

3rd Monitoring Report

2551 - Brazilian Amazon APD GPD



Project title	Brazilian Amazon APD Grouped Project
Project ID	ID 2551
Crediting period	01 st -January-2023 to 31 st -December-2023
Monitoring period	01 st -January-2023 to 31 st -December-2023
(CCB) GHG accounting period	02 nd -August-2021 to 01 st -August-2121; 100-year lifetime
Original date of issue	N/A
Most recent date of issue	14-March-2024
Version	1.0
VCS Standard version	VCS v4.5
CCB Standards version	CCB standard v3.1
Project location	Brazil, municipality (state) PAIs #1: Aripuanã (MT) PAIs #2-5: Sena Madureira (AC) PAIs #6: Manicoré (AM) PAIs #7-15 : Pará (PA) state, encompass 6 municipalities: Dom Eliseu, Rondon do Pará, Paragominas, Tomé-Açu and Ipixuna do Pará Brazilian Legal Amazon
Project proponent(s)	brCarbon Serviços Ambientais LTDA Mr. Marco Tuoto – e-mail diretoria@brcarbon.com.br – Av. Cezira Giovanoni Moretti 655, sala

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Validation/verification body	RINA Services S.p.A. Laura Severino laura.severino@rina.org Giovanni D'Angelo giovanni.dangelo@rina.org Via Corsica 12, 16128 Genova, Italy
History of CCB Status	1st Verification (02 August 2021 until 19 October 2021) statement issued on 25 th August 2022 2 nd Verification (20 October 2021 until 31 December 2022) statement issued on 24-11-2023 3 rd Verification (1 st January 2023 until 31 st December 2023)
Gold Level criteria	Exceptional Biodiversity Benefits – Sustained by meeting the vulnerability criteria established in the CCB standard. Three Endangered (EN) species (Ateles chamek, Inia geoffrensis and Pteronura brasiliensis) and two Critically Endangered (CR) (Psophia obscura and Cebus kaapori) species are found within the project area. These species trigger the vulnerability criteria and classify the project area as a Key Biodiversity Area (KBA). The project aims the promotion of species conservation through the maintenance of forest habitats and avoidance of hunt pressure.
Prepared by	brCarbon Serviços Ambientais LTDA

CONTENTS

1	SUMMARY OF PROJECT BENEFITS	4
1.1	Unique Project Benefits	4
1.2	Standardized Benefit Metrics	6
2	PROJECT DETAILS	9
2.1	Summary Description of the Implementation Status of the Project	9
2.2	Project Implementation Status	28
2.3	Stakeholder Engagement & Safeguards	44
2.4	Management Capacity	75
2.5	Legal Status and Property Rights	77
3	CLIMATE	89
3.1	Monitoring GHG Emission Reductions and Removals	89
3.2	Quantification of GHG Emission Reductions and Removals	176
3.3	Optional Criterion: Climate Change Adaptation Benefits	196
4	COMMUNITY	197
4.1	Net Positive Community Impacts	197
4.2	Other Stakeholder Impacts	211
4.3	Community Impact Monitoring	212
4.4	Optional Criterion: Exceptional Community Benefits	227
5	BIODIVERSITY	228
5.1	Net Positive Biodiversity Impacts	228
5.2	Offsite Biodiversity Impacts	230
5.3	Biodiversity Impact Monitoring	231
5.4	Optional Criterion: Exceptional Biodiversity Benefits	236

1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Digital Inclusion: In many cases, existing communities within the project area live in isolated conditions, without access to means of communication and travel days to the nearest city. This puts them in a vulnerable condition, negatively affecting their economy, health, education, well-being and even citizenship. The project will install repeating towers to provide internet and an internet access point in schools. Thus, it is expected to reduce the community's vulnerability condition, favoring their access to information, educational processes, health, economics and public services. The internet will be a fundamental part of the social engagement processes, continuous communication with communities and the	46 solar panels deployed. 23 battery banks deployed.	2.2.1 4.1.1 4.1.3	12 towers (60m high) installed. 1 tower (72m high) installed. 82 solar panels deployed. 41 battery bank deployed. 70 km of optic fiber installed.

feedback and grievance redress procedure. The number of towers and Internet access points provided, and the total amount of resources invested during a specific monitoring period will be reported in activity reports and monitoring reports.			
2) Strengthen Local Social Organizations (associations, female groups, and others): In the communities where the project operates, the population normally faces a condition of high social vulnerability and many difficulties in exercising citizenship. This means that they often struggle to access social and individual rights, as well as public services, such as education, health and others. In this sense, dealing with issues related to citizenship contributes to the development of better conditions for the formation and strengthening of social organization in territories and communities.	53 People (38 women) 01 Meeting 04 Workshops 05 Groups supported	2.2.1 4.1.1 4.1.3	53 People (38 women) 01 Meeting 04 Workshops 05 Groups supported

1.2 Standardized Benefit Metrics

Table 1 – 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	Not applicable
	Net estimated emission reductions in the project area, measured against the without-project scenario		3.2.4	
Forest cover	For REDD projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario		3.2.1.1	
	For ARR projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not applicable	Not applicable	Not applicable
Improved land management	Number of hectares of existing production forest land in which IFM practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	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	Under Development		Not yet estimated
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	No action was taken in this monitoring period	2.2.1 4.1.1 4.1.3	79
	Number of female community members who have improved skills and/or	Not applicable	2.2.1	24

	knowledge resulting from training provided as part of project activities of project activities		4.1.1 4.1.3	
Employment	Total number of people employed in of project activities, ¹ expressed as number of full-time employees ²	06	2.2.1 4.1.1. 4.1.3	10
	Number of women employed in project activities, expressed as number of full-time employees	02	2.2.1 4.1.1 4.1.3	04
Livelihoods	Total number of people with improved livelihoods ³ or income generated as a result of project activities	No action was taken in this monitoring period	2.2.1 4.1.1 4.1.3	166
	Number of women with improved livelihoods or income generated as a result of project activities	Not applicable	2.2.1 4.1.1 4.1.3	83
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	No action was taken in this monitoring period	2.2.1 4.1.1 4.1.3	529
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable	2.2.1 4.1.1 4.1.3	300
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	127	2.2.1 4.1.1 4.1.3	219

¹ 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.

² 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])

³ 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.

Water	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	64	2.2.1 4.1.1 4.1.3	119
	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	172	2.2.1 4.1.1 4.1.3	372
	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	90	2.2.1 4.1.1 4.1.3	106
Well-being	Total number of community members whose well-being ⁴ was improved as a result of project activities	305	2.2.1 4.1.1 4.1.3	1,375
	Number of women whose well-being was improved as a result of project activities	156	2.2.1 4.1.1 4.1.3	636
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation, ⁵ measured against the without-project scenario			
	Number of globally Critically Endangered or Endangered species ⁶ benefiting from reduced threats as a result of project activities, ⁷ measured against the without-project scenario			

⁴ 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.

⁵ 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.

⁶ Per IUCN's Red List of Threatened Species

⁷ In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

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 Brazilian Amazon REDD+ APD Grouped Project (hereafter called GPD) reduces GHG emission avoiding deforestation, mitigating climate change, protecting biodiversity, and generating social benefits to local communities through sustainable territorial development.

This report seeks to verify the third monitoring period of the Brazilian Amazon REDD+ APD Grouped Project. During this monitoring period (1-January-2023 to 31-December-2023) PAIs #1 to #15 were monitored, having contributed to a net emission reduction of 2,951,077.27 tCO₂ and 5,218.84 ha of avoided deforestation.

The carbon measurement process included a variety of technologies and approaches. For above ground biomass estimates, BRC used field surveys and LiDAR remote sensing onboard an unoccupied aerial vehicle (UAV), associated with field inventories, which significantly increased the project's sampled area and the estimates' accuracy. The belowground biomass was estimated based on a transformation factor from literature. To measure other carbon pools such as litter, SOC and deadwood, BRC collected samples to estimate values.

Leakage mitigation actions were related to leakage monitoring, estimation of GHG emissions attributable to activity shifting and deduction of the project's net GHG emissions reduction in a specific monitoring period. This project activity was also associated with advocacy with landowners focusing on the reduction of GHG emissions due to activity shifting leakage in the present and future monitoring periods.

For all project activity instances, already verified or under verification process, BRC took legal steps to ensure that the climate, community, and biodiversity benefits will be maintained beyond the project lifetime. Each PAI has a legal agreement (APPENDIX_LEGAL-AGREEMENTS) that was signed with the landowner to continue the management practices that will lead to the project area conservation for at least 30 years in the initial instances, and 40 years to the new instances according the standards new rules, and guarantee the permanence of the carbon stocks in the post project scenario and, as well, the community and biodiversity benefits. Using satellite images, BRC tracks deforestation and forest degradation, including wildfires, in the project area, and leakage belt.

The biodiversity surveys were carried out in the rainy season (February 15th to March 13th in Pará and April 19th to May 2nd in Mato Grosso). These periodic field surveys were fundamental to ensure the project goals effectiveness and reduce internal risks to biodiversity, such as local extinctions, and other ecological disturbances related with forest degradation.

Social activities were focused on strengthening local culture, empowerment, and inclusion of young people on social organization, and agricultural production, by structuring the manioc flour value chain for example. These actions are better described in section 4.1 of this document. Besides specific actions on each PAI, BRC structure is divided into teams inside each state/region where the project is being implemented, so there are three teams responsible for the PAIs, one in Acre (PAI #02 to PAI #05), one in Amazonas/Mato Grosso (PAI #01 and PAI #06) and one in Pará (PAIs #07 to PAIs #15), and this form of organization ensures that the work is done looking for each community in a singular way, even if they share similar challenges. This strategy makes the projects more sensible to individual issues in each community.

2.1.2 Audit History (VCS, 4.1)

Table 2 – Audit Information

Audit Type	Period	Program	VVB Name	Number of years
Validation/ 1 st Verification	02-August-2021 to 19-October-2021	VCS / CCB	Earthood Services Private Limited	3 months
2 nd Verification	20-October-2021 to 31-December-2022	VCS / CCB	RINA Services S.p.A	One year and 2 months
3 rd Verification	01-January-2023 to 31-December-2023	VCS / CCB	RINA Services S.p.A	One year

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Table 3 - Sectoral Scope and Project

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	REDD+

Project Activity Type Avoiding Planned Deforestation (APD)

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

Table 4 - Project Proponent

Organization name	brCarbon Serviços Ambientais LTDA
Contact person	Mr. Marco Tuoto
Title	CEO
Address	Av. Cezira Giovanoni Moretti 655, sala 7, AgTech Garage, Reserva Jequitibá - Piracicaba, São Paulo
Telephone	+55 19 3424-3583
Email	diretoria@brcarbon.com.br

2.1.5 Other Entities Involved in the Project

Table 5

Organization name	Yaco2 Gestão e Comércio de Carbono
Role in the project	Implementation partner and landowner of PAIs #1-5
Contact person	Mr. Moacir Eloy Corecetta Batista
Title	Person
Address	Av. Bezerra Sabino de Queiroz, 7471, Bairro Jardim Araucária, Vilhena – RO. CEP 76987-576
Telephone	+55 69 9969 1707
Email	<u>madbatista@madbatista.com.br</u>

Table 6

Organization name	Incorporadora Manicoré LTDA
Role in the project	Implementation partner and landowner of PAI #6 .
Contact person	Mr. Rogerio Oliveira
Title	Juridic person
Address	Av. Eduardo Ribeiro, 549, Bairro Centro, Cidade de Manicoré, AM, ZIP 69.280-000
Telephone	+55 69 9969-1707
Email	luizrogerio_oliveira@me.com

Table 7

Organization name	Mr. Gilson Antônio Moreira Machado
Role in the project	Implementation partner and landowner of PAIs #7-8 .
Contact person	Bruno Machado
Title	Person
Address	Várzea Alegre extension line. 09. Vila Nova. Ipixuna do Pará, PA. ZIP 68.637-0000
Telephone	+55 91 9293-3163
Email	nelorebm@gmail.com

Table 8

Organization	Floraplac Group
Organization name	Floraplac Industria LTDA

Address	Colonia do Uraim Rod. No number. KM 01 – ZIP 68.627-400 – Industrial District – Paragominas. PA
Telephone	+55 (91) 3521-1310
Organization name	Rio Concrem Industrial LTDA
Address	BR-010 Rod. KM 30 – ZIP 68.633-000 – Dom Eliseu. PA
Telephone	+55 91 3351-005
Contact Person	Mr. Carlos Guimarães
Title	PAI's #9 to #14 landowner
Email	juridico@floraplac.com

Table 9.

Organization name	Mr. Adão Ribeiro Soares
Role in the project	Implementation partner and landowner of PAI #15 .
Contact person	Adão Ribeiro Soares
Title	Person
Address	do Lago rod. Km 01. Jacundá, PA.
Telephone	+55 94 99182-6647
Email	adaoribeirosoares@hotmail.com

2.1.6 Project Start Date (VCS, 3.8)

Table 10

Project start date	02-August-2021
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Justification	The GPD start date is August 2 nd , 2021, which corresponds to the implementation of the area protection plan (this project). This milestone is characterized by the legal agreement signature.
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2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Table 11.

Crediting Period	20-August-2021 to 01-July-2121
Start Date of First or Fixed Crediting Period	20-August-2021 to 01-July-2121
Total Number of Years of Crediting Period	100 years
CCB Benefits Assessment Period	100 years

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

The GPD geographic region covers the entire Amazon Biome and has a comprehensive geographical boundary whose objective is to encompass all rural properties with surplus of native vegetation, subject to legal suppression for the implementation of commercial activities, mainly related to pastures or annual crops.

