intention to start producing it as well.</i>	<i>the community members' perceptions regarding the PRS activities and their outcomes.</i>
<i>A resident of Santa Rosa inquired about when a visit to the community would take place to provide guidance on poultry and fish production. It was indicated that the Caminheiros do Bem community, although not present at the consultation, intends to hold a meeting regarding the project.</i>	<i>The requests will be assessed for inclusion in the schedule of the Social and Environmental Responsibility Program.</i>

This consultation process has directly influenced the structuring and implementation of the project. The activities defined in the Theory of Change were incorporated into the Socio-Environmental Responsibility Program scope, ensuring that the planned actions are aligned with the needs and expectations of the involved communities. The strategic planning of Socio-Environmental Responsibility Program activities is carried out in a participatory manner at the beginning of each year, allowing for adjustments as new demands arise.

In addition, the enhancement of the grievance procedure has consolidated permanent communication channels, such as institutional emails, WhatsApp contact, suggestion boxes, and in-person visits. This structure ensures that any raised issue is promptly communicated and, if necessary, forwarded to ABC Norte and Sustainable Carbon through the established grievance mechanism.

The intention is for this dialogue process to be ongoing, with annual meetings and additional gatherings whenever necessary, so that the activities under the scope of the ABC Norte REDD Project are continuously adjusted to reflect the realities of the local communities. In this way, the project reinforces its commitment to a transparent, participatory, and responsive approach to stakeholder needs.

2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

Participatory consultations with the communities covered by the Socio-environmental Responsibility Program have been carried out monthly since the beginning of the project's activities in collaboration with Upbio. These monthly meetings will be held throughout the life cycle of the project and beyond, as the proponent recognizes that it is an effective way to get closer to communities and encourage them to continue participating and getting involved in the activities promoted.

Additionally, during the monitoring period, informational material – “Pacajá Notícias” (Pacajá News) – was distributed during the monthly visit in August 2023. It included information on the socio-environmental actions carried out under the Socio-environmental Responsibility Program (PRS) during the first half of the year, as well as on initiatives undertaken by the company. A total of 195 communication materials were distributed across the five communities served by the PRS at that time, Divini Espírito Santo, Cristo Salvador, São Sebastião do Cipoal, Nossa Senhora do Carmo and Monte Sião.

Figure 12. Distribution of informational material in the São Sebastião do Cipoal community, August 2023.



As far as the other stakeholders are concerned, given that the project has already undergone validation and two verification periods, VCS and SOCIALCARBON, communication has been continuous since the beginning of the project, especially through formal meetings with the public sectors. The purpose of these meetings is to highlight the actions carried out by Algar Farming in relation to the SFMP and the ABC Norte REED Project and their impact on the communities. The approach reinforces the commitment to transparency and accountability to all those involved in the project.

2.3.12 Stakeholder Participation in Decision-Making and Implementation (VCS, 3.18, 3.19; CCB, G3.6)

Through the ABC Norte Social Responsibility Program, Upbio representatives conduct frequent visits to communities to map key topics of interest, local demands, and perceptions of the project, as well as to implement training activities and technical teachings. These visits and meetings allow communities to voluntarily participate in the development of project activities.

It is important to highlight that Upbio's meetings typically involve both men and women, ensuring the inclusion of diverse perspectives in the decision-making and implementation processes. Additionally, Upbio promotes specific workshops for women, such as the biojewelry production workshop (May 2023), floral arrangement and fabric painting workshops (July 2023), and artisanal jam production (September 2023), which together gathered over 150 participations from women across communities. These initiatives foster female empowerment, social interaction, and skill development. Such efforts highlight the project's commitment to inclusive and culturally sensitive participation, ensuring women play an active role in decision-making and implementation.

Additionally, participatory approaches in culturally appropriate manner are integrated into the activities to ensure that community members' perspectives are incorporated throughout the decision-making process.

Content is delivered through various methods established to align with the communities' levels of understanding and preferences. These methods include oral presentations, group activities, and visual materials such as illustrative brochures, interactive maps, and explanatory posters, all designed to enhance information accessibility and foster inclusion. These methods are strategically chosen to address the specific needs of different community groups, considering factors such as age, gender, and literacy levels.

Furthermore, representatives from Upbio and Algar, who are known in the local communities, consistently participate in the execution of activities, enabling community members to feel comfortable bringing forward their demands and needs. Upbio, a consultancy based in Belém, the capital of Pará - the state where the project is located - maintains a local multidisciplinary technical team specialized in implementing socio-environmental programs that promote local development and stakeholder engagement. These strategies ensure that content is communicated in a culturally appropriate manner, with sensitivity to both linguistic and gender-related considerations.

It is also noted that, if communities do not feel comfortable bringing their demands to Upbio, alternative communication channels, which are also culturally appropriate, are available (see section "2.3.11 - Stakeholder Consultation Channels").

2.3.13 Anti-Discrimination Assurance (VCS, 3.19; CCB, G3.7)

Sustainable Carbon upholds a strict Organizational Conduct that is founded on the principles of the Universal Declaration of Human Rights. The company condemn any form of abuse, harassment, discrimination, or exploitation, whether it be sexual, moral, or otherwise. Sustainable Carbon is committed to ensuring that all our business practices align with the following core values:

Principles:

- Transparency: act transparently and account for your actions to society;
- Communication: provide specific communication channels to receive denunciations, complaints, and suggestions regarding gender issues and diversity that may occur in projects and programs implemented by Sustainable Carbon, as well as in its internal environment;
- Alignment with public policies: act in accordance with public policies national issues relating to gender and diversity;
- Incentive: encourage projects and programs that contribute to equality of gender and women's empowerment; and
- Competencies: promote the training and development of staff in gender and diversity issues and act in the generation and management of knowledge about the subject.

Organizational culture:

- Ethics: act professionally under the principles of morality and good conduct in all our activities and work.
- Respect: respect implies understanding, acceptance, and appreciation of the qualities of all people, with their individuality, rights, and duties.
- Responsibility: employees must use all their resources in their activities technical capacity, professionalism, prudence, and care for the performance of their functions.
- Reliability: the commitment of Sustainable Carbon employees to pay attention to their activities reliably and efficiently.

The company believes that these values are critical to building a sustainable and responsible organization that contributes positively to society and the environment. Sustainable Carbon and Algar prioritize the development of a sustainable and responsible organizational environment that benefits both society and the environment. Continuous efforts are being made to improve methods and uphold the establish values consistently.

The Sustainable Carbon and Algar Codes of Ethics and Integrity, as well as accompanying contracts with third-party partners, expressly ban all forms of discrimination, including but not limited to discrimination based on race, religion, sexual orientation, or other personal traits. This commitment is reinforced by contractual stipulations that require all organizations, whether directly or indirectly involved in the project's design and implementation, to adhere to anti-discrimination standards. At Sustainable Carbon, the prompt reporting of any incidents of discrimination or harassment, including sexual harassment, is mandated through the internally established Carbon Communication Channel (CCC). This platform is specifically dedicated to addressing ethical concerns and ensuring compliance with the company's stringent standards.

By incorporating these stringent measures into their operational frameworks, Sustainable Carbon and Algar ensure that all parties involved in the projects adhere to the highest ethical standards, effectively addressing concerns about transparency and anti-discrimination in project design and beyond them.

2.3.14 Grievances (VCS, 3.18.4; CCB, G3.8)

Given that the first CCB MR for the ABC Norte REDD Project was developed with a retrospective approach, at the time of the project's inception and during its first monitoring period, there were no specific guidelines or requirements for establishing a grievance redress mechanism tailored exclusively to the project. In this context, and as the forest management activities carried out by “Madeira J&Y” began concurrently with the start of the REDD project, the Standard Operating Procedures (SOPs) that J&Y had already developed for community communication and conflict resolution related to forest management were adopted as an initial reference for managing grievances within the project.

The Standard Operating Procedure for Conflict Resolution (SOP 11) outlined the communication process between the company responsible for the Sustainable Forest Management Plan (SFMP) of Pacajá Farm and the surrounding communities, as well as other service providers and ABC Norte associates. All demands, comments, suggestions, and criticisms received through the available communication channels were forwarded to the SFMP Coordination, which was composed of ABC Norte employees. Each grievance was analyzed to determine its urgency and complexity. This step ensured that grievances were resolved in a timely and efficient manner, in line with the project's commitment to addressing community concerns. The SFMP Coordination ensured that all demands were formally responded to via an official letter sent directly to the requester. Furthermore, in the communities, a specialized team was dispatched to provide the necessary follow-up.

The demands received are presented on the table below, organized according to their nature. During this period, the requests primarily involved material donations/support and requests for access to the farm for transit or service provision purposes. They are recorded in the spreadsheet used to track the demands received through the communication channels and in accordance with the procedures established in the aforementioned SOP.

Figure 13. Record of part of the donated materials and the support facility for healthcare services under construction at São Sebastião do Cipoal community.



Table 12. External community requests

Grievances received	Resolution and outcome
The material support requests were: 1) A request for materials and informational lecture on oral hygiene was made by a teacher from the local school in one of the communities served by the project's Socio-environmental Responsibility Program. 2) Teachers from the local school in the São Sebastião do Cipoal community requested toys to support an initiative carried out in October, the month in which Children's Day is celebrated. 3) The São Sebastião do Cipoal community requested construction materials for the development of a support facility intended for healthcare services within the community. Among the requested items were floor tiles, flooring materials, paint,	1. The request regarding support related oral health was submitted through an official letter in early June, addressed to the company ABC Norte, and was also responded to by official letter within the same month. The request was fulfilled through the donation of materials – 100 toothbrushes, 100 tubes of toothpaste, and 100 bars of soap – and the delivery of an informational lecture conducted by the UpBio team, which implements the Socio-environmental Responsibility Program. 2. The company responded positively by supporting the donation of 100 toys, with the response officially documented through an official letter. 3. The community reported that other entities would also contribute to the construction of the facility, including the municipal health department of Portel, by providing a nursing technician, and a city council member, with the donation of additional necessary construction materials. The request was replied in the same month affirming the donation requested.

and various bathroom-related supplies.	
Regarding access to the farm, three requests were received: 4) Two requests from cyclists to use the access roads of Fazenda Pacajá during expeditions, in July and August 2023. 5) One request from an optical clinic to carry out ophthalmological consultations in Vila ABC, located within the farm area.	The access requests (items 4 and 5) were submitted and responded to through official letters, granting authorization to enter the farm area both for the cyclists' expedition and for the ophthalmological consultations.

2.3.15 Worker Training (VCS, 3.19; CCB, G3.9)

Occupational Safety Trainings and Daily Safety Dialogues

Trainings and “Daily Safety Dialogues” (DDSs) were conducted, during monitoring period, at the farm lodgings as part of the project’s strategy to reinforce a culture of safety among both direct and subcontracted workers. Training has the objective to build technical capacity of personnel and to prepare them to respond appropriately to adverse or high-risk situations, thereby mitigating potential environmental, social, and operational impacts. DDSs are focused meetings conducted prior to the beginning of daily fieldwork. They aim to promote continuous awareness of occupational risks and reinforce correct safety behavior, particularly in forest management operations, which inherently involve hazardous activities.

During the monitoring period, the following training was implemented:

Table 13. Activities conducted for workers involved in the ABC Norte REDD Project activities during monitoring period.

Date	Activity	Number of participants
27-June	Lecture on the maintenance of the project's access road, loading and transportation of timber logs, and mechanical services	15
	Lecture on road opening, yard and stockyard opening, skidding, unloading, and scaling of timber logs, and loading of timber logs onto rafts	17
	Fire brigade and first aid course	20
28-June	Fire brigade and first aid course	23

Source: created by the authors using project proponent's collection

Date	DDS Topic	Number of participants
29-September	Workplace Safety and the Importance of PPE Use, Felling Activities, Cutting Techniques, and Escape Routes	18
06- October	Workplace Safety and Attention to Machinery Use During Skidding Activities and Chainsaw Operation	19
15-October	Safety and Continuous Use of PPE and Uniforms in the Workplace: Observed Improvements and Areas for Development	40
16-October	Proper Use of Helmets (PPE) and Necessary Care, Including Hygiene	26
27- October	Workplace Safety and the Importance of Teamwork for Physical Integrity	12
27- October	Safety in the Transport of Cargo and Personnel: Seatbelt Use, Helmet Use Upon Exit, Load Securing, and Speed Control	15
11-November	Safety and Impact Reduction in Operational Activities in the Forest, such as Trail Access and Maneuvering Operations	26
29-November	Workplace Safety During Rainy Periods and Special Attention to Load Listing Activities (in the Yard)	14
29-November	Safety and Use of PPE such as Leg Protectors and Continuous Helmet Use; Load Capacity of Transport Trucks	14
06-December	Workplace Safety During Trail Opening and Use of PPE	15

Source: created by the authors using project proponent's collection

The implementation of these occupational safety measures supports compliance with the safeguards established under the Cerflor certification, which attests to the adherence of forest operations to sustainable management standards.

As for the communities, the initiatives are developed by Upbio and focus primarily on the axes of promoting sustainable productive activities and educational and informative actions. Below, some activities conducted on these axes in the monitoring period are highlighted:

Table 14. Activities in the communities involving the axis of Promotion of sustainable productive activity and Educational and informative actions during monitoring period

Month	Activity
April	Monitoring the development of a community garden and distributing educational pamphlets to understand the importance of wildlife preservation.
May	Execution of a bio-jewelry workshop, distribution of educational pamphlets to understand the importance of wildlife preservation, and promotion of sustainable productive activities through the donation of feed and water dispenser for poultry farming.

Month	Activity
June	Execution of a floral arrangement workshop and promotion of sustainable productive activities through the donation of feed for poultry farming, as well as support and encouragement for vegetable and fish farming production.
July	Execution of a fabric painting workshop and promotion of sustainable productive activities through support and encouragement for vegetable production, in addition to the donation of feed for poultry farming.
August	Execution of a flower-making workshop and promotion of sustainable productive activities through support and encouragement for vegetable production, as well as the donation of feed for poultry farming.
September	Execution of a jelly production workshop and promotion of sustainable productive activities through support and encouragement for vegetable production, as well as the donation of feed for poultry farming.

Figure 14. Record of activities developed in the communities by the PRS



In summary, the activities developed for both the workers and the communities served by the PRS stand out for prioritizing safety, health, and the encouragement of sustainable practices. Additionally, the activities within the communities emphasize the importance of environmental education and the promotion of alternative and sustainable practices.

Furthermore, ABC Norte implements structured onboarding processes for new employees and comprehensive standard operating procedures (SOPs) to ensure that local capabilities are preserved and enhanced, even in the face of staff turnover. Those processes are detailed at section 2.3.14 Worker Training of PD CCB ABC Norte REDD Project. This structured approach to integration and training helps maintain a consistent level of skills and knowledge within the workforce, thus sustaining the effectiveness and continuity of operations, even with the arrival of new team members.

2.3.16 Community Employment Opportunities (VCS, 3.19.13; CCB, G3.10)

During community-related project activities, as detailed in section “2.1.11 - Project Activities and Theory of Change” of CCB’s PD, local residents will remain engaged in capacity building and training programs. The project will continue to offer training and implement actions aimed at alternative sources of income related to production, such as agricultural and poultry practices, handcrafts courses, which will be adapted to the demands and specific context of each community.

In addition, the residents of “Vila ABC” play active roles in the project, acting as forestry technicians, in the guardhouses of the project area, in the cocoa plantation at the “Fazenda Pacajá” (outside the project area), at “Pacajá Móveis”, among other activities. All workers of “Vila ABC” are registered in accordance with the laws mentioned in section “2.5.2 - Relevant Laws and Regulations Related to Worker's Rights” and participate in ongoing training as described in section “2.2.17 - Occupational Safety Assessment”.

It is essential to highlight that the stages of the selection process and hiring of workers follow specific criteria described in the respective job descriptions, requiring minimum qualifications. However, the company highlights its commitment to prioritizing the hiring of employees from local communities, underlining the preference for those who reside in the vicinity of the “Fazenda Pacajá” and in the municipalities of Portel and Bagre. This strategic approach aims to strengthen ties with the surrounding communities, not only providing employment opportunities but also contributing to local socio-economic development. By prioritizing local residents, the company seeks to generate a positive impact both on the work environment and on the quality of life of the people who make up these communities, thus aligning itself with its commitment to be an active partner in the sustainable development of the region.

2.3.17 Occupational Safety Assessment (VCS, 3.19; CCB, G3.12)

A crucial element of the project lies in the diligent and effective dedication to the safety of employees, following the internal guidelines and official regulations of the federal and state governments. Due to the potential impact of work processes and the work environment on health, it is imperative to establish and apply a series of measures related to risk assessment. This includes promoting and preserving the physical and social well-being of employees, preventing occupational diseases, protecting against health risks, and ensuring a work environment appropriate to the physical and psychological aptitudes of those involved.

In this context, Algar Farming has a document entitled “SOP 10 - Standard Operating Procedure: Safety and Health at Work”, which aims to describe the procedures necessary for the execution of Occupational Health and Safety measures, as well as Emergency Response actions that may occur during the activities.

According to this document, the potential health risks to workers associated with forestry management activities are presented in the table below. These risks are classified according to their severity level, along with the recommended preventive measures to mitigate them.

Table 15. Potential risks to workers associated with forestry management activities

Risk	Risk level	Preventive measure
Accident due to lack of skill in performing activities and using equipment	High	Train employees before performing the task and provide clear instructions on equipment use
Accidents due to unfavorable weather conditions	Medium	Assess risk intensity and suspend operational activities if necessary. Provide first aid training for employees
Accident due to overlapping operations such as cutting, dragging, transportation, etc	High	Check signage and establish temporal and spatial safety limits between operations
Accidents due to fires in machinery or in fire-prone areas	Medium	Check for irregularities and perform regular maintenance to prevent fuel buildup during operation. Ensure machines and infrastructure are equipped, and personnel are trained in the use of fire extinguishers
Accident with chemicals used in campgrounds and forests	Low/Medium	Do not reuse containers; check the storage of chemicals, the disposal of packaging, and ensure the use of PPE during handling
Traffic accident within the forest	High	Check the reverse sirens on machinery, verify road signage, instruct drivers to wear seat belts, maintain a safe distance from operating

Risk	Risk level	Preventive measure
		machinery, and check the signage at the operation site
Natural accidents caused by venomous animals, obstacles (stumps, branches, vines, and others), falling fruits, and punctures from stumps	High	Use of PPE. Guidance on workers' behavior regarding risks. Vegetation cutting should be done at a height of 1 meter
Accidents caused by the handling of cutting tools	High	Be cautious when cutting, making movements away from the body. Use sheaths. Take special care when sharpening cutting tools. Maintain a safe distance from the handler

Source: Standard Operating Procedure 10: Safety and Health at Work

Based on the procedural guidelines, the company implements a comprehensive set of initiatives to educate workers about potential risks and effective prevention strategies. To reinforce this commitment, the company organizes the Annual Internal Accident Prevention Week (SIPATR), a dedicated event designed to raise awareness and provide practical knowledge on workplace safety. Although it took place after the reference monitoring period in 2023, in November (as in previous years), SIPATR aimed at guiding members and service provider companies on fostering a culture of occupational safety. The event also addressed topics such as solid waste disposal, workplace harassment, physical and mental health, the 'Blue November' men's health campaign, certification, and operational procedures. Additionally, interactive activities are incorporated to enhance participant engagement and ensure the assimilation of key safety principles.

Beyond SIPATR, the company conducts weekly sessions known as "Weekly Dialogues on Safety, Health, and Environment." These dialogues serve as a proactive tool for preventing occupational accidents by fostering a culture of safety awareness. By encouraging open discussions, these sessions promote team integration through the exchange of real-life experiences and best practices. The topics covered in these dialogues are diverse and include occupational diseases, hand and finger protection, machinery and equipment inspection, the significance of effective communication, and the value of teamwork in maintaining a safe working environment. Additional details regarding these initiatives can be found in Section 2.2.13 – Worker Training of this report.

Furthermore, the company ensures that all employees have access to the necessary Personal Protective Equipment (PPE) and meticulously tracks its distribution to maintain compliance and effectiveness. To strengthen emergency preparedness, the company also provides specialized training in Firefighting and Forestry Emergency response, equipping employees with the skills needed to handle potential crises effectively.

The project area is further enhanced with comprehensive safety signage strategically placed to guide workers, reinforce best practices, and mitigate risks.

These measures collectively contribute to a safer work environment, emphasizing the company's dedication to occupational health and safety. The intention is to make these procedures available on each service front, using them in the daily work practice of all professionals, associates and employees. This document details each activity, aiming to clarify any doubts and/or guide decision-making. In case of persistent doubts, the guidance of a senior technical manager is sought. ABC Norte, through its partners, is committed to providing resources, establishing safe procedures and work practices, aiming to prevent, eliminate and reduce failures.

Regarding the patrol team, employees are hired as guards, area inspectors, and field agents. ABC Norte's patrol teams do not use firearms and focus on environmental monitoring and inspection activities. ABC Norte prioritizes the health and safety of its employees while maintaining a positive relationship with surrounding communities.

To uphold these principles, in addition to the "SOP 10 - Standard Operating Procedure: Safety and Health at Work", the "SOP 11 - Conflict Mediation" and the Grievance Redress Procedure, the company also has implemented "SOP 18 – Monitoring and Surveillance of Fazenda Pacajá Private Property", which provides operational instructions for monitoring and patrolling Fazenda Pacajá. This SOP includes specific guidelines designed to ensure effective surveillance and compliance with property regulations.

Patrols follow established procedures to enhance safety, including:

- Working in pairs: Patrols are always conducted by two inspectors, avoiding individual deployments.
- Guard post operations: Guard posts operate daily from 6:00 AM to 6:00 PM, granting access only to pre-registered individuals.
- Non-aggressive communication: Inspectors are instructed to maintain a friendly and informative approach when addressing individuals regarding access to Fazenda Pacajá. If unauthorized individuals insist on entering, inspectors must disengage and file a police report (BO).
- Use of personal protective equipment (PPE): Inspectors must wear uniforms and PPE while on duty.

This operational model minimizes the risk of confrontation and prioritizes the safety of both employees and local communities, aligning with best practices for protected area management.

ABC Norte has a Standard Operating Procedure (SOP 07) for communication, investigation, and analysis of workplace incidents. When an accident is confirmed, the steps to be followed include notifying the team leader, sending the worker for medical care, and investigating the incident. All accidents are recorded in a control spreadsheet.

During the monitoring period, an accident was recorded in August 2023. The incident occurred at the operational environment of the harvest season and involved an employee of J.P.R. who fell from the truck bed while assisting a coworker in unloading equipment from the bed of a pickup truck at the work site (extraction area). The employee was taken by surprise when the driver unexpectedly moved the vehicle. This caused the employee to lose balance and fall to the ground, resulting in an impact against a stationary object and a subsequent injury—a fracture of the right clavicle. The employee was referred for medical care in Tucuruí, where he received instructions for undergoing examinations and procedures, as well as a 14-day medical leave.

In addition to the measures previously described the project, certified under the Cerflor standard, monitors its activities monthly regarding compliance with certification criteria. The accident was recorded in the Monthly Activity Monitoring Report for the month of August. In the month following the incident, a safety dialogue activity was conducted, focusing on worker safety. At the ST accommodations, topics addressed included the importance of wearing helmets and other PPE, as well as proper directional felling techniques, covering types of cuts and escape routes. At the company JPR Florestal, the use of PPE was also addressed, and with regard to the environment, emphasis was placed on waste management.

2.4 Management Capacity

2.4.1 Required Technical Skills (VCS, 3.19; CCB, G4.2)

Sustainable Carbon is responsible for managing all the necessary activities to develop a project description compatible with project standards and methodology. This includes calculating carbon credits generated, as well as providing assistance with project validation, verification under VCS/CCB and registration processes. The team responsible for these tasks is divided into four interconnected areas:

- **Technical monitoring team:** a technical team that specializes in developing REDD projects. They are responsible for project design, carbon measurement and monitoring, selecting activities, setting specific objectives, providing technical support to the owner, conducting spatial analysis and monitoring that the activities are being carried out correctly.
- **Socioenvironmental Team:** this team is responsible for conducting socioeconomic analysis, engagement, and articulation with communities and other stakeholders and biodiversity

assessment and monitoring support. They are also responsible for developing and implementing social activities and indicators and monitoring socioeconomic and biodiversity indicators. Furthermore, in this project, the socio-environmental and biodiversity initiatives are carried out in partnership with UpBio, a company contracted by ABC Norte, which is responsible for conducting fauna monitoring, socioeconomic diagnosis, and regular visits to the communities under the Socio-environmental Responsibility Program (Section 2.3.3 – Project Management Partnerships/Team Development).

- **Sales Team:** the sales team is responsible for the negotiation of the contract and closing the deal as well as for the sales of the carbon credits generated by the projects.
- **Legal Department:** a legal team that specializes in property, proponent, land tenure, and other legal matters. This analysis is conducted through certificates from the federal and state court of justice to identify potential land conflicts, overlaps with public areas, and possible risks of expropriation.

By working together, these teams ensure that Sustainable Carbon clients receive comprehensive support and expertise throughout the project development process. Additionally, after project validation/verification, Sustainable Carbon coordinates Project Activities Governance in collaboration with the Algar Farming. Both parties are responsible for monitoring the project area to prevent invasions, changes to the biome, or any activity that could result in deforestation and loss of biodiversity. There is continuous communication between proponents throughout the project period.

The Algar Farming, a company belonging to the Algar Farming, was founded in 2014 with the aim of standing out in the agriculture and livestock sectors. Currently, it is part of the agriculture, protein, and forestry sectors. Guided by the belief in the future of agribusiness, it adopts an approach that combines work, technology, and sustainable practices. Continuously seeking innovative initiatives, the company aims to ensure excellence in its results.

Recently, Algar Farming integrated ABC Norte, with which it manages a total area of 145,000 hectares, of which 110,286.67 hectares are allocated to sustainable forest management. In this management, 4,500 hectares are handled annually, ensuring the sustainable use of the forest. Its activities encompass Forest Management, Furniture Manufacturing, and the Carbon Market, with this axis directly related to the ABC Norte REDD Project. Details about the team involved in this axis, including a brief description of their experiences, can be found on the table below:

Table 16 - Resumes of Algar Farming collaborators

Name	Description
Allan Monteiro da Silva	Forestry Operations Supervisor with a degree in Forestry Engineering from the Federal Rural University of Amazonia (UFRA), Belém-PA campus. He currently works at Algar Farming as Forestry Operations Supervisor. He has extensive professional experience in forest management, acquired over more than a decade at Florestal Recursos Manejo Brasil (FRM-BRASIL), between 2011 and 2021. During this period, he held different technical and operational roles in various Forest Management Units in the state of Pará, with a focus on conducting operational and technical activities in public concessions and private sustainable management areas, from 2022 to 2024 he worked in the forest-based industry, as technical manager of sawmills and export supervisor.
Cinthya Ramos	Postgraduate degree in Occupational Safety Engineering from Estácio de Sá (2019); Bachelor's degree in Forest Engineering from UEPA (2017); Works as a Forest Supervisor, previously worked as an Environmental Analyst at the consultancy level; was an intern at the Brazilian Agricultural Research Corporation - EMBRAPA; was a scholarship recipient from CNPq and FAPESPA.
Luciana Pereira	Master's in Natural Resource Management and Local Development in the Amazon (UFPA); bachelor's degree in forestry engineering from the Federal Rural University of the Amazon (2007), and a degree in Geography with a teaching and bachelor's degree from the Federal University of Pará (2008). Currently, she works as Executive of Forests at Algar Farming group and serves as Executive Director (alternate) at the Association of Forestry Engineers of Pará. Prior to her current role, she held the position of Forest Management Manager at FRM Brasil, a subsidiary of FRM France. She previously worked as a Forestry Engineer (technician) at the State Secretary of the Environment of Pará. She has experience in the field of Geography as a teacher and researcher, focusing primarily on topics such as Forest Concession, Sustainable Forest Management, Space, gentrification, public policies, Sustainability, ESG, Carbon, and Continuing Education.
Maicon Farias	Technologist in Environmental Management from Faculdade Ideal (2011), Master's degree holder from the Graduate Program in Natural Resource Management and Local Development in the Amazon - NUMA/UFPA (2014), and currently pursuing a degree in Agronomy at the Federal Rural University of the Amazon. Participated in the AguaSocial academic mobility project (a cooperation project between UFPA and the European Union). Interned at the Directorate of Protected Areas - DIAP/SEMA (2010-2011). A member of the Cartography team at Belem GPS. Worked as a consultant for cartographic services for Anthropological Reports on Quilombola Communities in Amapá and Maranhão. Was a scholarship recipient at the Institute of Economic, Social, and Environmental Development of Pará - IDESP, working on projects related to Environmental Quality Indicators of Pará Municipalities and the Belo Monte Observatory. Mainly focused on the following topics: Remote Sensing, Cartography, Geoprocessing, and Environmental Management.
Maria Almeida	Forest Engineer graduated from the Federal Rural University of the Amazon (UFRA), currently working as a forest assistant at Algar Farming - "Fazenda Pacajá". In terms of academic experience, she participated in the Institutional Program for Scientific Initiation Scholarships (PIBIC) at the Evandro Chagas Institute (IEC) from 2019 to 2021, focusing on research related to the bioaccumulation of heavy metals in aquatic macrophytes and the water of lakes in the water supply system of the Metropolitan Region of Belém-PA. In 2021-2023, she was part of the Tutorial Education Program in Forest Engineering - PET Florestal, engaging in teaching, research, and extension activities.

Source: created by authors using project proponent's collection

2.4.2 Management Team Experience (VCS, 3.19; CCB, G4.2)

Sustainable Carbon has been operating in the forestry and carbon market since 1998 with REDD projects for forest carbon credit generation. Sustainable Carbon DNA is its extensive experience as a developer of carbon emission reduction projects, with comprehensive socio-environmental co-benefits.

The technical and socio-environmental team has vast experience in a variety of disciplines critical to the planning and monitoring of projects. This includes forestry engineering, environmental management and engineering, geography, and geoprocessing analysis, among other related areas. The table below provides a brief description of the experiences of the Sustainable Carbon team.

Table 17: Resumes of Sustainable Carbon collaborators

Name	Description
Aline Costa	Administration technician and Environmental Manager graduated from the University of São Paulo, Brazil. Currently a master's student in Applied Ecology at the University of Aveiro, Portugal. Working for more than two years as an Environmental Analyst and technician in the climate change sector with a focus on offsetting Greenhouse Gas emissions, building extensive experience in generating Emissions Reduction with the main international standards for Carbon Projects, since their conception to monitoring. Currently working as a technical coordinator of fossil fuel switch projects, and as an analyst in REDD projects.
Eliane Yamada	Eliane Yamada has more than 15 years' experience in socio-environmental projects, including experience with carbon projects, mainly REDD, sustainable rural development, agroecology, agroforestry systems, solid waste management plans and land structure. Developed and coordinated teams in settlement projects in Brazil through participatory rural diagnostics with the aim of implementing different types of agroecological projects. Coordinated a team to implement environmental projects, focusing on waste management and contaminated areas at a large Brazilian food retailer. Developed and coordinated innovation projects for sustainable development, with a focus on monitoring hydroelectric power plant and mapping the production chain of extractivists, and experience in biofuel projects in Africa and Latin American countries, with a focus on small farmers. Agronomist Engineer graduated from Escola Superior de Agricultura "Luiz de Queiroz" /USP. Master's degree in science with an emphasis on Physics of the Agricultural Environment from the same institution and an MBA in Business Management from PECEGE/ESALQ/USP.
Marcelle São Pedro	Bachelor's degree in Forest Engineering from the Federal Rural University of Rio de Janeiro and master's degree in science of Tropical Forests from the National Institute of Amazonian Research. Currently, is a PhD candidate in Science of Tropical Forests at the same institute, having 8 years of experience in research in the Amazon Forest. Worked with the recovery of degraded areas and bioindicators of atmospheric pollution in the Atlantic Forest. In the Amazon, worked with the regeneration of secondary forests and carbon accumulation in their biomass after deforestation and degradation by cattle raising. As a PhD candidate, evaluates ecological relationships between forest structure and plant and animal species diversity and composition changes in a terra-firme tropical forest. Strong background in ecology of terrestrial communities and ecosystems, data analysis, and programming in the R software. Currently, integrates Sustainable Carbon technical team, being responsible for implementing and monitoring REDD+ projects, following internationally recognized methodologies in the voluntary carbon market, such as VCS (Verified Carbon Standard).

Name	Description
Maria Roquette	Graduated in Biological Sciences and Master in Geography from Federal University of Espírito Santo, Brazil, has been working on socio-environmental projects for ten years in technical and management areas with experience on environmental monitoring, methodological development, socio-environmental diagnoses and technical elaboration. Recently acted as coordinator of Espírito Santo state team for Social Dialogue and Information and Service Centers, in the context of an environmental disaster. In community-based work, has experience on planning, monitoring and evaluation of production chains and worked as analyst and head on a methodology development project for fishing economic activity compensation policy eligibility. When working with/on traditional communities, prioritizes the development and application of participatory approaches. Currently integrates Sustainable Carbon technical team, collaborating on the development of REDD+ projects, following internationally recognized methodologies for verification and certification of projects, especially those related to climate, community and biodiversity (CCB) standards.
Mário Batista	Environmental and Sanitary Engineer, graduated from the Federal University of Goiás (UFG), with three years of experience in the climate change market. Throughout his academic journey, he was exposed to various fields of knowledge, promoting multidisciplinary and a broad understanding of environmental issues. He is currently part of the Sustainable Carbon team as a Project Analyst, focusing on initiatives for transitioning energy matrices and reducing emissions through biofuels, as well as participating in REDD+ projects. He is committed to contributing to sustainable environmental solutions and mitigating climate impacts.
Stefano Merlin	Solid background and extensive experience in environmental science, sustainable development, and climate change. Co-founder and president of a Brazilian NGO focused on research and development initiatives related to sustainability and climate change, demonstrating profound expertise in project management. From project conception to development and commercialization of carbon credit projects, possesses vast knowledge and skills. Recognized for establishing five companies specializing in the carbon credit market: Instituto Ecológica, Ecológica Advisory, Sustainable Carbon, Future Carbon, and GreenAfrika. With a portfolio comprising over 50 distinct projects, stands out as a pioneer in the voluntary carbon market, providing consultancy services to renowned organizations such as the United Nations Development Programme (UNDP), International Education Institute (EEI), NASA, and leaders in various sectors, including JP Morgan, Santander, BP, VW, and Climate Partners, among others. Additionally, co-authored various publications on carbon sequestration and social carbon, and contributed to the development of the Social Carbon Standard.
Yara Fernandes	Graduated in Environmental Management from the University of São Paulo, and holding a degree in Social Impact from the Amani Institute, Yara brings extensive experience in emission reduction projects, particularly in energy efficiency and forest conservation. With five years of professional experience in the field of climate change, she has been actively involved in REDD+ projects in the Brazilian Amazon, strategically aligning these initiatives with the Sustainable Development Goals (SDGs) and ESG strategies. In addition to her involvement in carbon projects, Yara also excels in socio-environmental impact programs, leveraging methodologies such as Social Carbon and the CCB Standard. Currently serving as the Technical Coordinator at Sustainable Carbon team, she leads two teams - technical and socio-environmental. In previous roles, she served as the Coordinator of the SOCIALCARBON Standard and Socio-environmental Coordinator at Future Carbon Group, where she was instrumental in establishing and leading the socio-environmental sector.

Source: created by authors

2.4.3 Project Management Partnerships/Team Development (VCS, 3.19; CCB, G4.2)

Some activities carried out within the scope of the ABC Norte REDD project require specialized professionals and infrastructure. In the case of the ABC Norte REDD project, partnerships were established to support these activities, particularly those related to:

- The management of the Sustainable Forest Management Plan;
- Socio-environmental activities, such as wildlife monitoring and engagement with communities near the project area.

This led to the hiring of qualified companies to support the project's implementation, strengthening the environmental services sector and creating skilled jobs in the region, thereby generating positive economic impacts.

The activities related to the management of the Sustainable Forest Management Plan involve different operational phases—pre-exploratory, exploratory, and post-exploratory—as well as requiring specialized labor, equipment, and logistics. To ensure the necessary skills and competencies for these activities, a Rural Lease Agreement for the Extraction of Forest Products through a Sustainable Forest Management Plan was established with *Madeira J&Y*, a company with the required expertise. This agreement is exclusively aimed at the extraction of forest products (logs) within the Forest Management Area (AMF).

Regarding socio-environmental activities, *UPbio Soluções Ambientais*⁴⁷ was contracted as a consultancy specializing in supporting companies in the Amazon with environmental licensing processes, monitoring, training, and socio-environmental projects. *UPbio* has a multidisciplinary team with extensive experience in the Northern region, where the project is located, and provides various services, including environmental monitoring, socioeconomic diagnostics, and socio-environmental responsibility, among others.

The information and details of the activities carried out by the companies are presented in the tables below.

Table 18: Main information about *Madeira J&Y*

Organization name	Madeira J&Y LTDA. – ME
Role in the project	Lessee of the Forest Management Plan for Fazenda Pacajá

⁴⁷ <https://upbioambientais.com.br/>

Contact person	José Everaldo de Oliveira and Ytalo Rodrigues Oliveira
Title	Company owners
Address	OTR Ramal do Porto, s/n, Condomínio Industrial - Moju – PA, 68450-000
Telephone	+55 (91) 3751-1066
Email	mmcontabilidade_fiscal@hotmail.com

Source: created by authors

Table 19: Main information about Upbio Soluções Ambientais

Organization name	Upbio Soluções Ambientais
Role in the project	Fauna monitoring, socioeconomic diagnosis and regular visits to the communities under the Socio-environmental Responsibility Program
Contact person	Hilário Vasconcelos Rocha
Title	General Coordinator
Address	Edifício Angra - Tv. São Pedro, 842 - 203 - Batista Campos, Belém - PA, 66030-465
Telephone	(91) 984119202
Email	Upbioconsultoria@gmail.com

Source: created by authors

2.4.4 Financial Health of Implementing Organization(s) (CCB, G4.3)

Sustainable Carbon is a company that specializes in developing projects aimed at generating carbon credit. They assist companies in identifying their potential for credit generation by leveraging technology, innovation, and intensive capital to create pathways for exponential growth. Sustainable Carbon offers a broad spectrum of services: strategic environmental consulting, biomass, climate change, forest solutions, renewable energy, and other sustainability areas.

Sustainable Carbon projects are outlined to reduce greenhouse gas emissions (GHGs) while generating socio-environmental impacts in specific locations. These carbon credits generated aim to impact positively in the local context, and objecting to this, are certified by the highest international standards from the carbon market in order to offer reliability for the clients. A portion of the income from carbon credits is reinvested in social impact initiatives, always considering the local context.

While Sustainable Carbon is headquartered in Brazil, it operates globally. They currently have a portfolio of 10 projects located in 4 Brazilian states, and they are fully capable of developing projects anywhere in Brazil, as well as in other Latin American countries.

2.4.5 Avoidance of Corruption and Other Unethical Behavior (VCS, 3.19; CCB, G4.3)

In Brazil, there are two main legal instruments aimed at preventing corrupt practices and unethical behavior: Law 12,846/2013⁴⁸ (Anti-Corruption Law) and Law 8,429/1992⁴⁹ (Administrative Misconduct Law). The Anti-Corruption Law, also known as Law no. 12,846/2013, establishes regulations regarding the civil and administrative liability of legal entities in cases of actions against national and/or foreign public administrations. Meanwhile, under Law 8,429/1992, administrative misconduct is defined as immoral conduct that involves dishonesty and acts of bad faith by public officials.

In addition to complying with these laws, both Sustainable Carbon and Algar have implemented internal Ethical Codes to ensure that each company avoids involvement in any corrupt practices or unethical behavior. The ethical codes of both companies address topics such as institutional values and mission, integrity, conduct and conflict of interest, anti-corruption measures, among others.

Additionally, all contracts with Sustainable Carbon include clauses that mandate adherence to strict anti-corruption standards for all organizations, whether directly or indirectly involved in the project, further reinforcing this commitment.

These measures adopted by Sustainable Carbon and Algar ensure that all entities involved in the project maintain the highest standards of ethical conduct, effectively addressing concerns related to transparency and providing assurance against corruption in project design, implementation and beyond that.

2.4.6 Commercially Sensitive Information (VCS, 3.5.2-3.5.4; CCB Program Rules, 3.5.13 – 3.5.14)

The project proponent considers information mandated by the CCB Standards as confidential or commercially sensitive, and thus, it cannot be disclosed publicly. This data will be provided in its entirety to the VVB during the validation and verification processes, but it is excluded from the

⁴⁸ Available at: <https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12846.htm>. Accessed on: 24 Jan. 2024.

⁴⁹ Available at: <https://www.planalto.gov.br/ccivil_03/leis/l8429.htm>. Accessed on: 24 Jan. 2024.

public version. The following items represent the information that will exclusively be shared with the VVB:

- Agreements and contracts among involved parties;

The contract among parties is commercially sensitive because it contains information that directly affects the competitive positioning and negotiation strategies of both parties and is protected by confidentiality clauses. Disclosure could undermine future negotiations and market competitiveness. These terms are defined under private commercial agreements and are not disclosed in public registries or other public sources.

No other commercially sensitive information will be omitted from the public disclosure of the CCB MR.

2.5 Legal Status and Property Rights

2.5.1 National and Local Laws (VCS, 3.1, 3.6, 3.7, 3.14, 3.18, 3.19; CCB, G5.6)

Protection of Native Vegetation

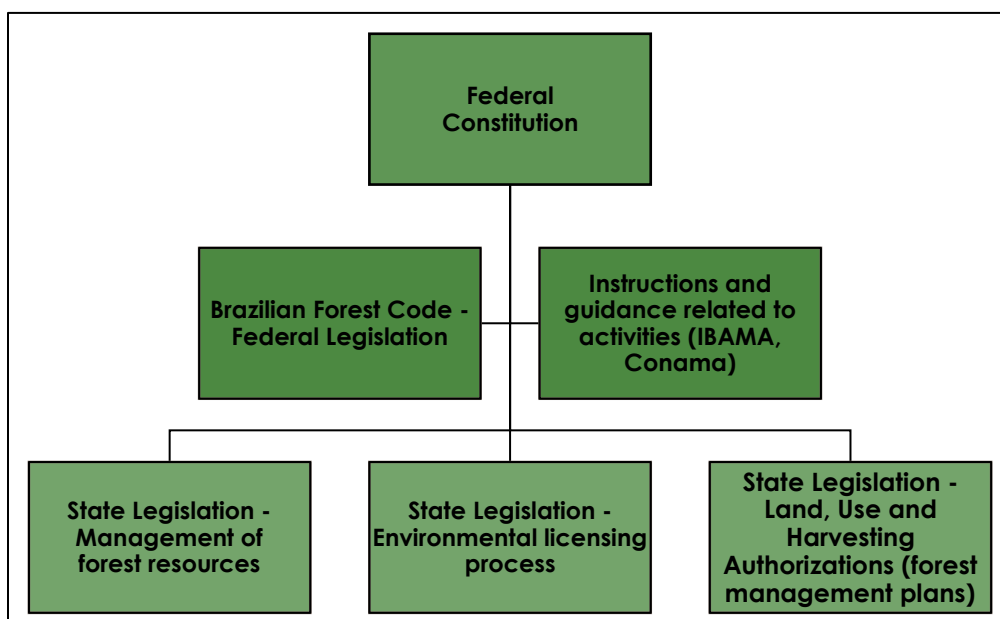
In a brief context of Brazilian legislation, the Federal Constitution determines that it is concurrent between the Union, Member States and the Federal District the competence to legislate on matters related to the protection of the environment, conservation of nature, defense of the soil, protection of landscape heritage and responsibility for damages to the environment. The same document establishes that municipalities are responsible for legislation at the local level⁵⁰. However, in the absence of a qualified environmental agency or environmental council in the municipality, the state must carry out municipal administrative actions until its creation. In turn, in the absence of a qualified environmental agency or environmental council in the state and municipality, the Union will have to carry out administrative actions until its creation in one of those federative entities⁵¹. It is also necessary to observe that municipal law cannot contradict state law, which in turn cannot contradict federal law, under penalty of unconstitutionality.

⁵⁰ Available at:

<http://www.mpsp.mp.br/portal/page/portal/documentacao_e_divulgacao/doc_biblioteca/bibli_servicos_produtos/bibli_boletim/bibli_bol_2006/RDC_07_23.pdf>. Accessed on: 04 Set. 2021.

⁵¹ Available at: <http://pnla.mma.gov.br/competencias-para-o-licenciamento-ambiental>. Accessed on: 04 Set. 2021.

Figure 15: Structure of the Brazilian legislation



Source: created by authors

Thus, in the state of Pará, the Secretariat of the Environment and Sustainability (Semas/PA) is the body responsible for environmental licensing, including authorizations for forestry intervention.

According to the Brazilian Forest Code (Law N° 12.651, 25/05/2012)⁵², all rural estates located in forest zones shall have:

- Permanent preservation area: protected areas covered or not by native vegetation, with the environmental function of preserving water resources, landscape, geological stability, biodiversity, gene flow of plants and animals, protecting the soil and ensuring the well-being of human populations.
- Legal Reserve: an area located within a rural property or possession which is required to be segregated, as well as the permanent preservation area, for the sustainable use of natural resources, conservation and rehabilitation of ecological processes, biodiversity conservation and shelter, and protection of native flora and fauna. In the Brazilian Legal Amazon, eighty percent (80%) of a rural property should be preserved⁵³.

52 Available at: <https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651.htm>. Accessed on: 04 Set. 2021.

53 According to Section I of Article 13 of the Environmental Regularization Law (https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651compilado.htm), when indicated by the State Ecological-Economic Zoning (or ZEE), conducted according to a unified methodology, the federal government may reduce, exclusively for the purpose of regularization, the Legal Reserve of properties with consolidated rural areas located in the Amazon Biome to up to 50% of the property, provided that priority areas

However, there is a clear disregard for legal conservation requirements in the region. Much of the deforestation occurs in areas that should be preserved.

One of the main ways to combat deforestation in Brazil is command and control mechanisms, such as effective monitoring, requiring compliance with environmental legislation along with a greater State presence. However, this does not seem to be implemented in most regions of the country, because of the government's tendency to disregard these responsibilities in comparison with other social goals and economic interests, which has put Brazil among the world's largest deforesters. Given the approval of the new Forest Code in 2012, and its general pardoning of those who deforested, a significant increase in annual deforestation rates has been observed.

Despite the legal provisions intended to preserve at least 80% of the Amazon Forest coverage, lack of law enforcement by local authorities along with public policies seeking to increase commodity production and encourage land use for agricultural, bio energy and cattle breeding purposes have created a scenario of complete disregard for the mandatory provisions of the Forest Code. In addition, covering vast areas with low demographic density makes tracking of illegal activities and land surveillance very difficult for the authorities.

Moreover, according to PRODES, around 788,893 km² have been deforested until 2016, which is equivalent to 18.9% of the total Amazon biome area. Given the increasing deforestation trend observed in recent years, this data shows the non-compliance with the Legal Reserve requirement established by the Brazilian Forest Code.

Therefore, all calculations were made assuming that the reference region has a general non-compliance with the Brazilian Forest Code. Thus, the baseline scenario considers the potential of unplanned deforestation in the project area to surpass the limits stipulated by the Law.

The project complies with the requirements of the Brazilian Forest Code, demonstrating its commitment to sustainable land use and environmental conservation. The property is duly registered in the Cadastro Ambiental Rural (CAR), which includes georeferenced information on the Legal Reserve area and Permanent Preservation Areas (APPs). The declared areas adhere to the

for the conservation of biodiversity and water resources, as well as ecological corridors, are excluded. Thus, even though an 80% Legal Reserve is mandatory in the Amazon Biome, states with ZEE, such as Pará, and members of the National Environmental System (SISNAMA), have the autonomy to analyze and adjust the Rural Environmental Registry (CAR) according to Section I of Article 13. In the state of Pará, which adopts ZEE with a unified methodology through the SICAR system of SEMAS, areas are categorized into conservation zones, where the Legal Reserve must be at least 80% of the property's area, and consolidation and expansion zones, where a Legal Reserve of at least 50% of the property's area is allowed. Therefore, for the project in question, it is possible that the required Legal Reserve may be reduced to less than 80%, in accordance with the guidelines of the state ZEE and the zoning categorizations. Available at: <<https://www.semas.pa.gov.br/diretorias/digeo/zee/>>.

percentages and requirements established in Article 13, Clause I, of the Forest Code. Furthermore, the project conducts continuous monitoring of environmental compliance through the Sistema de Regularização Ambiental (Sicar-PA), ensuring adherence to legal obligations.

Sustainable Forest Management

As the project activity involves planned logging, it is important to describe compliance with applicable law.

Sustainable Forest Management is defined in Article 3, VII, of Law 12.651/2012 (National Forest Code), as the administration of natural vegetation to obtain economic, social and environmental benefits, respecting the support mechanisms of the ecosystem object of management and considering, cumulatively or alternatively, the use of multiple wood species or not, of multiple products and by-products of the flora, as well as the use of other goods and services.

The National Forest Code and Decree 5,975 also specifies the technical and scientific foundations of the SFMP (Article 31, 1st paragraph):

- I. Characterization of physical and biological environment;
- II. Determination of existent stock;
- III. Exploitation intensity compatible with the forest's environmental support capacity;
- IV. Cutting cycle compatible with the restoration time of the volume of product extracted from the forest;
- V. Promotion of the natural regeneration of the forest;
- VIII. Adoption of adequate silvicultural system;
- IX. Adoption adequate operating system;
- X. Monitoring of the development of remaining forest;
- XI. Adoption of mitigation measures for the social and environmental impacts.

In addition, the law also demands the fulfillment of obligations related to control and monitoring of the sustainable management. The company must submit an annual report to the environmental agency with information on the entire Sustainable Management Area and the description of the applicable activities and must be submitted to technical inspections to approve the operations and activities carried out in the management area.

The technical procedures for the preparation, presentation, execution and technical evaluation of sustainable forest management plans are regulated by IBAMA's Normative Instructions: 1 of 24/04/2007, 5, of 11/12/2006 and 2 - 27/06/2007; in addition to CONAMA's Resolution 406, of 02/02/2009.

The approval of the SFMP and expedition of environmental licenses is responsibility of the State Government, with law N° 6,462 and normative instructions IN 05, IN 08, IN 45 and IN 01. After the SFMP approval, the company proceeds to the applicable Forest Management Licenses (AUTEX, in national level, and AUTEF, in Pará).

The project implements sustainable forest management practices in accordance with an approved Sustainable Forest Management Plan (SFMP). All activities are carried out under the relevant environmental licenses, which include the Rural Activity License (LAR), the Annual Operating Plan (POA), and the Forest Exploitation Authorization (AUTEF). These licenses ensure compliance with environmental regulations and support the responsible use of forest resources. The adoption of sustainable practices has also been recognized through CERFLOR certification, a reputable forest management standard, which ensures that operations are conducted responsibly, fostering biodiversity conservation and supporting long-term sustainability.

In this sense the preparation for REDD activities, programs and projects become essential for the Project Region, not only to promote forest conservation, but also to implement a new productive forest-based economy. This scenario needs to be reinforced because the areas in question hold incomparable biological and cultural diversity, with their traditional inhabitants marginalized from the process of economic development through capitalized livestock production.

Climate change and carbon market

Regarding other regulatory frameworks that exist in Brazil, on December 29, 2009, the Brazilian government took a historic step by establishing the National Climate Change Policy through Federal Law No. 12,187⁵⁴. According to this law, Brazil will undertake actions to reduce its projected emissions by 36.1% to 38.9% by 2020 (equivalent to a 17% reduction compared to 2005 levels). This target includes an 80% reduction in deforestation in the Amazon. The law recognizes two policy instruments: the National Climate Change Plan and the National Climate Change Fund (established by Law No. 12,114⁵⁵).

Brazil also has a National Adaptation Plan for Climate Change (PNA), established on May 10, 2016⁵⁶, through Ordinance No. 150. This instrument, developed by the federal government in collaboration with civil society, the private sector, and state governments, aims to promote the

⁵⁴ BRASIL. <https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12187.htm>

⁵⁵ BRASIL. <https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12114.htm>

⁵⁶ BRASIL. <https://antigo.mctic.gov.br/mctic/opencms/legislacao/portarias/migracao/Portaria_MMA_n_150_de_10052016.html>

reduction of national vulnerability to climate change and manage the risks associated with this phenomenon.

The ABC Norte REDD Project is in compliance with these instruments, as its primary objective is to prevent greenhouse gas emissions from forest degradation or deforestation, maintain the region's biodiversity values, and provide positive net benefits to the community.

On 28-November-2019, occurred the approval of the Federal Decree 10,144/2019, which establishes the National Commission for Reducing Emissions of Greenhouse Gases from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Management of Forests and Increase of Forest Carbon Stocks - REDD.

The development of this Project is not in conflict with such Decree. It is important to clarify the difference between Law and Decree in Brazil. The Brazilian Federal Constitution establishes the principle of legality for all the national territory, according to the text of article 5, item II “no one shall be obliged to do or not to do anything other than by virtue of law”.

Law is an infra-constitutional (sub-constitutional) norm, it is a mandatory rule by the coercive force of the legislative power or of legitimate authority, which constitutes the rights and duties in a society. Law is different from Decree.

Decrees, on the other hand, are administrative acts, issued by the Chief Executive (president, governor or mayor), with the main objective of regulating and detailing a law, in order to grant it the necessary means for its faithful execution, without, however, being able to contradict any of its provisions or to innovate the Law.

Thus, in terms of the object, jurisdictionally and scope of the Decree 10,144/2019, it is understood that its application is merely administrative, that is, it merely organizes the functioning of the Federal Government about the REDD agenda. Its application is restricted to the federal entities of the Public Administration, and, because it is a decree, a normative type that only grants regulation to the matter of law, does not establish duties or obligations to the society.

Thus, Decree 10,144/2019 only limits the Federal Government's understanding of what shall be accounted for in order to comply with mitigation commitments of other countries to the United Nations Framework Convention on Climate Change. It does not /impose a barrier or obstacles to the implementation of REDD projects and the commercialization of carbon assets generated from these projects. This consideration in the Decree does not affect or interfere with the voluntary or regulated carbon market, domestic or international.

In December 2024, the Law No. 15,042⁵⁷, regulating the carbon market and establishing the Brazilian Greenhouse Gas Emissions Trading System (SBCE) was enacted. The system (SBCE) is divided into two sectors: regulated and voluntary. For the regulated sector, the text provides for the creation of a governing body responsible for establishing regulations and enforcing penalties for violations committed by entities subject to it. This includes government initiatives as well as organizations that emit more than 10,000 tons of carbon dioxide equivalent (CO₂e) per year. Organizations subject to regulation will be required to submit a monitoring plan and activity reports to the governing body. The agribusiness sector, however, will not be affected by the project.⁵⁸

The voluntary market is characterized by transactions of carbon credits or assets included in the SBCE, voluntarily established between parties for the purpose of offsetting greenhouse gas (GHG) emissions. These transactions do not generate corresponding adjustments in the national emissions accounting.

The SBCE will be implemented in five phases, scheduled to begin at the start of 2025:

- Phase I (12 months): Development of the regulatory framework.
- Phase II (1 year): Operators establish systems for emission reporting.
- Phase III (2 years): Operators focus on monitoring and reporting emissions and removals.
- Phase IV: Implementation of the first National Allocation Plan, including the no-cost distribution of CBEs and market establishment.
- Phase V: Full implementation of the SBCE.

In resume, there is no law in Brazil that does not allow or restrict the execution of REDD projects or that does not allow or restrict any commercial transaction of assets resulting from REDD projects. On the contrary, such transactions are valid and legally permitted.

Traditional Peoples and Communities

The Decree No. 6,040⁵⁹, dated 07-February-2007, established the National Policy for the Sustainable Development of Traditional Peoples and Communities. According to Art. 2 “The PNPCT's main objective is to promote the sustainable development of the Traditional Communities, with an emphasis on recognizing, strengthening, and guaranteeing their territorial, social,

⁵⁷ <https://normas.leg.br/?urn=urn:lex:br:federal:lei:2024-12-11;15042>

⁵⁸ <https://www12.senado.leg.br/noticias/materias/2024/12/12/sancionada-lei-que-regula-mercado-de-carbono-no-brasil#:~:text=J%C3%A1%20est%C3%A1%20em%20vigor%20no,e%20amenizar%20as%20mudan%C3%A7as%20clim%C3%A1ticas.>

⁵⁹ BRASIL. <https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2007/decreto/d6040.htm>. Accessed on: 02 Aug 2024.

environmental, economic, and cultural rights, with respect and appreciation for their identity, their forms of organization and their institutions.

The Decree will guide the sustainable development actions that the project will promote in the communities, reinforcing the recognition, appreciation, and respect for socio-environmental and cultural diversity, avoiding establishing or reinforcing any relationship of inequality.

Biodiversity

In 1992, during the Earth Summit - the United Nations Conference on Environment and Development held in Rio de Janeiro, the Convention on Biological Diversity (CBD) was established. Today, it is the main global forum for issues related to biodiversity. In effect since 29-December-1993, the CBD aims to establish the norms and principles that should govern the use and protection of biological diversity in each signatory country. Brazil ratified its participation in the Convention through Decree No. 2,519 of 16-March-1998⁶⁰.

Based on this convention, Brazil created Federal Law No. 13,123/2015⁶¹, regulated by Decree No. 8,772 of 11-May-2016⁶², known as the Biodiversity Law. Its goal is to regulate research and development activities involving the genetic heritage of Brazilian biodiversity species and the traditional knowledge associated with them, promoting their sustainable use and the fair and equitable sharing of benefits arising from these activities. The Biodiversity Law applies to any individual or entity (companies, universities, communities, etc.) conducting research and development activities with Brazilian biodiversity (art. 11, I and II). Although the activities currently developed by the ABC Norte project do not fall within the scope of the law, it is an important Brazilian milestone on the subject and should be monitored by the project.

Brazil has an officially recognized list of species threatened with extinction at the national level, included in MMA Ordinance No. 148/2022⁶³. The list indicates that there are 3,209 threatened species of Brazilian flora and 1,249 species of fauna threatened with extinction.

At the state level, Normative Instruction SEMA No. 52 of September 15, 2010⁶⁴, and Resolution No. 301 of 08-December -2012⁶⁵, are relevant to the project's activities as they standardize procedures for situations of contact with fauna, such as inventories. Normative Instruction SEMA

⁶⁰ BRASIL. <https://www.planalto.gov.br/ccivil_03/decreto/d2519.htm>. Accessed on: 02 Aug 2024.

⁶¹ BRASIL. <https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13123.htm>. Accessed on: 02 Aug 2024.

⁶² BRASIL. <https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2016/decreto/D8772.htm>. Accessed on: 02 Aug 2024.

⁶³ BRASIL.

<https://www.icmbio.gov.br/cepsul/images/stories/legislacao/Portaria/2020/P_mma_148_2022_altera_anexos_P_mma_443_44_4_445_2014_atualiza_especies_ameacadas_extincao.pdf>. Accessed on: 02 Aug 2024.

⁶⁴ PARÁ. <<https://www.semas.pa.gov.br/legislacao/files/pdf/1414.pdf>>. Accessed on: 02 Aug 2024.

⁶⁵ CFBio. <https://www.crbio01.gov.br/media/view/2016/06/resolu_o_cfbio_n_2012-301_sobre_captura_de_vertebrados_362.pdf>. Accessed on: 02 Aug 2024.

No. 52/2010 establishes norms and procedures for the conservation plan of wildlife in areas requiring prior vegetation suppression in environmental licensing processes.

Resolution No. 301/2012 aims to standardize procedures for the capture, containment, marking, release, and collection of animal specimens or parts thereof to obtain biological material samples from native and exotic wild animals in situ and ex situ for studies, research, teaching activities, and services, whether in the field, laboratory, breeding sites, experimental stations, bioteriums, and zoos, for purposes of transportation, experiments, inventory, rescue, management, among others.

Based on the legal instruments described, the ABC Norte REDD Project is in full compliance with the established guidelines, demonstrating a continuous commitment to biodiversity protection, adherence to environmental regulations, and alignment with national and international policies. Although its current activities do not directly fall under the Biodiversity Law, the project acknowledges the importance of this regulatory framework and maintains constant vigilance to ensure its practices align with the best practices and current regulations, thereby guaranteeing the conservation of natural resources and the well-being of local communities.

Labor

Employment and labor-related laws are detailed in section “2.5.2 - Relevant Laws and Regulations Related to Worker's Rights”.

Recent laws and regulations applicable to the project

As stated above, the development of the Project requires not only complying with methodological requirements but also complying with Brazilian environmental legislation. In this context, some recent and complementary standards play a fundamental role in legal compatibility and social effectiveness. Below, we highlight each of these standards:

- **Law No. 14,119/2021 - National Policy on Payment for Environmental Services⁶⁶** (Política Nacional de Pagamento por Serviços Ambientais - PNPSA). This law recognizes, establishes and regulates payments for environmental services (PSA- PES), including carbon capture and sequestration as one of its pillars. The PNPSA provides legal certainty and further encourages the agents involved, as it stimulates the economic valuation of environmental/forest conservation.
- **Law No. 14,904/2024 - Climate Change Adaptation Plans⁶⁷**. This law establishes guidelines for developing climate change adaptation plans, including measures aimed at

⁶⁶ BRAZIL, 2021: <https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/lei/l14119.htm>

⁶⁷ BRAZIL, 2024: <https://www.planalto.gov.br/ccivil_03/_Ato2023-2026/2024/Lei/L14904.htm>

reducing environmental vulnerability. This project promotes forest protection, which directly contributes to the adaptation objectives set out in this law.

- **Law No. 14.944/2024 - National Integrated Fire Management Policy⁶⁸.** This law regulates the use and control of fire in the national territory. The project, by firefighting training, has fostered learning about fire hazards, proper fire use, and how to respond to fire incidents. This is crucial both for the physical safety of the project and for maintaining its environmental integrity, since fires can compromise the forest and put the lives of the communities present at risk.
- **Law No. 14.926/2024 - Environmental Education and Climate Change⁶⁹.** By changing the National Environmental Education Policy, this law imposes the need to consider climate change, biodiversity and the risk of disasters in educational practices. The activities developed in the Project promote community participation and local capacity building, in line with this standard and contributing to the formation of a lasting environmental awareness among the beneficiaries.

Respect for the rules mentioned above is indispensable for the project. More than legal obligations, they are an opportunity to add practical benefits to the forest and its communities, reinforce its long-term sustainability and ensure its alignment with Brazilian environmental and climate policies.

2.5.2 Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18, 3.19; CCB, G3.11)

The applicable labor legislation for the Project, and throughout the Brazilian territory, is the Consolidation of Labor Laws (Consolidação das Leis do Trabalho – CLT) – Law N°. 5.452/43, which was recently updated by Law N°. 13.467/2017⁷⁰ (labor reform) –, the federal legal framework that governs labor relations in Brazil⁷¹. The CLT applies to all formally employed workers across the country, regardless of the nature or location of the enterprise. All employees are hired through a formal process, including the signing of employment contracts that clearly establish their rights and responsibilities under the CLT. These rights are widely known and publicly accessible.

It is important to note that labor standards compliance is monitored by authorities and public institutions, such as the Public Labor Prosecutor's Office (Ministério Público do Trabalho), which act as enforcers of legal compliance whenever a worker or third-party files a formal complaint.

To demonstrate compliance, labor debt clearance certificates of project proponent were emitted and confirm PP the has no pending labor-related infractions with the competent authorities. This

68 BRAZIL, 2024: < https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2024/lei/L14944.htm>

69 BRAZIL, 2024: < https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2024/lei/L14926.htm>

71 Additionally, there is Law No. 5,889/73, which specifically regulates the rules applicable to rural employees. Available at: https://www.planalto.gov.br/ccivil_03/leis/l5889.htm.

documentation ensures the project's alignment with Brazilian labor regulations and its commitment to fair and legal labor practices.

It should also be noted that labor court records for the state where the project is being implemented currently show no active labor claims. For informational purposes, it is relevant to mention that, under Brazilian judicial rules, any individual who believes they have a labor-related grievance has the right to file a lawsuit. However, the mere filing of a labor lawsuit does not, in itself, constitute evidence of a violation of labor rights.

In regard to occupational safety and health, the CLT includes “Normas Regulamentadoras” (NR) that provide guidance on mandatory procedures related to the matter, and these are cited in Chapter V, Title II, and were approved by Ordinance N°. 3214 in June-1978.

For the project, the following NR regulations are particularly relevant:

- NR 4 - Specialized Occupational Health and Safety Services.
- NR 5 - Internal Commission for Accident Prevention (last updated: SIT Ordinance N°. 247 of 12-July 12-2011).
- NR 6 - Personal Protective Equipment (PPE);
- NR 28 - Inspection and Penalties (deals with penalties that can be applied to companies that do not comply with the other rules established by the Federal Government);
- NR 31 - Safety and Health at Work in Agriculture, Livestock Forestry, Forestry, and Aquaculture;
- ILO Declaration on Fundamental Principles and Rights at Work;
- Conventions 87 and 98 - Dealing with union freedom and protection of the right to union and collective bargaining.
- Finally, Decree No. 10,088/2019⁷² consolidates 77 conventions and recommendations of the International Labour Organization (ILO) ratified by Brazil. These conventions and recommendations cover a broad range of issues related to labor rights and social protection, including working conditions, equal opportunities, occupational safety and health, and the eradication of child labor and forced labor.

Among the list of international agreements ratified by Brazil, the following stand out:

- International Labour Organization Convention No. 29/1930, ratified by Brazil on 25-April-1957: Concerns the abolition of forced labour;

⁷² BRASIL:< https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/decreto/d10088.htm>

- International Labour Organization Convention No. 87/1940: Concerns freedom of association;
- International Labour Organization Convention No. 97/1949, ratified by Brazil on 18-June-1965: Concerns migrant workers;
- International Labour Organization Convention No. 98/1949, ratified by Brazil on 18-November-1952: Concerns the right to organize and collective bargaining;
- International Labour Organization Convention No. 100/1951, ratified by Brazil on 25-April-1957: Concerns equal remuneration for men and women;
- International Labour Organization Convention No. 105/1957, ratified by Brazil on 18-June-1965: Concerns the abolition of forced labour;
- International Labour Organization Convention No. 111/1958, ratified by Brazil on 01-March-1965: Concerns discrimination in employment and occupation;
- International Labour Organization Convention No. 131/1970, ratified by Brazil on 04-May-1983: Concerns the fixation of minimum wages, especially in developing countries;
- International Labour Organization Convention No. 138/1973, ratified by Brazil on 28-June-2001: Concerns the minimum age for admission to employment;
- International Labour Organization Convention N° 142/1975, ratified by Brazil on 24-November-1981: Concerns human resources development.
- International Labour Organization Convention No. 143/1975: Concerns migration in abusive conditions and the promotion of equal opportunities for migrant workers.
- International Labour Organization Convention No. 155/1981, ratified by Brazil on 18-May-1992: Concerns occupational safety and health.
- International Labour Organization Convention No. 169/1989, ratified by Brazil on 25-July-2002: Concerns indigenous and tribal peoples.
- International Labour Organization Convention No. 182/1999, ratified by Brazil on 02-February-2000: Concerns the prohibition of the worst forms of child labour and immediate action for their elimination.

It is important to state that stakeholders associated with laws and regulations covering workers' rights are those employed by the Project's Instances. Therefore, all relevant laws and regulations covering workers' rights in Brazil are followed by the Project's instances and are communicated to each employee upon hiring. The project is in full compliance with applicable labor laws and regulations.

2.5.3 Human Rights (VCS, 3.19)

The project is being developed in a private area and respects all the rights of the nearest community and supports the communities close to the project area. ABC Norte REDD project follows the Convention on Human Rights and the declaration of rights of indigenous and original peoples and there has been no disrespect. This aspect is subject to verification under the Cerflor certification held by the company, which establishes that the rights of local, traditional, and Indigenous populations regarding the use and occupation of forest lands must be respected, in compliance with applicable legislation.

The project implements the Socio-environmental Responsibility Program, which aims to support the communities surrounding Fazenda Pacajá, with the objective of contributing meaningfully to local development and to the quality of life of community members, taking into account the specific context and realities of each community. Some of the communities located near the project area are continuously engaged through the Social Responsibility Program and an action plan has been developed to include other neighboring communities that are not yet covered.

Additionally, human rights-related issues are addressed in the code of ethics of both project proponents, which includes explicit commitments to prevent child labor, forced labor, and conditions analogous to slavery, including among their suppliers.

2.5.4 Indigenous Peoples and Cultural Heritage (VCS, 3.18, 3.19)

The project is developed on private land, ensuring that it does not affect the property rights of traditional or Indigenous communities. Nonetheless, as communities are located in the surroundings of the project area, and with the aim of respecting and integrating local knowledge, addressing community needs, and safeguarding cultural heritage, a workshop was conducted using a participatory approach for the development of the CCB Project Description (PD). The activity aimed to identify, from the perspective of stakeholders directly or indirectly involved with the project, their aspirations, needs, and demands that the carbon project could potentially address to contribute to the improvement of local quality of life. The activities carried out consisted of:

1. Presentation of the ABC Norte REDD+ Project and contextualization about climate change, carbon credits, and REDD+ projects;
2. Participatory timeline;
3. Raising problem questions – understanding of the demands;
4. Elaboration of “Scenario in case the actions currently carried out ceased to occur”;
5. Elaboration of “What future do we want?”;
6. Understanding of how we will achieve it – problem issue in a positive form;
7. Elaboration of scenario with project continuity – strategies to be carried out by the project, aiming to positively impact community well-being;
8. Collective validation;
9. Identification of risks and impacts: “What might we face along the way?”.

The information gathered during the workshop is detailed in the PD CCB ABC Norte Project CCB under section 2.1.8 – Project Activities and Theory of Change.

In addition, ABC Norte carries out monthly visits to the communities surrounding the project area, as part of the Socio-Environmental Responsibility Program. This program aims to contribute meaningfully to local development and to the improvement of community well-being, taking into account the specific context of each community. It does so by promoting and strengthening productive activities, educational and capacity-building actions, while addressing social, economic, and environmental aspects to support more sustainable local development.

The monthly visits to the communities, in addition to the implementation of planned actions under the Socio-Environmental Responsibility Program (PRS), serve as one of the project's communication channels, among others, as specified in section 2.3.10 Continued Consultation and Adaptive Management.

Additionally, in consideration of cultural aspects, an assessment study of High Conservation Value (HCV) attributes was conducted at Fazenda Pacajá in 2024. The results shall be presented in the next report, should they differ from and/or add to those already reported in the current Monitoring Report.

2.5.5 Recognition of Property Rights (VCS, 3.7, 3.18, 3.19; CCB, G5.1)

Disputes over rights to territories and resources	N/A.
Respect for property rights	The project area of the ABC Norte REDD Project is owned by ABC Agropecuária Brasil Norte S.A. - Produção e Exportação. In Brazil, the owner of the area is entitled to all the resources resulting from it. The owner has the right to use, enjoy and dispose of the property. The limitation on the right to property occurs in the case of underground research and mining (article 20, item IX and article 176 of the Federal Constitution and article 1,230 of the Civil Code). As far as carbon credits are concerned, they can be taken as the result of a property, so they belong to the owner. The legislation is expressed in this sense for the Permanent Preservation Areas and Legal Reserve, in art 41, §4: "The maintenance activities of Permanent Preservation Areas, Legal Reserve and restricted use are eligible for any payments or incentives for services environmental issues, configuring additionality for the purposes of national and international markets for certified greenhouse gas emission reductions" . In REDD ABC Norte Project all property rights are recognized, respected, and supported, and follow the land rights described in section "2.4.6 – National and Local Laws". The property of "Fazenda Pacajá" is privately owned, its title encompassing full control of the land in perpetuity. Moreover, the ownership and land tenure of these properties are recognized by the State of Pará, provided that the use of the areas attends to the requirements

established by the Brazilian Environmental Agency (IBAMA) regarding the sustainable use of these areas and the continuation of management practices.

In addition, information regarding the ownership and number of registration (real estate record file) of each real estate asset is listed in the Table 20.

It is verified that three of the four land parcels are registered in the name of the Algar Group. The only parcel registered in the name of an individual is Gleba Joana Peres, M/D Rio Pacajá (000.043.930.792-7). However, despite Gleba Joana Peres, M/D Rio Pacajá being registered in the name of Eleusa Garcia Melgaço, ABC Norte has authorization to use the area for more than 25 years, from 01-January-2016, to 01-January-2043. This authorization is possible because Eleusa Garcia leased the area to ABC Agropecuária Brasil Norte S.A Produção e Exportação, in accordance with Article 95 of Law 4,504/1964 , permitting the exploitation of renewable forest resources through sustainable forest management, which can be carried out by the lessee and/or by individuals or entities authorized by the lessee.

The Caminheiros do Bem community is located within the “Fazenda Pacajá” but outside the project area, ensuring there is no overlap between its territory and the forest management or carbon project activities. The project began engaging with the community in October 2023, holding visits and presentations about the PRS and the Carbon Project. Despite access difficulties, communication continued remotely, with the project respecting the community’s pace and autonomy. The community’s increasing participation in events and the clear delineation of the territory demonstrate the project’s commitment to local rights and interests.

Table 20: The properties involved in the ABC Norte REDD Project, their respective area, ownership and registration numbers

Property	City	Total Area (ha)	Ownership	Rural property Registration Certificate (CCIR)
Fazenda Pacajá - Área 01 (Gleba Joana Peres I)	Portel - PA	9,287.9613	ABC Agropecuária Brasil Norte S.A.	951.072.824.232-0
Fazenda Pacajá - Área 02 (Gleba Joana Peres I)	Portel - PA	130,077.2675	ABC Agropecuária Brasil Norte S.A.	951.072.824.771-2
Fazenda Pacajá (Lote 06 Setor A Gleba Joana Peres)	Portel - PA	3,140.1835	ALGAR S.A. Empreendimentos Participações	999.920.738.050-4

Fazenda Pacajá (Lote 28 - Gleba Joana Peres, M/D Rio Pacajá)	Bagre - PA ⁷³	3,057.5153	Eleusa Garcia Melgaço	000.043.930.792-7
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2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

Summary of the benefit sharing plan	As stated in item 2.5.5 Recognition of Property Rights, the property of “Fazenda Pacajá,” where the ABC Norte REDD Project is implemented, is privately owned and does not affect any property rights.
Benefit sharing during the monitoring period	As mentioned in item 2.5.5 Recognition of Property Rights, although the project does not impact property rights and therefore does not require a formal benefit-sharing agreement, it maintains a strong engagement with surrounding communities, particularly through the implementation of the Socio-environmental Responsibility Program (PRS). During the monitoring period, five of the thirteen neighboring communities were served by the PRS through activities such as handicraft workshops (especially aimed at women), technical guidance and the donation of materials and equipment for productive activities such as horticulture and poultry farming, healthcare services, among others. The outreach is currently being expanded, with the goal of including the remaining communities within the project zone. Consultations with all communities will be completed during the baseline revalidation process ⁷⁴ . After the monitoring period, additional communities were consulted, as detailed in item 2.3.9 Stakeholder Consultation.

2.5.7 Free, Prior, and Informed Consent (VCS, 3.18, 3.19; CCB, G5.2)

Consent	The ABC Norte REDD Project is developed within a private property owned by Algar Farming. For this reason, the project will not trespass nor affect private property, community property, or government property. Once Free Prior and Informed Consent (FPIC) is the principle that a community has the right to give or withhold its consent to proposed projects that may affect the lands
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⁷³ Although part of the ABC Norte REDD Project area is located in the municipality of Bagre-PA, the land identified by code 000.043.930.792-7 (Gleba Joana Peres, M/D Rio Pacajá) was registered at the 1st Real Estate Registry and Notary Office. This registry office is situated at Travessa Justo Chermont, No. 68, in Breves-PA, and its jurisdiction also covers the municipalities of Bagre and Melgaço. Available at: <<https://sistemafederal.com.br/cartorios/pa/breves/1-oficio-do-registro-de-imoveis-e-tabelionato-de-notas>>. Accessed on: June 26, 2024.

⁷⁴ With the aim of expanding and strengthening communication with all stakeholders, an Action Plan was developed to include communities that had not yet been formally consulted about the project. The Action Plan is incorporated into the 2nd Monitoring Report of the ABC Norte REDD Project (VCSocialCarbonMR_ABC Norte REDD Project_2nd_01 01 2021_31 03 2023_v08.3 (1).pdf), available at the Verra registry: <https://registry.verra.org/app/projectDetail/VCS/2558>. Accessed on May 15, 2025.

	they customarily own, occupy or otherwise use, the FPIC does not need to be obtained since property rights are not affected by the project.
Outcome of FPIC	Although FPIC is not mandatory in ABC Norte REDD Project context, once de the project is developed in private property, since the project start date, during field visits, recurring conversations have taken place with the communities involved in Upbio's Socio-environmental Responsibility Program regarding the limits of the project area, reinforcing that no community will be negatively affected or have its territory invaded by the project. Stakeholder consultations will continue to occur throughout the project's life cycle, reinforcing the project's objective and spatial limitation zone. This process aims to be conducted in a participatory manner with members of the communities located in the project zone. The Caminheiros do Bem community, located within the farm but outside the project area, has been involved in these discussions since October 2023, with the project maintaining open channels of communication through the program and addressing any concerns through the grievance redress mechanism.

2.5.8 Property Right Protection (VCS, 3.18, 3.19; CCB, G5.3)

ABC Norte recognizes, respects and supports local stakeholders' customary tenure/access rights to territories and resources. The project will never encroach on private property or relocate people off their lands without consent. In the event there are any ongoing or unresolved conflicts over property rights, usage or resources, the project shall undertake no activity that could exacerbate the conflict or influence the outcome of an unresolved dispute.

ABC Norte has a stable relation with the communities, with activities in the region dating back to 1979. In 2017 the company took over the management of the area and the SMFP, also initiating social actions with the communities, with the Socio-environmental Responsibility Program. Although there are 16 communities identified in the region, service is currently provided in only 5 of them, due to difficulties in transportation and communication with the other communities. With the carbon project revenue, the program is expected to reach all communities.

ABC Norte is the legal owner of the project area, however, has a verbal agreement with the communities to maintain the current use of land, as long as they commit to forest preservation and leave no environmental liabilities. There is no legal agreement since all contacts with the community are made prioritizing conversation and good relationship. In addition, the company prevents the community from being required to sign any documents, in order to avoid embarrassment and misunderstandings. The SMFP does not include the region occupied by the communities.

No community member has been or will be removed from their land, on the contrary, communities will be supported through programs and incentives the project proponent will instigate. In addition, the project did not introduce any invasive species or allow an invasive species to thrive through project implementation. If the project implements any reforestation project with non-native species over native species in the future, the possible risks and adverse effects of exotic species will be justified and explained to communities.

2.5.9 Identification of Illegal Activity (VCS, 3.19, CCB, G5.4)

During the monitoring period, from 1 April to 31 December 2023, no illegal activities were recorded. Throughout this period, the “Standard Operating Procedure 11 – Conflict Mediation” (SOP 11) remained in effect. Records related to this procedure are presented in Section XXX of this report. SOP 11 is intended to guide communication facilitation and conflict resolution processes. As outlined in the document, the initial step involves establishing formal contact through communication channels between stakeholders—such as local communities—and the company. Upon receipt of a grievance or request through the designated communication channels, the case is classified based on its urgency level, and the most appropriate resolution method is identified. The company then formally responds to the request, typically via official letter.

To foster a more intimate dialogue with the communities, ABC Norte is dedicated to enhancing its existing communication channels. Presently, these channels include a messaging app number, social networks, direct contact with Upbio representatives during monthly technical visits to the communities, and direct communication with the manager of the “Fazenda Pacajá”. ABC Norte has plans to install suggestion boxes in the communities, which will be collected monthly by the Upbio team and delivered to ABC Norte.

Furthermore, the project undergoes periodic monitoring through technical field visits conducted by Upbio, serving as the primary tool for ABC Norte to combat illegal activities. The team is responsible for documenting any instances of illegal activities within the communities.

With regard to the prevention of illegal activities related to human rights violations, the project adopts a proactive approach through its management systems and operational procedures. These include compliance with national labor legislation, adherence to ethical conduct standards established in the proponents’ Code of Ethics and the enforcement of clauses in contract between proponents prohibiting child labor, forced labor, and labor analogous to slavery, also extended to suppliers and subcontractors: “do not employ labor that constitutes child labor nor allow practices of degrading labor or labor analogous to slavery, in accordance with the provisions of the Federal Constitution, the Consolidated Labor Laws (CLT), the Penal Code, the Statute of Children and Adolescents, and other applicable legislation.” Additionally, all relevant laws and regulations covering workers’ rights in Brazil are followed by the Project’s instances and are communicated to each employee upon hiring and both companies have reporting channels available for the registration of complaints: <https://www.algar.com.br/canaldeetica/> and <https://www.contatoseguro.com.br/pt/carboncommunicationchannel>, by Sustainable Carbon.

2.5.10 Ongoing Disputes (VCS, 3.18, 3.19; CCB, G5.5)

There was a Public Civil Action filed by the Municipality of Portel, the Association of Agroextractivist Workers of Alto Camarapi, and the Rural Workers' Union of Portel against the Land Institute of Pará, the State of Pará, the company ABC – Agropecuária do Brasil Norte S/A, and the Federal Union. This case was dismissed without a ruling on the merits because the plaintiffs—the Association of Agroextractivist Workers of Alto Camapari, the Rural Workers' Union of Portel, and the Municipality of Portel—failed to submit complete property certificates for the lands whose titles they sought to annul. This was despite their responsibility to provide evidence under Brazilian procedural law and the court having granted them ample time to obtain the required documents.

It is important to note that ITERPA, in its statement prior to the ruling, denied any fraudulent conduct on its part and affirmed the legality of the land titling process. Additionally, the Public Prosecutor's Office of the State of Pará issued an opinion in favor of maintaining the case's dismissal.

However, the case is not yet concluded, as the parties have appealed. The appeal filed by the Federal Government, along with the Municipality of Portel, requests the annulment of the ruling and the issuance of complete property certificates by the Breves Land Registry Office. As a result, the ruling may indeed be overturned, and the case reopened. In simpler terms, there is still no definitive legal resolution regarding the disputed areas and there have been no new developments in the lawsuit – the legal dispute remains ongoing.

Although it is not possible to predict the final outcome or the timeframe for a decision, judicial precedent indicates a tendency for higher courts to uphold first-instance rulings. This likelihood is further supported by the opinion issued by the Public Prosecutor's Office of the State of Pará, which recommends confirmation of the initial judgment.

The project does not engage in any actions that could strengthen such a dispute. On the contrary, it is committed to involving all stakeholders in its social and environmental impact initiatives. An example of this is the participation of Caminheiros do Bem, a community located in the upper Camarapi River region, in the Social and Environmental Responsibility Program, as described in section 2.3.7 - Stakeholder Consultations of the CCB PD ABC Norte REDD Project and in the 2nd VCS Monitoring Report.

It is also important to highlight that no activities carried out by Fazenda Pacajá, whether related to the Carbon Project or Forest Management, have taken place within the area designated as the Caminheiros do Bem community use zone. This further reinforces that, although the owner of Fazenda Pacajá holds the land rights, they acknowledge and respect the community's presence and their customary rights. No economic activities have been conducted within the areas delineated for the communities on the farm. In other words, there has been no carbon credit generation in the areas occupied and used by the communities, nor will there be in the future.

In conclusion, the project respects the presence and territorial boundaries of the communities and takes proactive measures to mitigate any potential conflicts. The project proponents are closely monitoring the case's progress, and updates will be reported to all stakeholders in the upcoming monitoring periods. Additionally, risks and potential impacts on past emissions will be assessed.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation (VCS, 3.16)

Data / Parameter	BEF
Data unit	Dimensionless
Description	Biomass expansion factor
Source of data	Brown, S., A. J. R. Gillespie, and A. E. Lugo, 1989. Biomass estimation methods for tropical forests with applications to forest inventory data. Forest Science, 35:881-902. Data available in Table 4, pg. 890 of the referred study. The minimum value was utilized, which was then deducted from lowest limit.: $1.743 - 0.083 = 1.66$.
Value applied	1.66
Justification of choice of data or description of measurement methods and procedures applied	The biomass volume was estimated through a local forest inventory considering only the merchantable or commercial volume, i.e., the main tree trunk. For estimating carbon stocks, all the above-ground biomass including twigs, branches and even leaves need to be estimated. To convert merchantable tree volume into total biomass, biomass expansion factor (BEF) is used. Furthermore, the allometric equation for estimating the aboveground merchantable volume of trees was obtained from Colpini et al. (2009)⁷⁵, according to: $\ln(\text{Volume}) = -9.1892 + 1.9693 \times \ln(\text{DBH}) + 0.837 \times \ln(\text{Height})$ Where:

75 COLPINI, Chirle et al. Determinação do volume, do fator de forma e da porcentagem de casca de árvores individuais em uma Floresta Ombrófila Aberta na região noroeste de Mato Grosso. Acta Amazonica, [s. l], v. 39, n. 1, p. 97-104, 2009. Available at: <https://www.scielo.br/j/aa/a/BXPkWdfz4h869TrBzpKRWGh/?format=pdf>. Visited on June, 2023.

	DBH: Diameter at Breast Height H: Height The BEF was used to convert the merchantable volume obtained from the local forest inventory to total aboveground tree biomass.
Purpose of Data	This parameter is used to calculate the baseline, project and leakage emissions in the baseline and project scenarios. Provides the conversion of merchantable volume obtained from the local forest inventory to total aboveground tree biomass.
Comments	If new and more accurate data become available, these can be used to estimate the biomass expansion factor of the subsequent fixed baseline period.

Data / Parameter	CF
Data unit	tC/tdm
Description	Default value of carbon fraction in biomass
Source of data	Values from the literature, e.g. IPCC 2003. Good practice guidance for land use, land-use change and forestry. Kanagawa: IGES, 2003. Available at: <http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html>.
Value applied	0.5
Justification of choice of data or description of measurement methods and procedures applied	The default IPCC value was used.
Purpose of Data	This parameter is used to calculate the baseline, project and leakage emissions from deforestation occurred in the baseline and project scenarios. Provides an estimate of the carbon content of the vegetation biomass within the project reference region.
Comments	If new and more accurate carbon fraction data become available, these can be used to estimate the net anthropogenic GHG emission reduction of the subsequent fixed baseline period.

Data / Parameter	C _{totfcl}
Data unit	tCO ₂ e/ha
Description	Average carbon stock per hectare in anthropic areas in equilibrium of post-deforestation class fcl in tCO ₂ e/ha

Source of data	The average classification of post-deforestation land-uses within the reference region during the historical reference period was conducted through MapBiomass. Average carbon stocks of pastureland, agriculture and other land uses – National GHG Emissions Communication of Brazil to the UNFCCC (2019) - Available at: https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/comunicacoes-nacionais-do-brasil-a-unfccc/arquivos/3tcn_volume_3.pdf Secondary Forest average carbon stocks - Pereira, Izaura Cristina Nunes. Estoque de biomassa e carbono florestal em unidades de paisagem na Amazônia: uma análise a partir da abordagem metodológica. Universidade Federal do Pará, Belém, 2013. Available at: https://ppgdstu.propesp.ufpa.br/ARQUIVOS/teses/TESES/2013/IZAURA%20CRISTINA%20NUNES%20PEREIRA.pdf Belowground biomass – Root to shoot ratio available at VM0015. A weighted average of the post-deforestation carbon stocks was done, considering the % of area for each land use.
Value applied	46.58
Justification of choice of data or description of measurement methods and procedures applied	Almost two-thirds of the post-deforestation land uses within the reference region is composed by pasturelands. In order to estimate the post-deforestation carbon stocks, the average carbon stocks of pasturelands, agriculture and other land uses were taken from the National GHG Emissions Communication of Brazil to the UNFCCC (2019)⁷⁶. For secondary forests, a regional study was conducted. Most secondary forests in the Brazilian Amazon are young. In 2017, 65% of secondary forests were ≤10 years old. On average, 35% of annual land abandonment to secondary forests was re-cleared within 5 years, and 57% within 10 years⁷⁷. The half-life of secondary forests is 8 years, on average, which is also the same value found by other study that concludes that more than 50% of the secondary forests in the Amazon biome have less than 8 years old⁷⁸. According to the referenced study, conducted in the State of Pará, that analyzed the carbon stocks of a secondary forest with 14 years old, the average carbon stock in above ground biomass is around 19 tC/ha. Below ground biomass was estimated through the root-to-shoot ratio

76 Available at: https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/comunicacoes-nacionais-do-brasil-a-unfccc/arquivos/3tcn_volume_3.pdf

77 Sâmia Nunes et al 2020 Environ. Res. Lett. 15 034057. Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/ab76db>

78 Silva Junior, C.H.L., Heinrich, V.H.A., Freire, A.T.G. et al. Benchmark maps of 33 years of secondary forest age for Brazil. Sci Data 7, 269 (2020). Available at: <<https://doi.org/10.1038/s41597-020-00600-4>>

	from the applied methodology. Therefore, the average value for secondary forests is around 22,8 tC/ha. The applied value was obtained with the weighted average of carbon stock and land use.
Purpose of Data	This parameter is used to calculate the baseline emissions from deforestation occurred in the baseline scenario. Provides an average of the post-deforestation carbon stock per hectare within the reference region.
Comments	If new and more accurate biomass stock data become available, these can be used to estimate the net anthropogenic GHG emission reduction of the subsequent fixed baseline period.

Data / Parameter	DLF
Data unit	%
Description	Displacement Leakage Factor
Source of data	VCS Standard
Value applied	15%
Justification of choice of data or description of measurement methods and procedures applied	DLF was adopted as the default activity-shifting leakage deduction as per VCS Standard.
Purpose of Data	This parameter is used to calculate leakage emissions in the baseline scenario due to activity displacement leakage, providing an <i>ex ante</i> estimation of the decrease in carbon stocks and increase in GHG emissions. This value was calculated based on the percent of deforestation expected to be displaced outside the project boundary due to the implementation of the AUD project activity.
Comments	<i>Ex post</i> monitoring of the leakage belt will be done to determine deforestation rate outside the project area and the leakage emissions and carbon stock decrease. This parameter will be updated at each renewal of fixed baseline period.

Data / Parameter	Dm
Data unit	g/cm ³
Description	Mean wood density

Source of data	NOGUEIRA, E. M. Densidade de Madeira e Alometria de Árvores em Florestas do 'Arco do Desmatamento': Implicações para Biomassa e Emissão de Carbono a partir de Mudanças de Uso da Terra na Amazônia Brasileira (Wood Density and Tree Allometry in 'Arc of Deforestation' Forests: Implications for Biomass and Carbon Emissions from Land Use Change in the Brazilian Amazon). 2008. 151 pages. Doctor Thesis - Tropical Rainforest Science Course, INPA, Manaus, 2008.
Value applied:	0.701
Justification of choice of data or description of measurement methods and procedures applied	The mean wood density presented in Nogueira (2008) was obtained from the Brazilian Amazon, where the project region is located. The value is for the Lowland Dense Tropical Rainforest in the State of Pará (Table 3 of the referred study), vegetation type that is logged through SFMP.
Purpose of Data	This parameter is used to calculate baseline, project and leakage emissions through the conversion from m ³ to tons for estimating above-ground biomass from local forest inventories, specifically for the main forest type within the project area - Dense Lowland Tropical Rainforest - composing 99% of the project area.
Comments	Furthermore, it is also used to calculate project emissions from logging activities occurred in the project scenario due to sustainable forest management. Carbon stock decrease due to planned logging activities were calculated through multiplying the harvested volume by the mean wood density. Carbon stock increase due to natural regeneration after periodical harvest cycle can be calculated through multiplying the mean annual increment by the mean wood density.

Data / Parameter	ΔCBSLLK_t
Data unit	tCO _{2e}
Description	Annual carbon stock changes in leakage management areas in the baseline case at year t
Source of data	- Planned interventions proposed by the project proponent. - Remote sensing and GIS.
Value applied	0
Justification of choice of data or description of measurement methods and procedures applied	Leakage prevention activities generating a decrease in carbon stocks should be estimated <i>ex ante</i> and accounted. The leakage prevention measures proposed by the present project do not include a decrease in carbon stocks due to activities implemented in the leakage management area.
Purpose of Data	This parameter was used to calculate leakage emissions in the baseline scenario due to leakage prevention measures implemented in the

	leakage management area. It provides an <i>ex-ante</i> estimation of the decrease in carbon stocks due to the activities implemented.
Comments	<i>Ex post</i> monitoring of the leakage management area will be done to determine the carbon stock decrease and the leakage emissions. This parameter will be updated at each renewal of fixed baseline period.

Data / Parameter	EBBBSLPA _t
Data unit	tCO ₂ e
Description	Sum of (or total) baseline non-CO ₂ emissions from forest fire at year t in the project area
Source of data	Remote sensing data and GIS, supervisor reports.
Value applied	3,488.41 (Annual average actual non-CO ₂ emissions due to biomass burning within the project area during the crediting period)
Justification of choice of data or description of measurement methods and procedures applied	Slash-and-burn deforestation to clear the area is carried out for subsistence agriculture, which is the main cause of deforestation within the project area. Therefore, baseline deforestation in the project area involves fire and all above ground biomass is burnt. Non-CO₂ emissions from biomass burning are calculated according to requirements of methodology VM0015 v1.2. In order to estimate non-CO₂ emissions from forest fires, the average percentage of the area which contemplates the three municipalities within the RR that was cleared by burning for other land uses involving deforestation, such as cattle raising and farming (Fburnt), and the average of biomass that has commercial value, and could be removed prior to clear cutting and burning (Pburnt,p) were estimated, either for the baseline and project case. Baseline deforestation in the project area involves fire and all above ground biomass is burnt to clear the area. Therefore, this parameter is estimated as the multiplication of the annual area of deforestation of initial forest classes in the project area in the baseline scenario (ABSLPA_{icl,t}) times the total GHG emission from biomass burning in initial forest classes (EBB_{toticl,t}).
Purpose of data	This parameter is used to calculate non-CO ₂ emissions due to forest fires within the project area in the baseline scenario, providing an <i>ex-ante</i> estimation.
Comments	<i>Ex post</i> monitoring of forest fires and non-CO₂ emissions (EBBPSPA_t) will be done to determine GHG emissions within the project area (when the forest fire was significant).

Data / Parameter	Fburnt _{icl}
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Data unit	%
Description	Proportion of forest areas burned during the historical reference period in the forest class.
Source of data	Measured or estimated from literature. <i>Fburnt data source:</i> Heat spots: Data from 2014 to 2017 for Portel and Bagre municipalities, all satellites. <https://queimadas.dgi.inpe.br/queimadas/bdqueimadas> Deforestation: <http://terrabrasilis.dpi.inpe.br/downloads/>
Value applied	89.94
Justification of choice of data or description of measurement methods and procedures applied	The Fburnt analysis was carried out on the municipalities of Portel and Bagre, as it is where the Project Area is fully inserted in, as well as most of the Reference Region. Heat spots were considered during the period from 2014 to 2017 (prior to 2014, the data has no fire risk classification, and therefore, was not taken into account). For the assessed years, the fire risk predicted for the day of detection of the outbreak was considered, contemplating only outbreaks with a fire risk of ≥ 0.5 as, according to INPE's methodology, fire risk higher than 0.4 is considered as medium to critical (=1). By overlapping these fire outbreaks with the deforestation mapping of the same time period, it was possible to verify the tendency of fire outbreaks being directly related to areas with recent and/or consolidated deforestation. This can also be verified by the proximity of deforestation detection dates by satellite and the close or overlapping heat spots. Thus, it is possible to assume that these outbreaks are related to anthropic actions to open pastures/crops. Thereby, there was an overlap of 89.94% of the pixels analyzed during the reference period in the municipalities.
Purpose of data	This parameter is the average percentage of the area which contemplates the three municipalities within the RR that was cleared by burning for other land uses involving deforestation, such as cattle raising and farming, and is used to calculate baseline and project non-CO₂ emissions from forest fire at year t in the project area (parameter EBBBSLPAt).
Comments	Monitoring is done only once at project start.

Data / Parameter	Pburnt _{p,icl}
Data unit	%
Description	Average proportion of mass burnt in the carbon pool in the forest class
Source of data	Measured or estimated from literature.