The grouped project encompasses nine Brazilian states: Acre, Amapá, Amazonas, Pará and Roraima, and part of the territory of Maranhão, Mato Grosso, Rondônia and Tocantins (Legal Amazon).

PAI #1 is located in Mato Grosso state (MT), and PAIs #2-5 are in Acre State (AC), PAI #6 is located in Amazonas State (AM), and the PAIs #7-15 are located in Pará State (PA). The table below shows the centroid geographical coordinate of all project activity instances. Coordinates are also submitted separately as a KML file (APPENDIX_GIS-DATA).

Table 12 - Brazilian Amazon GPD PAIs #1-15 location.

PAI	Property name	Municipality	Geodetic coordinate	
			Latitude	Longitude

Previous Project Activity Instances				
#1	Castanhal	Aripuanã (MT)	-9.91	-59.41
#2	Katianã	Sena Madureira (AC)	-10.27	-69.53
#3	Palmares	Sena Madureira (AC)	-10.10	-69.31
#4	Porongaba	Sena Madureira (AC)	-10.05	-69.04
#5	Potiguar	Sena Madureira (AC)	-10.23	-69.45
#6	Lagoa Grande II	Manicoré (AM)	-6,35	-60,10
#7	Nubia Floresta	Ipixuna do Pará (PA)	-2.78	-48.00
			-2.76	-48.04
#8	Floresta 1	Ipixuna do Pará (PA)	-2.77	-48.04
#9	D' graus I	Ipixuna do Pará (PA)	-3.14	-48.27
#10	D' graus II	Ipixuna do Pará (PA)	-3.14	-48.24
#11	D' graus VI	Tomé-Açu (PA)	-3.18	-48.33
#12	Nova Esperança	Tomé-Açu (PA)	-3.15	-48.37
#13	São Domingos	Paragominas (PA)	-3.65	-48.13
#14	Capinzal 1	Dom Eliseu (PA)	-3.80	-48.19
#15	Ribeiro Rondon	Rondon do Pará (PA)	-4.30	-48.66

Table 13. PAIs #1-15

ID	Property Name	Property area (ha)	Project area (ha)	Landholder details and user rights	
				SICAR number	Number of squatter families
PAI #1	Faz. Castanhal	5520.014	990.589	MT-5101407-4CACB40D0AE24939A317398F5FC45192	No
PAI #2	Faz. Katianã	25485.868	4728.046	AC-1200500-448F.55FB.03DB.45E1.B562.5DEC.2812.CB2D	No
PAI #3	Faz. Seringal Palmares	26918.516	4534.340	AC-1200500-9B87.9BF4.D62A.42C5.90B9.438C.2EED.3BB7	No
PAI #4	Faz. Seringal Porongaba	31265.604	4199.315	AC-1200500-0240.2E7C.2004.4705.AFF5.AC02.5939.EEE1	No
PAI #5	Faz. Seringal Potiguar	24481.706	4213.040	(2) AC-1200500-7CFD.C408.46DF.4C87.A738.D86D.0D15.2519 e AC-1200500-6077.1940.1B92.4127.A88A.019C.EEBE.C8ED	No
PAI #6	Faz. Lagoa Grande II	39610.519	7874.826	AM-1302702-491F2AA961E2472EAE1F173F2DAB1D27	No

PAI #7	Faz. Núbia Floresta	1395.339	233.563	PA-1503457- C6AEF45DCB934CA58917B2CA4AAAB 29F PA-1503457- 4232561FBB754D5EAFBF24B55C0AED 59	No
PAI #8	Faz. Floresta I	2993.146	44.151	PA-1503457- A652D13A7E4648D8A55445C27992C4B 7	No
PAI #9	Faz. D'graus I	4369.360	579.656	PA-1503457- E905B78A00A24EDBBC412671A706050 2	No
PAI #10	Faz. D'graus II	4226.540	763.859	PA-1503457- 101D20EAEB2342CE81C13564447B068 E	No
PAI #11	Faz. D'graus VI	738.896	129.950	PA-1508001- DBFD721F95F1461B98CE7BE5F9B7990 6	No
PAI #12	Faz. Nova Esperança	1816.669	133.430	PA-1508001- 2A8B26E4DBF742BE949CCA3E3BC7BE EF	No
PAI #13	Faz. São Domingos	2132.910	405.565	PA-1505502- 3C55E3D459DC4631ACE3E2439CCC29 F3	No

PAI #14	Faz. Capinzal I	8622.614	1111.061	PA-1502939- 1655CEB9198A4B59A25F31473CB7D70 7	No
PAI #15	Faz. Ribeiro Rondon	5061.293	808.485	PA-1506187- 2BCED557F4D3421B964E7EBECE8D10 0E	No
TOTAL					

In this monitoring period the Brazilian Amazon GPD no new farms were added, or Project Activity Instances, as it illustrated at figure below:

☒ KML file has been provided

GPD APD Brazilian Amazon - Project Activity Instances 2023



Figure 1 – Project Location

2.1.9 Title and Reference of Methodology (VCS, 3.1)

Table 14 – Methodologies, tools and modules applied to the project.

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0007	REDD+ Methodology Framework (REDD+ MF)	1.7
	VMD0001	Estimation of carbon stocks in the above-and below ground biomass in live tree and non-tree pools (CP-AB)	1.2
	VMD0002	Estimation of carbon stocks in the dead wood pool (CP-D)	1.1
	VMD0003	Estimation of carbon stocks in the litter pool (CP-L)	1.1
	VMD0004	Estimation of stocks in the soil organic carbon pool (CP-S)	1.1
	VMD0005	(CP-W) Estimation of carbon stocks in the long-term wood products pool	1.1
	VMD0006	Estimation of baseline carbon stock changes and greenhouse gas emissions from planned deforestation/forest degradation and planned wetland degradation (BL-PL)	1.4
	VMD0009	Estimation of emissions from activity shifting for avoiding planned deforestation/forest degradation and avoiding planned wetland degradation (LK-ASP)	1.3

	VMD0013	Estimation of greenhouse gas emissions from biomass and peat burning (E-BPB)	1.3
	VMD0015	Methods for monitoring of GHG Emissions and removals (M-MON)	2.3
	VMD0016	Methods for Stratification of the Project Area (X-STR)	1.3
	VMD0017	Estimation of Uncertainty for REDD+ Project Activities (X-UNC)	2.2
Tool	VT0001	Tool for the demonstration and assessment of additionality in VCS agriculture, forestry, and other land use (AFOLU) project activities (T-ADD)	3.0
Tool		AFOLU Non-Permanence Risk Tool	

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

Is 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)

Table 15 - Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
Sequential row number	SDG Target number	Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator	Indicate the project's contribution to the SDG Indicator (implemented activities to increase or decrease)	Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period.	Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime.
1)	1	1.4 By 2030, ensure that all men and women, the poor and the vulnerable, have equal rights to economic resources, as well access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	Implemented activities to decrease poverty	42 families benefited by the started process of land donation	42 families benefited by the started process of land donation

2)	3	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne disease, and other communicable diseases 3.8 Achieve universal health coverage, including financial risk protection, access to safe, effective, quality and affordable essential medicines and vaccines	Implemented activities to decrease spread diseases	No further changes this monitoring period	529 people attended by project activities through access to medical services and vaccination
3)	4	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	Implemented activities to increase the quality of education	127 students had access to a better quality of education	92 students had access to a better quality of education
4)	7	7.1 By 2030, ensure universal access to affordable, reliable, and modern energy services 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	Implemented activities to increase access to energy Implemented activities to increase access to renewable energy	23 solar kits donated	43 solar kits donated

5)	12	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Implemented activities to increase access to environmental education		
6)	13	13.1 Strengthen resilience and adaptative capacity to climate-related risks and natural in all countries	Implemented activities to decrease risks to natural disasters	5,218.84 ha preserved	28,256.8 ha preserved
7)	15	15.1 By 2030, ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, 2030, protect and prevent the extinction of threatened species	Implemented activities to increase the protection of natural areas	5,218.84 ha preserved	28,256.8 ha preserved
8)	16	16.9 By 2030, provide legal identity for all, including birth registration	Implemented activities to increase citizenship through internet access	No further changes this monitoring period	248 people with access to internet

2.2 Project Implementation Status

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

The activities developed in PAIs #1-15 are presented in table below. Here we discriminated the “Implementation Schedule” of all PAIs under the scope of this project.

The activities described comprise the monitoring period for the year 2023, however it is important to highlight that some activities, related to carbon inventory and biodiversity surveys, were carried out previously (in 2021 and 2022) and were considered in this monitoring period. Activities are listed in chronological order and by type of activity (carbon measurement, biodiversity, and social and infrastructure).

Table 16 – Milestones in the project implementation

Date	Milestone(s) in the project’s development and implementation
April 05 th to 18 th , 2021	(PAIs#2-5) First field visit in the Acre state Project Activity Instances for socioeconomic diagnosis, to present the project concept to local communities and to make the first biodiversity survey (rainy season).
April 30 th to May 05 th , 2021	(PAI#1) First site visit in Mato Grosso state Project Activity Instance identifies any local resident and to make the first biodiversity survey (rainy season).
June 30 th , 2021	(PAIs#1-5) Submission of the draft VCS PD in the VERRA registry system.
July 19 th to 25 th , 2021	(PAIs#2-5) Free prior and informed consent.
July 27 th , 2021	(PAIs#2-5) Meeting with Municipal Health Department and State Education department in Sena Madureira in Acre state.
July 27 th to August 13 rd , 2021	(PAI#1) Carbon measurement by forest inventory in PAI #1.
July 29 th , 2021	(PAIs#2-5) Meeting with State Education Department in Rio Branco, Acre state.
July 30 th , 2021	(PAIs#2-5) Meeting with “Instituto de Mudanças Climáticas” (IMC) in Acre state.
July 30 th to August 25 th , 2021	(PAIs#2-5) Carbon measurement by forest inventory.

Date	Milestone(s) in the project's development and implementation
July 30 th to August 25 th , 2021	(PAIs#2-5) Biomass Inventory training
August 02 nd , 2021	(PAIs#1-5) Signature of the conservation agreement between BRC and the landowner of the first five project activity instances. The milestone that characterizes the project's start date.
August 04 th , 2021	(PAIs#2-5) Water potability analysis.
August 05 th , 2021	(PAIs#2-5) Meeting with Municipal Education Department in Sena Madureira in Acre state.
August 18 th to September 17 th , 2021	(PAIs#1-5) Public comment period in VERRA registry.
August 24 th , 2021	(PAIs#2-5) Meetings with Municipal Health Department and State Education Department in Sena Madureira in Acre state.
August 30 th to October 30 th , 2021	(PAIs#2-5) Digital inclusion: 8 towers (60m high), 1 tower (72m high), 1 tower (82m high) installed, 36 solar panels deployed, battery bank deployed, 70Km of optic fiber installed
September 27 th to October 03 rd , 2021	(PAIs#2-5) Socio-productive diagnosis with a view to rural extension, structuring of production chains and organic certification.
October 05 th to 06 th , 2021	(PAIs#2-5) Sustainable Agriculture Management field day: 15 community members were taken to 02 field days in 02 different model farms where pasture management and sustainable production with a focus on soil organic carbon were discussed.
October 08 th to 16 th , 2021	(PAI#1) Second biodiversity survey (dry season).
October 09 th to 22 nd , 2021	(PAIs#2-5) Second biodiversity survey (dry season).
October 09 th to 10 th , 2021	(PAI#4) Photovoltaic systems installed at 02 schools in Porongaba.
October 09 th to 10 th , 2021	(PAI#4) "Outubro Rosa": 6 health professionals from the municipal health department in Sena Madureira held two days of lectures and services focused on women's health in Seringal Porongaba.
October 11 th to 14 th , 2021	(PAIs#2-5) Mapping for pumping systems and solar energy.
October 11 th to 30 th , 2021	(PAIs#2, 3 and 5) Survey, dimensioning, and installation of photovoltaic and hydraulic systems for residents of Palmares (03), Potiguar (05) and Katiana (02)

Date	Milestone(s) in the project's development and implementation
October 20 th to 24 th , 2021	(PAIs#2-5) Socio-environmental investment fund (AMAZ) field visiting.
October 21 st , 2021	(PAI#4) Delivery of water filters to Porongaba communities.
October 20 th to 24 th , 2021	(PAIs#2-5) Participatory monitoring, disclosure of monitoring results, disclosure of audit date and audit process. Lectures on climate change, carbon cycle, importance of forests and ecosystem services.
October 20 th , 2021	(PAIs#2 and 5) Katianã and Potiguar settlements mapping.
March 27 th to April 3 rd , 2022	(PAIs#2-5) Public reunions with Acre public agencies.
March 25 th , 2022	(PAI#4) Reunion with Porongaba riverside community.
March 27 th , 2022	(PAI#4) Reunion with Porongaba center community.
March 28 th , 2022	(PAIs#3) Seringal Palmares Community reunion.
March 29 th , 2022	(PAIs#2, 3 and 5) Beginning of chestnut tree mapping, with Avenzamaps app training.
March 30 th , 2022	(PAI#5) Seringal Potiguar community reunion.
April 03 rd , 2022	(PAI#2) Seringal Katianã community reunion.
May, 02 nd , 2022	(PAIs#9-14) Agreement signature between BRCarbon and Floraplac Industrial LTDA and Rio Concrem Industrial LTDA.
May, 03 rd , 2022	(PAIs#07-15) Visit to the State Regional Centre of Environmental Regularization in Paragominas (SEMA/PA);
May, 03 rd , 2022	(PAI#13) Visit to the Social Assistance Municipality Secretary – SEMAS/Paragominas. Visit to the Science, Technology and Environmental Municipal Secretary/Paragominas.
May, 04 th , 2022	(PAIs#11-12) Visit to the Vale do Acará Agricultural Association (AAVA); Visit to the Tomé-Açu Environmental Municipal Secretary.
May 05 th , 2022	(PAI#14) Visit to the State Agency of Agricultural Defense (ADEPARA) of Dom Eliseu.
May 05 th , 2022	(PAI#15) Meeting with the Rondon do Pará Rural Workers Syndicate.