	<i>Pburnt data source:</i> Anderson LO, Aragão LE, Gloor M, et al. Disentangling the contribution of multiple land covers to fire-mediated carbon emissions in Amazonia during the 2010 drought. Global Biogeochem Cycles. 2015; 29 (10):1739-1753. Doi: 10.1002/2014GB005008. Available at <https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2014GB005008>. Last visit in September 2021.
Value applied	78
Justification of choice of data or description of measurement methods and procedures applied	Pburnt was estimated using the average biomass per hectare that has commercial value and could be removed prior to clear cutting and burning. Based on literature, an average value of 61.6 m³/ha was obtained, which would correspond to approximately 11% of the total biomass in 1 ha. In this way, the remaining is burned to clear the area, therefore, its new value is 88.6%. However, due to the lack of literature estimates, a study from the Brazilian Amazon in the Cerrado vegetation was used for the comparison. This study reported that the total biomass consumed by fires varies from 72% to 84% (average 78%) in denser Cerrado types, which is a forest vegetation. The most conservative value between these two estimates were used, i.e., Pburnt was estimated as 78%. It is important to note that slash and burn practices are commonly used in the Amazon region to clear the area for other land uses thus, when burning an area, the main objective is to completely remove all the remaining biomass. Therefore, assuming that 78% of the biomass is combusted, there would still be a 22% remaining biomass that shall be left to decompose, which also emits GHG to the atmosphere in this process.
Purpose of data	This parameter is the average of biomass that has commercial value, and could be removed prior to clear cutting and burning, and is used to calculate baseline and project non-CO ₂ emissions from forest fire at year t in the project area (parameter EBBBSLPAt).
Comments	Monitoring is done only once at project start.

Data / Parameter	EI
Data unit	%
Description	Ex ante estimated effectiveness index
Source of data	Estimate from project proponent based on verified reports of similar REDD projects verified by Sustainable Carbon. and by other project proponents in Brazil up to date. Available on the VERRA database.
Value applied	94.53%

Justification of choice of data or description of measurement methods and procedures applied	Based on the comparison between <i>ex post</i> and <i>ex ante</i> deforestation of similar REDD projects developed by Sustainable Carbon. and by other project proponents in Brazil, available in verified reports in VERRA database up to date.
Purpose of Data	This parameter is used to calculate project emissions in the baseline scenario. Provides an <i>ex-ante</i> estimation of the carbon stock changes due to unavoidable unplanned deforestation within the project area, based on the effectiveness of the proposed project activities to reduce the deforestation.
Comments	<i>Ex post</i> monitoring of the project area will be done to determine deforestation rate and the project emissions. This parameter will be updated at each renewal of fixed baseline period.

Data / Parameter	Logging damage factor (LDF)			
Data unit	m ³ /m ³ of harvested timber			
Description	The logging damage factor (LDF) is a representation of the quantity of emissions that will ultimately arise per unit of extracted timber (m ³). These emissions arise from the non-commercial portion of the felled trees (the branched and stump) and trees incidentally killed during felling.			
Source of data	SFMP related documentation, such as forestry inventory, harvesting management plans and post-harvest assessment reports. Feldpausch et al. When big trees fall: Damage and carbon export by reduced impact logging in southern Amazonia. Forest Ecology and Management 219 (2005) 199–215			
Value applied:		Annual Productive Unit (APU)	Year	m³/m³
		APU 19	2022/2023	2,0174
Justification of choice of data or description of measurement methods and procedures applied	This parameter is added to the harvested timber volume intensity in order to calculate carbon stock decrease from planned logging activities at each forest class. The emissions resulting directly from logging are calculated by estimating the emissions resulting from dead wood created in each logging gap measured divided by the volume of wood created, adding skidder trails damage. According to Feldpausch et al. (2005), Table 6 pag 209, the mean Coarse woody debris returned to the soil as necromass following logging and damage in: (1) tree felling gap formation (trees killed by tree-fall), (2) residual canopy from the felled tree, (3) road, (4) deck construction (whole trees plowed to the ground)			

	and (5) skid maneuvering during logging, is about 6.9 Mg C/ha. According to section 4.3 (pg 212) from this same study, this represents 2.4 times the carbon taken off site in logs. However, the MR already takes into account as planned deforestation the roads and decks constructions, which represent around 16% of the total damage. Therefore, the LDF is $2.4 * (1-0,159) = 2.0174$.
Purpose of data	This parameter is used to calculate project emissions from logging activities occurred in the project scenario due to sustainable forest management, specifically for the calculation of the carbon stock decrease due to planned logging activities in the project area.
Comments	If no monitoring data is available, SFMP data shall be used. If new and more accurate harvest intensity data become available, these can be used to estimate project emissions.

3.1.2 Data and Parameters Monitored (VCS, 3.16)

Data / Parameter	ab _{icl}																			
Data unit	Mg/ha																			
Description	Average biomass stock per hectare in the above-ground biomass pool of initial forest class icl in Mg/ha.																			
Source of data	Average values for the above-ground biomass were taken from the local forest inventory conducted at Fazenda Pacajá in 2021, for the forest type Lowland Dense Tropical Rainforest.																			
Description of measurement methods and procedures to be applied	The following sources was monitored: • Biomass stock surveys • Periodic reports from area supervisor • Local Forest Inventories																			
Frequency of monitoring/recording	At each monitoring report.																			
Value applied	<table><tr><th colspan="4">Above-ground biomass</th></tr><tr><th colspan="4">ab_{icl} (Mg/ha)</th></tr><tr><th>Vegetation</th><th>Reference Region</th><th>Project Area</th><th>Leakage Belt</th></tr><tr><td>Forest (Dense Lowland Tropical Rainforest)</td><td>313.05</td><td>316.22</td><td>299.54</td></tr></table>				Above-ground biomass				ab _{icl} (Mg/ha)				Vegetation	Reference Region	Project Area	Leakage Belt	Forest (Dense Lowland Tropical Rainforest)	313.05	316.22	299.54
Above-ground biomass																				
ab _{icl} (Mg/ha)																				
Vegetation	Reference Region	Project Area	Leakage Belt																	
Forest (Dense Lowland Tropical Rainforest)	313.05	316.22	299.54																	

Monitoring equipment	To obtain local biomass data, the project proponent promoted a forest inventory campaign at Fazenda Pacajá (Portel/PA), involving the measurement of several plots. The allocation of the permanent plots prioritized areas not previously managed for timber products. Each plot had dimensions of 50x50 m (0.25 hectares), randomly distributed. The permanent plots were demarcated at the four corners, with wooden pickets, in order to facilitate their location later on, and their geographical coordinates were recorded through GPS. The Diameter at Breast Height (DBH) was measured using a measuring tape at 1.30 m above ground level, involving trees with DBH>10 cm, and in a sub-plot of 10x10m, DBH>5 cm. The total height of the trees was obtained through an estimated manner (visual) or using a Blume-Leiss device (hypsometer), when possible.
QA/QC procedures to be applied	Data shall be in accordance to VM0015 v1.2 requirements
Purpose of data	This parameter is used to calculate baseline emissions, project emissions and leakage emissions in both baseline and project scenarios.
Calculation method	Regarding the main forest type within the project area - Dense Lowland Tropical Rainforest – composing more than 95% of the project area, this parameter was estimated through a local forest inventory.
Comments	The values will be reassessed every 10 years or when data is more than 10 years old, whichever occurs first.

Data / Parameter	bb _{icl}		
Data unit	Mg/ha		
Description	Average biomass stock per hectare in the below-ground biomass pool of initial forest class icl in Mg/ha.		
Source of data	Average values for the below-ground biomass were taken from the applied methodology VM0015 v1.2, which estimates a root-to-shoot ratio of 0.24 for tropical rainforest having above ground biomass values above 125 tons/ha, and 0.20 for values below 125 tons/ha.		
Description of measurement methods and procedures to be applied	The following sources will be monitored: • Biomass stock surveys • Periodic reports from area supervisor • Local Forest Inventories		
Frequency of monitoring/recording	At each monitoring report.		
Value applied	<table><tr><td>Below-ground biomass</td></tr><tr><td>bb_{icl} (Mg/ha)</td></tr></table>	Below-ground biomass	bb _{icl} (Mg/ha)
Below-ground biomass			
bb _{icl} (Mg/ha)			

	Vegetation	Reference Region	Project Area	Leakage Belt
	Forest (Dense Lowland Tropical Rainforest)	75.12	75.89	71.79
Monitoring equipment	No monitoring equipment is used to determine this parameter.			
QA/QC procedures to be applied	Data shall be in accordance to VM0015 v1.2 requirements			
Purpose of data	This parameter is used to calculate baseline, project and leakage emissions in the baseline and project scenarios.			
Calculation method	Calculation according to the applied methodology VM0015 v1.2, which estimates a root-to-shoot ratio of 0.24 for tropical rainforest having above ground biomass values above 125 tons/ha, and 0.20 for values below 125 tons/ha.			
Comments	The values will be reassessed every 10 years or when data is more than 10 years old, whichever occurs first.			

Data / Parameter	ACPA _t
Data unit	Ha
Description	Annual area within the Project Area affected by catastrophic events at year t.
Source of data	Remote sensing data and GIS, ABC Norte management team and other field data.
Description of measurement methods and procedures to be applied	In addition to field data from the management team, the following sources will also be monitored: • INMET⁷⁹ • INPE⁸⁰
Frequency of monitoring/recording	At each time a catastrophic event occurs.
Value applied	0 (no catastrophic event occurred).
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomas) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).

⁷⁹ INMET. Instituto Nacional de Meteorologia. Available at: <<https://portal.inmet.gov.br/>>. Last visited on June, 2023.

⁸⁰ INPE. Instituto Nacional de Pesquisas Espaciais. Available at: <<http://www.inpe.br/>>. Last visited on June, 2023.

QA/QC procedures to be applied	Best practices in remote sensing and GIS. Furthermore, the following sources will be also monitored to confirm the data obtained from remote sensing and GIS: • INMET • INPE • Field data from the management team
Purpose of data	This parameter is used to calculate project emissions in the project scenario. Provides an <i>ex post</i> estimation of the area affected by catastrophic events within the project area.
Calculation method	Remote sensing and GIS
Comments	Decreases in carbon stocks and increases in GHG emissions (e.g. in case of forest fires) due to natural disturbances (such as hurricanes, earthquakes, volcanic eruptions, tsunamis, flooding, drought, fires, tornados or winter storms) or man-made events, including those over which the project proponent has no control (such as acts of terrorism or war), are subject to monitoring and must be accounted under the project scenario, when significant.

Data / Parameter	ABSLLK _t													
Data unit	Ha													
Description	Annual area of deforestation within the leakage belt at year t.													
Source of data	Remote sensing and GIS.													
Description of measurement methods and procedures to be applied	Deforestation in the leakage belt area may be considered activity displacement leakage. Activity data for the leakage belt area will be determined using the same methods applied to monitoring deforestation activity data in the project area.													
Frequency of monitoring/recording	Annually													
Value applied		<table><tr><th rowspan="2">Year</th><th colspan="2">ABSLLK_t (ha)</th></tr><tr><th>Forest</th><th>Cumulative</th></tr><tr><td>2023</td><td>142.04</td><td>142.04</td></tr><tr><td>Total</td><td>142.04</td><td>-</td></tr></table>	Year	ABSLLK _t (ha)		Forest	Cumulative	2023	142.04	142.04	Total	142.04	-	
Year	ABSLLK _t (ha)													
	Forest	Cumulative												
2023	142.04	142.04												
Total	142.04	-												
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).													
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be													

	80%. Only sources meeting this accuracy requirement, such as MapBiomas Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.
Purpose of data	This parameter is used to calculate leakage emissions in the project scenario. Provides the ex-post value of the deforested area within the leakage belt.
Calculation method	Analysis of satellite images and maps.
Comments	Where strong evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation will not be attributed to the project activity, thus not considered leakage.

Data / Parameter	ABSLPA _t		
Data unit	Ha		
Description	Annual area of deforestation (planned and unplanned) in the project area at year t		
Source of data	Remote sensing and GIS		
Description of measurement methods and procedures to be applied	Forest cover change due to deforestation will be monitored through periodic assessment of classified satellite imagery covering the project area.		
Frequency of monitoring/recording	Annually		
Value applied	Year	ABSLPA_t (ha)	
		Forest	Cumulative
	2023	82.67	82.67
	Total	82.67	-
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomas) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).		
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomas Collection, are utilized.		

	Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.
Purpose of data	This parameter will be used to calculate baseline emissions and project emissions in both baseline and project scenarios. Provides the <i>ex-ante</i> and <i>ex-post</i> values of the deforested area per forest class within the project area.
Calculation method	Analysis of satellite images and maps.
Comments	N/A

Data / Parameter	ABSLRR _t													
Data unit	Ha													
Description	Annual area of deforestation in the reference region at year t													
Source of data	Remote sensing and GIS													
Description of measurement methods and procedures to be applied	Forest cover change due to deforestation will be monitored through periodic assessment of classified satellite imagery covering the reference region.													
Frequency of monitoring/recording	Annually													
Value applied		<table><tr><th rowspan="2">Year</th><th colspan="2">ABSLRR_t (ha)</th></tr><tr><th>Forest</th><th>Cumulative</th></tr><tr><td>2023</td><td>3,339.83</td><td>3,339.83</td></tr><tr><td>Total</td><td>3,339.83</td><td>-</td></tr></table>	Year	ABSLRR _t (ha)		Forest	Cumulative	2023	3,339.83	3,339.83	Total	3,339.83	-	
Year	ABSLRR _t (ha)													
	Forest	Cumulative												
2023	3,339.83	3,339.83												
Total	3,339.83	-												
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomas) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).													
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomas Collection, are utilized.													

	Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.
Purpose of data	This parameter will be used to calculate baseline emissions and project emissions in both baseline and project scenarios. Provides the <i>ex ante</i> and <i>ex post</i> values of the deforested area per forest class within the reference region.
Calculation method	Analysis of satellite images and maps.
Comments	N/A

Data / Parameter	APDPA _{icl,t}		
Data unit	Hectare		
Description	Areas of planned deforestation in forest class icl at year t in the project area		
Source of data	- Annual operational plan; - Annual post-harvesting report; - Remote sensing and GIS.		
Description of measurement methods and procedures applied	The planned deforestation activities in the project area that result in carbon stock decrease will be subject to monitoring. The ABC Norte management team records such information according to procedures established in its sustainable forest management plan.		
Frequency of monitoring/recording	Annually		
Value applied:	Year	APDPA _{icl,t} (ha)	
		Forest	
	2023	47.12	
	Total	47.12	
Monitoring equipment	- Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel). - ABC Norte Management team, based on the Sustainable Forest Management Plan for Fazenda Pacajá		

QA/QC procedures applied	- Best practice in remote sensing. - Internal audit of the SFMP. - Internal procedures required by the SFMP and forest certification
Purpose of data	This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex-post</i> value of the decrease in carbon stocks due to planned deforestation in the project area.
Calculation method	Emissions from deforestation at each forest class are quantified by multiplying the area of forest loss detected by the average forest carbon stock per unit area. For an <i>ex-ante</i> estimation, it was considered that 2.5% of each annual production unit will be deforested for the implementation of SFMP infrastructure.
Comments	Planned deforestation mainly includes implementation of the forest management infrastructure, such as opening of main and secondary roads, skidding trails, and timber yards in each annual production unit within the project area.

Data / Parameter	APLPA _{icl,t}									
Data unit	Hectare									
Description	Areas of planned logging activities in forest class icl at year t in the project area									
Source of data	- Annual operational plan; - Annual post-harvesting report; - Remote sensing and GIS.									
Description of measurement methods and procedures applied	The planned logging activities in the project area that resulted in carbon stock increase or decrease shall be subjected to monitoring, when significant.									
Frequency of monitoring/recording	Annually									
Value applied:	<table><tr><th rowspan="2">Year</th><th>APLPA_{icl,t} (ha)</th></tr><tr><th>Forest</th></tr><tr><td>2023</td><td>4,229.14</td></tr><tr><td>Total</td><td>4,229.14</td></tr></table> APU 19 area.			Year	APLPA _{icl,t} (ha)	Forest	2023	4,229.14	Total	4,229.14
Year	APLPA _{icl,t} (ha)									
	Forest									
2023	4,229.14									
Total	4,229.14									

Monitoring equipment	- Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel). - ABC Norte Management team, based on the Sustainable Forest Management Plan for Fazenda Pacajá. The APU 19 area was obtained from the Authorization for Forest Exploitation (AUTEF), emitted by SEMAS/PA.
QA/QC procedures applied	- Best practices in remote sensing. - Internal audit of the SFMP. - Internal procedures required by the SFMP and forest certification.
Purpose of data	This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex-post</i> value of the increase or decrease in carbon stocks due to planned logging activities in the project area.
Calculation method	Carbon stock decrease from planned logging activities at each forest class are quantified by multiplying the detected area subject to logging by the harvested timber volume intensity, and then by the mean wood density. Carbon stock increase from planned logging activities at each forest class are quantified by multiplying the detected area subject to logging by the mean annual increment due to natural regeneration of managed forests, and then by the mean wood density.
Comments	According to the sustainable forest management plan, 121,632.37 ha are subject to sustainable forest management plan (SFMP). The adopted rotation cycle is 35 years, thus each annual productive unit (APU) has around 3,475.21 hectares. The SFMP provides guidance to the management team in order to harvest forest products/by-products in a consistent manner with the conservation of the local ecosystem.

Data / Parameter	AUDPA _{icl,t}
Data unit	Hectare
Description	Areas of unplanned deforestation in forest class icl at year t in the project area
Source of data	- Remote sensing and GIS. - Field reports
Description of measurement methods and procedures applied	The unplanned deforestation within the project area that results in carbon stock decrease will be subject to monitoring.

Frequency of monitoring/recording	Annually		
Value applied:	Year	AUDPA _{icl,t} (ha)	
		Forest	
	2023	35.55	
	Total	35.55	
Monitoring equipment	- Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel). - Field report prepared by ABC Norte Management team Pacajá		
QA/QC procedures applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations..		
Purpose of data	This parameter will be used to calculate project emissions in the project scenario. Provides the ex-post value of the decrease in carbon stocks due to unplanned deforestation in the project area.		
Calculation method	Emissions from deforestation at each forest class are quantified by multiplying the area of forest loss detected by the average forest carbon stock per unit area.		
Comments	N/A		

Data / Parameter	APFPA _{icl,t}
Data unit	Hectare
Description	Areas of planned fuel-wood collection and charcoal production activities in forest class icl at year t in the project area
Source of data	- Authorization for the Use of Forest Raw Material document

Description of measurement methods and procedures applied	No production of fuel wood or charcoal is expected to occur within the project area during the crediting period.
Frequency of monitoring/recording	Annually
Value applied:	0 (no production of fuel wood or charcoal occurred)
Monitoring equipment	- Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel). - Planned interventions proposed by the project proponent
QA/QC procedures applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations. Internal audit of the SFMP.
Purpose of data	This parameter was used to calculate project emissions in the project scenario. Provides the ex-post value of the increase or decrease in carbon stocks due to planned fuel-wood collection and charcoal production activities in the project area.
Calculation method	Emissions at each forest class are quantified by multiplying the detected area subject to fuel wood collection or charcoal production by the harvested volume intensity, and then by the mean wood density.
Comments	N/A

Data / Parameter	$\Delta CADLK_t$
Data unit	tCO ₂ e
Description	Total decrease in carbon stocks due to displaced deforestation at year t
Source of data	Remote sensing and GIS.
Description of measurement methods	Deforestation in the leakage belt area may be considered activity displacement leakage. Activity data for the leakage belt area will be

and procedures to be applied	determined using the same methods applied to monitoring deforestation activity data in the project area.								
Frequency of monitoring/recording	Annually								
Value applied	<table> <tr> <th>Year</th><th>ΔCADLK_t</th></tr> <tr> <th></th><th>tCO₂e</th></tr> <tr> <td>2023</td><td>0.00</td></tr> <tr> <td>Total</td><td>0.00</td></tr> </table>	Year	ΔCADLK_t		tCO ₂ e	2023	0.00	Total	0.00
Year	ΔCADLK_t								
	tCO ₂ e								
2023	0.00								
Total	0.00								
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).								
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.								
Purpose of data	This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the decrease in carbon stocks due to displaced deforestation in the leakage belt.								
Calculation method	Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.								
Comments	Where evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation may not be attributed to the project activity and therefore, not considered leakage.								

Data / Parameter	ΔCPAdPA_t
Data unit	tCO ₂ e
Description	Total decrease in carbon stock due to all planned activities at year t in the project area
Source of data	Documents, remote sensing and GIS.

Description of measurement methods and procedures to be applied	The planned activities in the project area that result in carbon stock decrease will be subject to monitoring, when significant.						
Frequency of monitoring/recording	Annually						
Value applied	<table> <tr> <th>Year</th><th>ΔCPAdPA_t tCO₂e</th></tr> <tr> <td>2023</td><td>123,787.28</td></tr> <tr> <td>Total</td><td>123,787.28</td></tr> </table>	Year	ΔCPAdPA_t tCO ₂ e	2023	123,787.28	Total	123,787.28
Year	ΔCPAdPA_t tCO ₂ e						
2023	123,787.28						
Total	123,787.28						
Monitoring equipment	SFMP reports, including the post-harvesting annual report. GIS analysis and data can be used to support the remote sensing data.						
QA/QC procedures to be applied	- Best practices in remote sensing. - Internal audit of the SFMP. - Internal procedures required by the SFMP and forest certification						
Purpose of data	This parameter is used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the decrease in carbon stocks due to planned activities in the project area.						
Calculation method	This parameter is the sum of: carbon stock decrease due to planned deforestation, carbon stock decrease due to planned logging activities, and carbon stock decrease due to planned fuel-wood and charcoal activities.						
Comments	N/A						

Data / Parameter	ΔCPSLK_t
Data unit	tCO ₂ e
Description	Total annual carbon stock change in leakage management areas in the project case at year t
Source of data	- Activities report related to leakage prevention measures - CCB report - Field assessment - Remote sensing and GIS
Description of measurement methods	The planned activities in leakage management areas that result in carbon stock decrease will be subject to monitoring, when significant.

and procedures to be applied			
Frequency of monitoring/recording	Annually		
Value applied	Year	ΔCPSLKt	
		tCO2e	
	2023	4,672.97	
	Total	4,672.97	
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).		
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations..		
Purpose of data	This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the change in carbon stocks due to leakage prevention measures in the leakage management area.		
Calculation method	Emissions from deforestation are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.		
Comments	The leakage prevention measures proposed by the present project do not include decrease in carbon stocks due to activities implemented in the leakage management area.		

Data / Parameter	ΔCUDdPA_t
Data unit	tCO ₂ e
Description	Total actual carbon stock change due to unavoided unplanned deforestation at year t in the project area
Source of data	- Remote sensing and GIS - Field reports.

Description of measurement methods and procedures to be applied	Forest cover change due to unplanned deforestation will be monitored through periodic assessment of classified satellite imagery covering the project area.		
Frequency of monitoring/recording	Annually		
Value applied		Year	ΔCUDdPA_t
			tCO ₂ e
		2023	25,553.54
		Total	25,553.54
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).		
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations..		
Purpose of data	This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex-post</i> value of the change in carbon stocks due to unavioded unplanned deforestation within the project area.		
Calculation method	Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.		
Comments	N/A		

Data / Parameter	EADLK _t
Data unit	tCO ₂ e
Description	Total <i>ex post</i> increase in GHG emissions due to displaced forest fires at year t.
Source of data	Remote sensing data and GIS.

Description of measurement methods and procedures to be applied	Forest fires in the leakage belt area may be considered activity displacement leakage. GHG emissions due displaced forest fires will be subjected to monitoring, when significant.							
Frequency of monitoring/recording	Annually							
Value applied	<table> <tr> <th rowspan="2">Year</th><th>EADLK_t</th></tr> <tr> <th>tCO₂e</th></tr> <tr> <td>2023</td><td>0.00</td></tr> <tr> <td>Total</td><td>0.00</td></tr> </table>	Year	EADLK _t	tCO ₂ e	2023	0.00	Total	0.00
Year	EADLK _t							
	tCO ₂ e							
2023	0.00							
Total	0.00							
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).							
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.							
Purpose of data	This parameter will be used to calculate leakage emissions in the baseline and project scenario. Provides the <i>ex post</i> value of the increase in GHG emissions due to displaced forest fires in the leakage belt.							
Calculation method	GHG emissions from deforestation are estimated by multiplying the detected area of forest loss in the leakage belt times the average forest carbon stock per unit area.							
Comments	Where strong evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation will not be attributed to the project activity, thus not considered leakage.							
Data / Parameter	EBBPSPA _t							

Data unit	tCO ₂ e										
Description	Sum of (or total) of actual non-CO ₂ emissions from forest fire at year t in the project area										
Source of data	- Remote sensing data and GIS, - ABC Norte management team and field data.										
Description of measurement methods and procedures to be applied	If forest fires occur, these non-CO₂ emissions will be subject to monitoring and accounting, when significant. In addition to remote sensing data and GIS, which can identify the area affected by forest fire, the ABC Norte management team could also confirm the obtained data. No forest fire will be used by ABC Norte for conducting planned deforestation or timber harvesting activities. However, it is expected that some unplanned deforestation within the project area will occur during the crediting period, which conversion of forest to non-forest may involve fire. The effect of fire on carbon emissions is counted in the estimation of carbon stock changes in the parameter $\Delta CUDdPA_t$; therefore, CO₂ emissions from forest fires were ignored to avoid double counting. However, non-CO₂ emissions (CH₄ and N₂O) from forest fires must be counted in the project scenario, when they are significant. In order to be conservative, it will be assumed that all unplanned deforestation within the project area will involve fire. Therefore, non-CO₂ emissions from forest fires will be quantified and deducted from emission reductions.										
Frequency of monitoring/recording	Annually										
Value applied	<table><tr><th rowspan="2">Year</th><th>EBBPSPA_t</th><td rowspan="4"></td></tr><tr><th>tCO₂e</th></tr><tr><td>2023</td><td>935.47</td></tr><tr><td>Total</td><td>935.47</td></tr></table>	Year	EBBPSPA _t		tCO ₂ e	2023	935.47	Total	935.47		
Year	EBBPSPA _t										
	tCO ₂ e										
2023	935.47										
Total	935.47										
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).										
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be 80%. Only sources meeting this accuracy requirement, such as MapBiomass Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved										

	through documented corrective actions, ensuring credible data and calculations.
Purpose of data	This parameter will be used to calculate <i>non</i> -CO ₂ emissions due to forest fires within the project area in the project scenario, providing an estimate of the <i>ex-post</i> value for each vegetation type.
Calculation method	If forest fires occur, <i>non</i> -CO ₂ emissions from biomass burning will be calculated according to requirements of methodology VM0015 v1.2. Therefore, this parameter will be calculated as the multiplication of the annual area of deforestation of initial forest classes in the project area in the project scenario times the total GHG emission from biomass burning in initial forest classes ($EBB_{tot_{icl,t}}$), when significant.
Comments	N/A

Data / Parameter	$EBB_{tot_{icl,t}}$			
Data unit	tCO ₂ e/ha			
Description	Total GHG emission from biomass burning in forest class icl at year t			
Source of data	Calculated according to methodology VM0015 v1.2.			
Description of measurement methods and procedures to be applied	This parameter was calculated according to requirements and default values established by the VM0015 v1.2 methodology. In order to estimate <i>non</i> -CO ₂ emissions from forest fires, the average percentage of the area which contemplates the three municipalities within the RR that was cleared by burning for other land uses involving deforestation, such as cattle raising and farming (F_{burnt}), and the average of biomass that has commercial value, and could be removed prior to clear cutting and burning ($P_{burnt,p}$) were estimated, either for the baseline and project case. These average percentage values are assumed to remain the same in the future, according to the applied methodology			
Frequency of monitoring/recording	Annually			
Value applied	Initial Forest Class		$EBB_{tot_{icl,t}}$ tCO ₂ e/ha	
	IDcl	Name	Baseline Case	Project Case
	1	Forest (Dense Lowland Tropical Rainforest)	23.87	26.32
Monitoring equipment	Satellite images and land use land cover data were derived from reliable sources (e.g. MapBiomass) and processed and analyzed using GIS software (e.g. QGIS.) and data analysis tools (e.g. Excel).			
QA/QC procedures to be applied	According to VM0015's Map Accuracy Assessment, the minimum classification accuracy for each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map must be			

	80%. Only sources meeting this accuracy requirement, such as MapBiomas Collection, are utilized. Best practices in remote sensing and GIS are applied for data processing, with cross-verification using high-resolution imagery and field validation when necessary. Internal audits are performed, and detailed records of all processes are archived for traceability. Discrepancies are resolved through documented corrective actions, ensuring credible data and calculations.
Purpose of data	This parameter is used to calculate the baseline, project and leakage non-CO ₂ emissions from biomass burning occurred in the baseline and project scenarios
Calculation method	This parameter was calculated according to requirements and default values established by the VM0015 v1.2 methodology.
Comments	GWP for CH ₄ and N ₂ O were obtained according to the most recent version of the VCS Standard.

Data / Parameter	EgLK _t		
Data unit	tCO ₂ e		
Description	Emissions from grazing animals in leakage management areas at year t.		
Source of data	- Activities report related to leakage prevention measures - Field assessment - Remote sensing data and GIS.		
Description of measurement methods and procedures to be applied	GHG emissions from grazing animals in the leakage management area (i.e. enteric fermentation or manure management) will be subjected to monitoring, when significant.		
Frequency of monitoring/recording	Annually		
Value applied	Year	EgLK_t	
		tCO₂e	
	2023	0	
	Total	0	
Monitoring equipment	Remote sensing and GIS Field assessment data		
QA/QC procedures to be applied	Best practices in remote sensing and GIS.		
Purpose of data	This parameter will be used to calculate GHG emissions from activities implemented in the leakage management area in the project scenario, providing an ex-post value.		

Calculation method	Described in the methodology VM0015 v1.2, section 8.1.2: <i>Ex ante</i> estimation of CH ₄ and N ₂ O emissions from grazing animals.
Comments	The community living within the leakage management area does not practice any grazing activities. However, this shall be monitored during the crediting period. GWP for CH₄ and N₂O were obtained according to the most recent version of the VCS Standard.

Data / Parameter	Hlicl,t				
Data unit	m ³ /ha				
Description	Harvesting intensity of timber in forest class icl at year t in the project area due to planned logging activities (i.e., sustainable forest management plan).				
Source of data	Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report.				
Description of measurement methods and procedures to be applied	Forest inventory and measurements of wood logs by ABC Norte management team. ABC Norte controls all the harvested timber from the forest management area. Harvesting intensity followed procedures described in the Sustainable Forest Management Plan for Fazenda Pacajá.				
Frequency of monitoring/recording	Annually				
Value applied	<table> <tr> <th>Annual Productive Unit (APU)</th><th>Harvesting intensity (m³/ha)</th></tr> <tr> <td>APU 19</td><td>5.48</td></tr> </table>	Annual Productive Unit (APU)	Harvesting intensity (m ³ /ha)	APU 19	5.48
Annual Productive Unit (APU)	Harvesting intensity (m ³ /ha)				
APU 19	5.48				
Monitoring equipment	The same equipment applied in the forest inventory. Each harvested timber log is measured by ABC Norte management team and stored in a collector, which is linked to the SFMP data control.				
QA/QC procedures to be applied	Control procedures applied to forest inventory. Forest management Certification. SFMP internal audit. Logging authorization from the Brazilian Environmental Agency⁸¹.				
Purpose of data	This parameter is used to calculate project emissions in the project scenario. Provides the ex-post value of the harvested timber volume due to planned logging activities in the project area.				
Calculation method	This parameter was calculated through the annual timber inventory, which is carried out before harvesting and contains the timber volume				

⁸¹ The responsible environmental agency in this case is the Environmental Agency of the State of Pará (SEMA - Pará).

	from each Annual Productive Unit (APU). After harvesting operations, each harvested timber log is measured (diameter and height) by ABC Norte employees and stored in a collector, which automatically calculates the timber volume through the following equation: $V (m^3) = 0.00008912 \times (DBH^2 \times H)^{0.948}$ Where, DBH = Diameter at Breast Height H = Height Carbon stock decrease from planned logging activities at each forest class are quantified by multiplying the detected area subject to logging by the harvested timber volume intensity (added to logging damage factor), and then by the mean wood density.
Comments	N/A

Data / Parameter	RF _t
Data unit	%
Description	Risk factor used to calculate VCS buffer credits
Source of data	- VCS Non-Permanence Risk Report – ABC Norte REDD Project; - Remote sensing data and GIS; - SFMP data; - Literature data.
Description of measurement methods and procedures to be applied	All sources of data from the VCS Non-Permanence Risk Report will be used to measure the various risk factors.
Frequency of monitoring/recording	Annually
Value applied	17
Monitoring equipment	The risk factor was monitored using the most recent risk tool available.
QA/QC procedures to be applied	Best practices in remote sensing and GIS. The VCS Non-Permanence Risk Report will be verified together with the monitoring report at each verification event.
Purpose of data	This parameter represents the non-permanence risk rating of the project, which was used to determine the number of buffer credits that shall be deposited into the AFOLU pooled buffer account.

Calculation method	This parameter was calculated using the last available version of the AFOLU Non-Permanence Risk Tool. All the risk factors described in the VCS Non-Permanence Risk Report will be assessed.
Comments	N/A

3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

Organizational structure⁸²

According to the contract stipulated between Sustainable Carbon and ABC Norte, ABC was responsible for the costing and implementation and/or maintenance of the project's forest management and activities to reduce deforestation and degradation, surveillance, fire prevention, illegal extraction of wood, prevention of invasions, among others, implementation and maintenance of social and environmental activities to reduce leakage, decrease the risks of non-permanence of carbon and improve the results of CCB standard.

In addition, was responsible for keeping all documentation required by the project in order, as well as project maintenance expenses; Execute, monitor and maintain in full operation the structure that authorizes and serves as the basis for the development of the Project, ensuring the reduction of deforestation and degradation, the implementation and maintenance of social and environmental activities (or designating and hiring third parties responsible for the activities).

Sustainable Carbon was responsible for the development of the project documents, assessment of the mapping files for application of the methodology, and internal auditing.

The current monitoring was done by the project proponents and outsourced to a third party having sufficient capacities to perform the monitoring tasks. The management structure also relies on the local community to help monitor the area. To ensure the operation of the monitoring activities, the operational and managerial structure was established according to the table below.

For all aspects of project monitoring, the project proponent will ensure that data collection, processing, analysis, management and archiving are conducted in accordance with the monitoring plan. The authority for the registration, monitoring, measurement and reporting is Sustainable Carbon Projetos Ambientais LTDA.

Oversight and accountability of monitoring activities

ABC Norte and Sustainable shall mutually account for the monitoring and execution of activities under their responsibility. The development of the project will be linked to the quality and veracity of the data sent, which will be audited by a third party during the verification. The frequency of

⁸² The monitoring plan was re-organized in the current monitoring period to improve clarity. The content was not modified.

monitoring and accountability will be, at most, at each verification, and may vary according to each activity.

Table 21: Monitoring Structure, Responsible and Frequency

Variables to be monitored	Responsible	Frequency
Reassessment of the baseline	Sustainable Carbon and external institutions qualified for the GIS analysis and monitoring	Every 6 years
Monitoring Deforestation and Project Emissions	Project proponent together with Sustainable Carbon and external institutions qualified for the GIS analysis and monitoring	Prior to each verification
Monitoring of non-CO ₂ emissions from forest fires	Project proponent together with Sustainable Carbon and external institutions qualified for GIS analysis and monitoring	Prior to each verification
Monitoring Leakage emissions	Project proponent together with Sustainable Carbon and external institutions qualified for the GIS analysis and monitoring	Prior to each verification
Monitoring of Natural Disturbance and catastrophic events	Project proponent	When a natural event occurs
Updating Forest Carbon Stocks Estimates	Project proponent	At least, every 10 years, only if necessary.

Quality control and quality assurance procedures

QA/QC were done according to best practices in remote sensing and as stated by VM0015 methodology.

According to the applied methodology, the minimum overall accuracy of the Forest Cover Benchmark Map should be 90%⁸³; and the minimum classification accuracy of each class or category in the Land-Use and Land-Cover Map and Land-Use and Land-Cover Change Map, respectively, should be 80%.

Furthermore, according to the applied methodology, usually the same source of remotely sensed data and data analysis techniques must be used within a period for which the baseline is fixed (fixed baseline period). However, if remotely sensed data have become available from new and higher resolution sources (e.g., from a different sensor system) during this period, these can only be used if the images based on interpretation of the new data overlap the images based on interpretation of the old data by at least 1 year and they cross calibrate to acceptable levels based on commonly used methods in the remote sensing community.

⁸³ ATBD Collection 9 v2.docx Table 5 in the page 29

In the current monitoring period, a complementary visual analysis was conducted to enhance MapBiomass data quality. The Sentinel sensor⁸⁴, with its 10x10-meter resolution, was employed to identify deforestation areas not detected by MapBiomass. Once the areas are detected, their classification is updated, usually from forest to deforestation.

To ensure consistency and quality of results, spatial analysts carrying out the image processing, interpretation, and change detection procedures were strictly adhered to the steps detailed in the Methodology.

All of these reliable data, which were collected and documented, were used as a technical support tool for decision-making to improve project outcomes, and to adapt the project according to the current needs and realities. Project activities implemented within the project area are consistent with the management plan of the PD.

The present REDD project is also verified by the CCB Standard, a co-benefit standard that measures the impact of the project in Climate, Community and Biodiversity. The CCB results are available on the current monitoring report and on the VCS registry.

- **Data archiving**

All data sources and processing, classification and change detection procedures were documented and stored in a dedicated long-term electronic archive maintained by ABC Norte. Sustainable Carbon Is also keeping a digital copy of all documents generated during the monitoring period.

Given the extended time frame and the pace of production of updated versions of software and new hardware for storing data, electronic files will be updated periodically or converted to a format accessible to future software applications, as needed.

All maps and records generated during project implementation will be stored and made available to VVBs at verification for inspection. In addition, any data collected from ground-truth points (including GPS coordinates, identified land-use class, and supporting photographic evidence) will be recorded and archived.

- **Organization and responsibilities of the parties involved in all the above**

Sustainable Carbon was responsible for the development of the Monitoring Report. Therefore, it was responsible for the organization and calculation of items related to the methodology.

ABC Norte was responsible for the development of the project activity, monitoring the required parameters in section 3.1.2 above. In addition, ABC Norte was also responsible for forest surveillance and generation of socioenvironmental activities to local communities.

Monitoring of actual carbon stock changes and GHG emissions within the project area

⁸⁴ [Copernicus Browser](#)

- **Monitoring of project implementation**

ABC Norte was responsible for the implementation of the project activity. The monitoring of the sustainable management plan is carried out by the municipal and state secretariats. In addition, as it is a CEFLOR certification holder, Fazenda Pacajá has its management plan and activities audited internally by the certifier annually.

To keep track of the impact of project activities, ABC Norte produces reports on:

- Fauna and Flora
- Environmental monitoring
- Post Exploratory
- Socioenvironmental diagnosis
- Permanent plots

This information was verified during the validation and during the current verification of the carbon project. Information from the sustainable forest management plan and post-exploratory reports was used to update parameters related to planned deforestation.

- **Updating Forest Carbon Stocks Estimates**

If new and more accurate carbon stock data becomes available, these can be used to estimate the net anthropogenic GHG emission reduction, provided that these data are in accordance with the requirements established by the applied methodology VM0015. New data on carbon stocks will only be used if they are validated by an accredited VVB.

- **Sampling approaches for forest inventory**

Sampling and carbon stocks estimate shall be conducted according to PD Appendix II – Methods to estimate carbon stocks. The sampling and execution of the forest inventory is the responsibility of ABC Norte. Future monitoring and collections must follow the procedure conducted during the PD, as informed in section 4 of the respective:

The forest inventory campaign involved the measurement of 21 plots. The allocation of the permanent plots shall prioritize areas not previously managed for timber products.

Each plot has dimensions of 50 x 50 m (0.25 hectares), randomly distributed. The permanent plots were demarcated at the four corners, with wooden pickets, in order to facilitate their location later on, and their geographical coordinates were recorded. DBH was measured at 1.30 m above ground level, involving trees with DBH > 10 cm (measuring tape).

The total height of the trees was obtained in an estimated manner (visual) or using a Blume-Leiss device (hypsonometer), when possible. Data was collected from a total sample area of 5.25 ha.

The estimation of tree volumes must involve the application of allometric equations from adequate literature.

The forest inventory data must be summarized into a table, including aboveground biomass, belowground biomass, total biomass, and total carbon stock. A spreadsheet including target precision levels, sample sizes, sample site locations and stratification must be presented to Sustainable Carbon and the VVB. If new and more accurate carbon stock data becomes available, these can be used to estimate the net anthropogenic GHG emission reduction, provided that these data are in accordance with the requirements established by the applied methodology VM0015. Data shall be updated every baseline reassessment.

Methods for generating, recording, aggregating, collating and reporting data on monitored parameters

All data sources and processing, classification and change detection procedures will be documented and stored in a dedicated long-term electronic archive maintained by Sustainable Carbon which will also keep a digital copy of all documents generated during the development of the monitoring reports.

Given the extended time frame and the pace of production of updated versions of software and new hardware for storing data, electronic files will be updated periodically or converted to a format accessible to future software applications, as needed.

All maps and records generated during project implementation were stored and made available to VCS verifiers at verification for inspection. In addition, any data collected from ground-truth points (including GPS coordinates, identified land-use class, and supporting photographic evidence) were recorded and archived.

Monitored data will be kept for two years after the end of the crediting period or the last issuance of carbon credit for this project activity, whichever occurs later. For this purpose, the authority for the registration, monitoring, measurement and reporting will be Sustainable Carbon. Monitored parameters are described in Section 3.1.2 and were monitored with the frequency described in the same section.

All reliable data collected and documented were used as a technical support tool for decision making in order to improve project outcomes, and to adapt the project according to the current needs and reality. These decisions are aligned with the adaptive management plan, developed in the current MR as part of the risk analysis. On these occasions, the design of the Monitoring Plan will be analyzed according to its efficiency in generating reliable feedback and all the necessary information. If any changes in the Monitoring Plan or management actions are identified, corrective action will be designed and implemented.

Procedures for handling internal auditing and non-conformities

The procedures for handling internal auditing and non-conformities are going to be established by both project developer and project proponent. All the necessary taskforce and procedures were in place to meet the highest levels of control.

A project information quality management system was implemented, the main purpose of which is to minimize the risk of error, obtaining reliable data on which to base the monitoring results, and thus, minimizing non-conformities. It includes the training of general staff in the different roles to play within the framework of the ABC Norte Project; In-field verification, which basically consists of monitoring the procedures set out in the methodological guidelines and; review of the monitoring reports prior to its delivery to the VVB, in order to confirm that the calculations, analysis and the conclusions are accurate and measured. This work is in charge of Sustainable Carbon.

If non-conformities exist during the internal or external auditing processes, the data should be reviewed, and the non-conformities addressed.

Monitoring of land-use and land-cover change within the project area

Forest cover change due to unplanned deforestation was monitored through periodic assessment of classified satellite imagery covering the project area. Emissions from deforestation are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.

The project boundary, as set out in the PD, serves as the initial “forest cover benchmark map” against which changes in forest cover were assessed over the interval of the monitoring period.

The entire project area has been demonstrated to meet the forest definition at the beginning of the crediting period. For this monitoring period, change in forest cover was assessed against the preceding classified forest cover map marking the beginning of the monitoring interval. The resulting classified image is compared with the preceding classified image (forest cover benchmark map marking the start of the monitoring interval) to detect forest cover change over the monitoring interval and subsequently becomes the updated forest cover benchmark map for the next monitoring interval. Thus, the forest benchmark map is updated at each monitoring event.

The increase or decrease in carbon stocks due to planned activities in the project area was also monitored through documents and periodic assessment of classified satellite imagery covering the project area. In case of planned deforestation, emissions are estimated by multiplying the area of forest loss by the average forest carbon stock per unit area.

The results of monitoring were reported by creating *ex post* tables of activity data per stratum; per initial forest class *icl*; and per post-deforestation zone *z*, for the reference region, project area and leakage belt.

In addition, a map showing Cumulative Areas Credited within the project area were updated and presented to VCS verifiers. The cumulative area cannot generate additional VCUs in future periods.

Other applied methodologies for monitoring deforestation are listed below:

- **Satellite images and remote sensing monitoring**

The land use and land use cover change were analyzed through remote sensing methods, using data from MapBiomas, INPE (Queimadas – fire monitoring) and satellite images (Sentinel, LANDSAT, CBERS). The collected data is compiled in an annual environmental report that gathers information on deforestation, heat spots and anthropism occupation.

The implementation of the project activity was monitored by remote sensing techniques. The land-use monitoring was carried out with remote sensing methods, using images generated by Mapbiomas collection 9.1, and Sentinel satellite images (or other available source accepted by the methodology), which was subject to digital processing to perform the interpretation and classification of the land cover classes studied.

All the monitored parameters were checked with the frequency detailed in Section 3.1.2 above, as requested in the VCS Methodology VM0015, version 1.2.

With the carbon credits income, to complement the monitoring of the project area and its surroundings, the project proponent intends to improve the remote sensing methods and data used, which meet the accuracy assessment requirements laid out in the methodology.

- **Data used in the monitored period**

MAPBIOMAS Collection 9 ⁸⁵	Information
Vector	Satellite (orbital remote sensing) — Landsat series
Sensor	TM (Thematic Mapper) — onboard Landsat 5; ETM+ (Enhanced Thematic Mapper Plus) — onboard Landsat 7; OLI-TIRS (Operational Land Imager and Thermal Infrared Sensor) — onboard Landsat 8 and Landsat 9
Resolution	30 m spatial resolution (Landsat native pixel)
Coverage	Entire Brazilian territory, organized by the six official IBGE biomes (Amazon, Atlantic Forest, Caatinga, Cerrado, Pampa, Pantanal — IBGE 2019, scale 1:250,000) plus a 2 km coastal buffer. Total area ≈ 8.51 million km ²
Acquisition date	Annual time series from 1985 through 2023 (39 years) - Collection 9 released in August 2024. Images selected annually to create cloud-free mosaics (dry: June–October; wet: January–May), with up to 23 valid observations per pixel per year
Scene or point identifier	USGS Landsat Collection 2, Tier 1, Surface Reflectance (SR), accessed via Google Earth Engine. Tiles indexed by the system WRS-2 (path/row) da NASA/USGS, grouped into mosaics by biome. Asset GEE: projects/mapbiomas-public/assets/brazil/lulc/v1 (filtro collection_id = 9.0)
Data type	Raster

⁸⁵ Source: <https://data.mapbiomas.org/dataset.xhtml?persistentId=doi:10.58053/MapBiomas/2XSLB3>

- **GIS Analysis**

In the present monitoring period 01/April/2023 – 12/December/2023, the project uses the available collection of MapBiomas 9.1⁸⁶. For all monitoring periods, here is a summary of the methodology for generation of accumulated deforestation using MapBiomas in QGIS⁸⁷:

1. Downloading Land Use Classification Data
2. Reprojecting the Raster to UTM Coordinates
3. Reclassification of the Land Use Raster into 4 Classes (Table 01)
4. Pre-processing to correct classification gaps: Apply pre-processing to correct small pixel classification voids using the Nibble tool.
5. Specific Feature Extraction and Reclassification:
6. Extract hydrography (class 2) and non-forest vegetation (class 3) features.
7. Convert the mask layer to a raster and reclassify the attributes to class 1 (forest), incorporating the information from classes 2 (hydrography) and 3 (non-forest vegetation), respectively. It is important that this is done in this order.
8. Generating a Combined Mask and Adding Deforestation Features.
9. Create a mask containing the three classes mentioned above.
10. Add the deforestation features to the mask to generate an accumulated deforestation raster.
11. Generating Accumulated Deforestation for 2021⁸⁸: After creating the mask containing the three classes, add the deforestation features and generate the accumulated deforestation. This procedure will be carried out using ArcGIS Pro's Raster Calculator tool, with the following equation:

```
Con(IsNull("_4_algar_v71_2021_Rec_RR.tif"), "DesmatAcum_2020.tif",
Con("DesmatAcum_2020.tif" > 1, "DesmatAcum_2020.tif",
Con("_4_algar_v71_2021_Rec_RR.tif" == 4, 4, "DesmatAcum_2020.tif"))
```

Code ID	COLLECTION 9 - CLASSES	Reclassification	4 classes
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⁸⁶ mapbiomas-user-toolkit-lulc.js - Earth Engine Code Editor

⁸⁷ Spatial without Compromise · QGIS Web Site

⁸⁸ The 2023 deforestation analysis was performed in the second VCS Monitoring Report (MR), which is why the accumulated deforestation using MapBiomas Collection 9 was initially calculated starting from 2021. This approach was adopted because MapBiomas data is annual and reflects deforestation over the entire year. Therefore, when 2023 was analyzed in the second MR, the assessment considered the full year, and a proportional adjustment was applied to account for deforestation during the first three months of the second MR. For the current MR, the 2023 results from the second MR were used, with adjustments made only to the proportion of the monitored deforestation area in the MR spreadsheet. This approach ensures consistency of data between the two monitoring periods.