Date	Milestone(s) in the project's development and implementation
May 30 th , 2022	(PAIs#7-8) Agreement signature between brCarbon and Mr. Gilson Antonio Moreira Machado.
May 9 th to 17 th June 2022	(PAIs#7-15) Carbon forestry inventory in the above ground and dead wood pools.
May 11 th to June 2 nd , 2022	(PAIs#7-15) Forest Inventory of above-ground biomass, in Brazilian Amazon GPD APD Carbon Project areas, Paragominas-PA region. A total of 16 transects, 128 plots, (20 x 60 m) distributed throughout the municipalities of Paragominas, Ipixuna do Pará, Rondon do Pará.
June 2 nd to 11 st , 2022	(PAIs#7-15) EXPO Rondon event.
June 4 th to 16 th , 2022	(PAIs#7-15) First stage of social engagement to Socioeconomic surveys and diagnoses. Locations PA Águia, PA Bom Jesus, PA Irmã Dorothy, TI Barreirinha, Vila Brasil. PA - settlement project, TI - Indigenous land.
June 11 th , 2022	(PAIs #2-5) Expanding the internet cover area with 4 more towers installed in communities' region. Four new communities are attended: Santa Luzia, Seringal Palmares, Seringal Potiguar and Seringal Katianã.
June 27 th to July 11 th , 2022	(PAIs #7-15) Fauna Survey on properties Capinzal I, Ribeiro Rondon, D'graus (I, II and VI) and Floresta I.
July 20 th to 24 th , 2022	(PAIs #7-15) EXPO AMA Marabá event.
July 24 th to 28 th , 2022	(PAI #4) Porongaba land regularization discussion. Border and center reunions.
July 29 th to August 06 th , 2022	(PAIs #7-15) Soil Organic Carbon and Litter field collections on properties Capinzal I, Ribeiro Rondon, D'graus (I, II and VI) and Floresta I. A total of 128 Sample Units (permanent plots of 20x60m) distributed throughout the municipalities of Paragominas, Ipixuna do Pará, Rondon do Pará.
July 30 th to 07 th of August 2022	(PAI #4) Delivery of the expansion and renovation of State Elementary School "Iolanda Pereira Nunes".
August 7 th to 22 nd , 2022	(PAIs#2-5) Third biodiversity survey (dry season).
August 3 rd , 2022	(PAI #15) Implementation of social diagnostic diagnosed activities by social survey, in the Bom Jesus community . of good practices

Date	Milestone(s) in the project's development and implementation
	and management of agricultural activities. Field day with rural extension of good practices and management of agricultural activities.
August 8 th , 2022	(PAI #6) Agreements signature by Mr. João Bosco Altoé Junior, including Lagoa Grande farm on the scope of the project
August 10 th , 2022	(PAI #15) Implementation of social diagnostic diagnosed activities by social survey, in the Irmã Dorothy community . Field day with rural extension of good practices and management of agricultural activities.
August 15 th to 31 st , 2022	(PAIs #7-15) Second social expedition to present the results of the diagnosis, to construct the social activities road map of the project and to present the activities to be implemented in this first monitoring period.
August 17 th , 2022	(PAI #15) Agreement signature between brCarbon and Mr. Adão Ribeiro Soares.
August 17 th , 2022	(PAI #13) Implementation of social diagnostic diagnosed activities by social survey, in the PA Águia and Rio das Cruzes communities . Field day with rural extension of good practices and management of agricultural activities.
August 21 st , 2022	(PAIs 7-10) Implementation of social diagnostic diagnosed activities by social survey, in the PA Diamantina communities. Field day with rural extension of good practices and management of agricultural activities.
August 23 rd to September 7 th , 2022	(PAIs #2-5) Carbon measurement by UAV LiDAR.
September 03 rd , 2022	(PAI#15) Rural technical assistance – Field day – PA Bom Jesus
September 5 th to October 15 th , 2022	(PAI #6) Soil Organic Carbon and Litter field collection on property Lagoa Grande II. A total of 64 Sample Units (permanent plots of 20x60m) distributed throughout the municipality of Manicoré.
September 6 th to 15 th of October 2022	(PAI #6) Carbon measurement by forestry inventory in the below ground and dead wood pools.
September 08 th to 10 th , 2022	(PAIs #2-5) Itinerant Health.

Date	Milestone(s) in the project's development and implementation
September 10 th , 2022	(PAI#15) Rural technical assistance – Field Day – PA Irmã Dorothy
September 10 th to 25 th , 2022	(PAI#1) Third biodiversity survey (dry season).
September 16 th to October 10 st , 2022	(PAI #6) Forest Inventory of above-ground biomass, in Manicoré-AM region. A total of 8 transects, 64 plots, (20 x 60 m) distributed throughout the municipality of Manicoré.
September 17 th , 2022	(PAI#13) Rural technical assistance – Field Day – PA Águia – PA Rio das Cruzes
September 21 st , 2022	(PAI#07-10) Rural technical assistance – Field Day – PA Diamantina II
September 25 th to October 06 th , 2022	(PAIs#7-15) LiDAR drone flyby through project areas.
September 26 th , 2022	(PAIs #4) Auditory visits for FSC validation.
September 30 th , 2022	(PAI #4) Renovation conclusion of State Elementary School Manoel Rufino.
November 11 th , 2022	(PAIs #7-10) Implementation of social diagnostic diagnosed activities by social survey, in the Vila Brasil community.
November 25 th , 2022	(PAIs #01) FSC Conservation Forest Management Certificate.
November 18 th to December 1 st , 2022	(PAI #6) The first biodiversity survey in Lagoa Grande II property (rainy season).
January 06 th to 08 th , 2023	(PAIs #2-5) Internet towers maintenance.
January 12 th , 2023	(PAI #15) On-site meeting with the municipal education secretary (Mrs. Kelly Cristina) of Rondon do Pará and her team to discuss the works at the P.A Bom Jesus and the construction of Irmã Dorothy's school.
January 28 th to February 05 th , 2023	(PAI #2-5) Social mobilization incursion.
February, 2023	(PAI #7-15) BRC's staff team visit to inform the main project stakeholders about the verification process and to provide a copy of the Monitoring Report for the interested parties.
February 01 st to 08 th , 2023	(PAI #1) Informational meeting with stakeholders at Castanhal region and fixing signs of the Castanhal Project.

Date	Milestone(s) in the project's development and implementation
February 23 rd to March 07 th , 2023	(PAI#6) Informational meeting with stakeholders at Lagoa Grande region, public meetings with Curara community and fixing project signs.
February 24 th to March 12 nd , 2023	(PAI# 7-15) Fauna Survey on Fazenda Nubia Floresta, Fazenda Floresta I, Fazenda D'Graus I, Fazenda D'Graus II, Fazenda Dgraus VI, Fazenda Nova Esperança, Fazenda São Domingos, Fazenda Capinzal I and Fazenda Ribeiro Rondon
February 27 th to March 15 th , 2023	(PAI #1-15) Public meetings to diffuse the Monitoring Report.
March 02 nd to 11 th , 2023	(PAI #2-5) Public meeting for analysis, agreement, and renegotiation of project activities and to inform about the auditory.
March 02 nd to 03 rd , 2023	(PAI#06) Meetings with representants of public institutions in Manicoré/AM
March 08 th , 2023	(PAI #07-15) Installation of signage boards boundaries of the REDD+ project.
March 2023	(PAI #1-15) Site visit information to all stakeholders on verification.
April 19 th , 2023	(PAI #11-13) Indigenous peoples day celebration – Video recording – TI Barreirinha
April 20 th to May 2 nd , 2023	(PAI#1) Fauna Survey Campaign Fazenda Castanhal
April 2023	(PAI#1-15) Auditing process.
May to August 2023	(PAI #4) Roadside maintenance
May 08 th to 12 th , 2023	(PAI#1) Informational meeting with stakeholders, including communities, and data collection at Castanhal region
May 16 th , 2023	(PAI #2-5) Meeting with public municipal (Sena Madureira) institutions – Municipal Health secretary
May 18 th , 2023	(PAI #2-5) Meeting with public state (Acre) institutions - State Educational Secretary
June 22 nd to 27 th , 2023	(PAI#6) Presentation of the biodiversity monitoring activity, dissemination of results and mapping of community demands at Curara
June 21 st to July 4 th , 2023	(PAI#6) Fauna Survey Fazenda Lagoa Grande

Date	Milestone(s) in the project's development and implementation
June 27 th , 2023	(PAI#06) Installation of signage boards boundaries of the REDD+ project.
June 15 th , 2023	(PAI #15) Start of school construction in PA Irmã Dorothy (settlement project).
July 28 th , 2023	(PAI#04) Signing of the georeferencing contract for land donation
August 12 th and 14 th , 2023	(PAI#1) Participatory appraisal and planning with the São Lourenço and Serra Azul community at Resex Guariba-Roosevelt
August 09 th to 11 th , 2023	(PAI#1) Informational meetings with State Secretary of Environment at Cuiabá (MT) and Municipal Secretary of Social Assistance and Health at Aripuanã (MT)
August 15 th , 2023	(PAI#2-5) Meeting with the Brazilian Agricultural Research Company – EMBRAPA at Rio Branco (AC)
August 23 rd , 2023	(PAI#13 – PAI#16-17) Presentation of the forest inventory activity PA Águia at Rio Bonito Municipal Elementary School.
September 21 st , 2023	(PAI #15) Meeting with the team of Municipal Education Secretary of Rondon do Pará to deep the agreements about the schools of P.A. Bom Jesus and P.A. Irmã Dorothy's .
September 22 nd , 2023	(PAI#2-5) Meeting with Reference and Social Assistance Center – CRAS – Sena Madureira (AC)
September 25 st , 2023	(PAI#4) Signing of the notary process contract for land donation
September 26 th , 2023	(PAI#4) Signing of the contract for emission of Rural Property Registration Certificate for land donation
September 27 th , 2023	(PAI#1) Strengthen local organization – Contract sign with Jurupará Socioambiental
September 28 th , 2023	(PAI#01) Meeting with the Jurupará staff and representants of Association of Residents of the Guariba Roosevelt Agroextractivist Reserve -AMORARR and the local representant of the National Council of Extractivist Population - CNS
September to December 2023	(PAI#4) Donation of solar kits, freezers, water bombs, wires etc.
September to October 2023	(PAI#4) Religious building renovation
October 09 th to 11 th , 2023	(PAI#2-5) Woman group meeting

Date	Milestone(s) in the project's development and implementation
October 12 th , 2023	(PAI #4) Cultural, sportive, and religious celebration
November 21 st and 27 th , 2023	(PAI#6) Meeting with Special Indigenous Health Secretariat and National Foundation of Indigenous People
November 23 rd to 24 th , 2023	(PAI#1 and PAI#6) Community exchange with Resex Guariba-Roosevelt communities at Curara about social organization and manioc flour value chain
December 04 th , 2023	(PAI#15) Meeting with National Institute of Colonization and Agrarian Reform – INCRA – about construction's authorization of Bom Jesus school at PA Bom Jesus
December 04 th , 2023	(PAI#1) Internship/trainee start of an AMORARR representant with Jurupará Socioambiental
December 22 nd , 2023	(PAI#11-13) Christmas celebration – activity with kids from TI Barreirinha

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)

Not applicable. No methodological deviations occurred during this monitoring period.

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

Not applicable. No minor changes occurred to the Project Description

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

Because of a new carbon project developed by BRC in the Paragominas region, called Cauaxi AUD Grouped Project (4042), some social activities that were previously related to this Brazilian Amazon APD, have now been moved to the Cauaxi project. The reason for this change is that sustainable productive activities, related to bioeconomy are good strategies to give value to the forest, therefore helping to avoid unplanned deforestation. Activities involved in sustainable production and combat to fire and other vectors of unplanned deforestation were all moved to the more linked and proper project.

In this sense, the changed activities are summarized below:

The planned project activity of CLIMATE - REDUCTION OF GHG EMISSIONS - PREVENTION AND FIGHTING FIRE, originally reported in the PD, will be removed, and transferred to the CAUAXI AUD Group Project (4042), since management and firefighter training are directly related to avoiding unplanned deforestation.

The planned SOCIAL – WELL-BEING – SANITATION project activity related to the PD will be modified since we, the PP, have not found yet the appropriate technology to implement efficiently in the places where the project activities are developed, mainly related to efficiency Environmental sanitation. In this sense, the proposition change is related to the challenge to build environmental toilets adapted to the communitarian's amazon reality, what does not mean the abandonment of activities related to implementation of some kinds of sanitation, just the recognizing of the nom possibility to do it now.

The planned project activity of COMMUNITY – WATER – ACCESS TO WATER related to the PD will be modified, as some activities have not proven to be effective, such as distribution of filters and chlorine, while other parts will be maintained, such as the installation of pumps and hydraulic installations. It is related to the adaptation of the project as some propositions shows to be really difficult and non-effective in its propositions.

The planned project activity of COMMUNITY – HEALTH – INFRASTRUCTURE AND EQUIPMENT related to the PD will be removed by the PP. We realized that this activity would not really be effective, since the public authorities were not able to maintain the health center functioning properly, with medicine, nurses, and doctors, in short, the lack of public budget turns this proposal into a expensive and less effective action.