1	1. Forest	1	Forest
3	1.1. Forest Formation	1	Forest
6	1.4 Floodable Forest	1	Forest
26	5. Water	2	Hydrography
33	5.1. River, Lake and Ocean	2	Hydrography
31	5.2. Aquaculture	2	Hydrography
4	1.2. Savanna Formation	3	Non forest vegetation
5	1.3. Mangrove	3	Non forest vegetation
49	1.5. Wooded Sandbank Vegetation	3	Non forest vegetation
10	2. Herbaceous and Shrubby Vegetation	3	Non forest vegetation
11	2.1. Wetland	3	Non forest vegetation
12	2.2. Grassland	3	Non forest vegetation
32	2.3. Hypersaline Tidal Flat	3	Non forest vegetation
29	2.4. Rocky Outcrop	3	Non forest vegetation
50	2.5. Herbaceous Sandbank Vegetation	3	Non forest vegetation
14	3. Farming	4	Deforestation
15	3.1. Pasture	4	Deforestation
18	3.2. Agriculture	4	Deforestation
19	3.2.1. Temporary Crop	4	Deforestation
39	3.2.1.1. Soybean	4	Deforestation
20	3.2.1.2. Sugar cane	4	Deforestation
40	3.2.1.3. Rice	4	Deforestation
62	3.2.1.4. Cotton (beta)	4	Deforestation
41	3.2.1.5. Other Temporary Crops	4	Deforestation
36	3.2.2. Perennial Crop	4	Deforestation
46	3.2.2.1. Coffee	4	Deforestation
47	3.2.2.2. Citrus	4	Deforestation
35	3.2.2.3. Palm Oil	4	Deforestation
48	3.2.2.4. Other Perennial Crops	4	Deforestation
9	3.3. Forest Plantation	4	Deforestation
21	3.4. Mosaic of Uses	4	Deforestation
22	4. Non vegetated area	4	Deforestation
23	4.1. Beach, Dune and Sand Spot	4	Deforestation
24	4.2. Urban Area	4	Deforestation

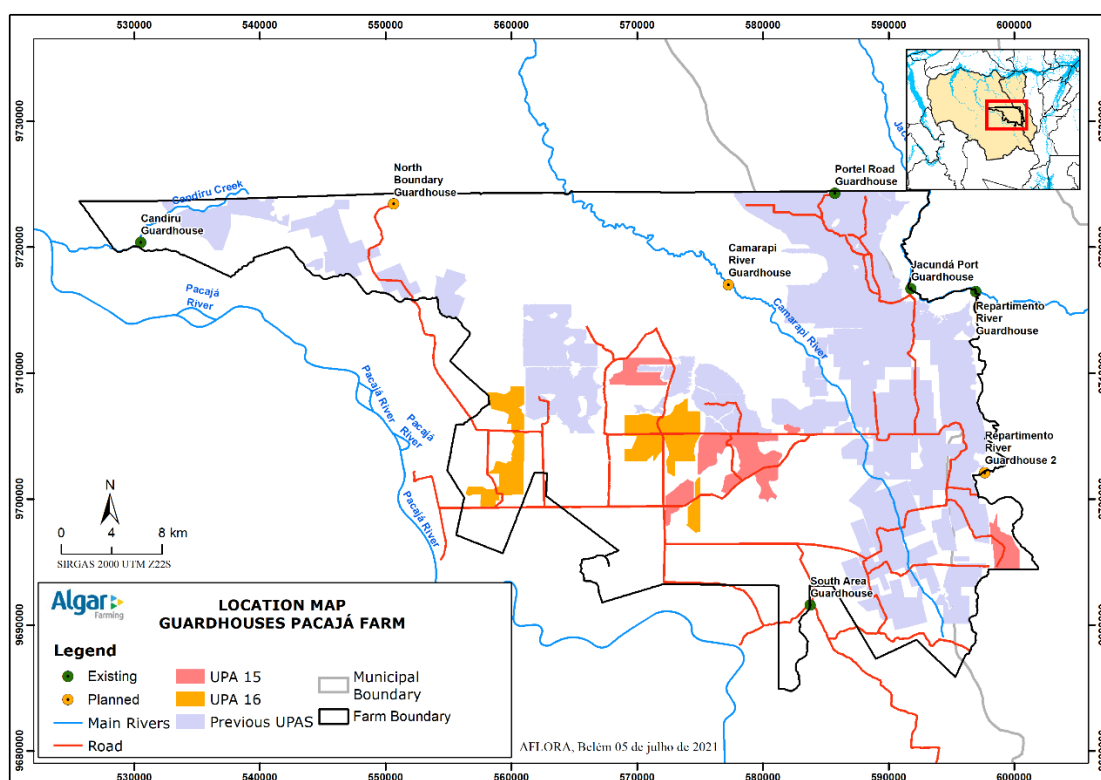
30	4.3. Mining	4	Deforestation
25	4.4. Other non Vegetated Areas	4	Deforestation

In the current monitoring period, a complementary visual analysis was conducted to enhance MapBiomass data quality. The Sentinel sensor, with its 10x10-meter resolution, was employed to identify deforestation areas not detected by MapBiomass. Once the areas are detected, their classification is updated, usually from forest to deforestation.

Monitoring Bases

The bases are positioned in strategic points within the Fazenda Pacajá. Figure below presents the current and planned monitoring bases:

Figure 16: Monitoring Bases of Pacajá Farm



According to Figure above, the green dots represent the bases already established by the project owner as monitoring bases. Yellow dots are the planned points that will be constructed with the carbon credits revenues. All the bases have radio communication and are equipped with vehicles to move to other areas if necessary.

- Security procedures

- In order to ensure the internal and patrimonial security of Fazenda Pacajá and its natural heritage, the employees follow formalized guidance when there is any internal change in the Forest area of the property.
- It is noteworthy that the first step is to try to communicate and increase the scope of the Socio-Environmental Program, as a way of approaching the extremes of the area and the communities, in order to guide and have an active voice with those who act irregularly within Fazenda Pacajá.
- A satellite image report may be issued monthly, containing the information of deforestation and forest degradation within the project area. In addition, from now on, all ABC Norte employees shall observe any irregularity in the project area.
- Upon verification of any irregularity, the person must inform the office in Vila ABC. With this, the team responsible will go to the field and try to contact the deforestation agents.
- Upon confirmation, the area should be photographed, and the local coordinates recorded, in order to facilitate the registration of the occurrence at the Portel Forest Police. In possession of the registration, the environmental secretariats are called to request action.

These actions are planned to avoid unplanned deforestation and carbon stock changes in the area.

The Climate, Community, and Biodiversity (CCB) certification monitors the project's social initiatives involving local communities, as well as the relationship between the company and these communities, and how it evolves in mitigating unplanned deforestation driven by such actors.

Monitoring of carbon stock changes and non-CO2 emissions from fires

In addition to the above-mentioned, ABC Norte is responsible for training monitoring, management, safety and health personnel. This includes periodic fire brigade training, including first aid, fire procedures, training of new monitoring personnel and those responsible for management during harvests.

If forest fires occur, these non-CO2 emissions are subject to monitoring and accounting, when significant.

Monitoring of impacts of natural disturbances and other catastrophic events

ABC Norte is responsible for the monitoring of natural impacts and other catastrophic events. The company must notify Sustainable Carbon so that it can include the related impacts in the carbon project reports, updating the related parameters, including the buffer report. Where an event occurs that is likely to qualify as a loss event, the project proponent shall notify Verra within 30 days of discovering the likely loss event.

Decreases in carbon stocks and increases in GHG emissions (e.g. in case of forest fires) due to natural disturbances (such as hurricanes, earthquakes, flooding, drought, fires or storms) or

man-made events, including those over which the project proponent has no control (such as acts of terrorism or war), are subject to monitoring, when significant. If the area (or a sub-set of it) affected by natural disturbances or man-made events generated VCUs in past verifications, the total net change in carbon stocks and GHG emissions in the area(s) that generated VCUs will be estimated, and an equivalent amount of VCUs will be cancelled from the VCS buffer. No VCUs can be issued for the project until all carbon stock losses and increases in GHG emissions have been offset.

- **Monitoring of Leakage**

Monitoring of the leakage belt and leakage management area was carried out as in the project area and reference region.

The most recent VCS guidelines on this subject have been applied. Furthermore, as the leakage belt was determined using Option 1 (Opportunity cost analysis), the boundary of the leakage belt will have to be reassessed at the end of each fixed baseline period using the same methodological approaches used in the previous period. The calculation procedure for estimating leakage emissions in the project scenario will be done by monitoring the following sources of leakage:

- **Carbon stock changes and GHG emissions associated with leakage prevention activities.**

The carbon stock decrease or increase in GHG emissions due to leakage prevention measures, which will probably take place inside the leakage management area, was monitored through documents and field assessment. In areas undergoing carbon stock enhancement, the project conservatively assumes stable stocks and no biomass monitoring is conducted.

- **Carbon stock decrease and increases in GHG emissions due to activity displacement leakage**

Deforestation in the leakage belt area above the baseline may be considered activity displacement leakage. Activity data for the leakage belt area was determined using the same methods applied to monitoring deforestation activity data in the project area. Leakage was calculated by comparing the *ex-ante* and the *ex-post* assessment. However, where strong evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation will not be attributed to the project activity, thus not considered leakage.

3.1.4 Dissemination of Monitoring Plan and Results (VCS, 3.18; CCB, CL4.2)

Following the guidelines established in section “2.3.2 - Stakeholder Access to Project Documents”, the monitoring reports results were disseminated to communities and other stakeholders, and made publicly available, through the following strategies:

- **VERRA platform:** the monitoring plan, as well as the results of the checks, will be shared on the VERRA platform⁸⁹, ensuring transparency and reaching a wider audience.
- **Sustainable Carbon website:** all projects supported by Sustainable Carbon are available on the website in which updated documents are accessible for consultation. Project information can be found on <<https://sustainablecarbon.com/en/projetos/abc-norte-project/>> (English) and <<https://sustainablecarbon.com/projetos/abc-norte-redd/>> (Portuguese).
- **Communication channels:** the monitoring reports will be accessible to communities through Upbio's WhatsApp (+55 91 98517 3832), which is already used as a communication vehicle.
- **Algar Farming headquarters:** the monitoring reports are made available at Algar Farming's headquarters and at the different access checkpoints (security posts) to the project area.
- **Upbio's field activities through Socio-environmental Responsibility Program:** during the field visits carried out by Upbio in the communities, the monitoring plan summary and its results will be communicated orally and through printed material.

Regarding verification information access by the communities related to the third monitoring period, the results were presented at a Social Action event held at Vila ABC on June 26th, at Fazenda Pacajá. The presentation of the results were conducted through a collective presentation to local residents.

- **Stakeholders Consultation:** Monitoring results will be made available to stakeholders, particularly institutional ones identified in Section 2.1.6 – Stakeholder Identification of the CCB PD ABC Norte REDD Project. The presentation of monitoring results and other project-related information may take place during site visits or through online presentations, with invitations sent in advance. During the site visit held in August 2025, an informational brochure about the project and the results of the 3rd VCS CCB MR was provided to institutional stakeholders, as well as to those interviewed remotely⁹⁰. The brochure included a QR code providing direct access to all project documentation available on the Verra website⁹¹, and access to this documentation was reinforced at the time the material was delivered.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions (VCS, 3.15)

⁸⁹ Available at: < <https://registry.verra.org/>>. Accessed on: 08 Feb. 2024.

⁹⁰ Informational materials were delivered to representatives of the Secretariat of Environment and Sustainability of Pará, the Tropical Forest Institute (IFT), and the Federal Rural University of the Amazon (UFRA) in person, and sent online to a representative of the Chico Mendes Institute for Biodiversity Conservation (ICMbio) and Brazilian Forest Service (BFS).

⁹¹ <https://registry.verra.org/app/projectDetail/VCS/2558>

The total average biomass stock per hectare (Mg ha^{-1}) was converted to tCO_2e using the following equations:

$$Cab_{icl} = ab \times CF \times 44 / 12$$

Where,

Cab_{icl}	Average carbon stock per hectare in the above-ground biomass carbon pool of initial forest class icl ; $\text{tCO}_2\text{e ha}^{-1}$
ab	Average biomass stock per hectare in the above-ground biomass pool of initial forest class icl ; Mg ha^{-1}
CF	Default value of carbon fraction in biomass
$44/12$	Ratio converting C to CO_2e

$$Cbb_{icl} = bb \times CF \times 44 / 12$$

Where,

Cbb_{icl}	Average carbon stock per hectare in the below-ground biomass carbon pool of initial forest class icl ; $\text{tCO}_2\text{e ha}^{-1}$
bb	Average biomass stock per hectare in the below-ground biomass pool of initial forest class icl ; Mg ha^{-1}
CF	Default value of carbon fraction in biomass
$44/12$	Ratio converting C to CO_2e

The total baseline carbon stock change in the project area at year t is calculated as follows:

$$\Delta CBSLPA_t = \Delta CabBSLPA_{icl,t} + \Delta CbbBSLPA_{icl,t}$$

Where,

$\Delta CBSLPA_t$	Total baseline carbon stock changes in the project area at year t ; tCO_2e
$\Delta CabBSLPA_{icl,t}$	Total baseline carbon stock change for the above-ground biomass pool in the project area for initial forest class at year t ; tCO_2e
$\Delta CbbBSLPA_{icl,t}$	Total baseline carbon stock change for the below-ground biomass pool in the project area for initial forest class at year t ; tCO_2e

$$\Delta CabBSLPA_{icl,t} = ABSLPA_{icl,t} \times \Delta Cab_{icl}$$

Where,

$\Delta CabBSLPA_{icl,t}$	Total baseline carbon stock change for the above-ground biomass pool in the project area for initial forest class at year t ; tCO_2e
---------------------------	--

$ABSLPA_{icl,t}$ Area of initial forest class icl deforested at time t within the project area in the baseline case; ha

ΔCab_{icl} Average carbon stock change factor per hectare in the above-ground biomass carbon pool of initial forest class icl ; tCO_{2e} ha⁻¹

$$\Delta CbbBSLPA_{icl,t} = ABSLPA_{icl,t} \times \Delta Cbb_{icl}$$

Where,

$\Delta CbbBSLPA_{icl,t}$ Total baseline carbon stock change for the below-ground biomass pool in the project area for initial forest class at year t ; tCO_{2e}

$ABSLPA_{icl,t}$ Area of initial forest class icl deforested at time t within the project area in the baseline case; ha

ΔCbb_{icl} Average carbon stock change factor per hectare in the below-ground biomass carbon pool of category icl ; tCO_{2e} ha⁻¹

Project carbon stocks were calculated as presented in section 4.1 of the respective VCS Validation PD Version 05.

Average carbon stocks of post-deforestation classes

The average classification of post-deforestation land-uses within the reference region during the historical reference period was conducted through MapBiomass, which is detailed below:

Table 12. Average classification of land-uses in the reference region

Land Use	Area (%)
Pasturelands	66.18%
Secondary forests	33.66%
Agriculture	0.09%
Rivers, lakes and reservatory	0.06%
Urban area	0.01%

Therefore, almost two-thirds of the post-deforestation land uses within the reference region are composed by pasturelands.

To estimate the post-deforestation carbon stocks, the average carbon stocks of pasturelands, agriculture and other land uses were taken from the National GHG Emissions Communication of Brazil to the UNFCCC (2019)⁹².

⁹² Available at: <https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/comunicacoes-nacionais-do-brasil-a-unfccc/arquivos/3tcn_volume_3.pdf>

For secondary forests, a regional study was conducted. Most secondary forests in the Brazilian Amazon are young. In 2017, 65% of secondary forests was ≤ 10 years old. On average, 35% of annual land abandonment to secondary forests was re-cleared within 5 years, and 57% within 10 years⁹³. The half-life of secondary forests is 8 years, on average, which is also the same value found by other study that concludes that more than 50% of the secondary forests in the Amazon biome have less than 8 years old⁹⁴.

According to a study conducted in the State of Pará that analyzed the carbon stocks of a secondary forest with 14 years old, the average carbon stock in above ground biomass is around 19 tC/ha⁹⁵. Below ground biomass was estimated through the root-to-shoot ratio from the applied methodology. Therefore, the average value for secondary forests is around 22,8 tC/ha.

Therefore, the weighted average carbon stocks were calculated through the data below.

Table 13. Weighted average of post-deforestation carbon stocks

Land Use	Area (%)	Carbon stocks (tC/ha)
Pasturelands	66,18%	7.57
Secondary forests	33,66%	22.8
Agriculture	0,09%	21
Rivers, lakes and reservatory	0,06%	0
Urban area	0,01%	0
Weighted average of post-deforestation carbon stocks		12.70

Then, the Weighted average of post-deforestation carbon stocks is multiplied by 44/12 (C to CO₂e).

Table 14. Long-term (20 years) average carbon stocks per hectare of post-deforestation LU/LC classes present in the reference region

Post deforestation class <i>f_{cl}</i>	
Name	Non forest
ID _{fcl}	1
Average carbon stock per hectare $\pm 90\%$ CI	
C _{totfcl}	
tCO ₂ e/ha	
46.58	

93 Sâmia Nunes et al 2020 Environ. Res. Lett. 15 034057. Available at: <<https://iopscience.iop.org/article/10.1088/1748-9326/ab76db>>

94 Silva Junior, C.H.L., Heinrich, V.H.A., Freire, A.T.G. et al. Benchmark maps of 33 years of secondary forest age for Brazil. Sci Data 7, 269 (2020). Available at: <<https://doi.org/10.1038/s41597-020-00600-4>>

95 Pereira, Izaura Cristina Nunes. Estoque de biomassa e carbono florestal em unidades de paisagem na Amazônia: uma análise a partir da abordagem metodológica. Universidade Federal do Pará, Belém, 2013. Available at: <<https://ppgdstu.prospes.ufpa.br/ARQUIVOS/teses/TESES/2013/IZAURA%20CRISTINA%20NUNES%20PEREIRA.pdf>>

Calculation of baseline carbon stock changes

The resulting changes in carbon stock for initial forest classes for the reference region, project area and leakage belt are shown in tables below.

To calculate the Emissions Factors the following were applied:

The values in the table were calculated following the guidance provided in VM0015 v1.2, page 77. For above-ground biomass, the methodology assumes the immediate release of 100% of the carbon stock for the initial forest classes in the project area. For post-deforestation classes, the carbon stock increase is assumed to occur linearly over the 10-year period following deforestation; therefore, 1/10 of the final carbon stock is accumulated each year, and the values must be divided by ten.

For below-ground biomass, the methodology assumes an annual release of 1/10 of the initial carbon stock each year over the 10-year period following deforestation. For post deforestation classes, the approach are the same as the above-ground biomass. The tables below show the values of carbon stock change.

Then, the calculation of baseline carbon stock changes follows Equation 10 of the VM0015 methodology, by multiplying the deforested areas in the baseline scenario by the corresponding emission factor. The calculations are performed separately for each carbon pool, i.e., above-ground and below-ground biomass.

Table 22: Baseline carbon stock change in the reference region

Carbon stock change in the above-ground biomass per initial forest class icl				Carbon stock change in the below-ground biomass per initial forest class icl			
Total carbon stock change in the above-ground biomass of initial forest class in the reference region		Total carbon stock change in the below-ground biomass of initial forest class in the reference region					
ID _{cl}	1	$\Delta CabBSLRR_{icl,t}$	$\Delta CabBSLRR_{icl}$	ID _{cl}	1	$\Delta CbbBSLRR_{icl,t}$	$\Delta CbbBSLRR_{icl}$
Name	Forest	annual	cumulative	Name	Forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}	Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	3,981,442	3,981,442	3,981,442	2023	877,125	877,125	877,125

Carbon stock changes in above-ground biomass per post-deforestation zone z		Total carbon stock change of post deforestation zones in the reference region	
ID _{iz}	1	$\Delta CBSLRR_{z,t}$	$\Delta CBSLRR_z$
Name	Non-forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	247,250	247,250	247,250

Total net carbon stock change in the reference region	
$\Delta CBSLRR_t$	$\Delta CBSLRR$
annual	cumulative
tCO _{2e}	tCO _{2e}
4,611,046	4,611,046

Table 23: Baseline carbon stock change in the project area

Carbon stock change in the above-ground biomass per initial forest class <i>icl</i>		Total carbon stock change in the above-ground biomass of initial forest class in the project area	
ID _{cl}	1	$\Delta C_{abBSLPA_{icl,t}}$	$\Delta C_{abBSLPA_{icl}}$
Name	Forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	514,891	514,891	514,891

Carbon stock change in the below-ground biomass per initial forest class <i>icl</i>		Total carbon stock change in the below-ground biomass of initial forest class in the project area	
ID _{cl}	1	$\Delta C_{bbBSLPA_{icl,t}}$	$\Delta C_{bbBSLPA_{icl}}$
Name	Forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	83,993	83,993	83,993

Carbon stock changes in above-ground biomass per post-deforestation zone z		Total carbon stock change of post deforestation zones in the project area	
ID _{iz}	1	$\Delta C_{BSLPA_{z,t}}$	ΔC_{BSLPA_z}
Name	Non-forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	22,168	22,168	22,168

Total net carbon stock change in the project area	
ΔC_{BSLPA_t}	ΔC_{BSLPA}
annual	cumulative
tCO _{2e}	tCO _{2e}
576,716	576,716

Table 24: Baseline carbon stock change in the leakage belt

Carbon stock change in the above-ground biomass per initial forest class <i>icl</i>		Total carbon stock change in the above-ground biomass of initial forest class in the leakage belt	
ID _{cl}	1	$\Delta C_{abBSLLK_{icl,t}}$	$\Delta C_{abBSLLK_{icl}}$
Name	Forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	140,926	140,926	140,926

Carbon stock change in the below-ground biomass per initial forest class <i>icl</i>		Total carbon stock change in the below-ground biomass of initial forest class in the leakage belt	
ID _{cl}	1	$\Delta C_{bbBSLLK_{icl,t}}$	$\Delta C_{bbBSLLK_{icl}}$
Name	Forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	30,259	30,259	30,259

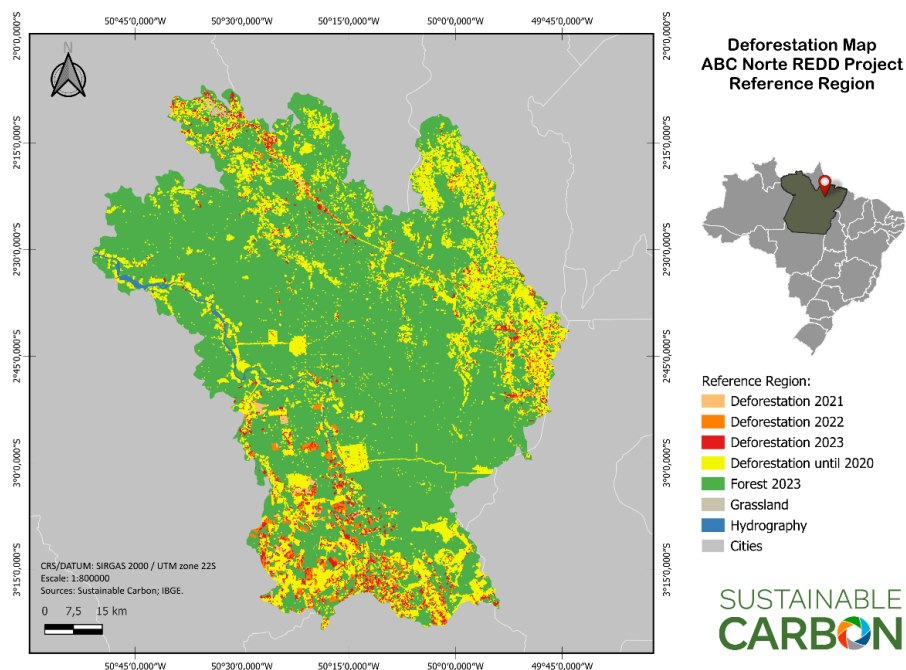
Carbon stock changes in above-ground biomass per post-deforestation zone z		Total carbon stock change of post deforestation zones in the leakage belt	
ID _{iz}	1	$\Delta C_{totBSLLK_{z,t}}$	$\Delta C_{totBSLLK_z}$
Name	Non-forest	annual	cumulative
Project year	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	9,777	9,777	9,777

Total net carbon stock change in the leakage belt	
$\Delta C_{totBSLLK_t}$	$\Delta C_{totBSLLK}$
annual	cumulative
tCO _{2e}	tCO _{2e}
161,407	161,407

3.2.2 Project Emissions (VCS, 3.15)

As aforementioned in this Report, the actual classified deforestation during the monitoring period in the Reference Region was 3,339.83 ha. Meanwhile, the predicted area in the baseline scenario that would be deforested within the reference region during this monitoring period from April 2023 to December of 2023 would be 6,864.85 ha. The maps with the annual areas of deforestation within the Reference Region and Project Area during the current monitoring period are presented below. Also, the maps for the Land Use Cover and Forest Benchmark are available.

Figure 17: Deforestation in the Reference Region - 2021 to 2023⁹⁶



⁹⁶ As explained in the below, the mapping for the current monitoring period is the same as in the second MR, with only the proportions for the year 2023 adjusted. Considering this, the figures showing deforestation in the reference region have been maintained as in the 2nd MR.

Figure 18: Deforestation in the Project Area - 2021 to 2023

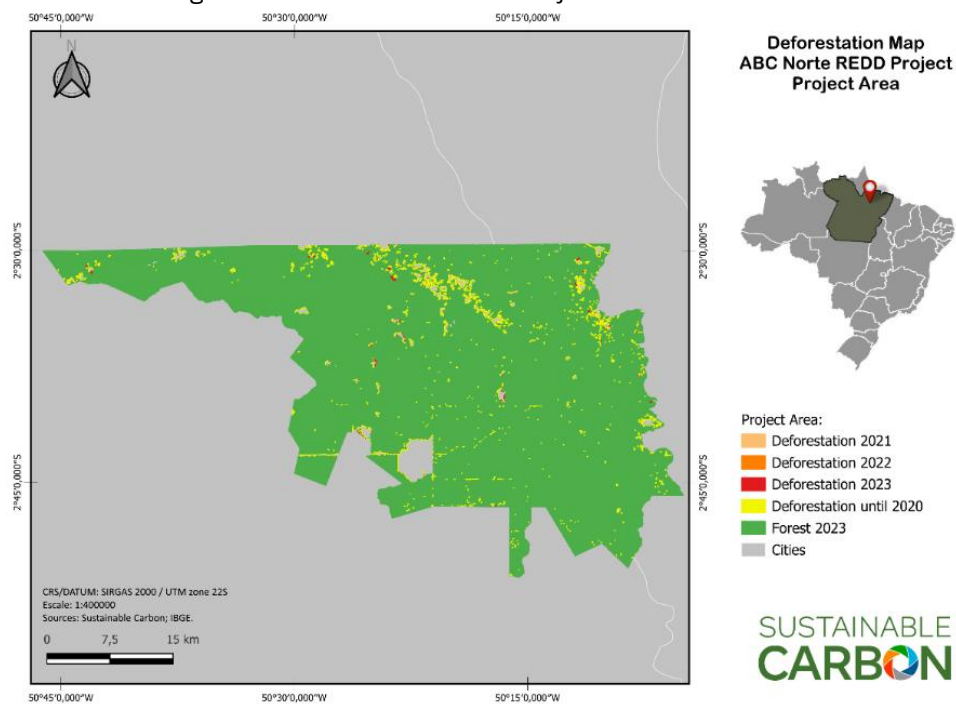


Figure 19: Project Zone Land Use and Land Cover 2022

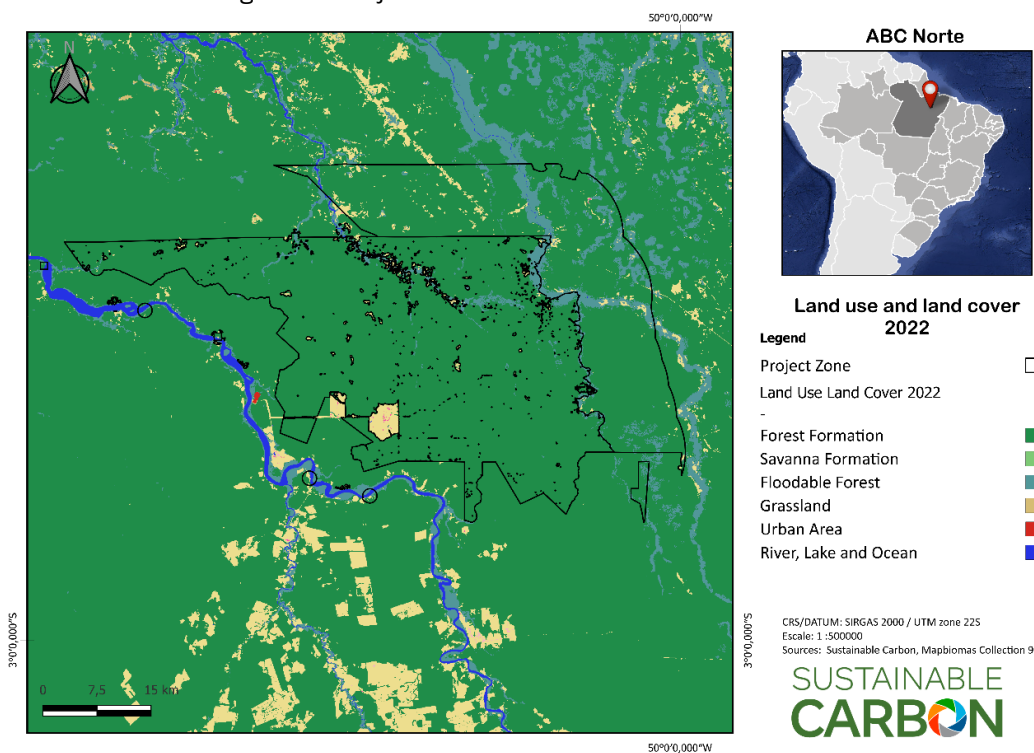


Figure 20: Project Zone Land Use and Land Cover 2023

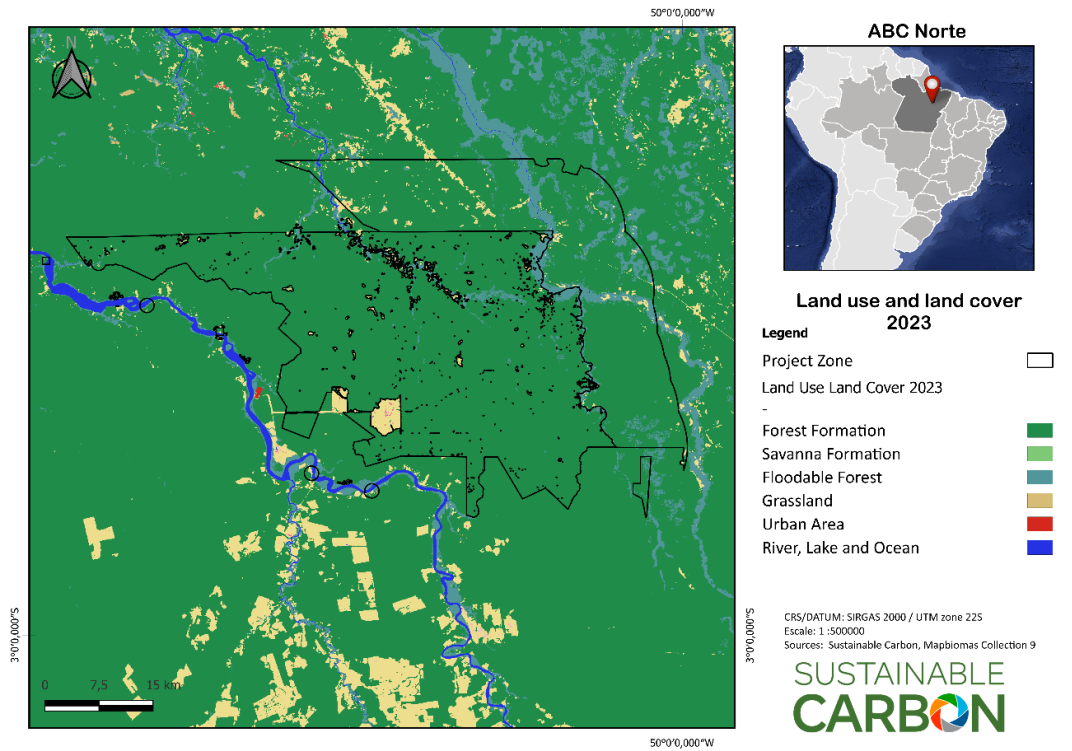


Figure 21: Project Zone Forest Cover Benchmark - 2022

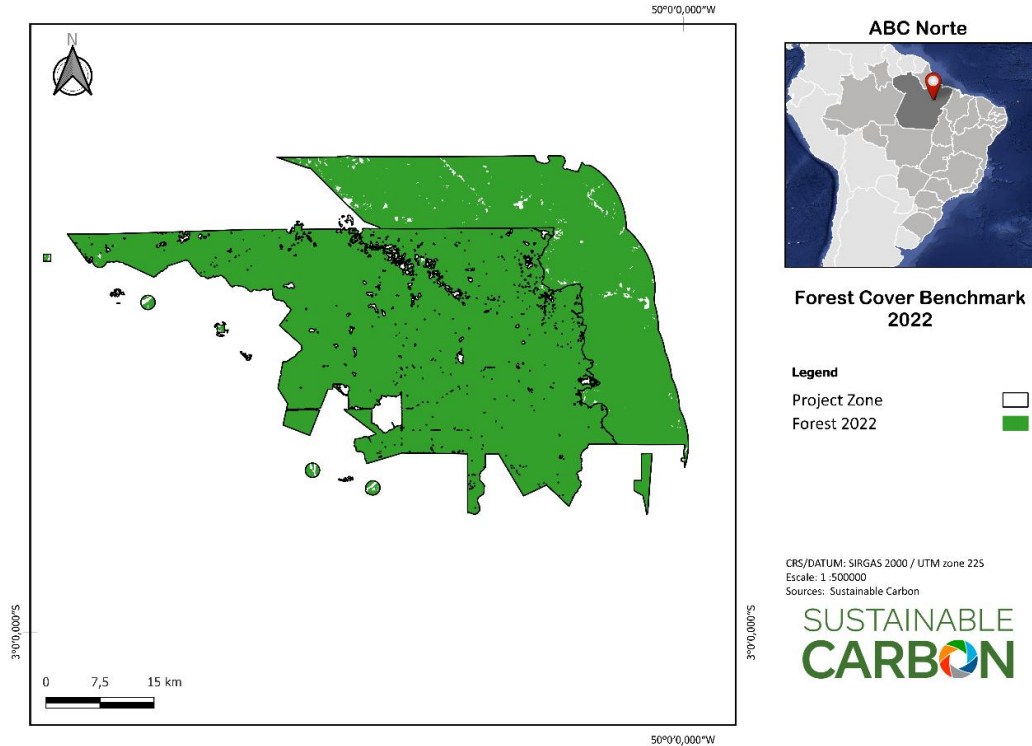
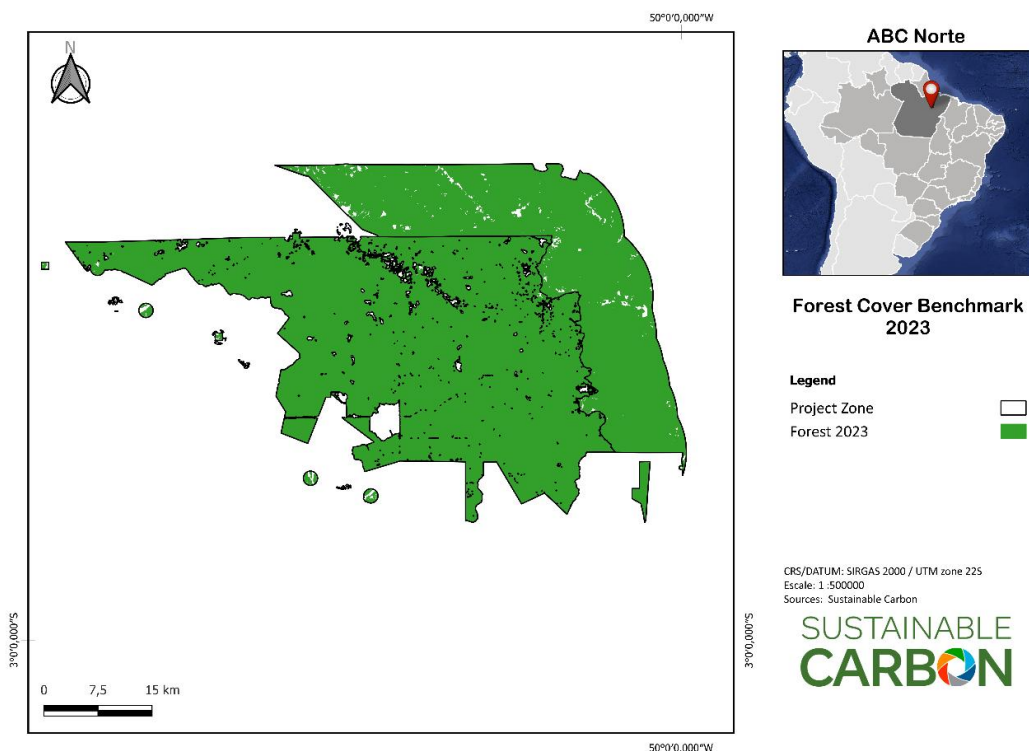


Figure 22: Project Zone Forest Cover Benchmark - 2023



Comparison between Projection and Classification

Utilizing the ArcGIS Union tool, the integration of the land use dataset derived from the baseline deforestation projection and the classification data obtained from MapBiomass were conducted. The original MapBiomass classes were reclassified into 4 classes:

1. Forest.
2. Hydrography.
3. Grassland/non-forest natural formation
4. Deforestation.

The union process resulted in the creation of a "projection x classification" matrix, which delineates the cumulative deforestation dynamics spanning from December 31, 2020, to December 31, 2023. This matrix serves to contrast the observed changes during this period against the anticipated scenario outlined in the PDD between December 31, 2022, and December 31, 2023. Subsequently, the derived matrix is employed to analyze and identify the dynamic shifts within the landscape during the specified timeframe.

Projection	Classes	Results	Nomenclature
No forest	Forest	Deforestation foreseen in the PDD was not carried out	Avoided deforestation

Forest	Forest	The forest remained intact as anticipated.	Forest
No forest	No forest	Deforestation where it had been predicted	Projected deforestation
Forest	No forest	Deforestation where it was not foreseen	Unexpected deforestation

From this matrix, the tables below provide the area values for each dynamic in the project regions.

The 2023 deforestation analysis was performed in the second VCS Monitoring Report (MR), which is why the accumulated deforestation using MapBiomas Collection 9 was initially calculated starting from 2021. This approach was adopted because MapBiomas data is annual and reflects deforestation over the entire year. Therefore, when 2023 was analyzed in the second MR, the assessment considered the full year, and a proportional adjustment was applied to account for deforestation during the first three months of the second MR. For the current MR, the results from the second MR were used, with adjustments made only to the proportion of the monitored deforestation area in the MR spreadsheet. This approach ensures consistency of data between the two monitoring periods.

Table 25: Projection x Classification" matrix for the dynamics occurring between December 31, 2020, and March 31, 2023, in the project boundaries.

Project Area (ha)				
	2020	2021	2022	2023
The forest was maintained as predicted	139,730.84	136,268.51	134,940.25	133,338.96
Deforestation foreseen in the PDD was not carried out	-	3,349.56	4,673.78	6,227.89
Deforestation where it was not foreseen	-	93.00	2.89	40.69
Deforestation where it had been predicted	-	19.77	1.16	6.50
Deforestation until previous year		386.25	499.02	503.06
Unplanned deforestation identified in visual analysis	-	-	-	-
Accumulated Deforestation (total)	386.25	499.02	503.06	550.24
Annual deforestation	-	112.77	4.05	47.18
Total Area	140,117.09	140,117.09	140,117.09	140,117.09

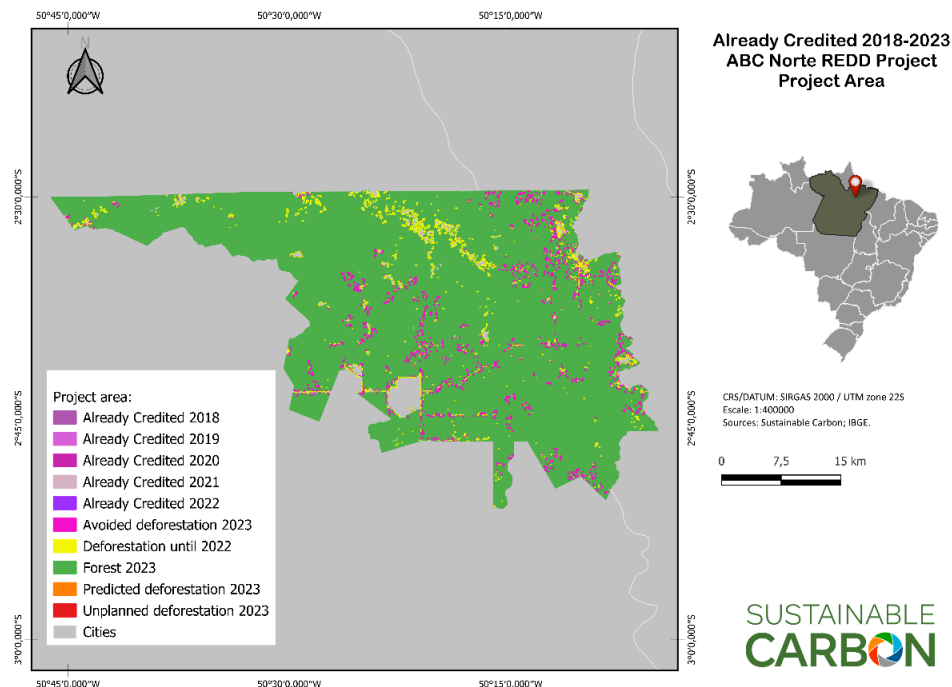
Leakage Belt (ha)				
	2020	2021	2022	2023
The forest was maintained as predicted	69,509.21	67,677.25	67,200.17	66,633.25
Deforestation foreseen in the PDD was not carried out	-	1,229.97	1,603.97	1,982.37
Hydrography	279.21	279.21	279.21	279.21
Grassland	224.02	224.02	224.02	224.02
Deforestation where it was not foreseen	-	524.40	88.08	165.60
Deforestation where it had been predicted	-	77.59	15.00	22.93
Deforestation until previous year		4,518.07	5,120.05	5,223.13

Unplanned deforestation identified in visual analysis	-	-	-	-
Accumulated Deforestation (total)	4,518.07	5,120.05	5,223.13	5,411.65
Annual deforestation	-	601.99	103.08	188.52
Total Area	74,530.51	74,530.51	74,530.51	74,530.51

Reference Region (ha)				
	2020	2021	2022	2023
The forest was maintained as predicted	840,192.21	789,811.05	771,752.88	758,265.33
Deforestation foreseen in the PDD was not carried out	-	32,094.47	40,653.34	49,708.02
Hydrography	11,094.66	11,094.66	11,094.66	11,094.66
Grassland	5,520.51	5,520.51	5,520.51	5,520.51
Deforestation where it was not foreseen	-	15,452.52	8,460.32	3,501.67
Deforestation where it had been predicted	-	2,834.17	1,038.98	931.20
Deforestation until previous year		120,042.72	138,329.41	147,828.71
Unplanned deforestation identified in visual analysis	-	-	-	-
Accumulated Deforestation (total)	120,042.72	138,329.41	147,828.71	152,261.58
Annual deforestation	-	18,286.69	9,499.30	4,432.87
Total Area	976,850.10	976,850.10	976,850.10	976,850.10

The figures below indicate the location of these areas in the project area.

Figure 23: Accumulates deforestation in the Project Area (PA) in 2021-2023 indicating projected deforestation and deforestation occurred



Map accuracy assessment

The accuracy analysis was based on Stehman et al. (2014) and Stehman & Fody (2019) using the population error matrix and the global, user, and producer accuracies.

The global accuracy for each level of LCLU classes in the Collection 9 legend was calculated for each year, class, and biome (more details can be explored in the MapBiomass web platform (brasil.mapbiomas.org/en/analise-de-acuracia/). In Level 1 classes, the LCLU mapping product in the Collection 9 presented 93.1% mean global accuracy and 6.1 % allocation disagreement with 0.8% area disagreement. At Level 2, the global accuracy was 89.8%, with 7.2% allocation disagreement and 2.9% area disagreement. Finally, at Level 3, the global accuracy was 89.8%, with 7.1% allocation disagreement and 3.0% area disagreement. The global accuracy was stable over the mapped period, varying across biomes from 84.6% to 97.7% in Level 1.

In summary, the MapBiomass collection demonstrates an accuracy rate of 90% or higher across all its datasets, confirming its high reliability and precision. More details available at: < <http://brasil.mapbiomas.org/en/analise-de-acuracia/>>

Sustainable Forest Management Plan

As detailed in sections above, the CERFLOR-certified sustainable forest management plan implemented by ABC Norte in 2017 within the project area aims to harvest forest products/by-products in a manner consistent with the conservation of the local ecosystem. This type of economic activity enables the harvesting of an economically feasible volume of forest products, however allowing the regeneration of the natural stock in accordance with the growth and recovery rates of the biome.

As previously described, almost all deforestation occurred within the project area resulted from planned deforestation activities. During the current monitoring period, one APU was harvested (UPA 19). The APU 19 was partially reported in the second VCS MR, as the full post-exploratory report was not available at the time of verification. In the current MR, since the full post-exploratory report is now available, the previously unaccounted volume explored in UPA 19 was included, ensuring that APU 19 is fully reported.

The table below presents the total volume explored for all APUs since the project start date. The values reported for the current MR are shown in the line “MR3,” which includes the data corresponding to the current monitoring period.

The AUTEF for UPA 20 was issued in 2023, with activities beginning at the end of the year. Considering that UPA 20 is still being explored and the partial and/or final reports have not been submitted to SEMAS-PA, the data regarding the SFMP will be submitted in the next monitoring report.

Table 26: Harvesting Intensity in the SPFM

Harvesting intensity						Logging Damage Factor	Average carbon stock change due to logging activities
Monitoring Report	Annual Productive Unit (APU)	Year	m³	ha	m³/ha	m³/m³	tCO2e/ha
MR1	UPA 14	2017/2018	0.00	3,494.44	0.00	2.0174	0.0
	UPA 15	2019	14,043.75	3,491.46	4.02	2.0174	15.6
	UPA 16	2019	9,190.59	3,622.64	2.54	2.0174	9.8
	UPA 17	2020	6,929.22	3,556.27	1.95	2.0174	7.6
MR2	APU 18	2021	104,619.04	4,045.70	25.86	2.0174	100.28
	APU 19	2022/2023	45,608.39	4,229.14	10.78	2.0174	41.82
MR3	APU 19	2023	23,186.31 ⁹⁷	4,229.14	5.48	2.0174	21.26

When calculating the intensity of exploitation, trees that were felled but not sold were also included, as they still contribute to project emissions. These trees are often used for farm improvements and repairs or are hollow trees with no commercial value. This approach aligns with the methodology applied in the 2nd MR, which reported the full volumes for the UPAs of the 1st MR and included in the intensity calculation both commercially harvested trees and those felled but not sold, as they also contribute to project emissions. This ensures consistency between the MRs and guarantees that all emissions resulting from Sustainable Forest Management (SFM) are accurately reflected across the project's monitoring reports.

The ex-post carbon stock decrease due to planned deforestation in the project area was calculated using the following equation:

$$\Delta CPDdPA_t = \sum_{icl=1}^{icl} (APDPA_{icl,t} \times \Delta Ct_{tot,icl})$$

Where,

$\Delta CPDdPA_t$	Total decrease in carbon stock due to planned deforestation at year t in the project area; tCO ₂ e
$APDPA_{icl,t}$	Areas of planned deforestation in forest class icl at year t in the project area; ha
$\Delta Ct_{tot,icl}$	Average carbon stock change of all accounted carbon pools in forest class icl at time t ; tCO ₂ e/ha

⁹⁷ Partial Values - MR2: 45,608.39 m³. Full Report - MR3: 68,794.7037 m³. Difference: 22,186.31 m³. Considering that during the second monitoring period the exploration of UPA 19 was only partial, the third monitoring report accounts solely for the remaining portion that was explored during its corresponding period.