The planned project activity of COMMUNITY – TRAINING – TRAINING related to PD will be modified as the PP realized that the difficult to implement solid waste management and recycling in the territories is hardly effective, as well as the public authorities were not able to maintain a solid waste management system functioning properly.

The activity of the planned COMMUNITY – EDUCATION – ADVOCACY project related to PD will be modified considering some activities, such as promoting the transport of school materials, but maintaining the articulation to improve school feeding and educational improvement.

In short, all these modifications involve a deeper understanding of the project and its limitations since the PP is more aware of the territory's reality.

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

2.2.6.1 New Project Areas and Communities (VCS, 3.6; CCB, G1.13)

Besides the Project Activities Instances #1 to #15, there were no inclusions of new PAIs or communities in this monitoring period.

Despite the project being under development in Ulianópolis, there are no communities involved in this city, and will remain the same, once the BRC's social team are still searching for properly communities according to BRC's protocol that defines eligible communities for project activities (APPENDIX_ELIGIBILITY-COMMUNITIES-PROTOCOL). For this reason, this issue of involving communities is being solved through some definitions, following the protocol's guidelines, as shown below:

1. Within instances there are no communities present, nor is there any utilization of natural resources by the population in the surrounding areas.
2. Despite being inside the geopolitical boundaries of these municipalities (which is one of the protocol's guidelines), some local characteristics show the non-need of working with communities inside their municipal borders. In the case of Ulianópolis (PA), Água Settlement (where BRC has been working already), fulfills the function to represent the city, once the political, social, and economic relation of this settlement is directly related to this city, and not to Paragominas, where most of its territory is located (APPENDIX_ULIANOPOLIS-SOCIO-GEO-MAP).
3. To avoid conflict of interest with other projects proponents, in the case of Tomé-Açu, there are no communities being worked with because of the presence of carbon projects developed by other proponents. Further than that, Barreirinha Indigenous Land was chosen to represent Tomé-Açu city because of two reasons: the proximity to Água Azul Farms, and the relation of its population with Tomé-Açu's political, social and economic services, making Barreirinha Indigenous Land a natural choose to cover the area.

In another region of the project, in Aripuanã-MT, where PAI #01 is located, a new partnership was initiated with the communities of the Guariba-Roosevelt Extractive Reserve (RESEX), mainly in the São Lourenço and Serra Azul communities, which are located in Banks of the Guariba River. Despite the distance from the project area, these communities are within the geopolitical limits of the

city of Aripuanã, which means they are in the project zone to be worked on, as provided for in the protocol. And it meets the others protocol requirements.

Therefore, all the communities the project is working with follow the guidelines of the protocol, not only to define its partnership, but also to guarantee real impact in these communities and its territorial development.

2.2.6.2 Removed Project Areas and Communities (CCB, G1.13)

During the development of the project, it became clear to the social team that working with the Canaã village wouldn't be productive, since it is a massive and highly urbanized space, counting around 5 thousand inhabitants. In a better sense, it was chosen to focus on smaller communities, given that the activities developed will be more effective.

The settlements of Rio das Cruzes and Paragonorte were also excluded, albeit for distinct reasons. At Paragonorte, the decision was influenced by the community's low interest in engaging with the project, as detailed in (APPENDIX_ICONTACT-REPORT). In contrast, the removal of Rio das Cruzes was due to the absence of an organized community structure, complicating negotiations as it necessitates individual outreach. Furthermore, residents from Rio das Cruzes who displayed interest in project courses and activities have opted to participate through the nearby Rio Bonito community at Água settlement.

2.2.6.3 Eligibility Criteria for Grouped Projects (VCS, 3.6.14; CCB, G1.14)

This project is designed as a Grouped Project, being limited by the Brazilian Legal Amazon borders. Therefore, the expansion of the project scope is allowed by the inclusion of new project activity instances (PAIs) after its validation. The inclusion of new PAIs takes place by the time of each verification event. A set of eligibility criteria for the inclusion of new PAIs were described on section 2.1.15 of validated project description, following VCS v4.4 criteria (update section numbering 3.6.1 to 3.6.17).

All new instances occur in the Legal Amazon, at designated geographic area specified in the project description. The new instances are at Pará State, and have the same characteristics with respect to additionality, that are consistent with the initial instances (Legal deforestation of 20% of the property in Amazon biome and 65% with deforestation permits), where the land use conversion is allowed by law, to activities as common practices as pasture (cattle raising) and agriculture.

The only project activity considered in the scope of the grouped project, for which carbon credits generation is attributable, in line with the methodology adopted and applicable to all instances, is avoiding planned deforestation.

To avoid planned deforestation BRC signs long-term conservation agreements with landowners and demonstrate compliance with the applicable set of eligibility criteria. the relevant and additional information can be seen attached to this report (APPENDIX_LEGAL-AGREEMENTS; APPENDIX_GIS-DATA; APPENDIX_GPD-REQUIREMENTS; and ANNEX_LAND-TENURE).

Complementary activities related to the reduction of planned deforestation, leakage mitigation, social and biodiversity related activities and monitoring activities are described in section 2.1, 4 and 5 of this report, and it is also presented in sections 1.11 and 5.3. of the project description.

2.2.6.4 Risk Mitigation for Grouped Projects (VCS, 3.6; CCB, G1.15)

Not applicable. The project cannot be expanded beyond its scalability limit. The climate, community and biodiversity benefits risk mitigation measures identified in this document are applicable to all PAIs.

2.2.6.5 Project Zone Map (CCB, G1.13)

For the Project Zone Map for all PAIs, please refer to section **Error! Reference source not found.** Project Location, above. There are described the location of communities that are present to the project scope at this verification, besides the boundaries of the project areas that are present to this verification.

2.2.6.6 Changes to Management (CCB, G4.1)

There were no changes in the management structure, roles, or responsibilities in the grouped project due to the inclusion of new instances or new stakeholders. BRCs organization remains the same as per section 2.4.1. of the Brazilian Amazon GPD CCB Project Description.

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

Table 17 – Project Risks

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Unavoidable unplanned deforestation. (Human-induced)	The traditional communities residing in the project area (PAIs#2-5) promote deforestation to expand pastures or new plantations. This is most often a reduced magnitude and low impact activities, however, over time, such activities can harm the expected benefits to the climate.	BRC can't stand against this type of activity because it is fundamental for communities' livelihoods. The project will develop rural extension activities, training, and capacity building aimed at agriculture landscape management improvement, with the objective of increasing community productivity, reducing pressure on forests, and incorporating organic carbon into the soil.
Political (Human-induced)	Specific groups of stakeholders can mobilize against carrying out project activities following their own agendas, which can compromise the project's benefits to communities.	BRC works with a specific social engagement protocol (APPENDIX_SOCIAL-ENGAGEMENT-PROTOCOL), which comprises a stage aimed at obtaining free, prior, and informed consent and the creation of mechanisms for continuous communication, associated with a grievance and redress procedure.
Predatory hunting and overfishing. (Human-induced)	Hunting and fishing are cultural and fundamental aspects of the livelihoods of the traditional communities residing in the project area (PAIs#2-5). These activities are assumed as traditional and of low impacts. On the other hand, these activities	Fauna monitoring and activities of environmental education

	are carried out in a disorganized manner, without any kind of monitoring or control, which can harm the project's biodiversity objectives.	
Extreme droughts (Natural)	Climatic anomalies such as El-Nino could change the air currents over the Amazon biome, making the forest drier and more flammable, which could compromise the project's climate and biodiversity objectives.	BRC will increase the budget and intensity of activities related to forest fire prevention and wildfire combat in El-niño years.
Unavoidable unplanned deforestation. (Human-induced)	Although there are no communities living within the project areas (PAI#6), there are people who exploit non-timber products, which can be vectors of degradation.	BRC will work together with extractives to raise awareness about the carbon project, forest conservation and the eventual valorization of exploited non-timber products.
Wildfires. (Human-induced)	The traditional communities use fire as an instrument for landscape management. This fire can strike the forest, especially in drier years, and undermine the project's climate benefits.	The absence of nearby communities and within the project areas reduces the risk of induced fire, however, we will carry out awareness activities, with outside extractives, about the risks and fire management.
Political (Human-induced)	Specific groups of stakeholders can mobilize against carrying out project activities following their own agendas, which can compromise the project's benefits to communities.	BRC seeks to carry out the survey and all stakeholders, who may interfere in the success of the carbon project and keep them informed about the objectives and limits of the project.
Political	Specific groups of stakeholders can mobilize	BRC seeks to carry out the survey and all stakeholders,

(Human-induced)	against carrying out project activities following their own agendas, which can compromise the project's benefits to communities.	who may interfere in the success of the carbon project and keep them informed about the objectives and limits of the project.
Extreme droughts (Natural)	Climatic anomalies such as El-Nino could change the air currents over the Amazon biome, making the forest drier and more flammable, which could compromise the project's climate and biodiversity objectives.	BRC will increase the budget and intensity of forest fire prevention and wildfire combat activities in El-Niño years.

2.2.8 Benefit Permanence (CCB, G1.11)

For all project activity instances, already verified or under verification process, BRC took legal steps to ensure that the climate, community, and biodiversity benefits will be maintained beyond the project lifetime. Each PAI has a legal agreement (APPENDIX_LEGAL-AGREEMENTS) that was signed with the landowner to continue the management practices that will lead to the project area conservation for at least 30 years in the initial instances, and 40 years to the new instances according the standards new rules, and guarantee the permanence of the carbon stocks in the post project scenario and, as well, the community and biodiversity benefits:

Landowner responsibilities

“(ii) Ensure, through legal instruments for conservation (Environmental Servitude, Private Natural Heritage Reserve - RPPN's, among others), the maintenance of areas and the legal protection necessary to ensure the permanence of carbon stocks in the post-project scenario. In other words, to maintain the integrity of the area object of the Carbon Credit Project, where no land use change of the rural property is allowed”.

The GPD GHG accounting period is 100 years. Any PAI lifetime can be extended until the year 2121.

Beyond the legal steps to be taken to guarantee long-term benefits, there are other strategies developed by the BRC team to assure its gains. And it is related to internal protocols which sees – pedagogic activities, partnership with stakeholders, as state institutions, NGO's and others, constant presence and supporting to the territory and its inhabitants, supporting especially the needs of

education, and other strategies –, as fundamental tools to make the project been effective for a long term.

To make the development of the project possible it is necessary constant consent, which means contact, transparency, agreement, information, and mutual belief, in this sense it helps the project to go well in the long term.

2.3 Stakeholder Engagement & Safeguards

Currently the BRC's stakeholder engagement protocol is based on interaction conducted in four distinct phases, as described below.

The first phase involved socioeconomic and cultural surveys and diagnoses. In this phase, BRC team shared with the communities and other stakeholders a project design that included general and specific types of activities that could be developed under the project to support discussions among community representatives and prepare for the second round of interaction. BRC team also discussed with the communities the potential benefits, costs, and risks of the project. This phase is fundamental to map and identifying the local stakeholders, mainly the people who live in the impacted area by project. In this sense, all the information is collected and displayed to our team, including evidence about the existence of any person who can be directly affected by the project.

The second phase took the form of participatory workshops to design the project activities and focused on building and obtaining the free, prior, and informed consent of the communities affected by the project. In these workshops, BRC defined the project's social activities, monitoring parameters, and mechanisms for participation and benefit sharing. BRC also considered potential negative impacts and possible mitigation measures, and established mechanisms for ongoing communication and grievance procedures. In these workshops, BRC team tried to map HCVs, and to involve and interact with the community women, looking for organize groups of women, what is been developed in some territories.

In the third phase, social monitoring was conducted based on the previously established monitoring plan.

In the fourth phase, PP established the dissemination of monitoring results, the procedure for participating in the VCS/CCB public comment period, the project validation/verification process, and the role of the auditor.

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

Stakeholders were already identified at the last verification.

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

All project documentation, including the project description and monitoring reports, are available through the BRC and Verra websites, social media, and during public meetings. The printed version distributed to communities and stakeholders will include a general description of physical and social parameters and other relevant aspects during the project lifetime. Beyond that, BRC compromises itself to keep a constant open channel of contact with all the stakeholders and to maintain through campaigns, public reunions, protocols, cell phone and other tools all involved institutions, communities and community members informed and aware about the publication of these documents.

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

A printed version of the CCB GPD summary in Portuguese was distributed, especially during public meetings with the communities, and through institutional meetings with public sector and with other stakeholders. But it is distributed as well in minor reunions with some actors and through the quotidian contact of BRC team and stakeholders. The PP recommends to all stakeholders to maintain the printed version on public places to be seen by all interested people. And further than just summary distribution, the BRC team talk about what is inside the documentation using an adaptative language for each kind of public.

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

The BRC team has been visiting the territory and the interested parties during the whole project period, has promoted public meetings in most of the places which has project development and in the project areas on an annual basis (when possible) to disseminate the results and assess the costs, risks and benefits of the project.

All the activities in the site are informed to the beneficiaries using multiples means to it, since WhatsApp contacts, till communication via radio (where it is the better way to do), passing through social medias and official invites.

During the 2023 period happened some informal activities on the site, and they are described below:

On-site meeting with Rondon do Pará's municipal education secretary (Mrs. Kelly Cristina).

January 28th to February 05th / 2023: during this week the BRC team walked around the PAI#2-5 mobilizing and informing the population about public meetings which occurred a few weeks later.

February 01st / 2023: On-site meeting with local socio-environmental company – Jurupará Socioambiental in Aripuanã-MT (PAI#01).

February 01, 2023: Meeting with manager Anna Magdalena Guedes de Azevedo Cruz and Agro Business Manager Mario Marquezan Junior – SICREDI Bank in Aripuanã-MT (PAI#01).

February 02nd / 2023: Meeting with some councilors at municipal Council Chamber in Aripuanã-MT (PAI#01).

February 02nd / 2023: Meeting with the mayor (Seluir Peixer) at city hall in Aripuanã-MT, The Municipal Secretary of the Environment, Claudete Thomas was present (PAI#01).

February 03rd / 2023: Presentation of the project to the Association of Small Rural Producers of Gleba Cafezal Géssica Ferreira Terres and Sabrina Rezende, president and vice president, respectively – Aripuana-MT (PAI#01).

February 02nd to 11th / 2023: Public meeting for agreements and definitions of project activities with Porongaba, Palmares, Potiguar e Katianã communities (PAI#2-5).

February 04th / 2023: Meeting with the secretary of Municipal Secretary of Rural Development -SEMDER – Mister Heiji da Silva Kawatake (PAI#01).

February 25th /2023: Public meeting to presentation the project with Curara community – Manicoré – AM (PAI#06).

March 02nd / 2023: Meeting with the secretary of Municipal Secretary of Environmental and Sustainable Development – Manicoré – AM – Mister Paulo Renato da Silva Vieira (PAI#06).

March 02nd / 2023: Meeting with the representant Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas - IDAM – Manicoré – AM – Miss Mariza Lislely da Silva Jurema (PAI#06).

March 03rd / 2023: Meeting with the representant of Chico Mendes Institute for Biodiversity and Conservation - ICMBio – Manicoré – AM – Mister Victor Bruno Alexandre Paoleschi (PAI#06).

March 03rd / 2023: Meeting with the representant of the National Foundation of Indigenous Peoples - FUNAI – Manicoré – AM – Mister Francisco (PAI#06).

March 03rd / 2023: Meeting with the office's local coordinator of Special Secretary of Indigenous Health – SESAI – Miss Marcilene Mereth dos Santos (PAI#06).

May 08th / 2023: Meeting with the mayor (Seluir Peixer) at city hall in Aripuanã-MT (PAI#01).

May 08th / 2023: Meeting with the secretary of Educational Municipal Secretary – SME – Mister Ernes José dos Reis (PAI#01).

May 08th / 2023: Meeting with the secretary of Municipal Secretary of Rural Development - SEMDER – Mister Heiji da Silva Kawatake (PAI#01).

May 08th / 2023: Meeting with the office's local coordinator of Special Secretary of Indigenous Health – SESAI – Miss Luana Crestani (PAI#01).

May 09th / 2023: Meeting with the secretary of Environmental Municipal Secretary – SEMAM –, Aripuanã – MT - Miss Claudete Tomas (PAI#01).

May 09th / 2023: Meeting with local socio environmental company – Jurupará Socioambiental, in Aripuanã-MT – Mister Emerson Oliveira and Mister Henrique Santana (PAI#01).

May 10th / 2023: Public meeting at São Lourenço community with the local association - Associação dos Moradores Agroextrativistas da Resex Guariba-Roosevelt – AMORARR – Aripuanã-MT (PAI#01).

May 16th / 2023: Meeting with the secretary of Health Municipal Secretary – Sena Madureira – AC – Mister Donizete Fernandes (PAI#04).

May 18th / 2023: Meeting with the secretary of department State Secretary of Education, Sport and Culture – Sena Madureira – AC – Miss. Irlany (PAI#04).

August 09th / 2023: Meeting with the representant of Environmental State Secretary of sector of Conservation Unit Coordination – CUCO (PAI#01).

August 10th / 2023: Meeting with the secretary of Social Assistance Municipal Secretary – SEMUAS – Aripuanã – MT – Miss Rita Schneider (PAI#01).

August 11th /2023: Meeting with the deputy secretary of Health Municipal Secretary – SEMUSA – Aripuanã – MT – Miss Elenil (PAI#01).

August 12th / 2023: Participatory appraisal and planning with the São Lourenço community at Resex Guariba-Roosevelt – Aripuanã – MT (PAI#01).

August 14th / 2023: Participatory appraisal and planning with the Serra Azul community at Resex Guariba-Roosevelt – Aripuanã – MT (PAI#01).

August 15th / 2023: Meeting with Brazilian Agricultural Research Company – EMBRAPA – Rio Branco – AC – Mister Daniel Moreira Lambertucci e Miss Jana Roiz Saito (PAI#02-05).

September 22th / 2023: Meeting with Reference and Social Assistance Center – CRAS – Sena Madureira – AC – Miss Maria Lúgia Pessoa da Silva (PAI#02-05).

November 21th / 2023: Meeting with the office's local coordinator of Special Secretary of Indigenous Health – SESAI – Miss Marcilene Mereth dos Santos (PAI#06).

November 27th / 2023: Meeting with the regional coordinator and responsible technician of the National Foundation of Indigenous People - FUNAI – Manicoré – AM – Mister Emilson Frota de Lima and Ricardo Luiz S. Costa (PAI#06).

December 01st/ 2023: Meeting with National Institute of Colonization and Agrarian Reform – INCRA – Marabá – PA – Mister Clóvis Silva (PAI#07-15).

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

Table 18 – Risks from the Project

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk	Actions implemented to mitigate the risk
Unavoidable unplanned deforestation. (Human-induced)	The traditional communities residing in the project area (PAIs#2-5) promote deforestation to expand pastures or new plantations. This is most often a reduced magnitude and low	BRC can't stand against this type of activity because it is fundamental for communities' livelihoods. The project will develop rural extension activities, training, and capacity building aimed at	BRC carried out 02 training courses on sustainable cattle raising with the communities of Porongaba, Palmares, Potiguar, Novo Destino e Baturité (PAIs#2-5). There was a total of 03 days of field lectures in 02 farms. 19 people participated. With training in sustainable

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk	Actions implemented to mitigate the risk
	impact activities, however, over time, such activities can harm the expected benefits to the climate.	agriculture landscape management improvement, with the objective of increasing community productivity, reducing pressure on forests, and incorporating organic carbon into the soil.	livestock farming, BRC hopes to improve the productivity of pastures in the project area and reduce pressure on forest remnants. Nowadays the project is in the planning stage to provide rural technical assistance to improve their productive techniques.
Political (Human-induced)	Specific groups of stakeholders can mobilize against carrying out project activities following their own agendas, which can compromise the project's benefits to communities.	BRC works with a specific social engagement protocol (APPENDIX_SOCIAL-ENGAGEMENT-PROTOCOL), which comprises a stage aimed at obtaining free, prior, and informed consent and the creation of mechanisms for continuous communication, associated with a grievance and redress procedure.	BRC has created a direct channel (APPENDIX_HELLO-BRC-POSTER) for praises, grievances and proposals, beyond all the public reunions and other forms of communication which are implemented at the project site.
Predatory hunting and overfishing. (Human-induced)	Hunting and fishing are cultural and fundamental aspects of the livelihoods of the traditional communities residing in the project area (PAIs#2-5). These activities are assumed as traditional and of low impacts. On the other hand, these activities are carried out in a disorganized manner, without any kind of monitoring or control,	Fauna monitoring and activities of environmental education	A total of twelve biodiversity monitoring campaigns were conducted across the project instances. For more information, please refer to Section 5.

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk	Actions implemented to mitigate the risk
	which can harm the project's biodiversity objectives.		
Extreme droughts (Natural)	Climatic anomalies such as El-Nino could change the air currents over the Amazon biome, making the forest drier and more flammable, which could compromise the project's climate and biodiversity objectives.	BRC will increase the budget and intensity of activities related to forest fire prevention and wildfire combat in El-nino years.	BRC developed a fire alert monitoring system, based on which helps us control actions in relation to forest fires.
Unavoidable unplanned deforestation. (Human-induced)	Although there are no communities living within the project areas (PAI#6), there are people who exploit non-timber products, which can be vectors of degradation.	BRC will work together with extractives to raise awareness about the carbon project, forest conservation and the eventual valorization of exploited non-timber products.	BRC is carrying out a survey of the actors who carry out these periodic extractivism, through an approximation with the nearest community to the project area – Curara village, where the data is been lifted.
Wildfires. (Human-induced)	The traditional communities use fire as an instrument for landscape management. This fire can strike the forest, especially in drier years, and undermine the project's climate benefits.	The absence of nearby communities and within the project areas reduces the risk of induced fire, however, we will carry out awareness activities, with outside extractives, about the risks and fire management.	The project is doing courses of fire management at PAIs in Pará state, and in the others PAIs these activities has been on planning stage yet.
Political (Human-induced)	Specific groups of stakeholders can mobilize against carrying out project activities following their own agendas, which	BRC seeks to carry out the survey and all stakeholders, who may interfere in the success of the carbon project and keep them informed about	BRC team has already take contact and is constructing a good partnership with the nearest community (Curara village– PAI#6) of the project

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk	Actions implemented to mitigate the risk
	can compromise the project's benefits to communities.	the objectives and limits of the project.	area and all the main actors who works at the region.
Political (Human-induced)	Specific groups of stakeholders can mobilize against carrying out project activities following their own agendas, which can compromise the project's benefits to communities.	BRC seeks to carry out the survey and all stakeholders, who may interfere in the success of the carbon project and keep them informed about the objectives and limits of the project.	BRC understands that these actions are important, and the strengthening of these relationships happens in the long term. Therefore, BRC constantly carries out communication and local articulation activities, such as delivery and dissemination of the project summary, monitoring results and the verification process, which were carried out in meetings with public agents (town halls, unions, communities involved).
Extreme droughts (Natural)	Climatic anomalies such as El-Nino could change the air currents over the Amazon biome, making the forest drier and more flammable, which could compromise the project's climate and biodiversity objectives.	BRC will increase the budget and intensity of forest fire prevention and wildfire combat activities in El-Niño years.	We developed a fire alert monitoring system, based on which helps us control actions in relation to forest fires. Fire monitoring is found in APPENDIX_GIS-DATA > MONITORING_3_2023

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

Analyzing the costs, risks, and benefits of any project with communities demands a lot of dialogue between the BRC team and the community members, sometimes it is not easy to understand all of them. But, of course, some benefits and costs are clearer than the risks.

It is easier to measure costs in the short, medium, or long term, as it is to measure benefits such as improvement on health or education quality, but the risks usually turn clear after the

implementation of the first project's steps, and so on. Therefore, it is during the implementation of the project itself that the compression of the risks is possible, and by this and the community demands that project can improve its ways of shrinking risks and mitigating the noninterest impacts. But even without knowledge or clarity about the potential risks of the project, since the beginning of its implementation, the BRC team has shown, in a transparent way, that there are always risks embedded in all types and forms of projects, especially in those that involve many different interests depending on the multiple communities requires, and its community members.

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

Throughout project development, the BRC team holds informational meetings and other meetings with interested parties to keep them aware about the needs and dates of verification processes and other issues. More than that, it is BRC's practice to keep all interested parties informed through several different communication methods, such as presented meetings, letters, protocols, contacts on social networks and even personal and informal communications.

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

For all project activity instances, already verified or under verification process, communities were informed about the auditing process during the public meetings held on social engagement. BRC is responsible for the logistics and displacement necessary for the smooth running of the audit, allowing the VVB to have access to community representatives at its own discretion. Communication between auditor and communities will be facilitated by the accompaniment of an independent third party to the process, if demanded by the VVB.

During interviews with community members, it is PP's practice to let auditors free to talk privately with any member of the community. This practice is also informed to the community members before the auditors' visit, so that they feel free to express their impressions about the project, without any embarrassment.

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

For all project activity instances, already validated or under validation process, the stakeholder consultation process took place during the participatory workshops for the design of the project activities, developed during the second stage of social engagement, that happens after the initial free, prior, and informed consent (FPIC). But BRC believes that the consent is not just one moment of process, on contrary, it must be constantly in a way to strongly root the relationship

between communities and the PP, because of that the contact between the BRC team and the other stakeholders is constant and open, through many different channels and the local staff.

In all public events, developed by BRC team the communities are invited and stimulated to speak freely about their problems and concerns, having in perspective how the project could help them. Beyond that the BRC social team focuses on using multiples strategies and tools to make the consultation more understandable and productive to all interested.

At the end of any events, meetings, and other opportunities to chat, we create a list of possible project activities, but sometimes there are urgent demands which are not presented in the public meetings, as the example of road maintenance requested by the Porongaba's community (PAI#04) through its representants (ANEXX_BRANCH_ROAD_MAINTENANCE_SOLICITATION). Anyway, when there are no urgent demands, the constructed list is considered by BRC based on the available budget and the chosen activities are categorized and prioritized as necessary.

For other stakeholders, such as public entities (municipality and state) the consultations are based on communication by e-mail, official letters, protocols and in specific scheduled meetings, all evidence is registered in the project database.

Table 19 – Stakeholder Consultation

Date(s) of stakeholder consultation	19 to 25- July - 2021
Communication of monitored results	Public meetings to develop the FPIC – first stage. Initially the PP made phone contact with the representatives and asked them the possibility to make a public meeting. Visit to: Palmares Communities Porongaba Communities Katianã Communities Potiguar Communities
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.