In addition, some unplanned deforestation occurred in the project area, corresponding to a total of 35.55 ha during the monitoring period. The *ex post* carbon stock decrease due to unplanned deforestation in the project area was calculated using the following equation:

$$\Delta CUDdPA_t = \sum_{icl=1}^{icl} (AUDPA_{icl,t} \times \Delta Ctot_{icl,t})$$

Where,

$\Delta CPUDPA_t$	Total <i>ex post</i> actual carbon stock change due to unavoidable unplanned deforestation at year <i>t</i> in the project area; tCO ₂ e
$AUDPA_{icl,t}$	Areas of unplanned deforestation in forest class <i>icl</i> at year <i>t</i> in the project area; ha
$\Delta Ctot_{icl}$	Average carbon stock change of all accounted carbon pools in forest class <i>icl</i> at time <i>t</i> ; tCO ₂ e/ha

Therefore, the total carbon stock decreases due to planned and unplanned deforestation in the project area could be calculated, as depicted in Table below.

Table 27: Ex post carbon stock decrease due to planned and unplanned deforestation in the project area

Project year <i>t</i>	Total carbon stock decrease due to planned deforestation				Areas of unplanned deforestation x Carbon stock change (decrease) in the project area		Total carbon stock decrease due to unplanned deforestation		Total carbon stock decrease due to planned and unplanned deforestation in the project area	
	ID _{cl} = 1 Forest		annual	cumulative	ID _{cl} = 1 Forest		annual	cumulative	annual	cumulative
	APDPA _{icl,t}	Ctot _{icl,t}	ΔCPDdPA _t	ΔCPDdPA	AUDPA _{icl,t}	Ctot _{icl,t}	ΔCUDdPA _t	ΔCUDdPA		
	ha	tCO ₂ e/ha	tCO ₂ e	tCO ₂ e	ha	tCO ₂ e/ha	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	47.12	718.87	33,873.96	33,873.96	35.55	718.87	25,553.54	25,553.54	59,427.50	59,427.50

Planned logging operations are carried out following a Reduced Impact Logging (RIL) system combined with other improved forest management techniques, including planning of management activities, selection of best locations for infrastructure construction, directional felling, utilization of advanced technologies, tracking record of wood logs, reforestation activities, among others, which are essential practices to minimize the damage caused to the forest.

In the project scenario, emissions due to planned logging activities result from timber harvesting and also from damages to vegetation during the directional tree felling, which generate forest residues (branches, remains of logs and other damaged trees during the tree felling). According to Feldpausch et al (2005), the mean Coarse woody debris returned to the soil as necromass following logging and damage in:

1. tree felling gap formation (trees killed by tree-fall),
2. residual canopy from the felled tree,
3. road,
4. deck construction (whole trees plowed to the ground)

5. skid maneuvering during logging, is about 6.9 Mg C/ha.

According to section 4.3 (pg 212) from this same study, this represents 2.4 times the carbon taken off site in logs. However, the MR already considers as planned deforestation the roads and decks constructions, which represent around 16% of the total damage. Therefore, the LDF is $2.4 \times (1 - 0.159) = 2.0174$.

Thus, GHG emissions from logging activities include the volume of harvested timber plus the logging damage factor, as follows.

$$\Delta CLd_{icl} = (HI_{icl,t} + LDF) \times D_m \times CF \times 44 / 12$$

Where,

$\Delta CLd_{icl,t}$	Average carbon stock decrease due to logging activities in forest class <i>icl</i> at time <i>t</i> ; tCO ₂ e/ha
$HI_{icl,t}$	Harvesting intensity of timber in forest class <i>icl</i> at year <i>t</i> in the project area due to planned logging activities (i.e., sustainable forest management plan); m ³ /ha
LDF	Logging damage factor; m ³ /ha
D_m	Mean wood density; g/cm ³
CF	Default value of carbon fraction in biomass; tC t ⁻¹ d.m.
44/12	Ratio of molecular weight of CO ₂ to carbon; dimensionless

Harvested wood products were not accounted as carbon pool. Therefore, the *ex-post* carbon stock decrease due to planned logging activities in the project area was calculated using the following equation:

$$\Delta CPLdPA_t = \sum_{icl=1}^{icl} (APLPA_{icl,t} \times \Delta CLd_{icl,t}) - \left(\sum_{icl=1}^{icl} APLPA_{icl,t} \right) \times \Delta Cwpt$$

Where,

$\Delta CPLdPA_t$	Total decrease in carbon stock due to planned logging activities at year <i>t</i> in the project area; tCO ₂ e
$APLPA_{icl,t}$	Areas of planned logging activities in forest class <i>icl</i> at year <i>t</i> in the project area; ha
$\Delta CLd_{icl,t}$	Average carbon stock decrease due to logging activities in forest class <i>icl</i> at time <i>t</i> ; tCO ₂ e/ha
$\Delta Cwpt$	Average carbon stock per hectare in the harvested wood products carbon pool at time <i>t</i> ; tCO ₂ e/ha

Thus, Table below presents the *ex post* carbon stock decrease due to planned logging activities in the project area.

Project year t	Areas of planned logging activities x Carbon stock change (decrease) in the project area		Total carbon stock decrease due to planned logging activities	
	ID _{cl} = 1 Forest		annual	cumulative
	APLPA _{icl,t}	$\Delta CL_{icl,t}$	$\Delta CPLdPA_t$	$\Delta CPLdPA$
	ha	tCO _{2e} /ha	tCO _{2e}	tCO _{2e}
2017	3,494.44	14.66	51,224.16	51,224.16
2018	3,494.44	32.38	113,158.82	164,382.98
2019	7,114.12	38.80	276,005.78	440,388.75
2020	3,556.27	47.80	169,975.22	610,363.97
2021	4,045.70	100.28	522,668.29	1,133,032.27
2022	4,229.14	41.82	176,863.05	1,309,895.31
2023	4,229.14	21.26	89,913.31	1,399,808.63

Fossil fuel emissions from sustainable forest management activities are likely to be less than 5% of the total GHG emissions reductions benefits generated by the present project. Considering that emissions from deforestation and forest degradation would be much higher than those associated with timber harvesting, the emissions from fossil fuel during transport and machinery use can be considered *de-minimis*. In addition, according to VCS AFOLU Requirements, fossil fuel emissions from transport and machinery use in REDD project activities can be considered *de minimis*.

No production of fuel wood or charcoal occurred within the project area during the monitoring period.

Thus, the Table below presents the total *ex-post* carbon stock decrease due to planned activities in the project area.

Project year t	Total carbon stock decrease due to planned deforestation		Total carbon stock decrease due to planned logging activities		Total carbon stock decrease due to planned fuel-wood and charcoal activities		Total carbon stock decrease due to planned activities	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CPDdPA_t$	$\Delta CPDdPA$	$\Delta CPLdPA_t$	$\Delta CPLdPA$	$\Delta CPFdPA_t$	$\Delta CPFdPA$	$\Delta CPAdPA_t$	$\Delta CPAdPA$
	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	33,873.96	33,873.96	89,913.31	89,913.31	0.00	0.00	123,787.28	123,787.28

Neither planned protection of secondary/degraded forests without harvest nor production of fuelwood and charcoal are expected to occur within the project area under the project scenario. Thus, carbon stock increase due to growth without harvest or due to planned fuel-wood and

charcoal activities were not monitored. However, if any of these activities is implemented in the future, a measurement of the carbon stock changes will be carried out. According to the applied methodology, if the project activity generates a significant change in carbon stocks due to these activities, the carbon stock change shall be measured *ex post*. However, if the decrease is not significant, it shall not be accounted for, and *ex post* monitoring is not required.

The calculation of the *ex post* net carbon stock change in the project area under the project scenario ($\Delta CPSPA_t$) is described as follows.

$$\Delta CPSPA_t = \Delta CPAdPA_t + \Delta CUDdPA_t - \Delta CPAiPA_t$$

Where,

$\Delta CPSPA_t$	Sum of <i>ex post</i> actual carbon stock changes in the project area at year t; tCO ₂ e
$\Delta CPAdPA_t$	Total decrease in carbon stock due to all planned activities at year t in the project area; tCO ₂ e
$\Delta CUDdPA_t$	Total <i>ex post</i> actual carbon stock change due to unavoidable unplanned deforestation at year t in the project area; tCO ₂ e
$\Delta CPAiPA_t$	Total increase in carbon stock due to all planned activities at year t in the project area; tCO ₂ e

Ex post carbon stock change in the project area under the project scenario is shown below.

Table 28: Ex-post net carbon stock change in the project area

Project year t	Total carbon stock decrease due to planned activities		Total carbon stock increase due to planned activities		Total carbon stock decrease due to unavoids unplanned deforestation		Total carbon stock change in the project case	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CPAdPA_t$	$\Delta CPAdPA$	$\Delta CPAiPA_t$	$\Delta CPAiPA$	$\Delta CUDdPA_t$	$\Delta CUDdPA$	$\Delta CPSPA_t$	$\Delta CPSPA$
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	123,787.28	123,787.28	0.00	0.00	25,553.54	25,553.54	149,340.82	149,340.82

No forest fire was used by ABC Norte for carrying out planned deforestation or timber harvesting activities. However, there was around 70.71 ha of unplanned deforestation within the project area during the monitored period, which conversion of forest to non-forest could have involved fires.

The effect of fire on carbon emissions is counted in the estimation of carbon stock changes in the parameter $\Delta CUDdPA_t$; therefore, CO₂ emissions from forest fires were ignored to avoid double counting. However, non-CO₂ emissions (CH₄ and N₂O) from forest fires must be counted in the project scenario, when they are significant.

It was conservatively assumed that all unplanned deforestation within the project area involved fire and all above ground biomass was burnt. Therefore, non-CO₂ emissions from forest fires were quantified and deducted from emission reductions, as follows:

$$EBB_{tot_{icl,t}} = EBB_{N_2O_{icl,t}} + EBB_{CH_4_{icl,t}}$$

Where,

$EBB_{tot_{icl,t}}$	Total GHG emission from biomass burning in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
$EBB_{N_2O_{icl,t}}$	N ₂ O emission from biomass burning in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
$EBB_{CH_4_{icl,t}}$	CH ₄ emission from biomass burning in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha

$$EBB_{N_2O_{icl,t}} = EBB_{CO_2_{icl,t}} * 12/44 * NCR * ER_{N_2O} * 44/28 * GWP_{N_2O}$$

Where,

$EBB_{CO_2_{icl,t}}$	Per hectare CO ₂ emission from biomass burning in slash and burn in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
NCR	Nitrogen to Carbon Ratio (IPCC default value = 0.01); dimensionless
ER_{N_2O}	Emission ratio for N ₂ O (IPCC default value = 0.007)
GWP_{N_2O}	Global Warming Potential for N ₂ O ⁹⁸

$$EBB_{CH_4_{icl,t}} = EBB_{CO_2_{icl,t}} * 12/44 * ER_{CH_4} * 16/12 * GWP_{CH_4}$$

Where,

$EBB_{CO_2_{icl,t}}$	Per hectare CO ₂ emission from biomass burning in slash and burn in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
ER_{CH_4}	Emission ratio for CH ₄ (IPCC default value = 0.012)
GWP_{CH_4}	Global Warming Potential for CH ₄ ⁹⁹

⁹⁸ According to the VCS Standard v4, the six Kyoto Protocol greenhouse gases and ozone-depleting substances shall be converted using 100 year global warming potentials derived from the IPCC's Fifth Assessment Report. GWP for N₂O = 265. Available at: <https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html>. Last visited on: June, 2023.

⁹⁹ According to the VCS Standard v4, the six Kyoto Protocol greenhouse gases and ozone-depleting substances shall be converted using 100 year global warming potentials derived from the IPCC's Fifth Assessment Report. GWP for CH₄ = 28. Available at: <https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html>. Last visited on: June, 2023.

$$EBBCO_{2icl,t} = F_{burnt_{icl}} * \sum_{p=1}^P (C_{p_{icl,t}} * P_{burnt_{p,icl}} * CE_{p,icl})$$

Where,

$EBBCO_{2icl,t}$	Per hectare CO ₂ emission from biomass burning in the forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
$F_{burnt_{icl}}$	Proportion of forest area burned during the historical reference period in the forest class <i>icl</i> ; %
$C_{p_{icl,t}}$	Average carbon stock per hectare in the carbon pool <i>p</i> burnt in the forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha
$P_{burnt_{p,icl}}$	Average proportion of mass burnt in the carbon pool <i>p</i> in the forest class <i>icl</i> ; % (conservatively assumed as 100%)
$CE_{p,icl}$	Average combustion efficiency of the carbon pool <i>p</i> in the forest class <i>icl</i> ; dimensionless (IPCC default of 0.5 was used)
<i>p</i>	Carbon pool that could burn, in the project case, above-ground biomass

Thus, the total actual non-CO₂ emissions from forest fire at year *t* in the project area ($EBBPSPA_t$) are were calculated as follows.

$$EBBPSPA_t = ABSLPA_{icl,t} * EBBtot_{icl,t}$$

Where,

$EBBPSPA_t$	Total actual non-CO ₂ emissions from forest fire at year <i>t</i> in the project area; tCO ₂ e/ha
$ABSLPA_{icl,t}$	Annual area of deforestation of initial forest classes <i>icl</i> in the project area at year <i>t</i> ; ha
$EBBtot_{icl,t}$	Total GHG emission from biomass burning in forest class <i>icl</i> at year <i>t</i> ; tCO ₂ e/ha

Table 29: Total ex-post emissions of GHG due to forest fires in the project area

Project year <i>t</i>	Emissions of non-CO ₂ gases from forest fires in the project area		Total ex post emissions of GHG due to forest fires in the project area	
	ID _{cl} = 1 Forest		annual	cumulative
	AUDPA _{icl,t}	EBBPSPA _{icl,t}	EBBPSPA _t	EBBPSPA
	ha	tCO ₂ e/ha	tCO ₂ e	tCO ₂ e
2023	35.55	26.32	935.47	935.47

Total ex post project emissions for the project area

The ex-post carbon stock changes and non-CO₂ emissions in the Project area during the monitoring period is summarized in Table below.

Table 30: Total ex-post estimated actual net changes in carbon stock and emissions of GHG gases in the project area

Project year <i>t</i>	Total ex-post carbon stock decrease due to planned activities		Total ex-post carbon stock increase due to planned activities		Total ex-post carbon stock decrease due to unavoids unplanned deforestation		Total ex-post carbon stock change		Total ex post estimated actual non-CO ₂ emissions from forest fires in the project area	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	ΔCPA_{AdPA_t}	ΔCPA_{AdPA}	ΔCPA_{AiPA_t}	ΔCPA_{AiPA}	ΔCUD_{dPA_t}	ΔCUD_{dPA}	$\Delta CPSPA_t$	$\Delta CPSPA$	$EBBPSPA_t$	$EBBPSPA$
	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	123,787.28	123,787.28	0.00	0.00	25,553.54	25,553.54	149,340.82	149,340.82	935.47	935.47

3.2.3 Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

According to the applied methodology, two sources of leakage are considered: a) decrease in carbon stocks and increase in GHG emissions associated with leakage prevention measures; and b) decrease in carbon stocks and increase in GHG emissions associated with activity displacement leakage.

Ex post estimation of decrease in carbon stocks and increase in GHG emissions due to leakage prevention measures

To reduce the risk of activity displacement leakage, baseline deforestation agents could participate in activities within the project area and leakage management area that together will replace baseline income, product generation and livelihood of the agents as much as possible, so that deforestation will be reduced, and the risk of displacement minimized. As such, a reduction in carbon stocks and/or an increase in GHG emissions may occur compared to the baseline case. If this decrease in carbon stock or increase in GHG emission is significant, it must be accounted for, and ex post monitoring will be required.

In order to calculate the net carbon stock changes that the planned leakage prevention measures are expected to occur during the monitoring period, the projected carbon stocks shall be estimated in the leakage management area under the baseline case and project scenario.

$$\Delta CLPMLK_t = \Delta CPSLK_t - \Delta CBSLLK_t$$

Where,

$\Delta CLPMLK_t$ Carbon stock decrease due to leakage prevention measures at year *t*;
tCO_{2e}

$\Delta CBSLLK_t$ Annual carbon stock changes in leakage management areas in the baseline case at year t ; tCO_{2e}

$\Delta CPSLK_t$ Annual carbon stock change in leakage management areas in the project case; tCO_{2e}

If the net sum of carbon stock changes within a monitoring period is more than zero, leakage prevention measures are not causing any carbon stock decrease. The net increase shall conservatively be ignored in the calculation of net GHG emission reductions of the project activity. Nevertheless, if the net sum is negative, it must be accounted for if significant.

According to the planned interventions carried out by ABC Norte REDD Project in the baseline case, no decrease in carbon stocks due to activities implemented in the leakage management area were identified, thus $\Delta CBSLLK = 0$. However, during the current monitoring period, there were carbon stock changes within the leakage management area due to deforestation of regenerated forests. Therefore, the *ex-post* carbon stock change in leakage management areas in the project case ($\Delta CPSLK_t$) was calculated as follows. The annual values are detailed in the Table below.

$$\Delta CPSLK_t = APSLK_{fcl,t} * \Delta Ct_{ot_{icl}}$$

Where,

$\Delta CPSLK_t$ Annual carbon stock change in leakage management areas in the project case; tCO_{2e}

$APSLK_{fcl,t}$ Annual area of class fcl with decreasing carbon stock in leakage management areas in the project case at year t ; ha¹⁰⁰

$\Delta Ct_{ot_{icl}}$ Average carbon stock change of all accounted carbon pools in forest class icl at time t ; tCO_{2e}/ha

¹⁰⁰ The LMA was defined at validation as non-forest land at the project start date, as required by the methodology. Therefore, MapBiomas land cover data from 2007 onward was used to assess forest age and classify land cover transitions. Areas with at least 10 years of forest history and deforestation in the year were classified as deforestation ($APSLK_{fcl,t}$); areas with the 9 most recent years classified as forest and forest in the year were classified as regeneration.

Table 31: Ex-post carbon stock change in leakage management areas

Project year	Carbon stock changes in leakage management area in the project case			
	ID _{fcl}	1	annual	cumulative
	APSLK _{fcl,t}	C _{totfcl,t}	ΔCPSLK _t	ΔCPSLK
	ha	tCO _{2e} /ha	tCO _{2e}	tCO _{2e}
2023	44.48	105.06	4,672.97	4,672.97

The Table below shows the net sum of carbon stock changes within the leakage management area during the current monitoring period, i.e., leakage prevention measures causing carbon stock decrease and therefore, are included as leakage emissions.

Table 32: Ex-post net carbon stock change in leakage management areas

Project year	Total carbon stock change in the baseline case		Total carbon stock change in the project case		Net carbon stock change due to leakage prevention measures	
	annual	cumulative	annual	cumulative	annual	cumulative
	ΔCBSLLK _t	ΔCBSLLK	ΔCPSLK _t	ΔCPSLK	ΔCLPMLK _t	ΔCLPMLK
	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023	0.00	0.00	4,672.97	4,672.97	4,672.97	4,672.97

Furthermore, leakage prevention measures carried out by the present project during the current monitoring period did not include agricultural intensification, fertilization, fodder production and/or other measures to enhance cropland and grazing land areas. As the project will not involve grazing animals or crop plantations in the leakage management area, actions to avoid leakage involves containing the displacement leakage risk. Thus, the main plan for mitigating leakage is to involve the community in training and alternative income generation, other actions described in community section (4.1 onwards). Therefore, emissions from grazing animals in leakage management areas (EgLK_t), which calculation is detailed below, equals to zero.

$$EgLK_t = ECH_{4ferm_t} + ECH_{4man_t} + EN_2O_{man_t}$$

Where,

EgLK _t	Emissions from grazing animals in leakage management areas at year t; tCO _{2e} /year
ECH _{4ferm_t}	CH ₄ emissions from enteric fermentation in leakage management areas at year t; tCO _{2e} /year
ECH _{4man_t}	CH ₄ emissions from manure management in leakage management areas year t; tCO _{2e} /year

$EN_2O_{man_t}$ N_2O emissions from manure management in leakage management areas at year t ; $tCO_2e/year$

t 1, 2, 3, ... T years of the project crediting period; dimensionless

Therefore, the total *ex post* estimated carbon stock changes and increases in GHG emissions due to leakage prevention measures during this monitoring period is calculated as follows:

$$ELPMLK_t = EgLK_t + \Delta CLPMLK_t$$

Where,

$ELPMLK_t$ Annual total increase in GHG emissions due to leakage prevention measures at year t ; tCO_2e

Table 33: Ex-post estimation of net carbon stock changes and GHG emissions from leakage prevention activities

Project year	Carbon stock decrease due to leakage prevention measures		Total <i>ex post</i> GHG emissions from increased grazing activities		Total <i>ex post</i> increase in GHG emissions due to leakage prevention measures	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CLPMLK_t$	$\Delta CLPMLK$	$EgLK_t$	$EgLK$	$ELPMLK_t$	$ELPMLK$
	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e
2023	4,672.97	4,672.97	0.00	0.00	4,672.97	4,672.97

Ex post decrease in carbon stocks and increase in GHG emissions due to activity displacement leakage

Activities that cause deforestation within the project area in the baseline case could be displaced outside the project boundary due to the implementation of the AUD project activity. A greater decrease in carbon stocks within the leakage belt during the project scenario than those predicted *ex-ante* would indicate displacement of deforestation activities due to the project.

It is important to note that activity data for the leakage belt area was determined using the same methods applied to monitoring deforestation activity data in the project area. Leakage due to displacement activity was monitored by mapping forest cover change in the leakage belt.

As defined in the VCS Methodology VM0015 v1.2, if carbon stocks in the leakage belt area decrease more during project implementation than projected in the baseline case, this will be an indication that leakage due to displacement of baseline activities has occurred. Where strong evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation may not be attributed to the project activity and considered leakage.

Thus, leakage emissions due to activity displacement are calculated as the difference between the ex-ante and the ex-post assessments, as detailed in the Table below.

Table 34: Total net carbon stock change in the leakage belt

Project year	Total ex ante net baseline carbon stock change		Total ex post net actual carbon stock change		Total ex post leakage	
	ΔCBSLLK_t	ΔCBSLLK	ΔCBSLLK_t	ΔCBSLLK	ΔCBSLLK_t	ΔCBSLLK
	annual	cumulative	annual	cumulative	annual	cumulative
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	161,407	161,407	99,833	99,833	0	0

Furthermore, the monitoring of increases in GHG emissions within leakage belt (EADLK_t) was also carried out, as could be observed in the table above.

Ex post estimation of total leakage

The result of all sources of leakage is calculated as follows:

$$\Delta\text{CLK}_t = \Delta\text{CLPMLK}_t + \Delta\text{CADLK}_t$$

Where:

ΔCLK_t	Total decrease in carbon stocks within the leakage belt at year t; tCO ₂ e
ΔCLPMLK_t	Carbon stock decrease due to leakage prevention measures at year t; tCO ₂ e
ΔCADLK_t	Total decrease in carbon stocks due to displaced deforestation at year t; tCO ₂ e

$$\text{ELK}_t = \text{EgLK}_t + \text{EADLK}_t$$

Where:

ELK_t	Sum of ex post leakage emissions at year t; tCO ₂ e
EgLK_t	Emissions from grazing animals in leakage management areas at year t; tCO ₂ e
EADLK_t	Total ex post increase in GHG emissions due to displaced forest fires at year t; tCO ₂ e

The results of all ex-post estimations of leakage are summarized in the table below.

Table 35: Total ex post leakage

Project year	Total ex post GHG emissions from increased grazing activities		Total ex post increase in GHG emissions due to displaced forest fires		Total ex post decrease in carbon stocks due to displaced deforestation		Carbon stock decrease due to leakage prevention measures		Total net carbon stock change due to leakage		Total net increase in emissions due to leakage	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	EgLK _t	EgLK	EADLK _t	EADLK	ΔCADLK _t	ΔCADLK	ΔCLPMLK _t	ΔCLPMLK	ΔCLK _t	ΔCLK	ELK _t	ELK
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	0.00	0.00	0.00	0.00	0.00	0.00	4,672.97	4,672.97	4,672.97	4,672.97	0.00	0.00

Maps showing the Deforestation, Land Use and Land Cover and Forest Cover Benchmark for the Leakage belt are available below.

Figure 24: Deforestation in the Leakage Belt 2021 - 2023

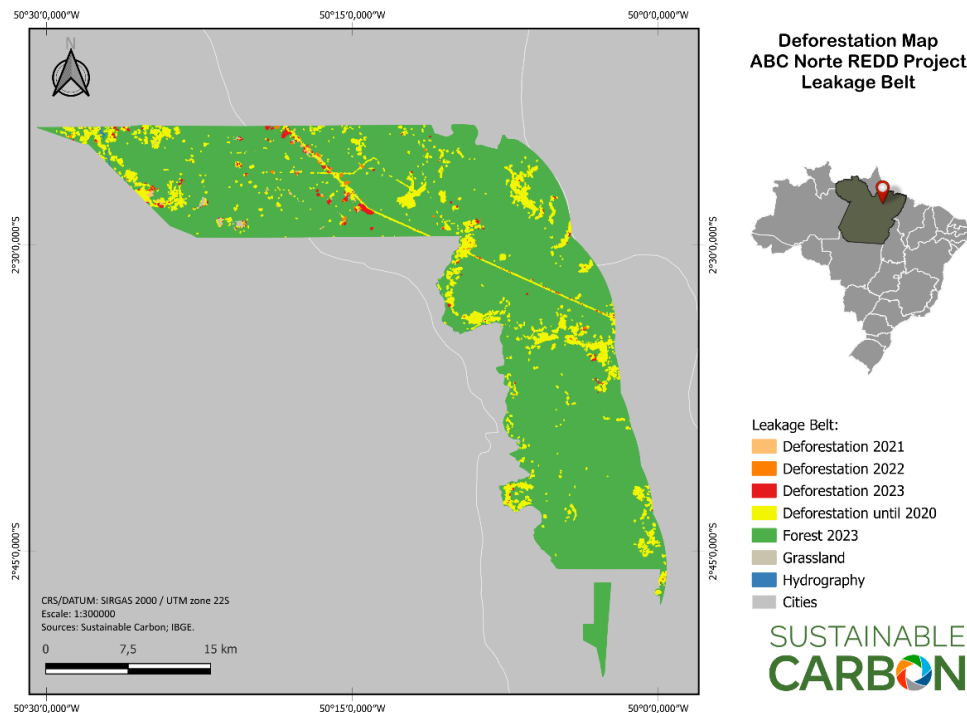


Figure 25: LB Land Use Land Cover 2022

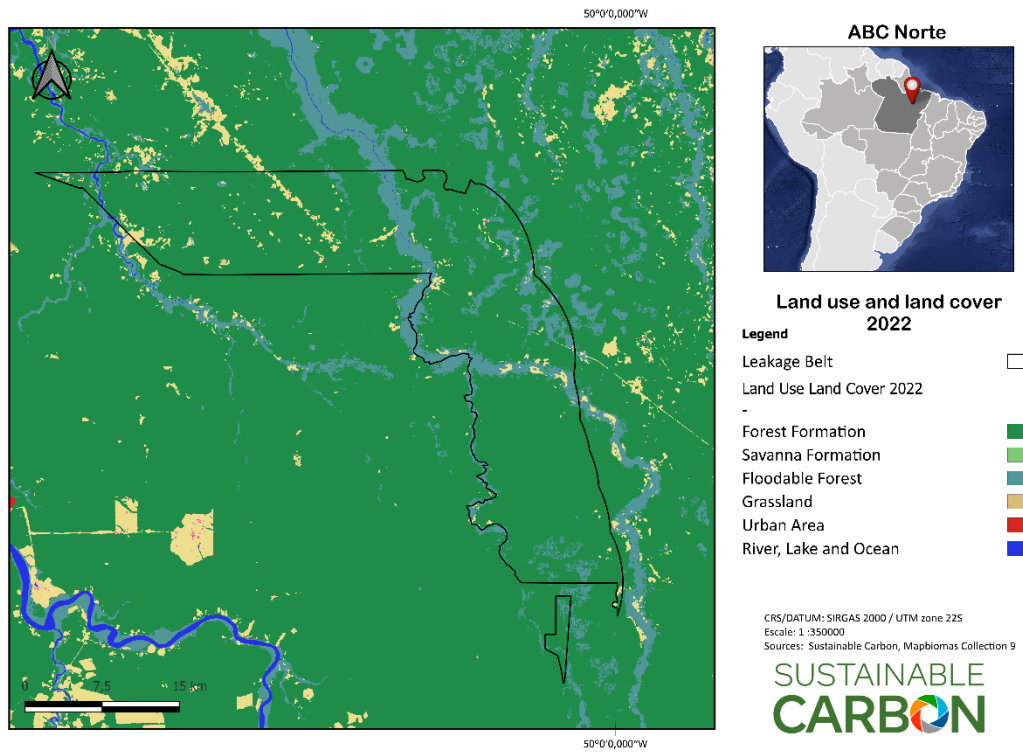


Figure 26: Land Use Land Cover 2023

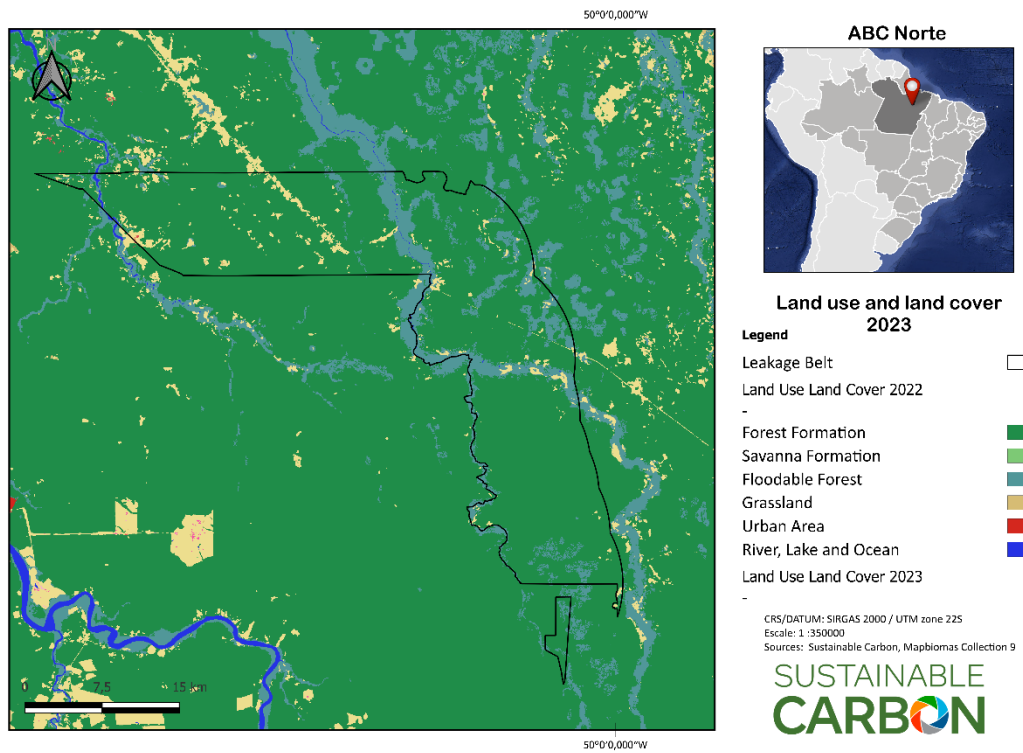


Figure 27: LB Forest Cover Benchmark - 2022

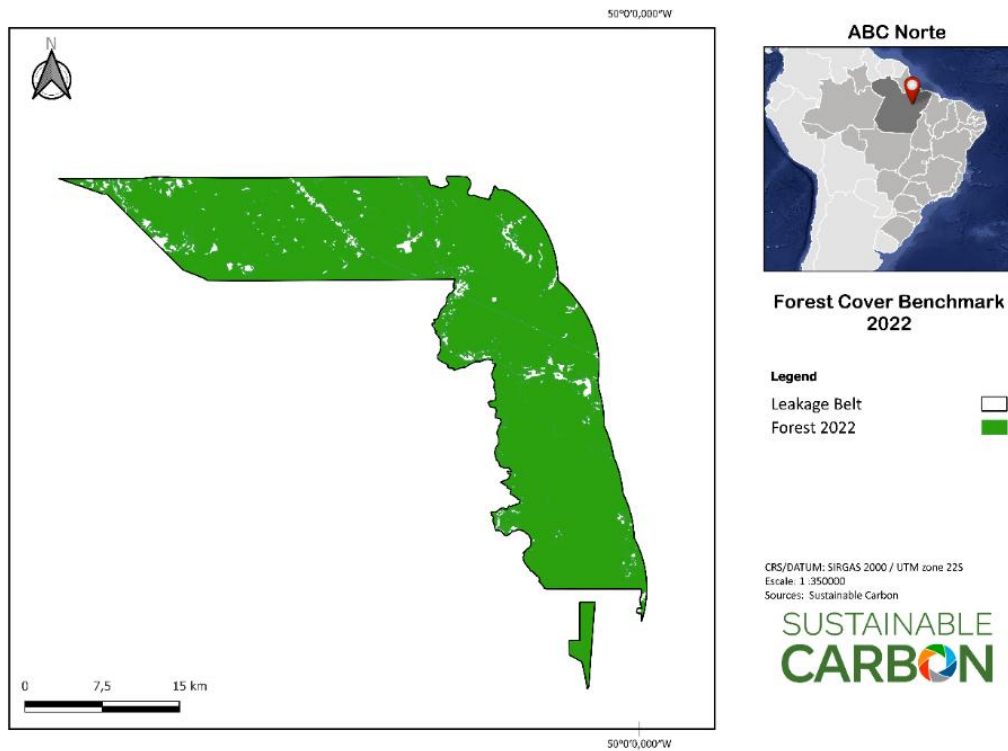
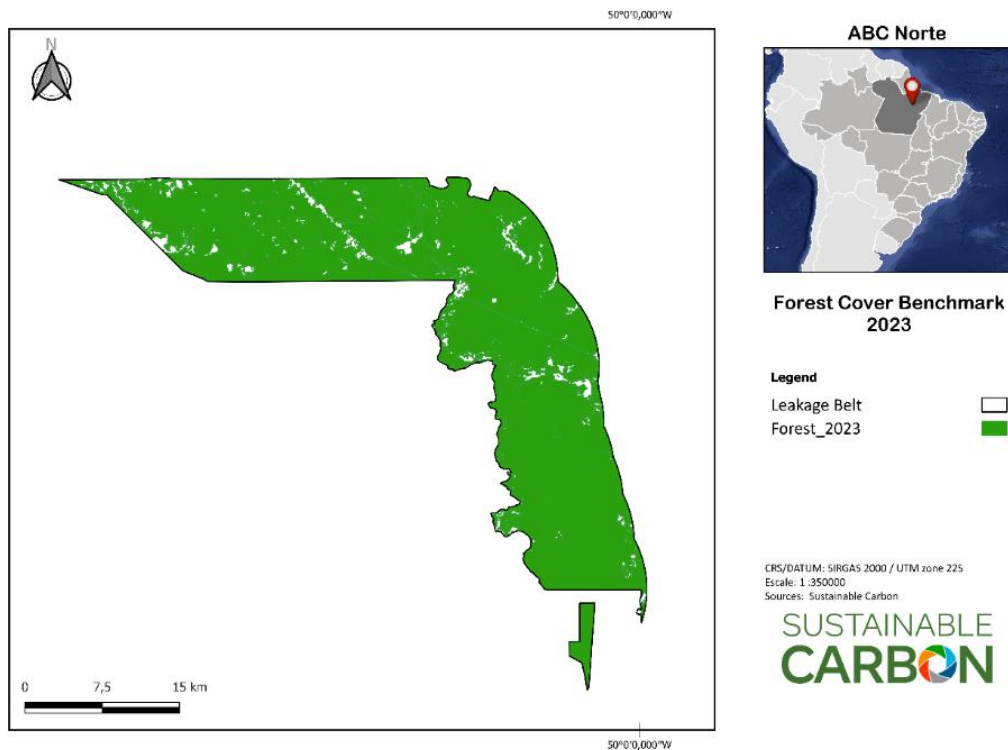


Figure 28: LB Forest Cover Benchmark - 2023



3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

The net anthropogenic GHG emission reduction of the proposed AUD project activity is calculated as follows:

$$\Delta REDD_t = (\Delta CBSLPA_t + EBBBSLPA_t) - (\Delta CPSPA_t + EBBPSPA_t) - (\Delta CLK_t + ELK_t)$$

Where:

$\Delta REDD_t$ Ex post net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t ; tCO₂e

$\Delta CBSLPA_t$ Sum of baseline carbon stock changes in the project area at year t ; tCO₂e

$EBBBSLPA_t$ Sum of baseline emissions from biomass burning in the project area at year t ; tCO₂e

$\Delta CPSPA_t$ Sum of ex post estimated actual carbon stock changes in the project area at year t ; tCO₂e

Note: If $\Delta CPSPA_t$ represents a net increase in carbon stocks, a negative sign before the absolute value of $\Delta CPSPA_t$ shall be used. If $\Delta CPSPA_t$ represents a net decrease, the positive sign shall be used.

$EBBPSPA_t$ Sum of actual emissions from biomass burning in the project area at year t ; tCO₂e

ΔCLK_t Sum of ex post estimated leakage net carbon stock changes at year t ; tCO₂e

Note: If the cumulative sum of ΔCLK_t within a fixed baseline period is > 0 , ΔCLK_t shall be set to zero.

ELK_t Sum of ex post estimated leakage emissions at year t ; tCO₂e

t 1, 2, 3 ... T , a year of the proposed project crediting period; dimensionless.

The number of Verified Carbon Units (VCUs) to be generated through the proposed AUD project activity at year t is calculated as follows:

$$VCU_t = \Delta REDD_t - VBC_t$$

$$VBC_t = (\Delta CBSLPA_t - \Delta CPSPA_t) \times RF_t$$

Where:

VCU_t Number of Verified Carbon Units that can be traded at time t ; tCO_{2e}

Note: If $VCU_t < 0$ no credits (VCUs) will be awarded to the proponents of the AUD project activity.

$\Delta REDD_t$ Ex post estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t ; tCO_{2e}

VBC_t Number of Buffer Credits deposited in the VCS Buffer at time t ; tCO_{2e}

$\Delta CBSLPA_t$ Sum of baseline carbon stock changes in the project area at year t ; tCO_{2e}

$\Delta CPSPA_t$ Sum of ex post carbon stock changes in the project area at year t ; tCO_{2e} ha⁻¹

RF_t Risk factor used to calculate VCS buffer credits; %

t 1, 2, 3 ... T , a year of the proposed project crediting period; dimensionless.

The RF_t was estimated using the most recent version of the *VCS-approved AFOLU Non-Permanence Risk Tool* and the resulting value of RF_t for the present REDD project during the current monitoring period was 17%.

The specific summary of GHG reductions and removals in the ABC Norte REDD project during the current monitoring period is included in Table below. The latter table includes estimates of GHG emissions reduction ($REDD_t$), calculations of buffer and leakage, and the resulting calculation of tradable Verified Carbon Units (VCU_t).

Table 36: Ex post estimated net anthropogenic GHG emission reductions and VCUs

Project year	Baseline Carboni stock changes		Baseline GHG emissions from biomass burning		Ex post project carbon stock changes		Ex post project GHG emissions from biomass burning		Ex post leakage carbon stock changes	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CBSLPA_t$	$\Delta CBSLPA$	$EBBBSLPA_t$	$EBBBSLPA$	$\Delta CPSPA_t$	$\Delta CPSPA$	$EBBPSPA_t$	$EBBPSPA$	ΔCLK_t	ΔCLK
	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}	tCO _{2e}
2023 (01/04/2023 to 31/12/2023)	576,716	576,716	23,373	23,373	149,341	149,341	935	935	4,673	4,673

Ex post leakage GHG emissions		Ex post net anthropogenic GHG emission reductions		Ex post VCUs tradable		Ex post buffer credits	
annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
ELK _t	ELK	ΔREDD _t	ΔREDD	VCU _t	VCU	VBC _t	VBC
tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
0	0	445,140	445,140	373,280	373,280	71,859	71,859

State the non-permanence risk rating (%)	17
Has the non-permanence risk report been attached as either an appendix or a separate document?	☒ Yes ☐ No
For ARR and IFM projects with harvesting, state, in tCO ₂ e, the Long-term Average (LTA).	N/A
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☐ No
State, in tCO ₂ e, the expected total GHG benefit to date.	
If a loss occurred (including a loss event or reversal), state the amount of tCO ₂ e lost:	No loss event occurs in the current monitoring period.

In addition, the net GHG emission reductions and removals in the ABC Norte REDD Project are summarized in the Table below.

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Buffer pool allocation (tCO ₂ e)	Reductions VCUs (tCO ₂ e)	Removals VCUs (tCO ₂ e)
01-Apr-2023 to - 31-Dec-2023	600,089	150,276	4,673	71,859	373,280	0
Total	600,089	150,276	4,673	71,859	373,280	0

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Apr-2023 to - 31-Dec-2023	257,451	445,140	72.90%	See text below
Total	257,451	445,140	72.90%	See text below

In the current monitoring period, the difference between the ex-ante estimated reductions and achieved reductions is 72.90% meaning that the achieved emissions reductions in this period are greater than those foreseen in the PD. This aligns with the success of the project actions in combating illegal deforestation and avoiding CO₂ emissions.

The difference can be explained by analyzing the project and leakage emissions. The table below shows the values. It's important to note that the PD data was adjusted to consider the period from April to December 2023.

Project emissions are 64% lower than those estimated in the PD. This difference is explained by the fact that ex-ante project emissions assumed higher planned deforestation, while ex-post data show that actual activities had a lower harvesting intensity than expected. As a result, ex-post project emissions are lower than ex-ante estimates. It is important to emphasize that the ex-post values are based on real SFMP data and were calculated using information officially reported to the competent authorities.

Lower leakage emissions indicate that the project's activities to prevent unplanned deforestation are not causing leakage in the region. While the PD applies a standard 15% leakage displacement factor, as required by the VCS Standard, the ex-post results show that project activities did not lead to activity displacement. Consequently, actual leakage emissions are lower than the ex-ante estimates. Since the Leakage and Project emissions were lower than the PD values, the project was able to achieve greater emissions reductions.

Source	PD - tCO ₂ e	MR - tCO ₂ e	Difference (%)
Project Emissions	393,562	150,276	62%
Leakage Emissions	114,885	4,673	96%

The differences between past monitoring periods are shown below. In both cases, they are mainly related to leakage and project emissions. A full explanation for the second MR is provided in the

corresponding Monitoring Report, while the explanation for the first MR is primarily related to project emissions from planned activities.

Monitoring Report	PD - tCO ₂ e	MR - tCO ₂ e	Difference (%)
1° Joint PD & MR	-347,312	463,076	175.00%
2° MR	367,704	804,000	118.65%

The ABC Norte REDD Project first baseline ends in 2023. Considering this, a comparative analysis was conducted between the piecewise model, the historical average, and the actual deforestation data from 2017 to 2023. The analysis has the objective to compare the modelling of the project ensuring accuracy at the results of the project.

Year	Real Deforestation	Historical Average Approach Deforestation	Piecewise Approach Deforestation
2017	3,614.09	5,010.69	2,199.32
2018	11,992.19	5,010.69	7,297.75
2019	10,408.78	5,010.69	10,085.85
2020	5,126.42	5,010.69	10,651.77
2021	18,286.69	5,010.69	11,194.20
2022	9,499.30	5,010.69	11,711.70
2023	4,432.87	5,010.69	12,203.55
Total	63,360.34	35,074.85	65,344.14

Comparison	Difference (ha)	Difference (%)
Historical	-28,285.49	-45%
Time Function	1,983.80	3%

The piecewise regression was 3% higher than the total actual deforestation for the baseline period, while the historical average resulted in 45% lower. The analysis using real deforestation data indicates that the historical average approach is significantly inadequate for accurately representing the real baseline scenario. The piecewise regression model proved to be more appropriate than the historical average for accurately representing the baseline scenario. The piecewise model currently used by the project activity shows a very close relationship to reality, confirming that the model was appropriate and conservative to calculate the baseline scenario.

To ensure accuracy, a deforestation limit was applied in the current monitoring period. Considering that the piecewise model predicted 65,344 ha of deforestation and the actual deforestation was 63,360 ha, the real value was considered as the deforestation limit for the reference region. To apply the limit to the project area a numeric reduction was applied to the deforestation predicted in the project area, reducing it by 25% from the value originally forecasted in the PD.

The new baseline value for RR for the year 2023 is presented on the table below:

Reference Region - 2023	
Deforestation Projected (ha)	12,203.55
Deforestation Limit (ha)	9,111.53
Reduction rate	25.3%

The new baseline value for PA for the year 2023 is presented on the table below:

Project Area - 2023	
Deforestation Projected (ha)	1,578.84
Reduction (ha)	400.03
Baseline Deforestation 3rd MR (ha)	1,178.81

The new baseline value for the LB for the year 2023 is present on the table below:

Leakage Belt - 2023	
Deforestation Projected (ha)	432.14
Reduction (ha)	109.49
Baseline Deforestation 3rd MR (ha)	322.64

3.3 Optional Criterion: Climate Change Adaptation Benefits

Not applicable.

3.3.1 Activities and/or processes implemented for Adaptation (CCB, GL1.3)

Not applicable.

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CCB, CM2.1)

Based on the construction of the Theory of Change evidenced in the section “2.1.8 - Project Activities and Theory of Change” of CCB's PD¹⁰¹, the result of the reports collected in the workshop held with leaders of the five communities in the project zone contemplated by Upbio's Socio-environmental Responsibility Program, as well as on the activities developed in the communities

¹⁰¹ Available at: <<https://registry.verra.org/app/projectDetail/CCB/2558>>. Accessed on: 06 Feb. 2024.

evidenced in section “4.3.1 - Community Monitoring Plan”, the positive impacts for communities are presented in the tables below.

To determine the magnitude of the impacts, qualitative parameters were considered:

- **Intensity:** Degree of change in the quality of life of affected individuals, ranging from low to high intensity, including moderate levels. The impact may vary from barely perceptible changes to structural transformations in affected communities.
- **Extent:** Scope of beneficiary communities within the project area and the number of affected individuals. The impact may reach a small group, a significant fraction, or a large portion of the population.
- **Duration:** Permanence of the impact, classified as short-, medium-, or long-term.

Table 37. Description of Diversity in Production impact on communities.

Community group	All communities covered by Upbio's Socio-environmental Responsibility Program
Impact	Diversity in production
Type of benefit/cost/risk	Promoting diversity in production within communities through collective activities and sustainable practices has significant direct benefits. During the monitoring period, some of these benefits were: • Encouragement of sustainable practices, especially as poultry farming and horticulture. • Technical guidance to strengthen the productive capacity of communities. • Support for production through the donation of inputs, such as seeds, grains, poultry feed, and drinkers. The impact is real and direct, as it can already be observed in practice through the strengthening of diversification of productive activities, and the creation of new income opportunities. This impact represents a benefit, as it contributes to the sustainable development of communities by promoting greater resilience, operational efficiency, and a balance between economic and environmental aspects.
Change in well-being	The impact is positive, as it promotes: • Increased community resilience by providing more effective support in the face of social and environmental challenges; • Expansion of income opportunities through increased production, generating positive economic impacts;

	- Improved food quality, with a greater inclusion of garden crops in family diets; - Acquisition and accumulation of knowledge through exchanges with the implementation team (UpBio); - Promotion of a more conscious and responsible approach to the use of natural resources. The magnitude of the impact has been classified as high based on its intensity, extent, and duration. <u>Intensity:</u> The activities led to significant improvements in quality of life, including increased food security and income opportunities, and knowledge exchange with the implementing team, reflecting structural changes in community livelihoods. These changes represent structural transformations in local livelihoods, indicating high intensity. <u>Extent:</u> The activities reached all communities within PRS. <u>Duration:</u> The impact is long-term, as it fosters lasting changes in production practices, community resilience, and sustainable resource use. These factors together justify the classification of the impact as high magnitude.
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Table 38. Description of Structured and effective governance impact on communities.

Community group	All communities covered by Upbio's Socio-environmental Responsibility Program
Impact	Structured and effective governance in communities
Type of benefit/cost/risk	Actions taken during the monitoring period to promote collectiveness included: - Donation of books for the community library and interactive games for the local school; - Donation of materials for the construction of a support facility for healthcare services. In addition, during the monitoring period, questionnaires were applied as part of the socioeconomic assessment of the communities supported by the PRS. This contributed to the analysis of changes within the communities compared to 2019, when similar socioeconomic surveys were also conducted. Among the findings, it was identified that the social organization of community members is primarily based on religious events and agricultural production. The communities with formal associations include: Divino Espírito Santo, which is home to both the Associação dos Agricultores Agroextrativistas do Médio Pacajá and the Associação de Produtores Rurais do Divino Espírito Santo; and São Sebastião do

	Cipoal, the only quilombola (Afro-Brazilian descendant) community in the area, represented by the Associação de Remanescentes Quilombolas de São Sebastião do Cipoal (ARQSSC). Through these associations, residents engage in cultural and sports initiatives, as well as in programs that support family farming, such as the Divino Espírito Santo community's participation in the municipal Food Acquisition Program (PAA), which supplies food to school meal programs. The survey also revealed a decrease in the percentage of residents participating in formal associations, but a notable increase in individuals involved in informal community groups, such as churches, football teams, dance groups, and others. The impact is actual, as concrete actions to strengthen community spaces were effectively carried out. The benefits are understood to be continuous, as they extend over time. Although this is a tangible action, it is considered an indirect impact related to governance. Nevertheless, it is understood that the revitalization of existing spaces and the involvement in decisions regarding their management foster active participation and a sense of ownership among community members. This sense of belonging contributes to strengthening trust among residents and establishes a solid foundation for more inclusive and transparent governance, aligned with the objectives of the project. This impact represents a benefit, as it contributes to the structuring and valuing of collective spaces, greater participation, transparency, and access to information, and to the structuring and effectiveness of community governance.
Change in well-being	The impact is positive and high in terms of magnitude, as cohesion among community members and governance structures influences collective decision-making processes. This makes the impact broad in scope, aligning with the extent parameter. Additionally, the structuring of governance supports the achievement of other positive outcomes, such as improved access to public policies and partnerships with other entities – as exemplified by the participation of the Divino Espírito Santo community in the municipal Food Acquisition Program (PAA) – driving structural transformations within communities (intensity). Furthermore, the impact and its associated interventions, such as capacity building, the development of community-led initiatives, and the strengthening of community trust, are part of long-term processes that generate lasting benefits for the communities (permanence).

Table 39. Description of Generate income through alternative sources impact on communities.

Community group	All communities covered by Upbio's Upbio's Socio-environmental Responsibility Program
Impact	Generate income through alternative sources
Type of benefit/cost/risk	During the monitoring period, some actions conducted related to income generation were: • Technical workshops, such as fabric painting, bio-jewelry making, floral arrangement and handcrafted flower production; • Technical visits to horticulture and poultry production sites for the distribution of inputs – such as feed, seeds, and equipment – and to provide technical guidance aimed at promoting sustainable income generation. • Organization of the 4th Community Fair with, where products developed through income-generating workshops were sold, generating more than R\$ 300.00 in income for the São Sebastião do Cipoal community. These actions aimed at generating income through alternative sources represent clear benefits. By capacitation and diversifying sources of income, communities achieve economic autonomy, reducing financial vulnerability and promoting greater economic independence. Not only does this strategy have direct benefits for individual community members, but it also boosts the local economy as a whole. Continuous training plays a crucial role in promoting a proactive mindset in the management of local resources, contributing to environmental and economic sustainability through the establishment of practices aimed at preserving natural resources. Additionally, the development of diverse competencies strengthens communities' ability to face challenges, resulting in greater resilience in the face of change and adversity. The participatory approach creates a collaborative environment, in which diversity of skills is valued, promoting more cooperative and communitarian practices. The impact is real and direct, as can already be observed in practice through the diversification of income sources and the technical training provided to communities. This impact represents a benefit, as it strengthens the economic autonomy of communities, reduces financial vulnerability, and promotes economic and environmental sustainability. Additionally, the recognition of diverse skills and the participatory approach foster community resilience and cooperation among members.
Change in well-being	The well-being improvements outlined underscore the positive and high-magnitude impact of "Generating income through alternative sources." This initiative reduces economic vulnerability, enhances household autonomy, and stimulates the local economy, driving structural transformations within communities (intensity).

The impact is expected to be long-lasting (permanence) and aims to increase community participation in the proposed activities, ensuring broad outreach (extent).

4.1.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

Based on the Theory of Change outlined in section “2.1.8 - Project Activities and Theory of Change” of CCB’s PD and considering the concept of negative impact presented by the SBIA Manual (Social and Biodiversity Impact Assessment) as an “outcome of an intervention” i.e., as an unintended consequence of an outcome that compromises the success of the sequence of outcomes, some negative impacts were identified about the causal chain of the proposed activities for the communities. These elements, along with the negative impact and their mitigation strategies, are presented in detail in the following table.

Table 40. Negative Impact and Mitigation of Negative Impact on Communities

Aspect of the Theory of Change	Appearance description	Impact	Description of the impact	Planned mitigation measure	Mitigation measure adopted
Positive impact product “diversity in production”	Formation of cooperatives and/or associations	Social exclusion	Possibility of creating divisions or excluding members of the community who do not participate in cooperatives, making it unrepresentative	Promote the representative inclusion of community members in cooperatives/associations, as well as in their decisions and benefits	No action was adopted during monitored period directly related to representativeness in formal spaces as cooperatives/associations.
Positive impact result “diversity in production”	Expanded access to local markets and sales channels	Dependence on volatile markets	Over-reliance on volatile markets can result in financial insecurity	Encourage market diversification to reduce reliance on a single channel	No mitigation measure was adopted in regard sales during the monitored period, from April to December 2023.
Positive impact product “diversity in production”	Establishment of continuous training activities, covering topics related to the diversification of production based on the knowledge of the community	Information overload	The over-provision of information can overwhelm some members of the community, resulting in difficulties in absorbing and applying knowledge	Structure learning activities gradually and adapted to the pace of the community	No mitigating measures were adopted during the monitored period. In February 2024, the project began strategic planning with the communities to define the activities for the year, with details to be presented in the subsequent monitoring report. This planning is essential for

Aspect of the Theory of Change	Appearance description	Impact	Description of the impact	Planned mitigation measure	Mitigation measure adopted
					structuring learning activities that are both gradual and tailored to the community's pace, ensuring that the process evolves in alignment with their needs and capabilities.
Positive impact product: "structured and effective governance in communities"	Renovation or construction of a functioning community area	Difficulty in maintaining the use of community space	Community dissatisfaction with the functionality or management of the space can negatively impact its ownership and belonging	Develop a plan for the ongoing maintenance of the community space, identifying responsibilities of the people of the communities	No mitigating measures were adopted during the monitored period. However, these measures will be developed throughout the project's lifecycle.
Positive impact product: "structured and effective governance in communities"	Operationalization and adoption of specific and formal consultation and deliberation procedures	Overload of processes and bureaucracies	Excessive procedures can overwhelm communities, which can discourage continued participation and adherence over time	Create moments of consultation and feedback from community members in order to improve the procedures adopted, ensuring that the process is adapted according to local needs and experiences	No mitigating measures were adopted during the monitored period. However, these measures will be developed throughout the project's lifecycle.
Positive impact "generate income through alternative sources"	Generate income through alternative sources	Social inequality	Certain alternative sources may benefit some groups more than others, generating the widening of social inequalities, instead of promoting economic inclusion	Implement actions to support vulnerable groups to ensure they benefit equitably from income-generating initiatives	Fabric Painting, floral arrangement and bio-jewelry making Workshops for women and youth in Cristo Salvador, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal communities. Handcrafted flower production workshop in Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo and São Sebastião do Cipoal communities.

As with risks (see section “2.3.4 - Community Costs, Risks and Benefits” of CCB’s PD), it is observed that the strategies for mitigating the negative impacts identified are, to a certain extent, integrated into the causal chain of the theory of change mentioned above. For example, the mitigating measure related to the implementation of moments of consultation and feedback with community members, to improve the procedures adopted and ensure the adaptation of the process according to local needs and experiences, is included in the activity “implement community engagement initiatives”. This activity, among other expected results, seeks to develop capacities for community management. This highlights the presence of the precautionary principle, as conceived by the document “Definitions of the CCB Program”.

In addition, the adaptive management process also serves to identify and mitigate possible negative impacts on the community (see section “2.3.8 - Continued Consultation and Adaptive Management” of CCB’s PD). Ongoing communication between the project team and local communities will ensure prompt identification and mitigation of any risk-related complaints in communities.

4.1.3 Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

The impacts of the strategies outlined for and with communities, as described in section “2.1.8 - Project Activities and Theory of Change” of CCB’s PD and exposed in section “4.1.2 - Negative Community Impact Mitigation” have been carefully designed to generate substantial positive impacts, with the aim of significantly enhancing the quality of life of the communities involved. The comparative analysis with a “Non-Project Scenario” detailed in sections “4.1.1 - Descriptions of Communities at Project Start” and “4.1.4 - Without-Project Scenario: Community” of CCB’s PD, clearly shows that the project develops activities capable of providing concrete benefits to these communities.

During the monitoring period, the following activities were carried out:

- Capacity-building workshops aimed at promoting local entrepreneurship—such as fabric painting, bio-jewelry making, floral arrangements, and handcrafted flower art—especially targeting women and youth;
- Technical visits to provide guidance and monitor the development of horticulture and poultry farming initiatives;
- Health-related actions, including nursing care, distribution of medications, vaccinations, among other activities;

- Distribution of informational materials on biodiversity;
- Donation of books and interactive games to the community library.

In this way, the planned strategies and actions conducted intends to result in positive impacts, such as:

- **Strengthening social ties:** the formation of collectives favors cooperation and mutual support, consolidating social bonds among community members. Additionally, the creation of spaces for dialogue promotes more effective communication, strengthening the social fabric.
- **Increasing community resilience:** by providing more effective support in the face of societal challenges, the strategies aim to strengthen community resilience. This includes implementing capacity-building programs for community members to develop skills that will enable them to face challenges more efficiently.
- **Expanding income-generating opportunities:** diversifying production not only generates positive economic impacts by providing residents with additional income opportunities but also includes specific training to empower community members in the effective management of their resources.
- **Reduced dependence on a limited number of products:** product diversification reduces dependency, promoting greater economic stability. Agricultural diversification strategies and the implementation of production chains contribute to this goal.
- **Resource-conscious approach:** a more resource-conscious and responsible approach to available resources is encouraged. This involves sustainable practices in the management of natural resources and awareness of the importance of environmental preservation, including rivers.
- **Less dependence on intermediaries:** diversifying income-generating opportunities not only reduces dependence on intermediaries, providing greater autonomy but also involves initiatives to strengthen local marketing by directly connecting producers to consumers.
- **Projects aligned with community needs:** the actions are consistent with the needs and demands of the community, strengthening trust and fostering a collaborative environment. This is achieved through a monthly process of consultation and participation of communities in decisions related to the project.

These net community impacts were identified as potential outcomes of the project's activities, designed based on the vulnerabilities and demands of the communities, identified both in the Theory of Change workshop held on 07-December-2023 and by the monthly activities of Upbio's Socio-environmental Responsibility Program. For a more in-depth analysis, see section “4.1.1 - Community Impacts”.

Additionally, it is crucial to note that the results of the project will progressively benefit all people in the project area, even those who are not yet covered by the Upbio's Program. Forest conservation and the possible implementation of agroforestry systems represent crucial actions to ensure ecosystem services, benefiting the entire region. These actions promote climate benefits, such as improved soil quality, reduced GHG emissions, diversification, and food security, among others.

By relating the specific activities of the project to the expected benefits, the intention to not only address the vulnerabilities identified in the communities is evidenced, but also to promote a comprehensive transformation for overall well-being by incorporating sustainable and adaptive practices. For more detailed information on the project activities and their relationship with the proposed impacts, it is recommended to revisit the section “2.1.8 - Project Activities and Theory of Change” of the CCB's PD .

4.1.4 Protection of High Conservation Values (CCB, CM2.4)

As mentioned in the section “4.1.3 - High Conservation Values” of CCB's PD , the REDD ABC Norte Project has adopted the guidelines outlined in the Resource Network's “Common Guidance for the Identification of HCV” document for categorizing HCV at the community level. The classification is carried out under the following categories:

- HCV 4: Ecosystem Services - this category focuses on areas that provide essential ecosystem services such as water regulation, erosion control, or fire prevention, which are critical for maintaining the environment and supporting human life. These services are vital to both the communities and the broader region, ensuring long-term sustainability. Engagement with the communities helps to identify these critical areas.
- HCV 5: Community Needs - encompassing crucial locations and resources that fulfill the basic requirements of local communities or indigenous peoples (including livelihoods, health, nutrition, water, etc.). These are identified through direct engagement with the respective communities or indigenous peoples.

- HCV 6: Cultural Values - covering sites, resources, habitats, and landscapes of global or national significance in terms of cultural, archaeological, or historical importance. Additionally, this category includes elements of critical cultural, ecological, economic, or religious/sacred significance to the traditional cultures of local communities or indigenous peoples. These are identified through active engagement with these local communities or indigenous peoples.

The ensuing section presents the HCV identified for the community component:

Table 41. HCV 4: Ecosystem Services

High Conservation Value	HCV 4: Ecosystem Services
Qualifying Attribute	The Pacajá river and its tributaries are identified as HCV 4 due to the essential ecosystem services they provide, such as access to water for daily activities, fishing, and transportation to access basic services. According to the socioeconomic diagnosis conducted with the communities covered by the Social Responsibility Program (2023), for example, the vast majority of the population can only access their localities through waterways, and some community members still use the igarapés as a water supply source.
Focal Area	Beyond the community itself, an area with an radius of 1 km ¹⁰² around the communities covered by the ABC Norte Social Responsibility Program

Table 42. HCV 5: Community Needs Areas

High Conservation Value	HCV 5: Community Needs Areas
Qualifying Attribute	Productive spaces: these areas support activities like poultry farming, fish farming, vegetable gardens, and agroforestry systems, which are vital for community subsistence. They provide food, generate income, and contribute to food security while promoting environmental conservation and reducing pressure on natural resources. These systems are essential for both community well-being and ecosystem preservation. Water catchment areas: the Pacajá River, its tributaries, and artesian wells serve as the primary water sources for the communities. Many rely directly on the rivers, especially those without access to wells. Water availability is crucial for daily activities like agriculture and fish farming, which are key for local subsistence. Waterways as transportation: the Pacajá River is the main transport route for most of the community, providing access to Vila ABC, healthcare, and commercial centers. With no roads, the river is essential for transporting goods, accessing services, and connecting localities. Any disruption in this transportation route can negatively impact the quality of life.

¹⁰² To define the Leakage Management Area, a radius of 1 kilometer around the communities was used. See section “3.3 - Project Boundary” VCS Standard. Available at: <<https://registry.terra.org/app/projectDetail/VCS/2558>>. Accessed on: 08 Jan. 2024.

	Community spaces: community spaces such as libraries, churches, and communal sheds (present in all communities served by the ABC Norte Social Responsibility Program) play a central role in social and cultural life. These spaces are used for religious events, cultural practices, and rituals, fostering social cohesion and preserving traditions. They also serve as meeting points for the community, contributing to the perpetuation of cultural practices and identity.
Focal Area	Beyond the community itself, an area with an radius of 1 km ¹⁰³ around the communities covered by the ABC Norte Social Responsibility Program

Table 43. HCV 6: Areas of Cultural Importance

High Conservation Value	HCV 6: Areas of Cultural Importance
Qualifying Attribute	Community spaces, such as churches and communal halls, present in all communities served by the Social Responsibility Program, are classified as HCV 6 due to their cultural significance. These places play a central role in the social and cultural life of the communities, being used for religious events, cultural practices, and rituals that strengthen social cohesion and preserve community traditions. In addition to fostering social engagement, these spaces are essential for maintaining cultural practices and preserving the identity of these communities, serving as meeting, interaction, and celebration points.
Focal Area	Beyond the community itself, an area with an radius of 1 km ¹⁰⁴ around the communities covered by the ABC Norte Social Responsibility Program

The project's initiatives have positively contributed to HCV 4, particularly in the protection of water resources. Forest conservation is critical to maintaining the water cycle, safeguarding springs, and ensuring water quality. During the monitoring period, the project implemented sustainable production systems, primarily poultry farming and horticulture, and conducted assessments in Monte Sião and São Sebastião do Cipoal to evaluate local conditions for the initiation and reactivation of fish farming activities, respectively.

¹⁰³ To define the Leakage Management Area, a radius of 1 kilometer around the communities was used. See section “3.3 - Project Boundary” VCS Standard. Available at: <<https://registry.terra.org/app/projectDetail/VCS/2558>>. Accessed on: 08 Jan. 2024.

¹⁰⁴ To define the Leakage Management Area, a radius of 1 kilometer around the communities was used. See section “3.3 - Project Boundary” VCS Standard. Available at: <<https://registry.terra.org/app/projectDetail/VCS/2558>>. Accessed on: 08 Jan. 2024.

These activities promote income-generating practices that reduce the need for timber extraction. Through training, technical guidance and the dissemination of knowledge on sustainable livelihoods, these initiatives contribute to reducing deforestation and, in turn, maintaining the essential ecosystem services provided by forests, such as water protection. Additional details of these actions can be found in Section 4.3.1 of the Community Monitoring Plan in this report.

HCV 5 was positively impacted by the project's activities. The promotion of alternative productive systems and awareness-raising actions on the importance of environmental conservation, contributes to protecting areas essential for the livelihood of riverine communities, ensuring both food security and environmental preservation. These initiatives reduce dependence on natural resource extraction and directly contribute to maintaining environmental quality, thereby alleviating pressure on local ecosystems.

During the monitoring period, the project also carried out activities related to community spaces, including the donation of dozens of books and interactive games to the library of the Divino Espírito Santo community, as well as the provision of materials for the construction of a support facility for healthcare services in the São Sebastião do Cipoal community.

These physical interventions were accompanied by actions aimed at strengthening community structures and encouraging local engagement.

With regard to HCV 6, no interventions were made to the physical structures of churches or community halls during the monitoring period. Nonetheless, actions were undertaken to promote and enhance local cultural values. In December 2023, during the Social Action Event, a local youth folk dance group performed the traditional carimbó dance, and a photographic exhibition entitled “Janelas do Pacajá” was held, featuring 50 images that documented activities and visits conducted by the Socio-Environmental Responsibility Program in the Rio Pacajá communities.

Figure 29. Carimbó dance group and “Janelas do Pacajá” photographic exhibition during the Social Action Event held in December 2023.



These initiatives contribute to the appreciation, preservation, and dissemination of local culture. Folk dances are cultural expressions that reflect a people's identity, customs, and beliefs, strengthening the sense of belonging and social cohesion. Additionally, these performances encourage the continuity of cultural practices, promote the recognition of local cultural richness, and value the community's traditional knowledge. Photography, as an artistic form of expression, has the power to capture and communicate traditions, histories, landscapes, and ways of life, strengthening the cultural identity of communities. Additionally, photographic exhibitions enhance cultural access, encourage intergenerational dialogue, and promote reflections on relevant social and environmental issues. Although the event took place at Fazenda Pacajá, outside the focal area of HCV 6, residents from neighboring communities who attended the exhibition had their cultural values reinforced and carried this impact back to their communities. Thus, the activity generated a significant cultural impact, regardless of where it was held.

It is important to highlight that, in 2024, an assessment study of High Conservation Value (HCV) attributes was conducted at Fazenda Pacajá. Should any adjustments or revisions to the previously identified HCVs be necessary, they will be reported in the next monitoring report.

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

The ABC Norte REDD Project was carefully designed to prevent adverse effects on the well-being of stakeholders. To address the possibility of adverse effects, the project ensured active engagement with all relevant stakeholders, including governments, universities, NGOs, and private companies. This engagement was based on transparent consultations and continuous dialogue.

For governments, the project implemented clear procedures for aligning with local and national policies, which minimized any financial or administrative burden on the authorities, due to the costs of monitoring, enforcement, and implementing public policies. In the case of universities, the project facilitated partnerships with academic institutions, ensuring that researchers had access to necessary data and areas for study. By promoting collaboration and knowledge exchange, the project mitigated any risk of limiting academic activities and instead fostered a productive research environment.

For NGOs, the project maintained an open and inclusive consultation process, which ensured that the objectives of NGOs aligned with those of the project. This prevented conflicts and promoted cooperation, while also ensuring that the project's implementation did not disrupt ongoing initiatives or the well-being of the communities the NGOs support.

For private companies contracted to provide specialized services, a negative effect could be the instability caused by reliance on temporary contracts, which would disrupt long-term planning and affect the sustainable creation of jobs. Measures were taken by the project to ensure long-term stability through well-defined contracts and clear expectations.

These proactive measures, coupled with ongoing monitoring, ensured that no negative impacts were observed during the project's implementation. In the following section, we will present the positive outcomes generated by the project for the well-being of these stakeholders.

The table below presents the activities carried out with the project's Other stakeholders, contributing to the mitigation of potential adverse impacts.

Table 44. Activities carried out with the Other stakeholders

Activity	Date	Invited Institution	Participation status
Meeting at the City Council	28-january-2021	Câmara dos Vereadores	Attended
Meeting at the Municipal City Hall of Portel	29-january-2021	Municipal Department of Health	Attended
		Municipal Department of Education	Attended
		Municipal Department of Economic Development	Attended
		Municipal Department of Social Assistance	Attended
VCS remote stakeholder consultation	13-July-2021	Chico Mendes Institute for Biodiversity Conservation (ICMBio)	Attended
		Upbio Soluções Ambientais	Attended
		Instituto Ecológica Palmas	Attended
		National Institute of Colonization and Agrarian Reform (INCRA)	Attended
		Ampla Consultoria	Absent
		M&D Advogados	Absent
		Programa Municípios Verdes	Absent
		National Research and Conservation Center for Amazonian Biodiversity	Absent

Activity	Date	Invited Institution	Participation status
		State Department of Environment and Sustainability	Absent
		Brazilian Institute of Environment and Natural Resources (IBAMA)	Absent
		Tropical Forest Institute (IFT)	Absent
		Sysflor	Absent
		WWF Brasil	Absent
		Land Institute of Pará (ITERPA)	Absent
		Municipal Department of Environment	Absent
		NBX Florestal	Absent
Communication via email	31-january-2023	Municipal Department of Health	Attended
		Municipal Department of Social Assistance	Attended
CCB Remote stakeholder consultation	18-March-2024	Chico Mendes Institute for Biodiversity Conservation (ICMBio)	Absent
		Urbio Soluções Ambientais	Attended
		National Institute of Colonization and Agrarian Reform (INCRA)	Absent
		Ampla Consultoria	Absent
		M&D Advogados	Absent
		Programa Municípios Verdes	Absent
		National Research and Conservation Center for Amazonian Biodiversity	Absent
		State Department of Environment and Sustainability	Absent
		Brazilian Institute of Environment and Natural Resources (IBAMA)	Absent
		Tropical Forest Institute (IFT)	Absent
		Sysflor	Absent
		WWF Brasil	Absent
		Land Institute of Pará (ITERPA)	Absent
		Municipal Department of Environment	Attended
		NBX Florestal	Absent
CCB Remote stakeholder consultation	22-March-2024	Federal Rural University of the Amazon (UFRA)	Attended

4.2.2 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

The ABC Norte REDD Project was designed to ensure that its activities do not result in net negative impacts on other stakeholders. Through compliance with regulatory frameworks, alignment with public policies, and active stakeholder engagement, the project fosters positive socio-economic and environmental outcomes.

The project was developed in compliance with existing regulatory frameworks, including state and national policies for environmental conservation and deforestation reduction, as demonstrated in section 2.4.6 National and Local Laws. Additionally, it aligns with existing public policy actions in the state, enhancing the impact of governmental strategies aimed at conservation and sustainable development.

In the academic sector, a higher education institution in Pará (UFRA), benefited from partnerships that facilitated studies on biodiversity and forest management, as demonstrated in section 2.1.8 Project Activities and Theory of Change from PD CCB. The project promoted knowledge exchange, creating opportunities for students and researchers without restricting or hindering their academic activities.

The demand for specialized services, such as socio-environmental consulting (UPBio), community training (UPBio), and forest management (J&Y Madereira), led to the hiring of qualified companies to support the project's implementation. This not only strengthened the environmental services sector but also created skilled jobs in the region, resulting in positive economic impacts.

The project also encouraged the active participation of NGOs throughout its implementation by ensuring proper stakeholder consultation. The WWF NGO was invited for the remote consultation of the project that occurred in July 2021 and March 2024. As a result, the objectives of non-governmental organizations remained aligned with those of the project, preventing conflicts and ensuring that their activities were not negatively affected.

Based on the evidence presented, it is possible to affirm that the ABC Norte REDD Project was structured to avoid adverse impacts on the government, universities, service providers, and NGOs. On the contrary, its implementation brought direct benefits to these stakeholders, strengthening their roles and fostering cooperation across different sectors.

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The monitoring of the actions in the communities covered by Upbio's Socio-environmental Responsibility Program, during the period from 01-April-2021 to 31-December-2023, makes it possible to evaluate the effectiveness of the project's activities in relation to the positive impacts planned for these communities. Also, by monitoring the established indicators and evaluating their progress, it is possible to make the necessary adjustments to achieve the desired objectives and impacts. However, due to the fact that the monitoring period is retroactive, prior to the construction of the Theory of Change and, consequently, of the indicators, it is important to note that the type of measurement, procedures adopted and forms of recording will not coincide with those established in the CCB PD (see section “4.4.1 - Community Monitoring Plan” of CCB’s PD¹⁰⁵).

Despite this divergence, the development of the activities of the ABC Norte REDD Project has resulted in several benefits for the communities in the Project Zone covered by Upbio’s Socio-environmental Responsibility Program until December of 2023, which are Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo and São Sebastião do Cipoal.

The establishment of the new type of measurement, procedures and forms of records is in the process of alignment and implementation between the project proponents and the company responsible for the socio-environmental actions in the communities. From the next Monitoring Plan, it is expected that the measurement will occur according to what was defined in each of the established indicators.

Thus, to monitor the activities, the monthly reports made available by Algar Farming were used.

Indicator 1: Number of activities implemented by the project aimed at enhancing the skills and/or knowledge of community members

During the monitoring period, a variety of activities were implemented in the communities, with special emphasis on stimulating sustainable productive activities – poultry farming and horticulture, especially –, educational and informative actions and handicraft workshops. The incentive to productive activities carried out by ABC Norte plays a crucial role in the development of production systems for the local communities in the Project Zone. This is particularly significant considering the region's difficult accessibility and the scarcity of public policies. Such initiatives already offer alternatives for generating income through more sustainable practices, contributing to the fight against forest deforestation and to local development.

¹⁰⁵ Available at: <<https://registry.terra.org/app/projectDetail/CCB/2558>>. Accessed on: 03 June. 2025.

This indicator aims to quantify the activities carried out by the project to strengthen the competencies and knowledge of community members. Various initiatives were considered, including technical assistance visits and input donations that promoted the development of poultry farming and horticulture. Additionally, craft workshops and lectures focused on production themes were also counted, addressing both practical and theoretical aspects essential for income generation and the improvement of local productive practices. The donation of informational materials, especially on environmental aspects and biodiversity, was considered, as such materials provide supplementary access to knowledge.

The following highlights some of the actions carried out during the monitored period to demonstrate the work developed and the impact generated in the communities served. Most of them correspond to the activities carried out monthly by Upbio's Socio-environmental Responsibility Program.

Poultry Farming

During the technical visits focused on poultry farming, carried out between April and December 2023 in the communities, producers received technical guidance on their production activities, including clarification of doubts and follow-up on actions initiated through previous PRS technical assistance. Additionally, supplies such as grower and finisher feed, as well as poultry feeders and drinkers, were provided to support local production.

Table 45. Number of technical visits focused on poultry farming in the communities

Cristo Salvador	Divino Espírito Santo	Monte Sião	Nossa Senhora do Carmo	Total
9	4	3	11	27

Figure 30. Technical visits carried out in Divino Espírito Santo and Nossa Senhora do Carmo related to poultry farming.



Horticulture and Agroforestry system

Throughout the year, technical visits were conducted in the communities of Cristo Salvador, Nossa Senhora do Carmo, Divino Espírito Santo, and Monte Sião to further promote horticultural activities through technical guidance and the donation of inputs, including tomato, coriander, arugula, kale, and pumpkin seeds. An increase in the consumption of vegetables in residents' diets was observed, along with a growing interest in expanding the variety of cultivated species.

Table 46. Number of technical visits focused on horticulture in the communities.

Cristo Salvador	Divino Espírito Santo	Monte Sião	Nossa Senhora do Carmo	Total
7	8	5	5	25

Figure 31. Record of horticultural activities in the communities of Monte Sião and Cristo Salvador during the monitoring period.



Fish farming

In October 2023, a technical visit was carried out in the community of Monte Sião to assess the most suitable location for the construction of a fish farming tank, which will serve as a learning laboratory for the entire local community.

In October and November, visits were conducted in the community of São Sebastião do Cipoal to assess the water quality of two existing tanks and to carry out a structural analysis for the reactivation of fish farming activities. Needs were identified, and the necessary equipment for acquisition was determined.

Figure 32. Technical visit carried out in São Sebastião do Cipoal to assess water quality for the reactivation of fish farming tanks



Informational activities

In April and May 2023, educational intervention activities focused on environmental education were carried out in the communities of Monte Sião, Divino Espírito Santo, Cristo Salvador, Nossa Senhora do Carmo and Sebastião do Cipoal. On the occasion, guidance was provided, along the distribution of an educational booklet, highlighting the importance of wildlife, with a special focus on the preservation of the jaguar (*Panthera onca*). The material was aimed at children and included educational activities and coloring illustrations, serving as a tool that contributes to raising awareness and promoting the dissemination of environmental education.

In October, during an event held in celebration of Children's Day, coloring booklets titled "Carbon and Life" were distributed to the children who participated.

These materials function as a complementary educational tool on environmental issues, with a focus on children and youth, presented in an age-appropriate and interactive format that fosters reflection and awareness on topics relevant to the local communities.

Figure 33. Informational materials on environmental topics distributed to children and youth in the communities.



In October, the “Pink October” campaign was carried out in the five communities served by the PRS in recognition of Women's Health Awareness Month. The initiative targeted women from the five communities served by the PRS and provided guidance and prevention tips related to women's health, particularly regarding breast and cervical cancer. Informational materials on the topic were also distributed.

In December 2023, a workshop was held at Vila ABC school during the Social Action Event, with the presence of six representatives of four of five communities involved in the Social Responsibility Program of the ABC Norte at the time (Cristo Salvador, Divino Espírito Santo, Monte Sião, Nossa Senhora do Carmo, and São Sebastião do Cipoal). The workshop had the objective of developing the Theory of Change together with community representatives. A participatory workshop agenda was prepared for this purpose, based on the Social and Biodiversity Impact Assessment (SBIA) Manual for REDD Projects.

The workshop began with presentations on topics such as climate change, the importance of forest conservation, the process of carbon credit generation, and an overview of the project, including the Sustainable Forest Management Plan implemented within the farm. The technical team also introduced the SBIA methodology, explaining how it would be conducted, its relevance to the project, and the associated benefits for the communities.

Subsequently, the workshop proceeded with the construction of both favorable and unfavorable scenarios from the perspective of local representatives, as well as the identification of necessary actions to achieve the desired scenario and the expected impacts.

Details of the activities carried out and their outcomes are presented in section 2.1.8 Project Activities and Theory of Change of PD CCB ABC Norte REDD Project.

Figure 34. Workshop for the development of the Theory of Change of the ABC Norte REDD CCB project.

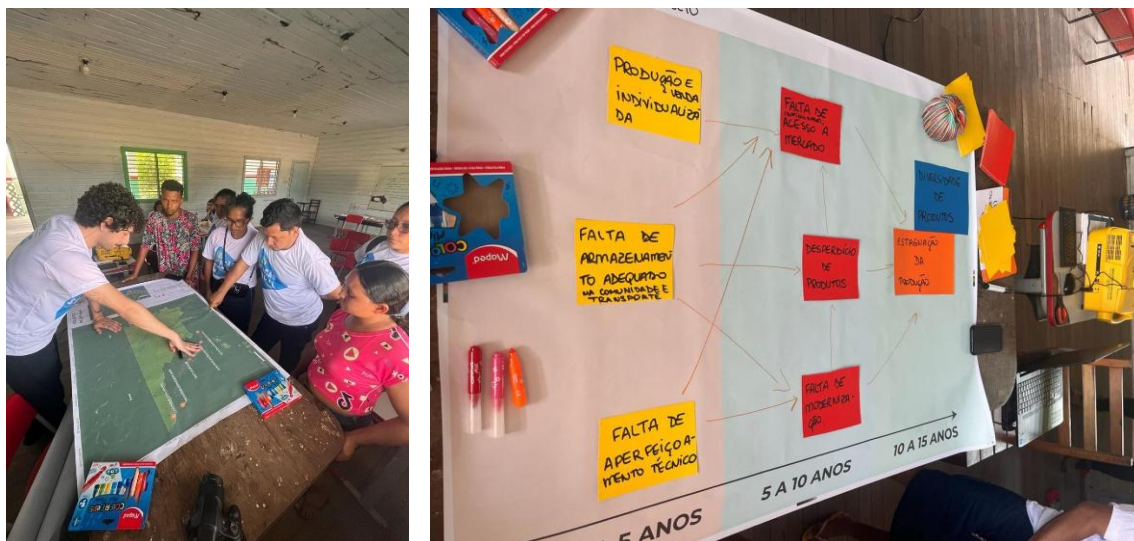


Figure 35. Women's health awareness campaign, in reference to Pink October, in the community of São Sebastião do Cipoal. October 2023.



Handicraft workshops

Handicraft workshops were held in the communities of Cristo Salvador, Monte Sião, Divino Espírito Santo, Nossa Senhora do Carmo and São Sebastião do Cipoal to teach basic techniques for the production of various items, including bio-jewelry, floral arrangements, and artisanal jams, among others. These workshops primarily targeted women and youth, aiming to promote entrepreneurship as a means of family-based or cooperative production and income generation, while also encouraging individual creativity.

Table 47. Number of handicraft workshops held in the communities

Handicraft Workshops	Cristo Salvador	Divino Espírito Santo	Monte Sião	Nossa Senhora do Carmo	São Sebastião do Cipoal	Total
Bio-jewelry	1	1		1	1	4
Flowers with EVA Foam	1	1	1	1	1	5
Fabric Painting II	1	1		1	1	4
Production of Artisanal Jams	1	1	1	1	1	5
Floral Arrangements	1	1		1	1	4
Total	5	5	2	5	5	22

Figure 36. Bio-jewelry and artisanal jams produced during workshops in the community of Cristo Salvador during the monitoring period.



Table 48. Indicator 1: Number of activities implemented by the project aimed at enhancing the skills and/or knowledge of community members

Indicator 1

Number of activities implemented by the project aimed at enhancing the skills and/or knowledge of community members

Description	Measurement of the number of activities conducted by the project during the current monitoring period aimed at enhancing the skills and/or knowledge of community members, including: • Diversification of cultivation and production techniques; • Awareness-raising on environmental issues; • Provision of educational materials for children related to the environment and conservation.						
Type of measurement and procedures adopted	Quali-quantitative. Procedures: Definition of the objective and scope of the activity: the purpose and format of the activity will be established - such as seminars, conversation circles, workshops, among others - aligning them with the items highlighted in the description of the indicator. Registration tool: the tool used to record the activities will be, in addition to the photographic record, an attendance list controlled by the group responsible for the activity (usually Upbio). Participants: for each activity, relevant details such as date, time, location, topic and duration will be recorded. Evaluation: information about the participants of each activity will be included, such as the number of participants, community of origin, feedback, and other pertinent details. The project collects community feedback through continuous dialogue with community residents, and a formal grievance mechanism. Follow-up reports: the recorded data will be used to generate reports that present the total number of activities carried out in a specific period, as well as other relevant information regarding each activity. Analysis and adjustment: an analysis of the data will be conducted to identify trends, such as most popular themes and most served communities. This information will be essential to adjust the strategy and improve future activities. Communication of results: the results of the count of actions will be shared with the community and other relevant stakeholders.						
Monitoring Frequency	Annual, based on the monthly reports of the ABC Norte Social Responsibility Program.						
Forms of registration	Reports, emails, attendance lists, photographic records, recordings, meeting minutes and/or other documents will serve as evidence of the activities carried out.						
Monitored value (01-April-2023 to 31-December-2023)	The calculation of the number of activities implemented by the project considered all instances of the same activity, including repeated sessions over time and services provided to different families within a single action. This approach ensures that the calculation reflects not only the continuity of activities over time but also the project's outreach within the communities served. This method provides a more accurate representation of the project's reach and impact, as it accounts for the total number of training opportunities made available to the community. Additionally, by considering both repeated sessions and the diversity of beneficiaries within a single activity, the indicator captures the project's continuous efforts in disseminating knowledge and strengthening community engagement. <table><tr><th>Year</th><th>Period</th><th>Number of activities</th></tr><tr><td>2023</td><td>01-April to 31-December</td><td>95</td></tr></table>	Year	Period	Number of activities	2023	01-April to 31-December	95
Year	Period	Number of activities					
2023	01-April to 31-December	95					

Aspect of the Theory of Change (Section 2.1.8, PD CCB)	- Establishment of continuous training activities, covering topics related to the diversification of production based on the knowledge of the community; - Development and implementation of continuous training activities for product processing.
Comments	No comments for the monitoring period in question.

Indicator 2: Total number of community members whose skills and/or knowledge have been enhanced as a result of activities provided by the project

For this indicator, only participants from activities listed in Indicator 1 registered by name in month reports were counted. As mentioned, since this is a retroactive monitoring period, prior to the development of the Theory of Change and, consequently, the indicators established in the CCB PD, participant tracking was not done through attendance lists, and only the total number of participants was counted. To be conservative and avoid double counting, only participants whose names were mentioned in the monthly reports of the ABC Norte Social Responsibility Program were considered. Additionally, to ensure an accurate count of the impacted individuals, each person was considered only once, regardless of the number of activities they participated in, reflecting the overall impact of the project on the community.

The same criterion was applied to determine the number of women whose skills and/or knowledge have been enhanced as a result of activities provided by the project. Thus, for this indicator, only participants mentioned in the monthly reports of the ABC Norte Social Responsibility Program were considered, each counted only once, regardless of the number of activities they participated in. This number corresponds to the women involved in the Training, Livelihoods, and Well-being categories of Table 2 in Section 1.2.

For future monitoring periods, an attendance list system will be implemented, allowing for the individual identification of participants in each activity. This measure will ensure a more accurate and real count of the number of people benefited by the project, avoiding duplication and enabling a more detailed analysis of the reach and impact of the activities carried out.

Table 49. Indicator 2: Total number of community members whose skills and/or knowledge have been enhanced as a result of activities provided by the project

Indicator 2	Total number of community members whose skills and/or knowledge have been enhanced as a result of activities provided by the project
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Description	Measuring the number of people participating in the project's proposed activities related to the social scope				
Type of measurement and procedures adopted	Quantitative. Procedures: Definition of the participants: initially, the people benefited by the action will be identified. Registration tool: the tool used to register the number of participants will be, in addition to the photographic record, an attendance list controlled by the group responsible for the activity (usually Upbio). Documentation and identification: for each activity, relevant details such as date, time, location, topic covered and duration will be recorded. Classification of beneficiaries: participants will be categorized into groups through information such as age, gender identity, race/ethnicity, educational level, among others. This will allow for a more detailed analysis of the impacts on different segments of the community. Analysis and adjustment: the data will be analyzed to identify trends, such as the most popular themes and the most served communities. This information will be essential to adjust the strategy and engage more people to participate in future activities. Communication of results: the number of people participating will be shared with the community and other relevant stakeholders.				
Monitoring Frequency	Annual, based on the monthly reports of the ABC Norte Social Responsibility Program.				
Monitored value (01-April to 31-December-2023)	To be conservative and avoid double counting, only participants whose names were mentioned in the monthly reports of the ABC Norte Social Responsibility Program were considered. Additionally, to ensure an accurate count of the impacted individuals, each person was considered only once, regardless of the number of activities they participated in, reflecting the overall impact of the project on the community. <table border="1"> <thead> <tr> <th>Period</th><th>Number of community members</th></tr> </thead> <tbody> <tr> <td>01-April to 31-December 2023</td><td>27</td></tr> </tbody> </table>	Period	Number of community members	01-April to 31-December 2023	27
Period	Number of community members				
01-April to 31-December 2023	27				
Forms of registration	Reports, emails, attendance lists, photographic records, recordings, meeting minutes and/or other documents will serve as evidence of the activities carried out.				
Aspect of the Theory of Change (Section 2.1.8, PD CCB)	Greater participation of people from the communities in the proposed activities.				
Comments	No comments for the monitoring period in question.				

Indicator 3: Number of activities implemented by the project aimed at the development/strengthening of community spaces

With regard to Indicator 3, it is important to note that all communities covered by the project have a designated space for community use, as evidenced in section “4.1.1- Descriptions of Communities at Project Start” of CCB’s PD . However, it is notable that these spaces have not yet been fully appropriated by community members, either due to a lack of engagement or the unfavorable physical conditions of the space. In addition, these spaces have not been officially established as community venues.

Thus, within the context of the current monitoring period, actions were undertaken focusing primarily on the donation of materials to strengthen the library's collection and improve access to information for the school community, as well as on the construction of a support facility for medical care services.

In August 2023, a donation of 82 books and three interactive games was made to the Forest Library, located in the community of Divino Espírito Santo, with the aim of contributing to educational development and encouraging reading among local residents.

In the community of São Sebastião do Cipoal, a support facility for the provision of healthcare services was built as a result of the community’s request to the project for construction materials for this purpose. During a visit to the community in November 2023, progress in the construction of the facility was observed at that time.

Figure 37. On the left, image of the donation of materials to the library in the community of Divino Espírito Santo in August 2023; on the right, documentation of the construction of the healthcare support facility in the community of São Sebastião do Cipoal, in November 2023.



These activities are considered part of the effort to develop and strengthen community spaces, as they directly support community cohesion, empowerment and encourage active community participation in the pursuit of collective improvements.

Table 50. Indicator 3: Number of activities implemented by the project aimed at the development/strengthening of community spaces

Indicator 3	Number of activities implemented by the project aimed at the development/strengthening of community spaces						
Description	Total number of activities conducted by the project aimed at the development or strengthening of community spaces. This includes actions such as the creation and revitalization of community centers, improvements in local infrastructure, organization of community events, and support for initiatives that promote community cohesion and engagement, including: • Creation and maintenance of cooperatives and/or associations; • Community engagement.						
Type of measurement and procedures adopted	Quali-quantitative. Identification of activities: document all project activities aimed at the development or strengthening of community spaces. This includes detailed records of the creation and revitalization of community centers, improvements in local infrastructure, organization of community events, and support for initiatives that promote community cohesion. Registration and documentation: maintain a database or spreadsheet containing detailed information about each activity carried out. The data should include the description of the activity, date, location, and the number of participants involved. Analysis and adjustments: analyze the collected data to identify patterns, trends, and areas for improvement. This will allow for adjustments to strategies and future procedures to maximize the impact of the activities. Communication of results: share the results and impacts of the activities with the community and other relevant stakeholders, ensuring transparency and fostering continued engagement.						
Monitoring Frequency	Annual, based on the monthly reports of the ABC Norte Social Responsibility Program.						
Forms of registration	Reports, emails, attendance lists, photographic records, recordings, meeting minutes and/or other documents will serve as evidence of the activities carried out.						
Monitored value (01-April to 31-December-2023)	This indicator aims to demonstrate the number of activities implemented by the project to develop and strengthen community spaces. It accounts for the repetition of the same activity across different communities, reflecting the opportunities created for learning and engagement. However, actions within a single activity, such as different steps or phases, are counted only once to avoid duplication. This approach ensures an accurate representation of the project's reach and impact, highlighting both the breadth of its efforts in different communities and the depth of engagement within each activity. <table><tr><th>Year</th><th>Period</th><th>Number of activities</th></tr><tr><td>2023</td><td>01-April to 31-December</td><td>02</td></tr></table>	Year	Period	Number of activities	2023	01-April to 31-December	02
Year	Period	Number of activities					
2023	01-April to 31-December	02					
Aspect of the Theory of Change (Section 2.1.8, PD CCB)	• Formation of cooperatives and/or associations; • Development and implementation of activities for community engagement based on community demands; • Renovation or construction of a functioning community space. • Operationalization and adoption of specific and formal procedures for consultation and deliberation.						

Comments

No comments for the monitoring period in question.

Indicator 4: Total number of families whose income generation has been enhanced as a result of the project activities

During the monitoring period, an initiative aimed at promoting the commercialization of local products was held during a Social Action event held in December 2023. The event featured the 4th Community Fair (4ª Feirinha das Comunidades), with the participation of residents and producers supported by the PRS, who had the opportunity to sell products derived from income-generating workshops, as well as other regional and artisanal goods. On this occasion, over 100 items were sold, including regional foods, snacks, fruits, vegetables, and handicrafts, generating an income of more than BRL 300.00 for the community of São Sebastião do Cipoal.

Table 51. Indicator 4: Total number of families whose income generation has been enhanced as a result of the project activities

Indicator 4	Total number of families whose income generation has been enhanced as a result of the project activities
Description	Total number of families whose income generation capabilities have been enhanced as a result of the project's activities. This includes families who have managed to increase their income through improvements in production techniques, as well as access to new markets, particularly through associations/cooperatives.
Type of measurement and procedures adopted	Quali-quantitative. Identification of beneficiary families: record the families that participated in the income generation activities. Analysis and evaluation: conduct periodic analyses of the collected data to assess the impact of the activities on the families' income. This may include analyzing income generated by different types of activities promoted by the project. Adjustments and improvements: adjust the project's activities and strategies based on the analyses, aiming to maximize the impact on the families' income generation. Incorporate feedback from families to enhance future approaches. Communication of results: share the results and impacts of the activities with the community and other relevant stakeholders, ensuring transparency and encouraging continued participation.
Monitoring Frequency	Annual, based on the monthly reports of the ABC Norte Social Responsibility Program.

Forms of registration	Report, semi-structured questionnaire, interview, e-mail, photographic record, recording and other documents that corroborate as evidence of the activities carried out.				
Monitored value (01-April to 31-December-2023)	The total number of beneficiary families is based on the number of distinct families whose income generation potential has been enhanced through the project activities. Even if a family has been benefited in different periods, it will be counted only once. This criterion aims to reflect the actual number of families impacted, avoiding duplicate counts. As outlined in the previously described activities, benefits have been recorded for the following families: São Sebastião do Cipoal: 20 families <table border="1"> <thead> <tr> <th>Period</th><th>Number of families</th></tr> </thead> <tbody> <tr> <td>01-April to 31-December</td><td>20</td></tr> </tbody> </table>	Period	Number of families	01-April to 31-December	20
Period	Number of families				
01-April to 31-December	20				
Aspect of the Theory of Change (Section 2.1.8, PD CCB)	Generate income through alternative sources.				
Comments	No comments for the monitoring period in question.				

Indicator 5: Number of activities implemented by the project to protect water resources

The need to monitor activities that contribute to water protection is directly related to the fact that the population living around the project area is mostly composed of traditional riverside communities. In these communities, the way of life, food security, and family well-being are deeply connected to the availability and quality of water resources. Rivers are not only used for water supply, transportation, and fishing, but they also form an integral part of the cultural identity and social organization of these populations.

However, these communities face longstanding challenges related to the lack or inadequacy of basic sanitation infrastructure. Sewage is often not properly treated, with waste frequently being disposed of directly into rivers or in rudimentary pits, which, due to their proximity to water bodies, contribute to contamination. The most common form of solid waste disposal is still direct dumping into the river or into areas near the riverbanks. In many cases, it is also common to see garbage accumulated in ditches or burned in open areas. While these practices are often the result of a lack of viable alternatives, they contribute to water contamination, the degradation of aquatic ecosystems, and the decline of local biodiversity.

This scenario fosters river pollution, negatively affecting water quality, the health of local populations, and aquatic ecosystems, particularly fish stocks, which are an essential source of food

and income for these communities. Traditionally, fishing in riverside communities in the Amazon is carried out using artisanal methods, following knowledge passed down through generations and respecting the natural cycles of fish. However, river pollution compromises water quality and directly impacts fish stocks, whether through species mortality, contaminated fish, or the degradation of aquatic habitats.

During the monitoring period, a total of five technical visits were carried out in the communities of São Sebastião do Cipoal and Monite Sião. The purpose of these visits was to assess the existing fish tank in the former, including water quality analysis and evaluation of structural needs for its reactivation, and to identify the most suitable location for the implementation of a new tank in the latter, which is intended to serve as a community laboratory. The fish farming (aquaculture) activities promoted by the project have emerged as a sustainable alternative, allowing fish to be raised in controlled environments. This reduces pressure on natural stocks while offering a safe source of protein and income, even in the face of threats to water bodies.