Stakeholder input	The participants have requested to install internet on the site and have cited the necessity to create job opportunities in the territory
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Date(s) of stakeholder consultation	27- July - 2021
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Municipal Health Department (Sena Madureira), with the secretary, miss Nildete Nascimento State Education Department (Sena Madureira Office)
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	29 – July - 2021
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: State Education Department (Rio Branco)
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	30 – July - 2021
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Climate Change Institute (State institution – Acre), with the institute president, mister Érico Barbosa
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	05 – August - 2021
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Municipal Education Department (Sena Madureira)
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	24 – August - 2021
Communication of monitored results	The meetings were scheduled by preview contact with the institutions following the initial interaction, a month early. It was developed as a face-to-face meeting. Visit to:

	Municipal Health Department (Sena Madureira) State Education Department (Sena Madureira Office)
Consultation records	The meeting served to deepen the mutual understanding of needs and to define possible activities together
Stakeholder input	The start of a partnership to implement educational and health activities

Date(s) of stakeholder consultation	25 – March - 2022
Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Porongaba Riverside Communities
Consultation records	The meeting focused on inform and discuss project activities, to map demands
Stakeholder input	The beneficiaries demanded expansion of internet access and improvement on the school condition, beyond other demand (trainings, job opportunities, income)

Date(s) of stakeholder consultation	27 – March - 2022
Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Porongaba Center Communities

Consultation records	The meeting focused on inform and discuss project activities, to map demands
Stakeholder input	The beneficiaries demanded expansion of internet access and improvement on the school condition (Income, health issues, energy access)
Date(s) of stakeholder consultation	28 – March - 2022
Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Palmares Communities
Consultation records	The meeting focused on inform and discuss project activities, to map demands
Stakeholder input	The beneficiaries demanded expansion of internet access and improvement on the school condition (Improve access to water, health issues, energy access, sanitation)
Date(s) of stakeholder consultation	30 – March - 2022
Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Potiguar Communities
Consultation records	The meeting focused on inform and discuss project activities, to map demands
Stakeholder input	The beneficiaries demanded expansion of internet access and improvement on the school condition

	(Improve access to water, health issues, energy access, scholar transportation)
Date(s) of stakeholder consultation	03 – April - 2022
Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Katianã Communities
Consultation records	The meeting focused on inform and discus project activities, to map demands
Stakeholder input	The beneficiaries demanded expansion of internet access and improvement on the school condition (Improve access to water, health issues, energy access, scholar transportation)
Date of stakeholder consultation	03 – May - 2022
Stakeholder engagement process	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Regional Branch of the State Secretariat of Environment and Sustainable Development (SEMAS/PA) – Chat with the local coordinator and an environmental technician, miss Luana Alves and miss Bianca. Municipal Department of Development and Social Assistance (SEMDES/Paragominas) – Chat with the municipal secretary, miss Amanda Purger Municipal Department of Green and Environment (SEMMA/Paragominas) – Chat with the municipal secretary, mister Roberto Gambin

	Environment Municipal Secretary (SEMA – Ipixuna do Pará) – Chat with a representant, miss Luanda Silva
Consultation outcome	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date of stakeholder consultation	04 – May - 2022
Stakeholder engagement process	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Vale do Acará Agricultural Association (AAVA) – Chat with its president and representants of the supervisory board director, mister Manoel Lima, mister João Cláudio Nivaldo and mister Ataíde Moura Environmental Municipal Secretary (SEMMA/Tomé Açu) – Chat with the municipal secretary, mister Cosmo Amaral
Consultation outcome	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date of stakeholder consultation	05 – May - 2022
Stakeholder engagement process	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: State Agency of Agricultural Defense (ADEPARÁ/local office – Dom Eliseu) – Chat with the mayor, and the secretaries of Environment, Economic Develop, Mining,

	Industry, Trade and Tourism, Treasury, and the representants of Dom Eliseu's Rural Workers Syndicate, mister Gersilon Gama, mister Maikon Mantelli, miss Mônica Aguiar, mister Genilson Cavalcanti, and mister Tarcizio Burin, miss Laura Priore and mister Guilherme Araújo Rural Workers Syndicate (Rondon do Pará/PA) – Chat with its president, a secretary and its lawyer, mister João Malcher, miss Cristina Malcher and Maria Eduarda Malcher
Consultation outcome	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date of stakeholder consultation	04 to 16 – June - 2022
Stakeholder engagement process	Public meetings to develop the FPIC – first stage. Initially the PP made phone contact with the representatives and asked them the possibility to make a public meeting. Visit to: Águia Settlement Bom Jesus Settlement Irmã Dorothy Settlement Barreirinha Indigenous Land
Consultation outcome	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	The contributions were basically related to job opportunities, improvement on local income, educational issues, and strength associations.

Date(s) of stakeholder consultation	04 to 16 – August - 2022
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Communication of monitored results	Public meetings to inform about the development of the project and to receive grievances, praises and new demands. The invite was made by phone, personal contacts and by radio. Visit to: Potiguar Communities
Consultation records	The meeting focused on inform, discuss and present the social diagnose
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	12 – January - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Municipal Educational Secretary (SEMED – Rondon do Pará) – Chat with the municipal secretary, miss Kelly Cristina
Consultation records	The meeting served to deepen the mutual understanding of needs and to define possible activities together
Stakeholder input	The secretary showed the best way to impact the school's quality in the region

Date(s) of stakeholder consultation	01 to 08 – February - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to:

	Jurupará Socioambiental – Chat with the company president, mister Emerson Water Pact Development of Socio-Environmental Projects – Chat with the institution president, mister Everaldo Santos Municipal Chamber of Councilors (Aripuanã/MT) - Chat with the institution president, miss Sinéia Santos, and the Councilor mister Jaime Yung Municipal City Hall (Aripuanã/MT) - Chat with the mayor, miss Seloir Peixer, and the Environmental Municipal secretary, miss Claudete Thomas
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process.
Stakeholder input	No contributions were made by them.

Date(s) of stakeholder consultation	02 to 11 - March - 2023
Communication of monitored results	Public meetings to inform the development of the activities, a month before occurred a mobilization house to house to invite to the meetings Visit to: Palmares Communities Porongaba Communities Katianã Communities Potiguar Communities
Consultation records	The meeting focused on inform, discuss project activities, to map and renegotiate demands
Stakeholder input	The beneficiaries demanded the same issues as already mapped

3	02 to 03 - March - 2023
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Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Institute for Sustainable Agricultural and Forestry Development of the State (IDAM – Local office) – Chat with the local representant, miss Mariza Jurema National Council of Extractive Populations (CNS – Local office) – Chat with the local representant, miss Silvia Elena Chico Mendes Institute for Biodiversity Conservation (ICMBio – Local office) - Chat with the local representant, mister Victor Paoleschi National Foundation of Indigenous People (FUNAI – Local office) - Chat with the local representant, mister Francisco Special Indigenous Health District of the Special Secretariat for Indigenous Health (DSEI/SESAI) - Chat with the local representant, miss Marcilene Mereth Organization of Indigenous Peoples Torá, Tratari, Apurinã, Mura, Parintintin and Pirahã (OPITTAMPP) - Chat with the local representant, mister Francisco Borges
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process. And informed about the auditory which was to happen.
Stakeholder input	Reinforce the Brazilian nuts value chain in the region, strengthen the local associations, and support to indigenous health activities
Date(s) of stakeholder consultation	08 to 12 - May - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them (email, phone, whatsapp), in a formal language as demanded. It was developed as a face-to-face meeting.

	Visit to: Municipal City Hall (Aripuanã/MT) - Chat with the mayor, miss Seloir Peixer Municipal Environmental Secretary (SEMAM - Aripuanã/MT), Chat with the secretary, miss Claudete Thomas Municipal Education Secretary (SME - Aripuanã/MT), Chat with the secretary, mister Ernes Reis Municipal Rural Development Secretary (SEMDER - Aripuanã/MT), Chat with the secretary, mister Heiji Kawatake National Foundation of Indigenous People (FUNAI – Aripuanã/MT), Chat with the local coordinator, mister Adegildo Nascimento Special Indigenous Health District of the Special Secretariat for Indigenous Health (DSEI/SESAI) - Chat with the local representant, miss Luana Crestani Jurupará Socioambiental – Chat with the company president, mister Emerson Water Pact Development of Socio-Environmental Projects – Chat with the institution president, mister Everaldo Santos Association of Agroextractive Residents of Resex Guraiba Roosevelt – Rio Gurariba (AMORARR), Chat with the association president, mister Ailton and other representants Yukapkataw Indigenous Association of the Arara People, Chat with some representants Marupá Indigenous Association of the Arara People, Chat with some representants
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process. And deepened its understanding to some of the contacts that were made before
Stakeholder input	The main contributions were to strengthen the local associations, and support to indigenous health activities, but there were many others

3	16 to 18 - May - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Municipal Health Department (Sena Madureira), chat with the secretary, mister Donizete Fernandes and the coordinator of the Program Itinerant Health State Education Department (Sena Madureira Office)
Consultation records	The meeting served to deepen the mutual understanding of needs and to define possible activities together and to schedule a meeting with the auditor
Stakeholder input	The need to deep and formalize new partnerships.

Date(s) of stakeholder consultation	09 to 11 - August - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: State Environmental Secretary (SEMA/MT) – chat with the coordinator of the Conservation Units Coordination, mister Elder Monteiro Municipal Secretary of Social Assistance (SEMUAS – Aripuanã) – chat with the secretary, miss Rita Schneider Municipal Health Secretary – (SEMUSA – Aripuanã) - chat with the vice secretary, miss Elenil
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process. And deepened its understanding to some of the contacts that were made before
Stakeholder input	The need to deep and formalize new partnerships.

Date(s) of stakeholder consultation	12 to 14 - August - 2023
Communication of monitored results	Public meetings to make participatory appraisal and to inform about the development of the project. The invite was made by phone, personal contacts and by radio. Visit to: São Lourenço and Serra Azul Communities – Resex Guariba Roosevelt
Consultation records	The meeting served to explain the possibilities of the project to support social actions in the communities
Stakeholder input	The main demand was related to strengthen the association through activities with young people to be more involved to the local association

Date(s) of stakeholder consultation	15 - August - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Brazilian Agricultural Research Company (EMBRAPA – Rio Branco) – Chat with the technicians
Consultation records	The PP presented the entire project conception and its intentions, through a summary of the project and a dialogical process. And deepened its understanding to some of the contacts that were made before
Stakeholder input	They presented the impossibility of work directly with the territory because of lack of workers

Date(s) of stakeholder consultation	21 – September - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Municipal Educational Secretary (SEMED – Rondon do Pará) – Chat with the municipal secretary, miss Kelly Cristina, and the secretary staff
Consultation records	The PP presented the proposal to build and refurbish two municipal schools at PA Bom Jesus and PA Irmã Dorothy
Stakeholder input	The path to formalize the proposal in an appropriated, formal and legal way

Date(s) of stakeholder consultation	22 – September - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: Reference and Social Assistance Center (CRAS – Sena Madureira) – Chat with the local coordinator, miss Maria Lígia
Consultation records	The PP presented the need to understand the ways for the communitarians access their social rights
Stakeholder input	They said to wait for the new rules that was being developing

Date(s) of stakeholder consultation	28 – September - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them,

	in a formal language as demanded. It was developed via internet. Visit to: Jurupará socioenvironmental company Association of Residents of the Guariba Roosevelt Agroextractivist Reserve (AMORARR) National Council of Extractivist Population
Consultation records	The meeting was schedule to define the dates and strategies to be developed in the communities
Stakeholder input	They defined the best days and strategies
Date(s) of stakeholder consultation	09 to 11 – October - 2023
Communication of monitored results	The meetings were scheduled by preview contact vie WhatsApp and face to face visit Visit to: Porongaba center community Porongaba Riverside community Palmares community
Consultation records	The developing of women group at the territory
Stakeholder input	The necessity to repeat and deep the activities involving women at the territory
Date(s) of stakeholder consultation	04 – December - 2023
Communication of monitored results	The meetings were scheduled by preview contact with the institutions through the channels provided by them, in a formal language as demanded. It was developed as a face-to-face meeting. Visit to: National Institute of Colonization and Agrarian (INCRA – Marabá) – Chat with the local coordinator

Consultation records	The PP presented the proposal to build and refurbish two municipal schools at PA Bom Jesus and PA Irmã Dorothy
Stakeholder input	The path to formalize the proposal in an appropriated, formal and legal way

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

For all project activity instances, whether already verified or under verification process, the GPD continued communication and consultation plan is based on digital inclusion, annual public meetings and informal visits and conversations.

BRC provided means of communication such as face-to-face (presential), internet and telephone, which enable effective and continuous communication with isolated communities through calls and messages. This mechanism also allows for consultations to be carried out during the time there are no visits to the territory.

Annual public meetings have taken place to report the results of participatory monitoring on the implementation of project activities. During these events, communities have new chances to influence the project design and its implementation during the subsequent monitoring period. Other way which communities must influence the project management is through its own meetings, using the instruments as meeting minutes demanding what are their necessities. All these instruments are fundamental to the PP has a whole frame of the project perception by the beneficiaries, and from it make the properly adaptative management when it is necessary.

Thus, the PP team uses appropriate tools to analyze changes in the territory in environmental, political, social, and economic issues to carry out appropriately adaptive management.

Table 20 – Received Comments

Summary of comments received	Actions taken
During a visit to the Porongaba territory, at the beginning of 2023, community members from the localities of Santa Luzia and Baixa Alegre, proposed to the PP that the side road that connects	The PP has accepted the proposal and did the improvement on 18 km of the side road.

these places to the territory's main road be made a maintenance, to improve their accessibility to both central region of Porongaba and the city of Rio Branco.

2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

For all project activity instances, already verified or under verification process, the social engagement protocol developed by BRC, as cited above, ensured that all consultations and participatory processes were undertaken directly with communities and other stakeholders. It's worth noting that for many reasons there are different stages in the relationship between BRC and the territories and its communities of each instance, meaning that in some instances these consultation channels are more advanced than others. The main reason for this is the lifetime of each instance, in addition to the particularities of each community group, as having or not regular associations, cooperatives or other kind of local social organizations.