The project also supported other alternative productive practices to traditional cultivation methods, which directly contribute to reducing environmental impacts on rivers.

The slash-and-burn system, one of the most commonly used methods by various types of small-scale farmers in the Amazon region, can negatively affect water resources. Burning vegetation exposes the soil to erosion, making it easier for sediments and nutrients to be washed into rivers, contributing to siltation, increased water turbidity, and the degradation of aquatic environments, directly impacting the lives of communities that rely on these resources.

The adoption of practices horticulture and agroforestry systems offers sustainable alternatives both to the use of fire and income generation. As alternative practices to environmentally harmful ones, these activities do not affect soil cover, improve water retention, and reduce the risk of erosion and river contamination. In addition to protecting water resources, they also support food security and income generation for families, promoting a more balanced and sustainable use of the territory.

For the monitored indicator, activities that directly contributed to the protection of water resources and the promotion of sustainable practices in riverside communities were considered. Among these actions are those related to fish farming, which intends to reduce pressure on natural stocks while offering a safe source of protein; and horticulture, which reduces the impacts of fire use and protect soil and rivers. These initiatives work in a complementary manner to mitigate risks to water bodies and improve the living conditions of local populations.

Table 52. Number of activities implemented by the project to protect water resources

Indicator 5	Number of activities implemented by the project to protect water resources							
Description	Safeguarding water resources is essential, as they sustain ecosystems and communities, and their preservation is closely tied to forest conservation. Forests play a critical role in regulating the water cycle by maintaining soil stability, reducing runoff, ensuring the recharge of aquifers, and filtering and purifying water. The project carries out activities with communities aimed at forest preservation, focusing on promoting alternative economic practices for income generation and environmental awareness. By diversifying income sources, the project helps reduce pressure from predatory practices, providing livelihoods that value natural resources. This approach creates a direct link between forest conservation, water resource protection, and the economic well-being of communities. For this reason, the indicator will measure the number of activities implemented by the project that aim to protect water resources and the surrounding ecosystem, including: • Activities focused on generating alternative sources of income; • Lectures on environmental education.							
Type of measurement and procedures adopted	Quali-quantitative. Identification of activities: document all project activities aimed at forest conservation. Registration and documentation: maintain a database or spreadsheet containing detailed information about each activity carried out. The data should include the description of the activity, date, location, and the number of participants involved. Analysis and adjustments: analyze the collected data to identify patterns, trends, and areas for improvement. This will allow for adjustments to strategies and future procedures to maximize the impact of the activities. Communication of results: share the results and impacts of the activities with the community and other relevant stakeholders, ensuring transparency and fostering continued engagement.							
Monitoring Frequency	Annual, based on the monthly reports of the ABC Norte Social Responsibility Program.							
Forms of registration	Report, semi-structured questionnaire, interview, e-mail, photographic record, recording or other documents that corroborate as evidence of the activities carried out.							
Monitored value (01-April to 31-December-2023)	This indicator aims to demonstrate the learning opportunities generated by the project. Therefore, all instances of the same activity, including repeated sessions over time, have been counted. This approach ensures a more accurate representation of the project's outreach and impact, as it reflects the total number of training opportunities made available to the community and highlights the continuity of activities over time. By considering repeated sessions, the indicator captures the project's sustained efforts in reinforcing knowledge and engagement within the community. <table border="1"> <thead> <tr> <th>Year</th><th>Period</th><th>Number of activities</th></tr> </thead> <tbody> <tr> <td>2023</td><td>01-April to 31-December</td><td>30</td></tr> </tbody> </table>		Year	Period	Number of activities	2023	01-April to 31-December	30
Year	Period	Number of activities						
2023	01-April to 31-December	30						

Aspect of the Theory of Change (Section 2.1.8, PD CCB)	• Generate income through alternative sources. • Establishment of continuous training activities, covering topics related to the diversification of production based on the knowledge of the community; • Development and implementation of continuous training activities for product processing.
Comments	No comments for the monitoring period in question.

4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

Following the guidelines established in section “2.3.2 - Stakeholder Access to Project Documents”, the monitoring reports will be disseminated to communities and other stakeholders, and made publicly available, through the following strategies:

- **VERRA platform:** the monitoring plan, as well as the results of the verifications, will be shared on the VERRA platform¹⁰⁶, ensuring transparency and reaching a wider audience.
- **Sustainable Carbon website:** all projects supported by Sustainable Carbon are available on the website in which updated documents are accessible for consultation. Project information can be found on <https://sustainablecarbon.com/en/projetos/abc-norte-project/> (English) and <https://sustainablecarbon.com/projetos/abc-norte-redd/> (Portuguese).
- **Communication channels:** the monitoring reports will be accessible to communities through Upbio's WhatsApp (+55 91 98517 3832), which is already used as a communication vehicle.
- **Algar Farming headquarters:** the monitoring reports will be available at Algar Farming's headquarters and security posts and will be presented to stakeholders during periodic meetings about the project. Communities will also be able to access it, even those not covered by Upbio's Socio-environmental Responsibility Program.
- **Upbio's field activities through Socio-environmental Responsibility Program:** during the field visits carried out by Upbio in the communities, the monitoring plan summary and its results will be communicated orally and through printed material.

Regarding verification information access by the communities related to the third monitoring period, the results were presented at a Social Action event held at Vila ABC on June 26th, at Fazenda Pacajá. The presentation of the results were conducted through a collective presentation to local residents.

- **Stakeholders Consultation:** Monitoring results will be made available to stakeholders, particularly institutional ones identified in Section 2.1.6 – Stakeholder Identification of the

¹⁰⁶ Available at: < <https://registry.verra.org/>>. Accessed on: 08 Feb. 2024.

CCB PD ABC Norte REDD Project. The presentation of monitoring results and other project-related information may take place during site visits or through online presentations, with invitations sent in advance.

During the site visit held in August 2025, an informational brochure about the project and the results of the 3rd VCS CCB MR was provided to institutional stakeholders, as well as to those interviewed remotely¹⁰⁷. The brochure included a QR code providing direct access to all project documentation available on the Verra website¹⁰⁸, and access to this documentation was reinforced at the time the material was delivered.

4.4 Optional Criterion: Exceptional Community Benefits

Not applicable. Sustainable Carbon technical team will evaluate the potential applicability of the Gold Level for Climate, Community, and Biodiversity in future verification cycles.

4.4.1 Short-term and Long-term Community Benefits (CCB, GL2.2)

Not applicable, as described in section 4.4.

4.4.2 Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Not applicable, as described in section 4.4.

4.4.3 Net Impacts on Women (CCB, GL2.5)

Not applicable, as described in section 4.4.

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not applicable, as described in section 4.4.

4.4.5 Governance and Implementation Structures (CCB, GL2.8)

Not applicable, as described in section 4.4.

4.4.6 Smallholders/Community Members Capacity Development (CCB, GL2.9)

Not applicable, as described in section 4.4.

¹⁰⁷ Informational materials were delivered to representatives of the Secretariat of Environment and Sustainability of Pará, the Tropical Forest Institute (IFT), and the Federal Rural University of the Amazon (UFRA) in person, and sent online to a representative of the Chico Mendes Institute for Biodiversity Conservation (ICMBio) and Brazilian Forest Service (BFS).

¹⁰⁸ <https://registry.verra.org/app/projectDetail/VCS/2558>

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)

Table 53. Sampling of new fauna taxonomic groups and species, including the documentation of vulnerable ones, during the monitored period as a result of enhanced sampling efforts

Change in Biodiversity	Sampling of new fauna taxonomic groups and species, including the documentation of vulnerable ones, during the monitored period as a result of enhanced sampling efforts.																																																																						
Monitored Change	Actual, positive and direct New records of fauna taxonomic groups and species were identified in 2023, as presented in the table below: <table> <tr> <th>Fauna Group</th><th>Species</th><th>IUCN Red List</th></tr> <tr> <td>Terrestrial mammals</td><td><i>Oecomys sp.</i></td><td>LC</td></tr> <tr> <td>Terrestrial mammals</td><td><i>Philander opossum</i></td><td>LC</td></tr> <tr> <td>Terrestrial mammals</td><td><i>Leopardus pardalis</i></td><td>LC</td></tr> <tr> <td>Chiroptero fauna</td><td><i>Phyllostomus elongatus</i></td><td>LC</td></tr> <tr> <td>Entomofauna</td><td><i>Anopheles triannulatus</i></td><td>-</td></tr> <tr> <td>Entomofauna</td><td><i>Coquillettidia venezuelensis</i></td><td>-</td></tr> <tr> <td>Entomofauna</td><td><i>Culex quiquefasciatus</i></td><td>-</td></tr> <tr> <td>Entomofauna</td><td><i>Psorophora ferox</i></td><td>-</td></tr> <tr> <td>Herpetofauna</td><td><i>Allobates marchesianus</i></td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Leptophis ahaetulla</i> (Linnaeus, 1758)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Chironius fuscus</i> (Linnaeus, 1758)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Ranitomeya amazonica</i> (Schulte, 1999)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Hydrops triangularis</i> (Wagler, 1824)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Micrurus surinamensis</i> (Cuvier, 1817)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Arthrosaura reticulata</i> (O'Shaughnessy, 1881)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Boana fasciata</i> (Günther, 1858)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Leptodactylus paraensis</i> (Heyer, 2005)</td><td>LC</td></tr> <tr> <td>Herpetofauna</td><td><i>Thecadactylus rapicauda</i> (Houttuyn, 1782)</td><td>LC</td></tr> <tr> <td>Avifauna</td><td><i>Accipiter bicolor</i></td><td>LC</td></tr> <tr> <td>Avifauna</td><td><i>Ara ararauna</i></td><td>LC</td></tr> <tr> <td>Avifauna</td><td><i>Ara macao</i></td><td>LC</td></tr> <tr> <td>Avifauna</td><td><i>Aramides cajaneus</i></td><td>LC</td></tr> </table>		Fauna Group	Species	IUCN Red List	Terrestrial mammals	<i>Oecomys sp.</i>	LC	Terrestrial mammals	<i>Philander opossum</i>	LC	Terrestrial mammals	<i>Leopardus pardalis</i>	LC	Chiroptero fauna	<i>Phyllostomus elongatus</i>	LC	Entomofauna	<i>Anopheles triannulatus</i>	-	Entomofauna	<i>Coquillettidia venezuelensis</i>	-	Entomofauna	<i>Culex quiquefasciatus</i>	-	Entomofauna	<i>Psorophora ferox</i>	-	Herpetofauna	<i>Allobates marchesianus</i>	LC	Herpetofauna	<i>Leptophis ahaetulla</i> (Linnaeus, 1758)	LC	Herpetofauna	<i>Chironius fuscus</i> (Linnaeus, 1758)	LC	Herpetofauna	<i>Ranitomeya amazonica</i> (Schulte, 1999)	LC	Herpetofauna	<i>Hydrops triangularis</i> (Wagler, 1824)	LC	Herpetofauna	<i>Micrurus surinamensis</i> (Cuvier, 1817)	LC	Herpetofauna	<i>Arthrosaura reticulata</i> (O'Shaughnessy, 1881)	LC	Herpetofauna	<i>Boana fasciata</i> (Günther, 1858)	LC	Herpetofauna	<i>Leptodactylus paraensis</i> (Heyer, 2005)	LC	Herpetofauna	<i>Thecadactylus rapicauda</i> (Houttuyn, 1782)	LC	Avifauna	<i>Accipiter bicolor</i>	LC	Avifauna	<i>Ara ararauna</i>	LC	Avifauna	<i>Ara macao</i>	LC	Avifauna	<i>Aramides cajaneus</i>	LC
Fauna Group	Species	IUCN Red List																																																																					
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	Avifauna	<i>Arremon taciturnus</i>	LC
	Avifauna	<i>Caracara plancus</i>	LC
	Avifauna	<i>Chloroceryle amazona</i>	LC
	Avifauna	<i>Elanoides forficatus</i>	LC
	Avifauna	<i>Herpetotheres cachinnans</i>	LC
	Avifauna	<i>Heterospizias meridionalis</i>	LC
	Avifauna	<i>Ibycter americanus</i>	LC
	Avifauna	<i>Leucopternis albicollis</i>	LC
	Avifauna	<i>Mionectes macconnelli</i>	LC
	Avifauna	<i>Myrmotherula brachyura</i>	LC
	Avifauna	<i>Nyctibius griseus</i>	LC
	Avifauna	<i>Nyctidromus albicollis</i>	LC
	Avifauna	<i>Pauxi tuberosa</i>	-
	Avifauna	<i>Phaethornis ruber</i>	LC
	Avifauna	<i>Psophia viridis</i>	VU
	Avifauna	<i>Pyriglena leuconota</i>	LC
	Avifauna	<i>Trogon viridis</i>	LC
	Avifauna	<i>Willisornis vidua</i>	LC
The new records comprise a total of 40 new species, one of which is classified as Vulnerable according to the IUCN Red List. All records for the monitoring period are presented in Section 5.3.1 Biodiversity Monitoring Plan (new records are highlighted with an asterisk “*”).			
Justification of Change	The observed change results from an increase in the sampling effort of monitored groups starting in 2022, when new groups — chiropterans, flying insects, small mammals, and avifauna — also began to be surveyed. The project conducts continuous fauna monitoring, with field campaigns carried out during the monitoring period, in 2023. Among the species recorded during the monitoring period, 40 new species were documented since the beginning of the surveys in 2020. The new species are identified in the fauna records tables for the year 2023, together with the other species surveyed by group, in section 5.3.1 Biodiversity Monitoring Plan, related to Indicator 6, <i>Number of critically endangered, endangered, or vulnerable fauna species globally (IUCN) benefiting from habitat conservation as a result of project activities</i> - Table 57, Table 58, Table 59, Table 60 and Table 61. Regarding conservation status, among the monitored species — both newly recorded and previously registered — two species classified as Vulnerable by the IUCN, <i>Saguinus niger</i> and <i>Psophia viridis</i>, and one classified as Near Threatened, <i>Panthera onca</i>, were recorded.		

Source: created by the authors using project proponent's collection

Table 54. Maintenance of relevant biodiversity within Annual Production Units where sustainable forest management is conducted

Change in Biodiversity	Maintenance of relevant biodiversity within Annual Production Units where sustainable forest management is conducted																																																																																
Monitored Change	Actual, positive and direct																																																																																
	Regarding flora, the management activities follow the Annual Operational Plan (POA) in accordance with the Autef. After the exploitation phase, the results are recorded in post-exploration reports. For UPA 19, which harvest was finalized during the monitoring period, the following data were recorded:																																																																																
	<table><tr><td>UPA</td><td>UPA Area (ha)</td><td>Planned Trees</td><td>Exploited Trees</td></tr><tr><td>UPA 19</td><td>4,229.1368</td><td>17,856</td><td>16,143</td></tr></table>	UPA	UPA Area (ha)	Planned Trees	Exploited Trees	UPA 19	4,229.1368	17,856	16,143																																																																								
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	UPA 19	4,229.1368	17,856	16,143																																																																													
	According to the post-harvest report, out of the 66 species authorized for forest management, individuals from 53 species were retained in the environment, totaling 1,691 unharvested specimens. Among them are vulnerable species such as <i>Dipteryx alata</i> and <i>Couratari tauari</i> , of which 58 and 30 trees, respectively, were preserved, as presented in the table below:																																																																																
	<table><tr><th>Common name</th><th>Species</th><th>Status (IUCN)</th><th>Retained trees</th></tr><tr><td>Abiu-branco</td><td><i>Pouteria oppositifolia</i></td><td>VU</td><td>58</td></tr><tr><td>Abiurana-branca</td><td><i>Pouteria guianensis</i></td><td>LC</td><td>14</td></tr><tr><td>Abiu-vermelho</td><td><i>Pouteria caimito</i></td><td>LC</td><td>2</td></tr><tr><td>Andiroba</td><td><i>Carapa guianensis</i></td><td>LC</td><td>36</td></tr><tr><td>Angelim-amargoso</td><td><i>Vatairea paraensis</i></td><td>LC</td><td>33</td></tr><tr><td>Angelim-pedra</td><td><i>Hymenolobium excelsum</i></td><td>-</td><td>9</td></tr><tr><td>Angelim-vermelho</td><td><i>Dinizia excelsa</i></td><td>LC</td><td>104</td></tr><tr><td>Biriba</td><td><i>Eschweilera ovata</i></td><td>LC</td><td>1</td></tr><tr><td>Buiuçú</td><td><i>Ormosia coutinhoi</i></td><td>LC</td><td>11</td></tr><tr><td>Coco-pau</td><td><i>Sterculia alata</i></td><td>LC</td><td>16</td></tr><tr><td>Copaibarana</td><td><i>Eperua purpurea</i></td><td>LC</td><td>97</td></tr><tr><td>Coração-de-negro</td><td><i>Albizia lebbbeck</i></td><td>LC</td><td>1</td></tr><tr><td>Cumaru</td><td><i>Dipteryx alata</i></td><td>VU</td><td>30</td></tr><tr><td>Cumaru-amarelo</td><td><i>Dipteryx odorata</i></td><td>DD</td><td>23</td></tr><tr><td>Cupiúba</td><td><i>Goupia glabra</i></td><td>LC</td><td>280</td></tr><tr><td>Curupixá</td><td><i>Micropholis venulosa</i></td><td>LC</td><td>10</td></tr><tr><td>Fava</td><td><i>Schizolobium parahyba</i></td><td>LC</td><td>3</td></tr><tr><td>Freijó</td><td><i>Cordia goeldiana</i></td><td>-</td><td>1</td></tr><tr><td>Guajará</td><td><i>Chrysophyllum venezuelanense</i></td><td>-</td><td>47</td></tr></table>	Common name	Species	Status (IUCN)	Retained trees	Abiu-branco	<i>Pouteria oppositifolia</i>	VU	58	Abiurana-branca	<i>Pouteria guianensis</i>	LC	14	Abiu-vermelho	<i>Pouteria caimito</i>	LC	2	Andiroba	<i>Carapa guianensis</i>	LC	36	Angelim-amargoso	<i>Vatairea paraensis</i>	LC	33	Angelim-pedra	<i>Hymenolobium excelsum</i>	-	9	Angelim-vermelho	<i>Dinizia excelsa</i>	LC	104	Biriba	<i>Eschweilera ovata</i>	LC	1	Buiuçú	<i>Ormosia coutinhoi</i>	LC	11	Coco-pau	<i>Sterculia alata</i>	LC	16	Copaibarana	<i>Eperua purpurea</i>	LC	97	Coração-de-negro	<i>Albizia lebbbeck</i>	LC	1	Cumaru	<i>Dipteryx alata</i>	VU	30	Cumaru-amarelo	<i>Dipteryx odorata</i>	DD	23	Cupiúba	<i>Goupia glabra</i>	LC	280	Curupixá	<i>Micropholis venulosa</i>	LC	10	Fava	<i>Schizolobium parahyba</i>	LC	3	Freijó	<i>Cordia goeldiana</i>	-	1	Guajará	<i>Chrysophyllum venezuelanense</i>	-	47
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	Guajará-bolacha	<i>Neoxythece robusta</i>	-	100
	Ingá	<i>Inga alba</i>	LC	2
	Ipê	<i>Tabebuia impetiginosa</i>	NT	1
	Itauba	<i>Mezilaurus itauba</i>	-	16
	Jatobá	<i>Hymenaea courbaril</i>	LC	14
	Louro-canela	<i>Licaria cannella</i>	LC	7
	Louro-faia	<i>Euplassa pinnata</i>	LC	1
	Louro-preto	<i>Ocotea neesiana</i>	LC	1
	Louro-vermelho	<i>Ocotea rubra</i>	LC	9
	Mandioqueira	<i>Ruizterania albiflora</i>	-	5
	Maparajuba	<i>Manilkara paraensis</i>	-	62
	Matamatá-ci	<i>Eschweilera amazonica</i>	LC	2
	Matamatá-preto	<i>Lecythis idatimon</i>	LC	15
	Matamatá-vermelho	<i>Cariniana micrantha</i>	-	62
	Orelha-de-macaco	<i>Enterolobium schomburgkii</i>	LC	31
	Pequiá	<i>Caryocar villosum</i>	LC	11
	Pequiarana	<i>Caryocar glabrum</i>	LC	33
	Quarubarana	<i>Erisma uncinatum</i>	LC	3
	Quaruba-vermelha	<i>Vochysia vismiifolia</i>	LC	2
	Sapucaia	<i>Lecythis pisonis</i>	-	9
	Sucupira	<i>Bowdichia nitida</i>	LC	4
	Sucupira-amarela	<i>Bowdichia virgilioides</i>	LC	7
	Sucupira-preta	<i>Diploptropis brasiliensis</i>	LC	4
	Tanibuca	<i>Terminalia amazonica</i>	-	69
	Tauari	<i>Couratari tauari</i>	VU	47
	Taxi-amarelo	<i>Sclerolobium chrysophyllum</i>	LC	2
	Taxi-branco	<i>Tachigali capives</i>	-	7
	Taxi-preto	<i>Sclerolobium paraense</i>	LC	13
	Tenteiro	<i>Ormosia excelsa</i>	LC	93
	Tento	<i>Ormosia coccinea</i>	LC	7
	Timborana	<i>Enterolobium contortisiliquum</i>	LC	218
	Ucuubarana	<i>Iryanthera paraensis</i>	LC	10
	Uxi	<i>Endopleura uchi</i>	LC	3
	Uxirana	<i>Vantanea guianensis</i>	LC	45
Justification of Change		Sustainable Forest Management includes several activities to mitigate impacts in the forest, adopting practices that aim to preserve not only tree species but also their communities and natural habitats, besides the development of internal quality. Thus, it contributes to the maintenance of biodiversity in native forest areas within the project area through periodic monitoring of fauna and flora.		

	Another crucial benefit provided by SFM is the natural regeneration of forests, which was designed to allow plant populations to renew themselves in a sustainable way, ensuring the continuity and vitality of plant communities, through the preservation of matrices and the protection of areas conducive to regeneration. Additionally, the implementation of monitoring trails and non-invasive methods in sustainably managed areas contributes to efficient data collection, providing valuable insights into the health and population status of species.
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Source: created by the authors

Table 55. Receipt of certifications attesting to the adoption of best practices related to fauna and flora

Change in Biodiversity	Receipt of certifications attesting to the adoption of best practices related to fauna and flora.
Monitored Change	Actual, positive and direct During the monitoring period, the project received certifications related to fauna, Onça-Pintada certification, and flora, Cerflor certification, confirming the adoption of best practices in conservation and preservation.
Justification of Change	During the monitoring period, the project received certifications related to fauna and flora, confirming the adoption of best practices in conservation and preservation. Regarding fauna, the project was awarded the Onça-Pintada certification. This certification is granted to companies and service providers operating in rural areas within the jaguar's range and recognizes the adoption of practices that contribute to the species' sustainability. Regarding flora, the project has trained personnel, created infrastructure, and adapted the processes necessary to obtain the Cerflor Certification which, among other aspects, addresses biological considerations with a focus on preservation. The purpose of Cerflor certification is to ensure that the forest management adopts environmentally responsible, socially just, and economically viable practices, providing independent third-party recognition of responsible oh these practices, thereby ensuring security and confidence to forest management.

5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

Sustainable Forest Management

Periodic activities monitoring: The project implemented a monthly monitoring system for forest management activities to prevent and mitigate risks related to biodiversity loss, as outlined in

section 5.2.2 Mitigation Measures of the PD CCB. This monitoring process allowed for the early detection of potential threats, ensuring that corrective actions were taken to minimize environmental impacts and maintain ecological integrity.

Sustainable Forest Management Certification: Since 2020, ABC Norte has held the Cerflor Sustainable Forest Management Certification, which, among other aspects, includes biological conservation measures with a strong focus on habitat preservation. The Cerflor certification ensures that forest management follows environmentally responsible, socially fair, and economically viable practices, providing independent third-party verification of compliance with sustainability standards. The activities related to Certification are systematically tracked and documented in the monthly report on sustainable forest management operations, indicated above.

Fauna Monitoring

For the ABC Norte REDD Project, another strategy adopted to mitigate potential negative impacts on biodiversity involves maintaining the monitoring of terrestrial fauna, carried out through specific campaigns. For the monitoring period in question, a campaign was conducted from 1 to 8 June 2023.

The planning and execution of these activities follow the Fauna Monitoring Plan, respecting the conditions contained in the Authorization for the Capture, Collection, Management and Transport of Wildlife. In addition, the sampling standards and analysis criteria meet the legal requirements established by Normative Instruction 52/2010 SEMAS/PA¹⁰⁹ and by Resolution 301/2012 of the Federal Council of Biology¹¹⁰. The responsibility for preparing and conducting the monitoring is the responsibility of Upbio, a specialized and legally qualified company.

The continuous monitoring of fauna contributes to the protection of the species highlighted in section “5.1.2 High Conservation Values” of CCB’s PD¹¹¹, considering that, in order to protect such species, it is necessary to understand their context/situation over time. During 2023 fauna

¹⁰⁹ Available at:

<<https://www.semas.pa.gov.br/legislacao/normas/view/1414#:~:text=Estabelece%20normas%20e%20procedimentos%20para,Estado%2C%20e%20d%C3%A1%20outras%20provid%C3%A2ncias>>. Accessed on: 09 Feb. 2024.

¹¹⁰ Available at: <<https://cfbio.gov.br/2012/12/28/resolucao-no-301-de-8-de-dezembro-de-2012/>>. Accessed on: 09 Feb. 2024.

¹¹¹ Available at: <<https://registry.terra.org/app/projectDetail/CCB/2558>>. Accessed on: 09 Feb. 2024.

monitoring, three species under some degree of threat were recorded: *Saguinus niger*, *Panthera onca* and *Psophia viridis* (section 5.1.4 High Conservation Values Protected).

The constant monitoring of fauna plays an extremely important role in the preservation of the *Saguinus niger* species, which is vulnerable and endemic to the Amazon, according to the classification of the Red List of Threatened Species of the International Union for Conservation of Nature (IUCN)^{112, 113}. The *Saguinus niger* is subject to several threats, including habitat loss due to deforestation and environmental degradation.

The persistent observation of this species in its areas of occurrence, recorded since the beginning of fauna monitoring activities – from 2020 to 2023, represents a positive indication. This constancy suggests a successful adaptation to local environmental conditions, constituting an important sign that the project's activities do not exert negative impacts on the preservation of the species.

Panthera onca

Wildlife monitoring plays an essential role in the conservation of *Panthera onca*, a species classified as "Near Threatened" by the International Union for Conservation of Nature (IUCN) Red List of Threatened Species in 2016¹¹⁴.

Simultaneous observation of the species suggests effective preservation of the environment and a successful adaptation of the species to the local environment. The presence of these animals, positioned at the top of the food chain, indicates a balanced and healthy ecosystem, which is extremely important for the regulation of prey populations and the maintenance of ecological balance. The continuity of their presence indicates that the habitat offers favorable conditions for survival and reproduction.

Psophia viridis

A terrestrial bird with galliform-like characteristics. Classified as "Vulnerable" by the International Union for Conservation of Nature (IUCN) Red List of Threatened Species in 2023 the species – which was first recorded in 2023 – is reported to be in decline due to a combination of habitat loss,

¹¹² Available at: <https://www.gov.br/icmbio/pt-br/assuntos/centros-de-pesquisa/cpb/arquivos/fichas_primatas/CALLITRICHIDAE/ficha_saguinus_niger.pdf>. Accessed on: 14 Nov. 2023.

¹¹³ Available at: <<https://www.iucnredlist.org/es/species/160901052/192553958>>. Accessed on: 14 Nov. 2023.

¹¹⁴ Available at: <<https://www.iucnredlist.org/es/species/15953/123791436>>. Accessed on: 14 Nov. 2023.

fragmentation, and subsistence hunting, and is currently confined to remote areas with limited human presence and disturbance.

Onça-Pintada Certification

In June 2022, ABC Norte obtained the Onça-pintada Certification, and it was renewed for 2023-2024 period. This certification establishes technical criteria for the protection of critical habitats for the jaguar (*Panthera onca*), a key indicator species of ecological integrity. Its attainment requires the adoption of measures such as combating illegal hunting, maintaining ecological corridors, and implementing best practices in forest management to minimize habitat fragmentation. These actions reduce pressure on local wildlife populations, ensuring the persistence of endemic, rare, and threatened species, which are essential attributes of HCV 1.

Combating Illegal Deforestation

In order to mitigate negative impacts on biodiversity and ensure the maintenance of HCV 1 attributes, the project implemented a set of actions aimed at reducing the risk of illegal deforestation, one of the main threats to ecosystems and endangered species in the region.

Environmental Monitoring: Satellite imagery monitoring was used to detect early signs of unauthorized deforestation. Combined with regular terrestrial patrols, both practices enables swift responses to contain environmental degradation. This approach helped reduce habitat loss for rare, endemic, and threatened species, protecting areas of high biodiversity and promoting the ecological integrity essential for maintaining HCV 1.

Engagement with local communities

Through the Socio-environmental Responsibility Program, the project invested in the promotion of sustainable production systems, such as poultry farming and horticulture, which provided viable economic alternatives for local communities. These activities helped reduce pressure on natural resources by decreasing reliance on predatory practices such as the illegal conversion of forests into pastures and the unsustainable exploitation of fauna and flora.

The project also invests in environmental education initiatives to engage future generations in biodiversity conservation. In April and May, educational coloring booklets aimed at promoting understanding of the importance of wildlife conservation, with a special focus on the jaguar, were distributed for community children.

Figure 38. Environmental education activity in the Divino Espírito Santo Community – 26 May 2023.



Controlling Illegal Hunting

The project implements a set of integrated actions, including monitoring, training, and environmental education, aimed at preventing direct and indirect threats to fauna and flora species while strengthening the protection of critical habitats within the project area.

Regular terrestrial patrols are carried out to inspect, detect, and prevent illegal hunting practices, reducing one of the main pressures on local wildlife. Additionally, informative signs have been installed to indicate the prohibition of hunting within the project area, contributing to the protection of threatened mammals and birds. These actions reduce wildlife mortality and help maintain the integrity of ecosystems essential for the survival of HCV 1 species.

Figure 39. Informational sign prohibiting hunting and fishing within the project area.



Training and Forest Fire Prevention

To reduce negative impacts on biodiversity and ensure the conservation of endemic, rare, threatened, or endangered species (HCV 1), the project has implemented training programs focused on environmental safety and sustainable management.

In June 2023, pre-harvest training sessions were conducted for employees, contractors, and ABC Norte associates involved in management activities. The topics covered included sustainable forest management, certifications, planning of activities such as yard and road opening and maintenance, log transportation and scaling, as well as workplace safety measures.

Additionally, in July 2023, a fire brigade training and first aid course was offered to employees directly involved in the project's management activities. This training strengthened the team's ability to prevent and control fires, mitigating direct threats to the habitats of sensitive species and promoting the ecological integrity of the area.

5.1.3 Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

The ABC Norte REDD Project outlines a set of activities aimed at optimizing broad benefits in the climate, community and biodiversity context. The preponderant advantages associated with the third axis are intrinsically correlated with the minimization of deforestation, the preservation of habitats and the conservation of floristic diversity (through SFMP) and fauna diversity (through monitoring of terrestrial fauna).

The adverse impact of deforestation goes beyond the mere quantitative reduction of plant specimens, representing a concrete threat to faunal diversity: the loss, degradation and fragmentation of habitats can lead to the extinction not only of species directly linked to these environments, but also of other related species, underlining the urgent importance of environmental preservation.

Fauna monitoring studies, concomitantly with the SFMP, have identified, since the inaugural phase of the project, the presence of endangered endemic species in the region, emphasizing the crucial need to maintain forest integrity in the area for the short and long-term preservation of these species. The species are listed at the table below.

In this context, the reduction of deforestation and the positive results achieved assume a crucial magnitude. All negative impacts that cease to occur on the ecosystem are considered as net positive impacts on biodiversity. In addition, the implementation of the project's activities has a direct and positive impact on biodiversity, contributing to the maintenance of vegetation cover and species in adequate environmental conditions and with satisfactory levels of conservation.

These positive impacts result mainly from the prevention of deforestation, the effective monitoring of biodiversity, the technical assistance offered, environmental education workshops, and capacity building and training courses. This integrated approach has contributed to the construction of a collective consciousness that recognizes preservation as an essential pillar for the cultural identity of communities.

Thus, a community that is properly empowered and aware of the natural wealth around it plays an essential role as a tangible benefit for biodiversity, promoting sustainable coexistence between human activities and environmental preservation.

Species and habitat	The fauna monitoring, conducted in June 2023 during an intermediate period between the dry and rainy seasons in the region, took place in UPAs 06 and 15, which had been previously managed. The monitoring recorded three species classified under some level of threat, according to the IUCN, indicating that these species find adequate living conditions in the project area. <i>Saguinus niger</i>: an endemic species of the Brazilian Amazon, occurring in the states of Maranhão and Pará. Several threats have been identified for the taxon, including rural settlements, agriculture, livestock farming, deforestation, habitat fragmentation, urbanization, hunting, among others. However, deforestation and habitat loss significantly impact population viability, leading to population decline. A population reduction of
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at least 30% has been inferred over the course of three generations (18 years)¹¹⁵.

***Panthera onca*:** The largest feline in the Americas, the jaguar requires large, preserved areas to survive. Although it occurs in Brazil across a variety of habitats—including the Amazon and Atlantic forests, as well as the Cerrado and Pantanal biomes—the species has virtually disappeared from most parts of the Northeast, Southeast, and South regions. The main threats to the species' population are habitat destruction and poaching, primarily due to the perceived economic losses associated with attacks on livestock¹¹⁶.

Within the scope of the project, where the mammal group has been monitored since 2020, both species had been consistently recorded since then, which currently supports the maintenance of suitable conditions for its continued presence within the project area. In addition, the project has been certified under the Onça Pintada Certification since 2022, which is granted to companies and service providers operating in rural areas within the jaguar's range and recognizes the adoption of practices that contribute to the species' sustainability.

***Psophia viridis*:** The species occurs in southeast and south-central Amazonia, from the Rio Madeira east to around the mouth of the Amazon, and south immediately adjacent Bolivia, in mature dense lowland tropical moist forest in areas distant from human settlement. The species is affected by habitat fragmentation once they occupy large home ranges; they are also hunted for food. It is expected to the species to lose 26–39% of its habitat, within its distribution over three generations (31 years), based on a model of future deforestation in the Amazon Basin. Given its susceptibility to hunting and sensitivity to habitat fragmentation, its population is projected to decline by more than 45% over this period.

The observation of this bird species within the project area indicates good habitat health, given the species' sensitivity to habitat fragmentation, which is a contributing factor to its population decline. 2023 marked the first year of bird species recording, however, it's the second year of data collection for this faunal group.

¹¹⁵ Mendes-Oliveira, A.C.; Ravetta, A.L.; Carvalho, A.S.; Jerusalinsky, L.; Marcos de Souza Fialho, M.S. Avaliação do Risco de Extinção de *Saguinus niger* (É. Geoffroy, 1803) no Brasil. Processo de avaliação do risco de extinção da fauna brasileira. (2015). ICMBio. Available at: <https://www.gov.br/icmbio/pt-br/assuntos/centros-de-pesquisa/primatas-brasileiros/arquivos/fichas_primatas/CALLITRICHIDAE/ficha_saguinus_niger.pdf>. Accessed on May 07, 2025.

¹¹⁶ Available at: <https://www.wwf.org.br/natureza_brasileira/areas_prioritarias/pantanal/nossas_solucoes_no_pantanal/protecao_de_especies_no_pantanal/onca_pintada/>. Accessed on: May 07, 2025.

Regarding flora, considering the species recorded in the post-harvest report for UPA 19, the following threatened species were identified.

Common Name	Species	IUCN Status
Abiu-branco	<i>Pouteria oppositifolia</i> (Ducke)	VU
Cumbaru	<i>Dipteryx alata</i> Vogel	VU
Ipê	<i>Tabebuia impetiginosa</i> (Mart. ex DC.) Standl.	NT
Tauari	<i>Couratari tauari</i> O.Berg	VU

Pouteria oppositifolia is an endemic species to Brazil, naturally occurring in the states of Amapá, Maranhão, Pará, Acre, and Roraima, in both terra firme forests and savanna ecosystems. It is considered a species of high commercial interest. It is one of the priority species for forest restoration of degraded areas in the Amazon¹¹⁷ and, according to the IUCN, it is threatened by urban expansion, resulting in ecosystem conversion, as well as by factors related to degradation.

***Dipteryx alata* Vogel** naturally occurs in soils of medium chemical fertility, whether dry, deep or shallow, calcareous or acidic. According to the IUCN, it is distributed across several Brazilian states, including Pará, as well as in Bolivia and Paraguay. It is utilized for multiple purposes, including firewood for energy, construction, oil extraction, food, and pulp. The species is subject to threats from agricultural expansion, livestock grazing, and logging activities¹¹⁸.

Tabebuia impetiginosa The species (current named of *Handroanthus impetiginosus*) is distributed from Mexico to South America. Its uses range from landscaping—being one of the most widely used native species for urban afforestation in cities of the Southeast and Midwest regions of Brazil—to furniture making¹¹⁹. According to the IUCN, *Handroanthus* species are among the most vulnerable to logging in Amazonian forests due to their naturally low density and slow growth rates. The main threats include large- and small-scale agriculture, ecosystem conversion driven by urban expansion, road construction, logging, and wildfires.

Couratari tauari is a large tree species occurring in the Amazon, particularly in terra firme forests. Records are concentrated in the states of Amazonas and Pará. Most occurrences are found in disturbed areas, often near highways, mining zones, and regions affected by urban expansion. The main threat to the species is habitat decline caused by ecosystem conversion¹²⁰.

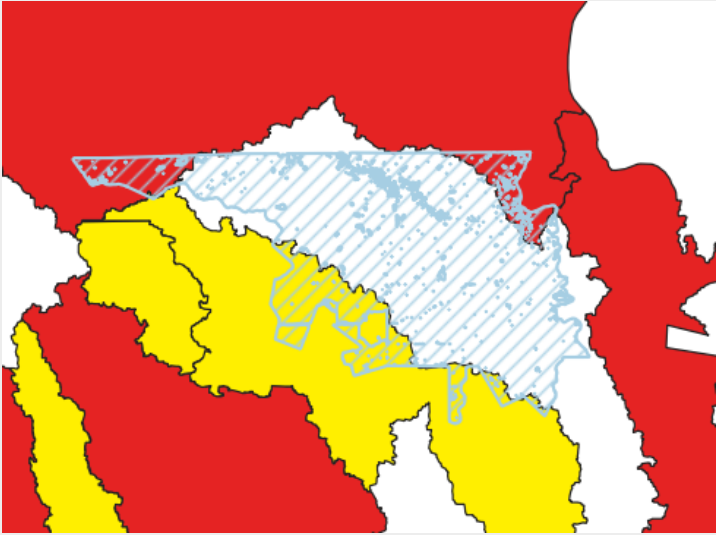
Within the scope of the ABC Norte REDD Project, forest management activities are conducted under the principles and

117 <https://www.infoteca.cnptia.embrapa.br/infoteca/bitstream/doc/1129524/1/COMTEC321.pdf>

118 <https://www.alice.cnptia.embrapa.br/alice/bitstream/doc/1139709/1/Especies-Arboreas-Brasileiras-vol-1-Baru.pdf>

119 <https://www.alice.cnptia.embrapa.br/alice/bitstream/doc/1073569/1/regio-centro-oeste-26-07-20171-985-992.pdf>

120 https://proflora.jbrj.gov.br/html/Couratari%20tauari_2021.html

	practices of sustainable management, certified by Cerflor. This certification ensures that timber harvesting is carried out with strict adherence to environmental criteria, guaranteeing the maintenance of forest structure and biodiversity. During the most recent harvesting cycle, specific measures were adopted to preserve key species of ecological and commercial importance. Specimens of native species, including <i>Pouteria oppositifolia</i>, <i>Dipteryx alata</i>, <i>Handroanthus impetiginosus</i>, and <i>Couratari tauari</i>, were maintained within the managed area, ensuring their permanence in the forest stand. This practice supports both the natural regeneration processes and the preservation of genetic variability, contributing to long-term forest resilience.
Areas needed for habitat connectivity	The ABC Norte Project REDD contributes to the long-term conservation of the region by establishing a barrier against the advancement of deforestation, making it a significant contribution to biodiversity conservation in the Northeastern Amazon and to climate regulation in Brazil and South America. Additionally, the Ministry of the Environment classified the region surrounding the ABC Norte REDD Project as priority areas for conservation. The surrounding areas of the project are predominantly categorized as having “high” (yellow areas) and “extremely high” priority (red areas), as illustrated in the figure below. This classification highlights the significance of the ABC Norte REDD Project in relation to Brazilian biodiversity.  Through the implementation of biodiversity monitoring actions that expand knowledge of species occurring in the area, the adoption of sustainable and low-impact certified forest management practices, the monthly monitoring of deforestation, fire hotspots, and human disturbances, as well as the promotion of environmental awareness and capacity building with local communities to prevent degradation—such as illegal logging—the



project strengthens conservation efforts. Moreover, by developing a carbon initiative with co-benefits, the project contributes to the promotion of ecological corridors that are essential for the conservation of both fauna and flora species.

5.1.4 High Conservation Values Protected (CCB, B2.4)

The project area includes threatened species of fauna and flora, qualifying it as HCV 1 - Species Diversity: concentrations of biological diversity including endemic species and rare, threatened or endangered species, that are significant at global, regional or national levels. As the main activity in project area, low-impact logging through SFMP is carefully planned to ensure that there are no adverse impacts on biodiversity-related HCVs (see section “5.1.2 - High Conservation Values” of CCB’s PD¹²¹). On the contrary, the strategy of sustainable harvesting of this natural resource contributes positively to the conservation of practically intact forest cover. This approach is particularly beneficial for the preservation of numerous species of flora and fauna, including those that are threatened with extinction, thus reinforcing the biological richness of the region.

The special focus on these values evidences the project's commitment to maintaining the ecological integrity of the area, considering not only the quantity but also the quality of the wildlife and ecosystems present.

In addition, the project carries out an annual inventory of fauna, a fundamental practice for the systematic monitoring of the species existing in the project area. This proactive approach allows for the development of effective monitoring plans to ensure the livelihoods of local species. At the same time, it is a strategic measure to minimize possible impacts on animal welfare, demonstrating continuous and responsible care for the local fauna. Additionally, the project was awarded Jaguar certification, indicating the good conservation practices aimed at protecting the species. In this way, the initiative not only safeguards the integrity of the ecosystem, but also shows a long-lasting commitment to the conservation of the species that share this environment.

5.1.5 Species Used (VCS, 3.19; CCB, B2.5, 2.6)

¹²¹ Available at: <<https://registry.verra.org/app/projectDetail/VCS/2558>>. Accessed on May 06, 2025.

Regarding the flora, the Sustainable Forest Management Plan of “Fazenda Pacajá” (implemented since 2019) and the species survey conducted by the Federal Government's Tutorial Education Program in Forest Engineering (PET-Florestal), in partnership with ABC Norte (in effect since 2018), regarding the permanent plots of “Fazenda Pacajá”, do not indicate the presence or introduction of invasive species in the area of the farm.

As for the fauna, the monitoring reports conducted by Upbio since 2020 do not mention the presence of invasive species on “Fazenda Pacajá”, including domestic animals, wild boars and other exotic species.

Concerning the communities served by ABC Norte's Social Responsibility Program, the monthly visits conducted by Upbio, in conjunction with the program's ongoing interaction with the communities, have not reported, in the monthly reports, the presence or introduction of invasive species. The program emphasizes the encouragement of sustainable practices, particularly in generating alternative income sources, prioritizing the use of native species without promoting the introduction of species that could cause ecological imbalances.

Furthermore, considering that the project's main objective is forest conservation, the planned activities do not involve the use or introduction of species, whether fauna or flora. Thus, it is not expected that the population of any invasive species will increase as a result of the project activities.

Finally, the continuation of Sustainable Forest Management practices, along with the fauna monitoring campaigns and the Social Responsibility Program in communities adjacent to “Fazenda Pacajá”, is essential for monitoring the presence of invasive species in areas impacted by the ABC Norte REDD Project.

5.1.6 Invasive Species (VCS, 3.19; CCB, B2.5)

Not applicable. As mentioned in section “Invasive Species”, considering that the main objective of the ABC Norte REDD Project is forest conservation, the planned activities do not involve the use or introduction of species, including non-native ones, whether they are fauna or flora.

5.1.7 GMO Exclusion (CCB, B2.7)

No GMO was used in the project activities.

5.1.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Not applied. The ABC Norte REDD Project does not encourage the use of fertilizers, pesticides, biological control agents or other inputs.

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

The project's activities are not anticipated to have any adverse impacts on biodiversity beyond - or within - the project zone. Moreover, if any negative impacts on biodiversity are detected, both within and beyond the project zone, prompt measures will be proposed and implemented to prevent and mitigate them. Additionally, as a preventative measure, the project undertakes actions to equip and train its team to know how to act in adverse situations, as well as implements mitigating measures in the execution of its activities, such as sustainable management. It is highlighted that no negative offsite impacts were observed during the monitoring period. Nevertheless, as a preventative approach to potential external risks associated with project activities, the project implements mitigation and monitoring measures, as described below:

Negative Offsite Impact	Mitigation Measure(s)
Fire and burns	• <u>Firefighting training</u>, to ensure the team's preparedness in the event of an incident. • <u>Monthly monitoring of heat sources</u> to assess environmental degradation activities on the property and its surroundings.
Deforestation and forest degradation	• Monitoring deforestation outside the project zone, leakage belt and reference region; • Environmental monitoring of both the project area and its surroundings, encompassing project zone, covering an approximately 2 km radius to track vegetation cover, deforestation, fire outbreaks, and forest management activities; • Training sessions were conducted with communities participating in the social responsibility program on poultry farming (technical visit/poultry feed donation), fish farming (technical visit/fish feed donation), horticulture, seedling nursery (Agroforestry System), craft with natural fiber, lectures on Agroforestry Systems.

Illegal hunting or fishing activities	The project works to prevent illegal hunting in its area of influence through environmental education, community engagement, and monitoring initiatives. Illegal hunting is prohibited under Brazilian legislation Environmental Crimes Law (Law nº 9.605/1998), and the ABC Norte REDD Project adopts preventive measures to discourage and prevent its occurrence within the private property where the Project Area is located. Subsistence hunting practiced by local communities is allowed (therefore no displacement related to project activities occurs) happening as part of traditional livelihood practices and local food security. Through the Social Responsibility Program (PRS) and other socio-environmental initiatives, the project seeks to reduce pressure on natural resources by promoting alternative income-generating activities, environmental awareness, and community engagement. With these activities, the project engages with local communities and supports food security, which can help reduce pressure on biodiversity. Considering only November and December almost 200kg of poultry feed were donated to the communities. Evidence of these activities for the entire monitoring period can be found in the monthly PRS reports shared with the VVB. In this context, the project activities do not lead to the displacement of hunting activities outside the Project Area, as subsistence hunting is not prohibited, and activities aimed at enhancing food security and income generation are being implemented. On the contrary, its activities are designed to reduce pressures on biodiversity within its area of influence. Regarding illegal hunting, it is prohibited under national law. Considering this, the monitoring and enforcement of hunting activities outside the Project Area are the responsibility of the competent environmental and law enforcement authorities, and the project's role is limited to implementing preventive measures within its area of influence and supporting biodiversity conservation through environmental monitoring and community engagement activities.
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Sustainable forest management - Frighten animals	- Logging operations are conducted sequentially by Annual Production Unit (UPA), without concurrent harvesting activities. - Identification of potential impacts and mitigation measures in the Sustainable Forest Management Plan (SFMP), as well as specific mitigation measures outlined in the Annual Operational Plan (AOP), including: - Installation of signs in areas with high wildlife concentration to indicate the presence of animals; - Prohibition of capturing or allowing the capture of wildlife; - Shutting down equipment during long operation interruptions; - Performing only the necessary maneuvers required for the operation. - Fauna Monitoring
Sustainable forest management - Vehicle transport	- Use of signaling measures for vehicle movement, indicated in the Sustainable Forest Management Plan, as: - Implementation of a temporary signaling system in areas under exploration to alert passersby to risk zones, indicating logging and skidding activities. - The speed limit for transportation within the UMF must not exceed 40 km/h. - Loading and transportation areas were properly marked, and access was only allowed with the use of appropriate PPE.