The direct consultation and involvement of communities in participatory processes so far, can be evidenced in this document by photographic records (APPENDIX_PUBLIC-MEETINGS-MEDIA).

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

For all project activity instances, already verified or under verification process, stakeholder participation in decision-making was ensured by the BRC social engagement protocol, which provided, in its second stage, the execution of participatory workshops for the design of the project. During these workshops, an exclusive space was reserved for the participation of women, free from the influence of men, to take care of gender aspects. Furthermore, the PP is developing women's groups to enable them to understand the principles of the project and to receive their demands and interests.

And, more than that, to assure the properly participation of women in all meetings, the BRC social engagement protocol predicts a team to stay with the kids to let the women free to be part of the decision-making process. BRC is formed by multidisciplinary professionals, some of them with more than 15 years of experience in developing carbon projects, which gives them the necessary skills to conduct public meetings with appropriate language. A comic book was produced and distributed to the communities to help them better understand the nature and scope of the carbon project, among other relevant aspects. The effectiveness of the participation mechanisms

implemented so far can be evidenced by the description of the project activities, which reflect the demands presented by the community.

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

BRC bases its anti-discrimination practice through internal policies and regulations as the company's Social Statute (APPENDIX_SOCIAL-STATUTE), its Ethics and Conduct Code (APPENDIX_ETHICS-AND-CONDUTE-CODE) and activities and lectures of anti-discrimination agenda involving its workers (APPENDIX_HUMAN-RESOURCES-ACTIVITIES).

Furthermore, BRC's code of ethics states that all employees, directors, and company partners must comply with all relevant laws related to anti-discrimination assurance.

The landowner partner as well signed a conservation agreement (APPENDIX_LEGAL-AGREEMENTS) that clearly states that both parts must follow all the applicable laws, regarding project implementation and management and their commitment with no forms of segregation, including discrimination based on gender, race, religion, sexual orientation, or other habits.

As another strategy to avoid this kind of issue, the company created a direct channel between the communities and our staff for complaints and reports about these challenges. (APPENDIX_COMMUNICATION-CHANNEL)

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

At BRC, we recognize that people's engagement, needs, and well-being are critical to sustaining the project over the long term. Therefore, we maintain direct communication with stakeholders and the community through calls and messages so that communication, feedback, and complaints are always possible, the BRC has developed a direct channel (APPENDIX_HELLO-BRC-POSTER) to receive all grievances from communitarians and institutions (APPENDIX_FLOWCHART-COMPLAINTS). Each year, the BRC team holds at least one meeting with each community involved in the project's activities. At these meetings, we gather input on the activities that have already been implemented and requests to maintain or implement new activities. In these opportunities, the team will apply questionnaires to objectively properly developed to measure the effectiveness of activities.

The process for receiving, hearing, responding to and resolving complaints is defined and described in three stages:

First step: amicable negotiation. We listen to and analyze complaints from communities and other relevant stakeholders and provide an oral or written response within one week via e-mail and/or WhatsApp, or through face-to-face meetings.

Second step: mediation by a neutral party. If the BRC team cannot resolve a complaint amicably through clarification or redress, the dispute is referred to an independent third party for mediation. This third party may vary depending on the nature of the dispute. If the dispute is a land dispute, we may refer the matter to the state or federal land agency. If the dispute is between communities, it may be mediated by the BRC or community association representatives.

Third step: arbitration: if the third party is unable to mediate the ongoing dispute, the ongoing dispute will be assessed in the District of Piracicaba or in the local district.

Table 21 - Grievances

Grievances received	Resolution and outcome
Internet Distribution	Due to the original information and agreement made with the beneficiaries there will not be further actions to expand the internet signal once the logistic challenges (distance between the houses and the tower technology used) of the territory are an impediment to do so. The action to be take will be reinforcing the beneficiaries about the initial agreement and the limits of the technology used. Making it transparent and clear to everybody that the demand will not be accepted.
Formation of new subsistence plantations	The traditional form of expansion areas for agricultural production, that is open new areas to plant, are not possible anymore, due the land donation, once the beneficiaries turned from bona fide squatters to landowners, and now they have boundaries in their own land. Being the deforestation process limited by the Brazilian Forest Code, which limits the land use in Amazon to just 20% of the area. In this sense, to solve the issue in a long term, the PP is on building a project alongside partnership with other institution to give access to rural technical assistance to all families benefited. Thus, the solution is under development, and will start to be implemented in the territory during 2024.
The slowness to delivery of energy and water pumps kits	One of the actions proposed by the PP since the beginning of the project was the installation of structures

	of energy and water pumps to the families' houses. At Porongaba, 43 families were mapped to receive the kits, however it was informed that not everybody would receive it at the same time, thus, during 2023 a total of 22 kits were delivered. The resolution for this will be to follow the original proposal, that is to finish all the deliveries during 2024, but further than that the PP will present the delivery schedule again to the beneficiaries to make the process clear, transparent, and understandable for all.
Purchase and assistance in the sale of production	We have assumed the commitment to assisting them in the sale of the production to avoid selling at unfair prices to middlemen, mainly related to purchase livestock. This proposal is under the stage of a plan development. The PP hopes, that alongside the development of the rural technical assistance this activity will be structured and properly implemented in the territory.

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

The project has, so far, made some worker trainings in some instances for different kinds of activities, such as: formation of local labor force to support activities of forest inventory, Technical Assistance and Rural Extension (ATER) related to sustainable livestock, lectures about various themes, and others. Furthermore, the internet access guaranteed to the communitarians living inside four instances (PAI#2-5) made possible to some young people follow online courses and trainings to improve their labor skills.

At PAI#1, the project has proposed and hired a young communitarian to make a professional internship in a partner company (Jurupará Socioambiental) which is supporting the project activities in the ground (RESEX Guariba-Roosevelt) and helping the local association to strengthen itself, the main demand from them were a professional formation for young communitarians to foster young people to participate in the organization issues (ANNEX_JURUPARA-INTERNSHIP-CONTRACT).

In Curara community, nearby PAI#6, no training activities have yet been developed, however it was mapped the local interest in creating a new association focusing on selling their production, mainly manioc flour and Brazilian nuts.

About the instances around Paragominas' region (PAI#7-15) the PP has just mapped the demands, as honey production, handcraft, and other productive strategies.

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

The project has hired different kind of workers between the communitarians living in the project involved communities. Such as forest workers, boatmen, carpenters, general service assistant, and others. In each region where there are instances the demands were different what has required various strategies to map and hire them.

The selective process was done in a transparent way. And it has considered the interest, involvement, and skills of each professional, considering, and prioritizing women for hiring. The job vacancies/opportunities were informed in public meetings, message contacts and informal communications during visits on the ground.

For the next stages of the project, the PP is organizing local activities to map all professionals interested and able to work with the project's demands. Another strategy adopted by the PP is to require in legal contracts with third parties (companies that hide to carry out works on the ground) the hiring of community members whenever possible, guaranteeing them employment opportunities in these activities.

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

For all project activity instances, already verified or under verification process, the risk analysis to the workers safety was based in the proposed jobs opportunity. Each employment opportunity has a unique assessment to reflect the particularities of the job. During the execution of the project, a series of measures and actions aimed at the health and safety of the worker is necessary. It is also necessary to understand the risk involved in the activities carried out. On its context, during the job, diary activities will be proposed, such the Safety, Environment and Health Diary Dialogue (DDSMS), that will be promoted to inform workers about their rights and about their obligations as individual and as a team. For this BRC is creating a video guide to spread through the hired workers the main necessities to guarantee health and safety practices, this guide is coming out during 2024.

Training on disease and accident prevention is planned for workers linked to the project, along with clarifications and general education, beyond conduct actions that minimize accidents and harm to workers' health. Appropriate care for emergency situations will be proposed, with the establishment of local resources for health care and removal of victims in any accidents. To guarantee quick health attendance in emergencies situations the BRC is keeping the field team with constant access to communication means, specially through use of Starlink internet antennas, which are the best system to use in the amazon field.

The risk analysis to the workers safety, that could be impacted due to the project activities, was based in the proposed jobs opportunity that occurred in each instance.

Each employment opportunity will have a unique assessment to reflect the particularities of the job. The use of Personal Protective Equipment (PPE) to be used by different professionals will be widely encouraged and doubts about this aspect will be resolved whenever they occur.

Field guide (*mateiros*): The project proponent promoted the use of individual protection equipment (boots, helmet, leggings, glasses and gloves) necessary to the field activities.

Boat pilot (*voadeiras* and/or *rabetas*): The project proponent promoted the use of life jackets in the boats for all project staff and collaborators, including the pilot.

Accommodation services: No risk was identified.

Mason services: The project proponent promoted the use of the individual protection equipment (boots, helmet, gloves, etc.) necessary to the mason activities.

Cooking/kitchen services: No risk was identified.

Project proponent focal point: The project proponent promoted the use of the individual protection equipment (boots, helmet, leggings, glasses, and gloves) in the field works, according to each activity characteristics.

Forest inventory team: The project proponent promoted the use of the individual protection equipment (boots, helmet, leggings, glasses, and gloves) necessary to this kind of field.

Solar power kit installer: the risks to deal with energy sources is minimized through the hiring of qualified and experienced professionals.

Tractor operator: to minimize the risks the BRC has hired skilled professionals to do the service.

2.4 Management Capacity

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

BRC staff team has more than fifteen years of experience in AFOLU carbon project, including methodological tools, community engagement, biodiversity assessment, carbon measurement and monitoring, besides PD and MR elaboration.

The skills necessary to implement the project are related to GIS, spatial modeling, forest inventory, biomass inventory, social engagement, sustainable development projects implementation, biodiversity surveys and assessment, land use change monitoring, biodiversity monitoring, social aspects monitoring.

BRC complete team is listed and described in (APPENDIX_REQUIRED-TECHNICAL-SKILLS).

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

BRC technical staff is headed exclusively by professionals with more than 10 years of experience in elaboration, implementation, monitoring, and certification of forest carbon projects. BRCarbon, operates with more than 45 professionals and technicians that cover Project Management, Social, Biology, Engineering, GIS, Advocacy, and Communication areas.

BRC is also the project proponent of other grouped REDD+ projects registered in VERRA: Amazonas GPD APD (ID 4850), Cauaxi GPD AUDD (ID 4042), Uakiry GPD AUD (ID 4552), Amazônia GPD AUD (ID 4542). Also, BRC is co-proponent of two grouped ARR carbon projects: EMAS (ID 738) and Pratigi (ID1317), assuming all the technical responsibility regarding carbon aspects of these projects.

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

Not applicable. As described in the previous section, BRC staff has all the necessary expertise to undertake this grouped REDD+ APD project, including primary data collection, elaboration of PDs and MRs, social engagement, implementation, and monitoring of the project activities.

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

BRC's financial data is sensitive and confidential information. To ensure the integrity and security of this data, it is essential that it is only shared with relevant stakeholders by signing a non-disclosure agreement. This agreement stipulates reciprocal confidentiality obligations, ensuring that such information is adequately protected and that access to it is restricted to authorized individuals only.

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

The BRC directors are not involved in any form of corruption, which is enforceable by the company's social statute and by brCarbon's Ethics and Conduct Code (APPENDIX_ETHICS-AND-CONDUTE-CODE).

Any kind of involvement, direct or indirectly, in bribery, embezzlement, fraud, favoritism, cronyism, nepotism, extortion, and collusion are discouraged and disliked by Conduct Code and are punishable by expulsion or other measurements.

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

For all project activity instances, already verified or under verification process, it is to be considered as commercially sensitive information any contract signed between brCarbon and landowners, trade, financial, commercial, scientific, technical, or other information, whose disclosure could reasonably be expected to result in a material financial loss or gain, compromising the contractual terms, deals or other negotiations stated by the project proponent.

It is also a sensitive information any information related to internal policy decisions, financial, commercial, scientific, technical that the public disclosure could reasonably be expected to undermine or negatively affect the development and/or implementation of any project activity.

Information related to project social activity, the determination of the baseline scenario, demonstration of additionality, and estimation and monitoring of GHG emission reductions (including operational and capital expenditures) are not considered to be commercially sensitive and are provided in the public versions of the project documents.

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)

The Project proponent is committed to meet all applicable Brazilian laws and applicable regulations. In this sense, BRC follows consultant lawyers to observe local laws and applicable regulations.

The following laws, statutes or regulatory frameworks are the most relevant to the project activities. The presentation order will follow the governance level, from National laws to municipality laws and other regulatory frameworks and follow chronology.

2.5.1.1 Federal legal instruments

In a wide overview of legal aspects, applied to all PAIs included in this grouped project, the project observes the principles established in the Federal Constitution, as per article 225, by contribution to ecologically well-balanced environment and article 224, paragraph 1, items (I) and (III) by contribution to conservation and restoration of essential ecological processes, while supporting the preservation of attributes beyond the legal environment requirements.

The GPD is encompassed by principles established in the National Environmental Policy - law number 6,938 from August 31st, 1981, which declares the objectives of conservation, improvement and recovery of environmental quality that is conducive to life, having among its principles the protection of ecosystems with the conservation of relevant areas (article 2, IV) and the protection of areas threatened by degradation (item IX). Another important law for the development of the project is Federal Law number 12.305, from August 2nd of 2010, that institutes the National Policy of Solid Residue.

Regarding the land use national policy, the most important regulatory framework is the Vegetation Code, law number 12,651, from May 2012. This law states not only the forest category that must be conserved inside the private properties, but also the maximum area of native vegetation that can be converted in other land uses for economic purposes.