5.2.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

The project focuses on biodiversity conservation, ensuring that all activities implemented are planned and carried out in a way that does not generate negative impacts on biodiversity, both inside and outside the project zone. The activities carried out promote the maintenance of ecosystems, the protection of fauna and flora, and the reduction of environmental threats. As a result of the activities implemented, the project generates a range of direct benefits for biodiversity within the project zone, as described below:

Habitat conservation

- **Satellite image report:** Monthly satellite monitoring reports are issued to identify field openings and other changes in forest cover, enabling quick responses to prevent illegal deforestation and maintain habitat integrity.

Protection of endangered species and fauna monitoring

Continuous fauna monitoring: Conducted by Upbio, this monitoring provides valuable data on local biodiversity, supporting conservation efforts and enabling the adoption of preventive measures to reduce risks to species and ecosystems over time.

Control of anthropogenic pressures and reduction of illegal activities

- **Patrolling:** Frequent patrols help identify and mitigate potential threats, such as invasions, illegal hunting, and resource exploitation, ensuring better protection for biodiversity.

Reduction of impacts in forest management

- **Application of good practices in sustainable forest management:** The implementation of techniques that minimize environmental impacts during forest extraction and use strengthens land governance and reduces negative effects on soil, vegetation, and local fauna;
- **Employee training in sustainable practices:** Workers involved in field activities undergo regular training in equipment operation, safety, and ergonomics (see sections “2.3.15 - Worker Training” and “2.3.17 - Occupational Safety Assessment”), ensuring that operations are carried out responsibly with minimal environmental impact.

Promotion of landscape connectivity and community engagement

- **Community involvement in biodiversity preservation:** Active community participation in conservation actions strengthens participatory natural resource management and helps protect key areas for ecological connectivity.

Sustainable use of natural resources and sustainable economic alternatives

- **Sustainable use of natural resources:** Activities promoted by the Upbio's Socio-environmental Responsibility Program, such as poultry farming, horticulture, and fish farming, provide sustainable economic alternatives for local communities, reducing pressure on forest resources and contributing to biodiversity conservation.

As the project did not promote any activities that caused negative impacts inside and outside the project zone and brought a wide range of benefits to biodiversity within this area, it can be said that its net effect on biodiversity is positive.

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

Indicator 6: Number of critically endangered, endangered or vulnerable fauna species globally (IUCN) benefiting from habitat conservation as a result of project activities

During the monitoring period, one fauna inventory campaign was conducted. The planned and indicated frequency for fauna monitoring is twice a year. However, due to logistical challenges and difficulties in finding qualified professionals, fauna monitoring was limited to one campaign per year during the monitoring period. This adjustment for the monitoring period in question is described in Section 2.2.4 Minor Changes to the Project Description. ABC Norte is working with Upbio to address these challenges and align efforts to conduct fauna monitoring twice a year as planned.

The fauna inventory campaigns were carried out at “Fazenda Pacajá” in partnership with Upbio, a specialized consultancy company on developing environmental studies. The execution of the activities was based on the Fauna Monitoring Plan, in addition to the recommendations and conditions contained in the Authorization for Capture, Collection, Management, and Transport of Wild Fauna (AU) under no. (5141/2023), issued by the State Secretariat for the Environment and Sustainability of Pará (SEMAS/PA). The sampling standards and analysis criteria followed legal requirements as recommended by Normative Instruction 52/2010 SEMAS/PA, in addition to Resolution 301/2012 of the Federal Council of Biology.

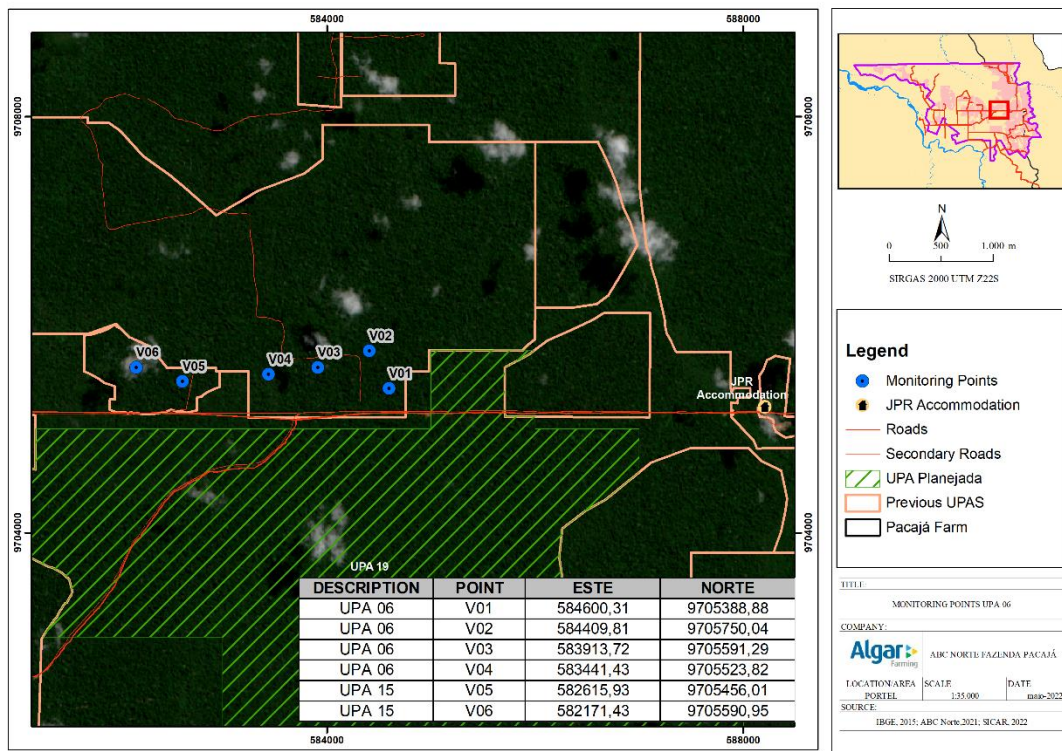
The campaign carried out at “Fazenda Pacajá” took place between 01-June-2023 and 08-June-2023, with this inventory campaign being carried out in the intermediate season (between dry and rainy) in the region.

For the monitoring process, two points were established, designated as V02, located in UPA 06, and V05, located in UPA 15, as shown in the table below. These terrestrial biota monitoring points were defined within the area of influence of Fazenda Pacajá, as illustrated in the figure below.

Table 56. Coordinates of Sample Units (SUs)

	Point	Coordinate X	Coordinate Y
Terrestrial Fauna	US01 - V02	584409.81	9705750.04
	US 02 - V05	582615.93	9705456.01

Figure 40. Geographical location of the sample units (SUs)



Source: Fauna Inventory Report (June-2023)

The inventory was divided into groups of animal species: terrestrial mammals, chiropterans, insect vectors, herpetofauna and avifauna.

Terrestrial mammals

Small mammals are key elements in natural communities, acting at different trophic levels and in the predation process and seed dispersal. In this context, inventories focusing on assemblages of these organisms are the basis for understanding ecological processes such as population dynamics and community structures and for developing management plans in natural environments¹²².

To sample small mammals, a total of 20 live traps were used at each sampling site, 10 Shermans and 10 Tomahawks of varying sizes, as shown in image below. Arranged on the ground or in trees, lianas, etc., up to a maximum height of two meters. The traps were installed at a minimum distance of 20 meters, remaining open for 48 hours at each point, totaling 960 hours/sampling point.

¹²² MOURA, M.C et. al. How does sampling protocol affect the richness and abundance of small mammals recorded in tropical forest? An example from the Atlantic Forest, Brazil. Neotrop. Biol. Conserv. 3(2):51-58. 2008.

Concomitant to sampling with live traps, the technical team used lines of pitfall traps installed for herpetofauna. Each line consisted of five buckets, 10 meters equidistant, totaling 15 units of plastic buckets with a capacity of 60 liters.

Figure 41. Installation of Sherman and Tomahawk traps



Source: Fauna Inventory Report (June-2023)

For medium and large mammals, two visual censuses were carried out in each Sampling Unit, in the morning and night shifts, covered by a 1km transect, to visually record species (Direct Records), in addition to feces, footprints, hair, or tracks (Indirect Records). In addition to the census, four traps of the “Camera Trap” type were installed by US, which were activated 24 hours a day for two days in each unit, strategically inserted in possible locomotion trails, close to dens, in resting places, reproduction and feeding of mammals.

Figure 42. Installation of lives traps



Source: Fauna Inventory Report (June-2023)

During the terrestrial mammal fauna monitoring campaign, 24 specimens distributed across 12 species were registered, as shown in the table below.

Table 57. List of Species recorded from terrestrial mammal fauna during fauna monitoring.

Family	Species	Common name	V02	V05	IUCN Red List
Atelidae	<i>Alouata macconelli</i>	Guariba	0	1	LC
Cebidae	<i>Saguinus niger</i>	Sagui-Preto	0	6	VU
Cervidae	<i>Mazama nemorivaga</i>	Veado-Roxo	0	1	LC
Cricetidae	<i>Oecomys sp. *</i>	Rato	2	0	LC
Cuniculidae	<i>Cuniculus paca</i>	Paca	0	2	LC
Dasypodidae	<i>Dasypus novemcinctus</i>	Tatu-galinha	1	0	LC
Dasyproctidae	<i>Dasyprocta leporina</i>	Cutia	9	1	LC
Didelphidae	<i>Philander opossum *</i>	Cuíca-quatro-olhos	2	0	LC
Felidae	<i>Leopardus pardalis *</i>	Jaguaririca	0	1	LC
	<i>Panthera onca</i>	Onça	0	1	NT
Procyonidae	<i>Nasua nasua</i>	Quati	12	0	LC

Source: Fauna Inventory Report (June-2023)

*Species recorded only in the year 2023, representing new records compared to previous years (2020 to 2022).

It is worth noting that *Panthera onca* (jaguar), a species with a Neotropical distribution, has been internationally assessed as Near Threatened (NT), meaning it is not currently at high risk of extinction but could be included in a threatened category in the near future if threats to its populations are not mitigated. However, within the national context, this species is already classified as Vulnerable (VU), indicating it faces a high risk of extinction in the wild.

Additionally, among the records, the presence of Agouti (*Dasyprocta leporina*) stands out, which are species affected by habitat fragmentation and human activities, suffering considerable pressure due to predatory hunting for consumption. The species can be found in the northern Amazon region of the international Amazon basin. Its habitat encompasses various types of vegetation, but it is primarily found in open forest areas, away from water and dense vegetation. It is more common in fragmented patches than in continuous forests and is also present in degraded secondary forests¹²³.

¹²³ Available at: <<https://www.fiocruz.br/ioc/media/livro%20roedores.pdf>>. Accessed on: 10 Jul. 2024.

Another species that deserves special attention is the black marmoset (*Saguinus niger*), classified as vulnerable according to the Red List of Endangered Species of the International Union for the Conservation of Species (Red List - IUCN) and an endemic specie to the Amazon¹²⁴.

Records of individuals from the felid family were carried out through tracks (footprints), including one record of *Panthera onca* and one of *Leopardus pardalis* (classified as of little concern), both on the access road very close to the entrance to point V05, indicating that this entire area is used by these felines.

Figure 43. *Saguinus niger* (left) and *Oecomys* sp. (right)



Source: Fauna Inventory Report (June-2023)

Figure 44. Footprint of *Panthera onca* (left) and *Leopardus tigrinus* (right).



Source: Fauna Inventory Report (June-2023)

Chiropterans

¹²⁴ Available at: <<https://www.iucnredlist.org/species/160901052/192553958>>. Accessed on: 31 Oct. 2021.

Bats belong to the Order Chiroptera, a word derived from the Greek “cheir” for hand and “pteron” for wing. They are cosmopolitan animals, not only occurring in polar regions. It is the second order with the greatest species richness, with 1300 currently known, surpassed only by Rodentia. In the Amazon region, which encompasses the greatest diversity of bats, around 200 species are known, distributed in nine families, namely: Phyllostomidae, Thyropteridae, Furipteridae, Noctilionidae, Mormoopidae, Emballonuridae, Vespertilionidae, Molossidae and Natalidae^{125,126,127}.

The bats were captured in natural populations with the aid of seven ground-level mist nets, measuring 12 x 3 m with 25 mm mesh, set up along trails and possible bat flight routes. Captures started at 18:00h and ended at 00:00h, and inspections were carried out at intervals of 20 to 30 minutes, each point was sampled for two consecutive nights. The captured specimens were removed from the nets manually using gloves and placed in cloth bags. In the intervals between inspections, specimens were analyzed and identified according to the identification key for Amazonian¹²⁷. During the sampling period, 3 species of bats were recorded during fauna monitoring at “Fazenda Pacajá”, as shown in the following table:

Table 58. List of species recorded for Chiroptero fauna

Species	V02	V05	IUCN Red List
<i>Artibeus obscurus</i>	1	1	LC
<i>Carollia perspicillata</i>	2	1	LC
<i>Phyllostomus elongatus</i> *	1	0	LC

Source: Fauna Inventory Report (June-2023)

*Species recorded only in the year 2023, representing new records compared to the previous year 2022.

¹²⁵ REIS N.L. et al. Mamíferos do Brasil. Londrina: SEMA p.153-23. 2006.

¹²⁶ REIS N.L. et al. Morcegos do Brasil. Londrina. 1A edição, 253 p., 2007

¹²⁷ LÓPEZ-BAUCELLS, A. et al. Field guide to Amazonian bats. National Institute of Amazonian Research. Manaus, Amazonas. 2016.

Figure 45. *Carolia perspicillata* in the mist net and *Artibeus obscurus*



Source: Fauna Inventory Report (June-2023)

Insect vectors

Mosquitoes from the Culicidae family are dipterans popularly known as mosquitoes, *muriçocas* or *carapanãs*. The Culicidae family currently contains more than 3,300 species worldwide, with 994 species and subspecies known from Brazil¹²⁸, 218 species are recorded in the Brazilian Amazon and 152 in Pará¹²⁹.

Mosquitoes were collected through two types of capture, they are: (i) The CDC (Centers for Disease Control) trap consists of a transparent film cylinder approximately 20 cm long and 10 cm in diameter. At the top, there is a small lamp and, just below, a fan that produces an air current with a gravitational direction and works with a current of 6 or 12 v. An aluminum tray covers the trap, protecting it from the rain. The Culicidae collected by this method are trapped and remain alive in the receiving compartment. (ii) Shanon Trap. During the sampling period, 34 specimens of insect vectors distributed in 4 genera and 6 species were obtained during fauna monitoring at “Fazenda Pacajá”, as shown in the table below:

Table 59. List of species recorded for Entomofauna

Species	V02	V05
<i>Anopheles triannulatus</i> *	0	2
<i>Coquillettidia venezuelensis</i> *	3	0

¹²⁸ GAFFIGAN, T. V. et al. Systematic catalog of Culicidae. Washington, DC: Walter Reed Biosystematics Unit, 2015. Available at: <www.mosquitocatalog.org>.

¹²⁹ CERQUEIRA, N. L. Distribuição geográfica dos mosquitos da Amazônia (Diptera, Culicidae, Culicinae). Revista Brasileira de Entomologia, São Paulo, v. 10, p. 111- 168, 1961.

Species	V02	V05
<i>Culex quiquefasciatus</i> *	10	0
<i>Culex sp.1</i>	3	9
<i>Culex sp.2</i>	4	2
<i>Psorophora ferox</i> *	1	0

Source: Fauna Inventory Report (June-2023)

Species recorded only in the year 2023, representing new records compared to the previous year 2022.

Figure 46. Low CDC trap (~1.5m) and species collection in Shannon trap



Source: Fauna Inventory Report (June-2023)

Herpetofauna

In the Brazilian Amazon, there are around 505 species distributed as follows: 232 species of amphibians, 221 of which are anurans, 9 of gymnophinas, and 2 of salamanders; 273 species of reptiles, 16 of which are chelonians, 4 of crocodiles, 94 of lizards, 10 of amphisbaenians and 149 of snakes¹³⁰.

The reptiles represent a relevant tool for understanding the state of conservation of natural environments. As, in general, they occupy higher positions in food chains (sometimes as top predators of the trophic chain), they function as excellent indicators of the degree of conservation of ecosystems and, consequently, the levels of environmental change¹³¹. Furthermore, it is known

¹³⁰ AVILA-PIRES. Et al. Herpetofauna da Amazônia. In: Nascimento, L. B. & Oliveira, M. E. (eds.). Herpetofauna no Brasil II, Sociedade Brasileira de Herpetologia, Belo Horizonte, pp. 13-43. 2007.

¹³¹ MOURA-LEITE, J. C.; et al. 1993. Método para a caracterização da herpetofauna em estudos ambientais. P. 1-5. In: Surehna/GTZ. (Org.). MAIA - Manual de Avaliação de Impactos Ambientais. 2 ed. Curitiba: Superintendência de Recursos Hídricos e Meio Ambiente do Paraná.

that the number of reptile species has been declining on a global scale, mainly due to habitat loss and degradation, introduction of invasive species, environmental pollution, and global climate change¹³².

Amphibians are considered one of the groups of vertebrates most sensitive to microclimatic changes, mainly due to their physiological restrictions, making them more demanding when it comes to choosing their habitat^{133,134}. For sampling herpetofauna, two sampling methods were considered: active search limited by time (day and night transects) and pitfall traps. Three lines of pitfall traps were installed, each containing five buckets equidistant 10 meters apart. During the fauna monitoring, were recorded 248 specimens distributed across 36 species, 31 genera, and 2 orders of local herpetofauna at “Fazenda Pacajá”, as shown in the table below:

Table 60. List of species recorded for Herpetofauna

Family	Species	V02	V05	IUCN Red List
Aromobatidae	<i>Allobates femoralis</i>	0	1	LC
	<i>Allobates marchesianus</i> *	5	0	LC
Bufonidae	<i>Rhinella margaritifera</i>	5	1	LC
	<i>Rhinella marina</i> (Linnaeus, 1758)	4	1	LC
Colubridae	<i>Leptophis ahaetulla</i> (Linnaeus, 1758)*	1	0	LC
	<i>Chironius fuscus</i> (Linnaeus, 1758)*	0	1	LC
Craugastoridae	<i>Pristimantis fenestratus</i> (Steindachner, 1864)	3	0	LC
Dactyloidae	<i>Anolis fuscoauratus</i> (D'Orbigny, 1837)	2	4	LC
Dendrobatidae	<i>Ranitomeya amazonica</i> (Schulte, 1999)*	1	0	LC
Dipsadidae	<i>Helicops angulatus</i> (Linnaeus, 1758)	2	0	LC
	<i>Hydrops triangularis</i> (Wagler, 1824)*	1	0	LC
	<i>Leptodeira annulata</i> (Linnaeus, 1758)	1	0	LC
Elapidae	<i>Micrurus surinamensis</i> (Cuvier, 1817)*	1	0	LC
Gymnophthalmidae	<i>Arthrosaura reticulata</i> (O'Shaughnessy, 1881)*	1	0	LC
Hylidae	<i>Boana cinerascens</i> (Spix, 1824)	8	8	LC
	<i>Boana fasciata</i> (Günther, 1858)*	4	4	LC
	<i>Boana geographica</i> (Spix, 1824)	14	14	LC
	<i>Osteocephalus taurinus</i> (Steindachner, 1862)	1	4	LC
	<i>Phyllomedusa vaillantii</i> (Boulenger, 1882)	3	0	LC

¹³² GIBBONS, J. W. et al. Bioscience. American Institute of Biological Sciences. The Global Decline of Reptiles, Deja Vu Amphibians, Vol. 50 nº 8. August 2000. Available at: <https://www.biologicaldiversity.org/campaigns/southern_and_midwestern_freshwater_turtles/pdfs/Gibbons-et-al-2000.pdf>.

Accessed on: 13 Dec. 2023.

¹³³ BLAUSTEIN, A. R. et al. Amphibian declines: Judging stability, persistence, and susceptibility of populations to local and global extinctions. Conservation Biology, 8: 60-71. 1994.

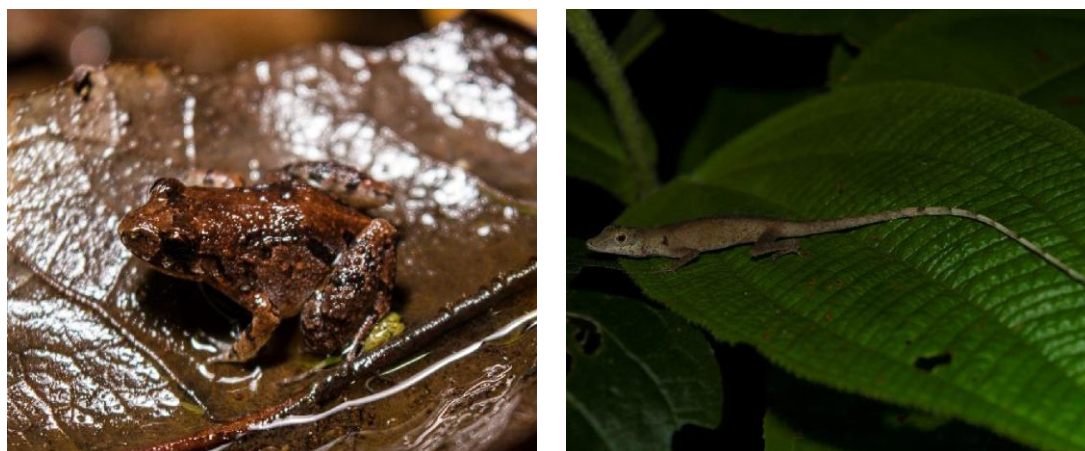
¹³⁴ HOOGLMOED, M. S. et al. Mapeamento e diagnóstico da biodiversidade do Parque Nacional da Amazônia e das Florestas Nacionais de Itaituba I e II: subsídios para a elaboração dos Planos de Manejo - Herpetofauna. Relatório Técnico, 2007, 43p.

Family	Species	V02	V05	IUCN Red List
	<i>Scinax nebulosus</i> (Spix, 1824)	11	6	LC
	<i>Scinax ruber</i> (Laurenti, 1768)	10	7	LC
	<i>Trachycephalus typhonius</i> (Linnaeus, 1758)	2	1	LC
Leptodactylidae	<i>Adenomera hylaedactyla</i> (Cope, 1868)	2	0	LC
	<i>Leptodactylus paraensis</i> (Heyer, 2005)*	0	1	LC
	<i>Leptodactylus pentadactylus</i> (Laurenti, 1768)	2	3	LC
	<i>Leptodactylus rhodomystax</i> (Boulenger, 1884)*	0	2	LC
	<i>Physalaemus ephippifer</i> (Steindachner, 1864)	1	6	LC
Phyllodactylidae	<i>Thecadactylus rapicauda</i> (Houttuyn, 1782)*	3	0	LC
Scincidae	<i>Copeoglossum nigropunctatum</i> (Spix, 1825)	2	3	LC
Sphaerodactylidae	<i>Chatogekko amazonicus</i> (Andersson, 1918)	25	20	LC
	<i>Gonatodes humeralis</i> (Guichenot, 1855)	3	4	LC
Teiidae	<i>Ameiva ameiva</i> (Linnaeus, 1758)	1	4	LC
	<i>Cnemidophorus cryptus</i> (Cole & Dessauer, 1993)	7	10	LC
	<i>Kentropyx calcarata</i> (Spix, 1825)	7	8	LC
	<i>Tupinambis teguixin</i> (Linnaeus, 1758)	1	0	LC
Viperidae	<i>Bothrops atrox</i> (Linnaeus, 1758)	1	0	LC

Source: Fauna Inventory Report (June-2023)

*Species recorded only in the year 2023, representing new records compared to previous years (2021 and 2022).

Figure 47. *Adenomera hylaedactyla* (left) and *Anolis fuscoauratus* (right)



Source: Fauna Inventory Report (June-2023)

Figure 48. *Arthosaura reticulata* (left) and *Boana cinerascens* (right)



Source: Fauna Inventory Report (June-2023)

Figure 49. *Bothrops atrox* (left) and *Leptodeira annulate* (right)



Source: Fauna Inventory Report (June-2023)

Figure 50. *Micrurus surinamensis* (left) and *Chironius fuscus* (right)



Source: Fauna Inventory Report (June-2023)

Figure 51. *Boana geographic* (left) and *Hydrops triangularis* (right)



Source: Fauna Inventory Report (June-2023)

Figure 52. *Kentropyx calcarata* (left) and *Scinax ruber* (right)



Source: Fauna Inventory Report (June-2023)

Avifauna

Birds make the most diverse group of vertebrates in the world and are excellent indicators of the environmental quality of the habitat due to their intrinsic relationship with vegetation and because they are sensitive to its modification. Some species have vast adaptive power to changes in their habitat, which makes them animals that become familiar with anthropic environments. On the other hand, a hefty part of the species that compose this group needs forest environments to live, feed and/or reproduce¹³⁵.

Specifically in the Amazon, which represents around 40% of all remaining tropical forests in the world, 1,294 species of birds are recorded¹³⁶. Since the first scientific expeditions to this region, it has become clear that species of birds and other groups of organisms are not homogeneously distributed in the Neotropical region. The Belém endemism center (CE Belém) records a great richness of species, around 441 species have already been recorded. Including the municipality of Ananindeua, the list of birds that occur in this region is 482 species, many of which are included in the official lists of threatened fauna¹³⁶.

The avifauna monitoring was carried out using two sampling methods: point census with visual and auditory recording and bird capture using mist nets. The fixed point census consisted of the researcher moving along the transects, stopping every 50 meters, where a recording point was established.

In addition, the team of avifauna researchers installed six mist nets measuring 12 x 3 meters. The nets were inspected every 20 minutes to avoid the death or stress of the captured animals. After being captured, the birds were carefully removed from the mist net, and biometric measurements were taken (length of the beak, tarsus, wing, tail, total length, and weight), in addition to examination to identify the presence of seedlings (remiges, rectrices, and metrics) and the incubation plate, to provide information on reproductive cycles.

During the sampling days, the following records were possible during the fauna monitoring at “Fazenda Pacajá”:

¹³⁵ SICK, H. (1997) Ornitologia Brasileira. Nova Fronteira, Rio de Janeiro.

¹³⁶ MITTERMEIER, R. A. et al. Tropical Rainforests - Amazonia. In: Wilderness - Earth's Last Wild Places. Russel A. Mittermeier, Cristina G. Mittermeier, Patricio G. Gil and John Pilgrim, (Eds.). Cemex, Conservation International and Agrupación Sierra Madre. Cidade do México. Pp.: 56-107. 2002.

Table 61. List of species recorded for Avifauna.

Species	Common name	V02	V05	IUCN Red List
<i>Accipiter bicolor</i> *	Gavião-pombachinha-grande	1	1	LC
<i>Ara ararauna</i> *	Arara-canindé	4	4	LC
<i>Ara macao</i> *	Araracanga	6	6	LC
<i>Aramides cajaneus</i> *	Saracura	1	1	LC
<i>Arremon taciturnus</i> *	Tico-tico-de-bico-preto	1	3	LC
<i>Caracara plancus</i> *	Caracará	2	2	LC
<i>Chloroceryle amazona</i> *	Marim-pescador-verde	2	2	LC
<i>Elanoides forficatus</i> *	Gavião tesoura	2	2	LC
<i>Glyphorhynchus spirurus</i>	Arapaçu-bico-de-cunha	3	0	LC
<i>Herpetotheres cachinnans</i> *	Acauã	1	1	LC
<i>Heterospizias meridionalis</i> *	Gavião-caboclo	2	2	LC
<i>Ibycter americanus</i> *	Cancão	1	1	LC
<i>Leucopternis albicollis</i> *	Gavião-branco	1	1	LC
<i>Mionectes macconnelli</i> *	Abre-asa-da-mata	1	0	LC
<i>Myrmotherula brachyura</i> *	Choquinha-miúda	2	2	LC
<i>Nyctibius griseus</i> *	Urutau/ mãe-da-lua	1	1	LC
<i>Nyctidromus albicollis</i> *	Bacurau	6	6	LC
<i>Pauxi tuberosa</i> *	Mutum-cavalo	1	1	-
<i>Phaethornis ruber</i> *	Besourinho-da-mata	1	1	LC
<i>Psophia viridis</i> *	Jacamim	1	1	VU
<i>Pyriglena leuconota</i> *	Papa-touca-de-belém	4	4	LC
<i>Saltator Maximus</i>	Trinca-ferro	1	0	LC
<i>Thamnomanes caesius</i>	Ipecuá	2	0	LC
<i>Trogon viridis</i> *	Surucuá	3	3	LC
<i>Willisornis vidua</i> *	Rendadinho	0	1	LC

Source: Fauna Inventory Report (June-2023)

*Species recorded only in the year 2023, representing new records compared to previous year, 2022, when avifauna was first monitored.

Figure 53. *Glyphorynchus spirurus* (left) and *Mionectes macconnelli* (right)



Source: Fauna Inventory Report (June-2023)

Figure 54. *Saltator maximus* (left) and *Arremon taciturnus* (right)



Source: Fauna Inventory Report (June-2023)

Figure 55. *Thamnomanes caesius* (female - left) and *Thamnomanes caesius* (male - right)



Source: Fauna Inventory Report (June-2023)

Several species that were already expected for the region were recorded, in some taxa even across distinct sampling units. Positive bioindicator species associated with well-preserved habitats were also identified, in addition to species known for their high adaptability to anthropogenic environments.

Multiple taxa that had not been previously recorded in the area during the last monitoring campaign were observed, particularly within the herpetofauna, chiropterofauna, and avifauna groups. Other species, such as *Panthera onca* (jaguar), as well as various other mammals including opossums, deer, lowland pacas, coatis, and agoutis, were recurrently recorded throughout the monitoring efforts, indicating good habitat quality and the overall ecological integrity of the area.

This survey is crucial for implementing conservation measures and sustainable management at “Fazenda Pacajá”, enabling continuous assessment of species status and facilitating the adoption of actions to mitigate risks to local biodiversity.

Finally, since June of 2022 the “Fazenda Pacajá” is certified by the Onça Pintada Institute, which aims to certify that the fauna in the farm region is intact. In other words, despite the Sustainable Forest Management implemented in the area, the impact of this activity is not harmful to the local fauna. The certificate is valid for one year and can be renewed each time it expires. To carry out this certification, third-party audit professionals carry out an on-site audit to collect field analyses and information, as well as farm documents.

Table 62. Indicator 6: Number of critically endangered, endangered or vulnerable fauna species globally (IUCN) benefiting from habitat conservation as a result of project activities

Indicator 6	Number of critically endangered, endangered or vulnerable fauna species globally (IUCN) benefiting from habitat conservation as a result of project activities									
Description	Number of threatened species identified and monitored within the ABC Norte REDD Project area, focusing on continuous monitoring of local fauna.									
Type of measurement and procedures adopted	Quantitative. Procedures: conducting surveys and continuous monitoring of local fauna, with an emphasis on species listed in the IUCN Red List. Information is obtained through direct observations and camera traps.									
Monitoring Frequency	Annual, starting from the first and second fauna monitoring campaigns.									
Forms of registration	Fauna monitoring reports prepared by Upbio Soluções Ambientais.									
Monitored value 01-April-2023 – 31-December-2023	The number of species with some degree of threat, according to their IUCN status—particularly those classified as critically endangered, endangered, or vulnerable—benefiting from habitat conservation as a result of project activities was determined based on wildlife monitoring reports for the year 2023, conducted on June. For the calculation, species classified as <u>vulnerable</u> and <u>near threatened</u> were considered, as the <i>Panthera onca</i>, which holds this status, plays a key role as an umbrella species in Brazil. Additionally, the Jaguar certification—awarded to the property—attests to good conservation practices aimed at protecting the species. Finally, species identified in more than one year or temporal unit during the monitoring period will be counted only once, in order to avoid duplication in the final total. For the year 2023, however, this guideline does not apply, as the data under analysis originate from a single monitoring campaign conducted during the reporting period. <table><tr><th>Year</th><th>Period</th><th>Number of Species identified</th></tr><tr><td>2023</td><td>01 to 08-June</td><td>3</td></tr><tr><td colspan="2">Total</td><td>3</td></tr></table>	Year	Period	Number of Species identified	2023	01 to 08-June	3	Total		3
Year	Period	Number of Species identified								
2023	01 to 08-June	3								
Total		3								
Aspect of the Theory of Change (Section 2.1.8 of PD CCB)	Carry out continuous monitoring of the fauna within the project area.									

Based on the fauna monitoring conducted in June 2023, the IUCN Red List, the table below identifies the fauna species classified as being under some degree of threat.

Table 63. Threat classification of fauna species found within the influence area of “Fazenda Pacajá” during the fauna monitoring in 2023.

Species	Threat classification of species
<i>Saguinus niger</i> ¹³⁷	VU
<i>Panthera onca</i>	NT
<i>Psophia viridis</i>	VU

Source: Fauna Inventory Report (June-2023)

Indicator 7: Impact of project activities on the remaining flora

For the monitoring of this indicator, the data used involve the number of species managed by the activities of the SFMP of the “Fazenda Pacajá”. It is important to note that, for the current monitoring period, the final results concerning the remaining flora in UPA 19 were considered, as harvesting activities in this unit were concluded during the reporting period. In the previous verification, as documented in the 1st CCB Monitoring Report of the ABC Norte REDD Project (2nd VCS Monitoring Report), the assessment included only partial results for UPA 19, since harvesting activities continued until the end of the referred monitoring period, i.e., March 31, 2023.

In this verification, given that Indicator 7: Impact of project activities on the remaining flora refers specifically to the post-harvest condition of vegetation, and considering that harvesting in UPA 19 has been finalized, the final results are now presented, along with the list of species harvested during the operational phase of the unit. The species managed were:

Table 64. Species managed in UPA 19.

Common name	Species	IUCN Status
Abiu	<i>Pouteria ramiflora</i> (Mart.) Radlk.	LC
Abiu-branco	<i>Pouteria oppositifolia</i> (Ducke)	VU
Abiurana-branca	<i>Pouteria guianensis</i> Aubl.	LC
Abiu-vermelho	<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	LC
Andiroba	<i>Carapa guianensis</i> Aubl.	LC
Angelim-amargoso	<i>Vatairea paraensis</i> Ducke	LC
Angelim-pedra	<i>Hymenolobium excelsum</i> Ducke	Not found
Angelim-vermelho	<i>Dinizia excelsa</i> Ducke	LC

¹³⁷ In addition to being classified as Vulnerable by the IUCN Red List, the species *Saguinus niger* is endemic to the Brazilian Amazon, occurring in the states of Maranhão and Pará, where it is both resident and native. Available at: <https://www.gov.br/icmbio/pt-br/assuntos/centros-de-pesquisa/primatas-brasileiros/arquivos/fichas_primatas/CALLITRICHIDAE/ficha_saguinus_niger.pdf>. Accessed on: 10 Jul. 2024.

Common name	Species	IUCN Status
Barrote	<i>Tetragastris panamensis</i> (Engl.) Kuntze	LC
Biriba	<i>Eschweilera ovata</i> (Cambess.) Miers	LC
Buiuçú	<i>Ormosia coutinhoi</i> Ducke	LC
Caju-açu	<i>Anacardium spruceanum</i> Benth. Ex Engl.	Not found
Coco-pau	<i>Sterculia alata</i> Roxb.	LC
Copaibarana	<i>Eperua purpurea</i> Benth.	LC
Coração-de-negro	<i>Albizia lebbbeck</i> (L.) Benth.	LC
Cumaru	<i>Dipteryx alata</i> Vogel	VU
Cumaru-amarelo	<i>Dipteryx odorata</i> (Aubl.) Willd.	DD
Cupiúba	<i>Goupia glabra</i> Aubl.	LC
Curupixá	<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	LC
Fava	<i>Schizolobium parahyba</i> (Vell.) Blake	LC
Freijó	<i>Cordia goeldiana</i> Huber	Not found
Goiabão	<i>Chrysophyllum lucentifolium</i> subsp. <i>pachycarpum</i> Pires & T.D.Penn.	Not found
Guajará	<i>Chrysophyllum venezualenense</i> (Pierre) T. D. Penn.	Not found
Guajará-bolacha	<i>Neoxythece robusta</i>	Not found
Ingá	<i>Inga alba</i> (Sw.) Willd.	LC
Ipê	<i>Tabebuia impetiginosa</i> (Mart. ex DC.) Standl.	NT
Itauba	<i>Mezilaurus itauba</i> (Meisn.)	Not found
Jatobá	<i>Hymenaea courbaril</i> L.	LC
Louro-canela	<i>Licaria cannella</i> (Meisn.) Kosterm.	LC
Louro-faia	<i>Euplassa pinnata</i> I.M.Johnst.	LC
Louro-preto	<i>Ocotea neesiana</i> (Miq.) Kosterm.	LC
Louro-vermelho	<i>Ocotea rubra</i> Mez.	LC
Maçaranduba	<i>Manilkara huberi</i> (Ducke) Chevalier	Not found
Mandioqueira	cf. <i>Ruizterania albiflora</i> (Warm.) Marc.-Berti	Not found
Maparajuba	<i>Manilkara paraensis</i> (Huber) Standl.	Lower Risk/conservation dependent
Marupá	<i>Simarouba amara</i> Aubl.	LC
Matamatá-ci	<i>Eschweilera amazonica</i> R. Knuth	LC
Matamatá-preto	<i>Lecythis idatimon</i> Aubl.	LC
Matamatá-vermelho	<i>Cariniana micrantha</i> Ducke	Not found
Melancieira	<i>Alexa grandiflora</i> Ducke	Not found
Muiracatiara	<i>Astronium lecointei</i> Ducke	LC
Orelha-de-macaco	<i>Enterolobium schomburgkii</i> (Benth.) Benth.	LC
Pequiá	<i>Caryocar villosum</i> (Aubl.) Pers.	LC
Pequiarana	<i>Caryocar glabrum</i> (Aubl.) Pers.	LC

Common name	Species	IUCN Status
Quaruba	<i>Vochysia eximia</i> Ducke	DD
Quarubarana	<i>Erisma uncinatum</i> Warm.	LC
Quarubatinga	<i>Vochysia guianensis</i> Aubl.	LC
Quaruba-vermelha	<i>Vochysia vismiifolia</i> Spruce ex Warm.	LC
Sapucaia	<i>Lecythis pisonis</i> Cambess.	Not found
Sucupira	<i>Bowdichia nitida</i> Spruce	LC
Sucupira-amarela	<i>Bowdichia cf. virgilioides</i> Kunth	LC
Sucupira-preta	<i>Diplostropis brasiliensis</i> (Tul.) Benth.	Not found
Tanibuca	<i>Terminalia amazonica</i> (J.F.Gmel) Exell.	LC
Tatajuba	<i>Bagassa guianensis</i> Aubl.	LC
Tauari	<i>Couratari tauari</i> O.Berg	VU
Taxi-amarelo	<i>Sclerolobium chrysophyllum</i> Poepp. & Endl.	LC
Taxi-branco	<i>Tachigali capives</i> ((Spruce ex Benth.) J.F.Macbr.)	LC
Taxi-pitomba	<i>Stryphnodendron cf. paniculatum</i> Poepp. & Endl.	LC
Taxi-preto	<i>Sclerolobium paraense</i> Huber	Not found
Tenteiro	<i>Ormosia excelsa</i> Benth.	LC
Tento	<i>Ormosia coccinea</i> (Aubl.) Jack	LC
Timborana	<i>Enterolobium contortisiliquum</i> (Vell.) Morong	LC
Ucuubarana	<i>Iryanthera paraensis</i> Huber	LC
Uxi	<i>Endopleura uchi</i> (Huber)	LC
Uxirana	<i>Vantanea guianensis</i> Aubl.	Not found
Virola	<i>Virola michelii</i> Heckel	LC

The final figures resulting from the harvesting activities in UPA 19 — including the authorized volume and number of trees for harvesting, the total volume effectively harvested, and the remaining standing stock — are presented below.

Table 65. Summary of Harvesting Data for UPA 19

Description	Authorized		Harvested		Remaining Standing Stock	
Value	Volume (m³)	No. of trees	Volume (m³)	No. of trees	Volume (m³)	No. of trees
	78,404.02	17,856	65,790.14	16,143	12,612.58	1,691

Sustainable forest management (SFM) provides a wide range of significant benefits for the preservation of flora and the balance of forest ecosystems. One of its main contributions is the conservation of biodiversity. By adopting practices that aim to preserve not only tree species but also their communities and natural habitats, sustainable management acts as a guardian of biological diversity, playing a vital role in protecting endangered or rare species.

Another crucial benefit provided by SFM is the natural regeneration of forests. Carefully designed to allow plant populations to renew themselves in a sustainable way, sustainable management contributes to the life cycle of plants, ensuring the continuity and vitality of plant communities, through the preservation of matrices and the protection of areas conducive to regeneration.

Additionally, the implementation of monitoring trails and non-invasive methods in sustainably managed areas contributes to efficient data collection, providing valuable insights into the health and population status of species. SFM not only preserves local fauna, but also becomes an integrated research and conservation tool, promoting long-term ecological sustainability.

Indicator 7	Impact of project activities on the remaining flora									
Description	Qualitative. Procedures: monitoring sustainable forest management activities affecting the remaining flora in the REDD ABC Norte Project area, such as tree cutting, dragging, and road construction. The assessment includes analyzing reports on forest management practices through field inspections and activity reports. It is noteworthy that monitoring enables the identification of flora species with some degree of threat according to the IUCN Red List and/or Ministry of the Environment Ordinance No. 148.									
Type of measurement and procedures adopted	Quantitative. Procedures: The measurement of the impact of project activities on the remaining flora involves monitoring changes in species composition and abundance. The monitoring of this indicator will be carried out by surveying the species and the number of trees authorized for harvesting, comparing them with those that were effectively harvested. The procedure involves consulting the list of species recorded in the Annual Operational Plan of the managed Annual Production Unit (UPA) during the period and comparing it with data from periodic monitoring reports and the post-harvest report to assess compliance and the impacts of management.									
Monitoring Frequency	Each UPA exploratory cycle (final or partial); based on reports from sustainable forest management activities.									
Forms of registration	Monthly and post-harvest reports on sustainable forest management activities.									
Monitored value 01-April-2023 – 31-December-2023	The "Number of standing trees" refers to the count of trees remaining in the UPA (Unit of Production Area) after the harvest of authorized trees. In summary, the with-project scenario, the REDD ABC Norte project, combined with the SFMP, implements controlled and sustainable forestry practices that actively contribute to the conservation of biodiversity. Unlike the without-project-scenario, where forests face a higher risk of uncontrolled deforestation, illegal logging and land conversion for livestock. <table><tr><th>UPA</th><th>Period</th><th>Number of standing trees</th></tr><tr><td>Final Post Exploratory Report - UPA 19¹³⁸</td><td>01-April-2023 – 31 December-2023</td><td>1,691</td></tr><tr><td colspan="2">Total</td><td>1,691</td></tr></table>	UPA	Period	Number of standing trees	Final Post Exploratory Report - UPA 19 ¹³⁸	01-April-2023 – 31 December-2023	1,691	Total		1,691
UPA	Period	Number of standing trees								
Final Post Exploratory Report - UPA 19 ¹³⁸	01-April-2023 – 31 December-2023	1,691								
Total		1,691								
Aspect of the Theory of Change (Section 2.1.8 of PD CCB)	Monitor the impact of the project on the remaining flora.									

¹³⁸ The partial data regarding UPA 19 covers activities up to March 2023.

Indicator 8: Number of Training Sessions Implemented by the Project for Forest Cover Conservation

In June 2023, pre-harvest training sessions were conducted for employees, contractors, and ABC Norte associates involved in management activities. The topics addressed included sustainable forest management, certification processes, and operational procedures focused on harvesting activities, such as the planning of operations related to yard and road opening and maintenance, log transportation and scaling, as well as occupational safety measures, fire prevention, and first aid.

Also in June 2023, a fire brigade training course was offered to employees directly involved in the project's management activities. This training strengthened the team's ability to prevent and control fires, mitigating direct threats to the habitats of sensitive species and promoting the ecological integrity of the area.

Additionally, among the Safety Dialogues (see section 2.3.15 - Worker Training) conducted with the sustainable forest management operational team, two sessions focused on topics related to forest conservation. In one of the Dialogues, held in September 2023, among other subjects, directional felling and cutting techniques were addressed – key actions for maintaining surrounding trees and minimizing impacts on vegetation adjacent to the harvesting area – and in November, the Safety Dialogue aimed to raise awareness and provide guidance on reducing forest impact during tactical field operations, such as maneuvering on forest trails (ramais).

Table 66. Indicator 8: Number of Training Sessions Implemented by the Project for Forest Cover Conservation

Indicator 8	Number of Training Sessions Implemented by the Project for Forest Cover Conservation
Description	Promotion of training sessions aimed at protecting forest cover in the REDD ABC Norte Project area, including patrolling and fire prevention and firefighting.

Type of measurement and procedures adopted	Quantitative. Planning and Implementation: organize and conduct training sessions on patrolling, fire prevention, and firefighting. The training should include both practical and theoretical instructions on patrolling techniques, forest cover monitoring, and fire response measures. Feedback and Adjustments: collect feedback from participants to identify areas for improvement and adjust future training sessions as needed.									
Monitoring Frequency	Annual.									
Forms of registration	Reports, emails, attendance lists, photographic records, recordings, meeting minutes and/or other documents will serve as evidence of the activities carried out.									
Monitored value (01-April-2023 – 31-December-2023)	<table><tr><th>Year</th><th>Period</th><th>Number of trainings</th></tr><tr><td>2023</td><td>01-April to 31-December</td><td>05</td></tr><tr><td colspan="2">Total</td><td>05</td></tr></table>	Year	Period	Number of trainings	2023	01-April to 31-December	05	Total		05
Year	Period	Number of trainings								
2023	01-April to 31-December	05								
Total		05								
Aspect of the Theory of Change (Section 2.1.8 of PD CCB)	• Conduct patrolling of the area monitored by the project; • Promote training on fire prevention and firefighting.									

5.3.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

Following the guidelines established in section “2.3.2 - Stakeholder Access to Project Documents”, the monitoring reports will be disseminated to communities and other stakeholders, and made publicly available, through the following strategies:

- **VERRA platform:** the monitoring plan, as well as the results of the checks, will be shared on the VERRA platform¹³⁹, ensuring transparency and reaching a wider audience.
- **Sustainable Carbon website:** all projects supported by Sustainable Carbon are available on the website in which updated documents are accessible for consultation. Project information can be found on <https://sustainablecarbon.com/en/projetos/abc-norte-project/> (English) and <https://sustainablecarbon.com/projetos/abc-norte-redd/> (Portuguese).
- **Communication channels:** the monitoring reports will be accessible to communities through Upbio's WhatsApp (+55 91 98517 3832), which is already used as a communication vehicle.
- **Algar Farming headquarters:** the monitoring reports are made available at Algar Farming's headquarters and will be presented to stakeholders during periodic meetings about the

¹³⁹ Available at: < <https://registry.verra.org/>>. Accessed on: 08 Feb. 2024.

project. Communities will also be able to access it, even those not covered by Upbio's Socio-environmental Responsibility Program.

- **Upbio's field activities through Socio-environmental Responsibility Program:** during the field visits carried out by Upbio in the communities, the monitoring plan summary and its results will be communicated orally and through printed material.

Regarding verification information access by the communities related to the third monitoring period, the results were presented at a Social Action event held at Vila ABC on June 26th, at Fazenda Pacajá. The presentation of the results were conducted through a collective presentation to local residents.

- **Stakeholders Consultation:** Monitoring results will be made available to stakeholders, particularly institutional ones identified in Section 2.1.6 – Stakeholder Identification of the CCB PD ABC Norte REDD Project. The presentation of monitoring results and other project-related information may take place during site visits or through online presentations, with invitations sent in advance.

During the site visit held in August 2025, an informational brochure about the project and the results of the 3rd VCS CCB MR was provided to institutional stakeholders, as well as to those interviewed remotely¹⁴⁰. The brochure included a QR code providing direct access to all project documentation available on the Verra website¹⁴¹, and access to this documentation was reinforced at the time the material was delivered.

5.4 Optional Criterion: Exceptional Biodiversity Benefits

Not applicable. Sustainable Carbon technical team will evaluate the potential applicability of the Gold Level for Climate, Community, and Biodiversity in future verification cycles.

5.4.1 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Not applicable, as described in section 5.4.

¹⁴⁰ Informational materials were delivered to representatives of the Secretariat of Environment and Sustainability of Pará, the Tropical Forest Institute (IFT), and the Federal Rural University of the Amazon (UFRA) in person, and sent online to a representative of the Chico Mendes Institute for Biodiversity Conservation (ICMBio) and Brazilian Forest Service (BFS).

¹⁴¹ <https://registry.verra.org/app/projectDetail/VCS/2558>