The Brazilian Amazon APD grouped project was assembled to promote conservation in areas that in the absence of the project activities, would be legal deforested (20% of the property in Amazon biome) to accommodate commercial activities, as cattle rising and agriculture, as per the article 12 of the Vegetation Code, law 12.651.

The project is also in straight line with the Federal Law no. 12,187, of December 29th, 2009, which instituted the National Climate Change Policy, the State Law 2.308 from October 2010[1] which instituted the State System of Incentives for Environmental Services – SISA and the Incentive Program for Environmental Services - ISA Carbon, the state Law no. 1,904, of June 5th, 2007, which instituted the Ecological Economic Zoning of the State of Acre - ZEE / AC and the guidelines of the State Policy for the Valorization of Forest Environmental Assets.

The project is also in line with Law 14,119 / 2012, which defines concepts, objectives, guidelines, actions, and criteria for the implementation of the National Policy for Payment for Environmental Services (PNPSA), institutes the National Register of Payment for Environmental Services (CNPSA) and the Federal Program for Payment for Environmental Services (PFPSA) and provides on payment contracts for environmental services. Furthermore, these laws go according to

the National Environmental Council / Federal Environmental Ministry resolution number 237, from 2017, that provides for environmental licensing.

According to the Law 14,119/2021 carbon sequestration is considered an ecosystem service with relevant benefits to society in terms of maintenance, recovery, or improvement of environmental conditions (Art.2, § II) and the Federal Program for Payment for Environmental Services (PFPSA) will promote actions of maintenance of areas covered by native vegetation that would be subject to suppression authorization for alternative and economic use (Art. 7, § VII).

The project is also based on the Federal Laws number 5.197, from January 3rd of 1967, that regulates fauna protection and provides other provisions, and number 9.605, from February 12nd of 1998, that provides for criminal and administrative sanctions derived from the environment's harmful conduct and activities, and other provisions.

Finally, despite not encompassing indigenous areas, or natural areas used for these people, has applied to the project area residents, the consultation free, prior, and informed consent approach (FPIC), as per the Convention no. 169 of the ILO and the United Nations Declaration on the Rights of Indigenous People. These population participated from the project assembling since its beginning, as presented in the community section.

Decree-Law number 5,452, from May 1st, 1943 – that approves the Consolidation of Labor Laws.

The National Environmental Council / Federal Environmental Ministry resolution number 237, from 2017 – that provides for environmental licensing.

Federal Law number 9,985, from 2000 – that regulates Federal Constitution's art. 225, § 1, items I, II, III and VII, and institutes the National System of Nature Conservation Units (SNUC) and makes other provisions.

2.5.1.2 State Legal Instruments

2.5.1.2.1 Pará's State legal instruments

Following the government attribution's sphere, Pará's State legal instruments are shown below.

Ordinary law number 5,887, from 1995 – that provides for the Pará's State Environmental Policy and other provisions.

Area Permanent - APP of rural properties, within the scope of State of Pará, and makes other provisions.

Ordinary Law number 7,398, from 2010 – that provides for the Ecological-Economic Zoning (ZEE) of the East Zone and Calha Norte of the State of Pará.

Decree number 2,099 of 2010 – that provides for the maintenance, restoration, conduction of natural regeneration, compensation, and composition of the Legal Reserve area of rural properties in the State of Pará and other provisions.

Normative Instruction number 06, from May 19th, 2011 – that define land use conversion procedures through authorization of Forest Suppression in the real estate and rural properties in the Legal Amazon, according to the specifications detailed below and Attachments.

Normative Instruction number 02, from July, 06th 2015 – that Provides for Authorization for Vegetation Suppression - ASV, within the scope of environmental licensing processes of the Secretary of State for the Environment and Sustainability of Pará - SEMAS/PA and gives other arrangements.

Normative Instruction number 08, from October 28th, 2015 – that defines administrative procedures for the carrying out cleaning and authorization of deletion, the be carried out in areas of secondary vegetation in an early stage of regeneration, located outside Legal Reserve and Preservation Normative Instruction number 05, from May 3rd, 2019 – SEMAS – that provides for technical procedures for elaboration, presentation, execution and evaluation Technical Sustainable Forest Management Plan (PMFS) in native forests explored or not and their forms of succession in the State of Pará and gives other arrangements.

Ordinary Law number 8,878, of 2019 – that provides for the land regularization of rural and non-rural occupations in public lands in the state of Pará, revokes Law No. 7.289, of July 24, 2009, and Decree-Law No. 57, dated August 22, 1969.

Decree No. 1,190, of 2020 – that regulates State Law No. 8,878, of July 8, 2019, to provide for land regularization in rural areas, and other measures.

Ordinary Law number 9,048, of 2020 – that establishes the State Policy on Climate Change of Pará (PEMC/PA), and other measures.

COEMA resolution number 162 of 2021 – that establishes the activities of local environmental impact, for the purposes of environmental licensing, under the competence of the Municipalities within the State of Pará, and other measures.

SEMAS/Pará Decree number 2,744, of 2022 – that provides for the Integrated Action Program for Sustainable Territories (PTS).

SEMAS/Pará Decree number 2,750, of 2022 – provides for the guidelines and procedures for preparing the State Plan for the Recovery of Native Vegetation in the State of Pará (PRVN) and creates the Working Group for the preparation of the State Plan for the Recovery of Native Vegetation in the State of Pará (GT-PRVN).

2.5.1.2.2 Amazon's State Legal Instruments

State Law number 1.532, from 1982 – regulation of the State Politics of Prevention and Control of pollution, Improvement and Environment Recuperation, and of the Natural Resources Protection.

State Law number 3.525, from 2010 - Provides the creation of the Council of Sustainable Development of People and Traditional Communities of the Amazonas State – CDSPCT/AM, in the organizational structure of the State Secretariat of the Environment and Sustainable Development.

State Law number 3.785, from 2012 - Provides for environmental licensing in the Amazon State.

State Law number 4.222, from 2015 - Institutes the State Technical Register of Potentially Polluting Activities or Users of Environmental Resources, member of the National Environmental System - SISNAMA, the Environmental Control and Inspection Fee (TCFA/AM) in accordance with Federal Law n. 6,938, of August 31, 1981, and its amendments, and gives other measures.

State Law number 4.457, 2017 – Institutes the State Policy of Solid Waste in Amazonas/AM and gives another providence.

Complementary Law number 187, from 2018 – Disciplines the execution of the article 220 of the State Constitution, that institutes the State Council of Environment of the Amazonas State (CEMAAM) and dispose of the State Fund of Environment (FEMA) and gives other measures.

Ordinance number 41.863, from 2020 - This Decree establishes norms for the execution of the State Policy on Solid Waste.

CERH-AM Normative Resolution number 001, from 2016 – The Internal Regulations of the State Council of Water Resources are instituted in the form of the Annex to this Normative Resolution.

Ordinary State Law number 5.695, from 2021 - Amends, as specified, Law No. 4,222, of October 8, 2015, which "Institutes the State Technical Register of Potentially Polluting Activities or Users of Environmental Resources, part of the National Environmental System - SISNAMA, the Control Fee and Environmental Inspection (TCFA/AM) in accordance with Federal Law No. 6938, of August 31, 1981, and its amendments, and makes other provisions", and makes other provisions.

State Law number 5.755, from 2021 - Provides the reorganization of the Council for the Sustainable Development of Traditional Peoples and Communities of the State of Amazonas, established by Law No. 3,525, of July 15, 2010, and other measures.

State Law number 5.491, from 2021 - Amends the caput of art. 12, the sole paragraph of art. 13, § 1 of art. 14 and sole paragraph of art. 15 of LAW No. 3,785, of July 24, 2012, which "Provides for environmental licensing in the State of Amazonas, Revokes Law No. 3,219, of December 28, 2007, and makes other provisions."

Ordinary State Law number 6.014, from 2022 - Institutes an administrative term, intended for analysis and decision regarding the granting or renewal of environmental licensing, in compliance with Complementary Law No. 140/2011 and CONAMA Resolution No. 237/97.

State Law number 6.052, from 2022 – Recognizes the contribution of indigenous peoples to the preservation of forests, culture, folklore, customs, legends, gastronomy, handicrafts and language.

Following the government attribution's sphere, the municipality's laws are shown below, according to each municipality.

2.5.1.3 Municipality Legal Instruments

2.5.1.3.1 Paragominas Municipality Legal Instruments

Law number 644/07, from 2007 – that Institutes the Municipality Environmental Policy and other provisions.

Law number 765/11, from 2011 – that Institutes the Municipal Environmental Code (CAM), containing the Policy and the Municipal System of Paragominas.

2.5.1.3.2 Rondon do Pará Municipality Legal Instruments

Law number 421/2002, from 2002 – that provides for the Policy for the Protection, Control, Conservation, and Environment Recovery and gives other provisions.

2.5.1.3.3 Dom Eliseu Municipality Legal Instruments

Law number 444, from 2017 – SEMMA – that Provides for the Reform of the Administrative Structure of the Municipality of Dom Eliseu, and other measures.

2.5.1.3.4 Goianésia do Pará Municipality Legal Instruments

Municipal Ordinary Law number 233, from 2009 – that provides for the Municipal Environmental Policy and the improvement of the quality of life in the Municipality of Goianésia do Pará.

2.5.1.3.5 Ulianópolis Municipality Legal Instruments

Law number 311, from 2011 – SEMMA/ Ulianópolis – Pará – That provides for the municipal environmental policy, the fund, and the municipal council for the environment, all of the municipality of Ulianópolis and makes other arrangements.

2.5.1.3.6 Ipixuna do Pará Municipality Legal Instruments

Law number 370, from 2020 – SEMMA/ Ipixuna do Pará – Pará – That establishing the new municipal environmental policy of Ipixuna do Pará and other provisions.

2.5.1.3.7 Tomé-Açu Municipality Legal Instruments

Complementary Law number 11, from 2006 – that establishes the Master Plan for Sustainable Development of the Municipality of Tomé-Açu, establishes the guidelines and norms for the physical-territorial and urban organization and takes other measures.

2.5.1.3.8 Manicoré Municipality Legal Instruments

Municipal Law number 810, from 2013 – Authorize the Municipality Executive to develop actions to implement the “Minha Casa, Minha Vida” Program (PMCMV)

Municipal Law number 828, from 2014 – Dispose about the Municipality Inspection Service (SIM) in Manicoré, establish rules and procedures of sanitary inspection in establishments that produce products of animal and vegetable origin, and gives other providence.

Municipal Law number 992, from 2022 – Dispose about the Municipal Council of Environment and Development (COMDEMA) of Manicoré and gives other providence.

Municipal Law number 995, from 2022 – Dispose about the Unique System of Social Assistance (SUAS) of Manicoré Municipality/AM and gives other providence.

Municipal Law number 817, from 2013 – Dispose about the Sanitary Code of the Manicoré Municipality, establish sanitary infraction and the punishment, determinates the administrative procedures to

Municipal Law number 817, from 2013 – Dispose about the sanitary code of Manicoré Municipality, establish sanitary infractions and punishments, determinates the administrative procedures to verificate the sanitary infraction, institutes the sanitary inspections taxes, sanitary license, inspection sanitary booklet and gives other providence.

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

For all project activity instances, already verified or under verification process, the Project proponent is committed to meet all applicable Brazilian laws and regulations applicable to worker rights, Furthermore, all workers have been informed about their rights before being hired, as its described in the Brazilians Labors Laws.

The following is a list of Brazil's relevant laws and regulations applicable to worker's rights:

The Brazilian Constitution, Chapter II-Social Rights, Articles 7- 11 which addressed: I) Minimum wage, ii) Normal working hours, iii) Guidance on vacation and weekly leave iv) Guidance on maternity and paternity leave v) Recognition of collective bargaining vi) Prohibition of discrimination. In addition to the Constitution, there are two additional decrees related to Brazilian labor laws.

Labor Federal Law (Consolidate of Working Laws ("CLT")): Decree-Law N. ° 5.452, of May 1st of 1943. This decree gives more clarification on the subjects: i) Hourly, daily, weekly, and monthly work hours, ii) Employment of minors and women, iii) Establishes a minimum wage, iv) Worker safety and safe working environments, v) Defines penalties for employer's non-compliance, vi) Establishes

a judicial work-related process for addressing all worker related issues. FEDERAL LAW Nº 5.889, June 8th of 1973 (Establishes Regular Norms for Rural Workers). This is a complementary law to the 1943 decree, once prior to 1973, rural workers did not have the same rights as urban workers. In 1973, this law was established to specify the equality between urban and rural workers, along with compensation for overtime.

Complementary Law 123/2006 of December 14th, 2006. Establishes the National Statute of Microenterprise and Small Business; change devices of the Laws in 8,212 and 8,213, both dated July 24th, 1991, of the Consolidation of Labor Laws - CLT, approved by Decree-Law no. 5,452 of 1st of May 1943, of Law no. 10189, of February 14th of 2001, of the Complementary Law in the 63, of January 11, 1990; and revokes the Laws in the 9,317 of the 5th of December 1996, and 9841 of October 5, 1999. Art. 3 For the purposes of this Complementary Law, are considered micro-enterprises or companies small business company, simple society, the individual company of limited liability and the entrepreneur who refers to art. 966 of the Law in 10,406 of the 10th of January 2002 (Civil Code), duly registered in the Registry of Merchant Companies or in the Civil Registry of Legal Entities.

2.5.3 Human Rights (VCS, 3.19)

The BRC has its own internal police to assure that all of its collaborators follow in a properly way all the human rights requirements and more than that it is developed internally some activities not just to learn about the Human Rights, but to deepen this understanding. So, human resources sector has a schedule alongside the year that highlights the importance of respect and reception of all kinds of people, as woman, black, disable, indigenous, who are traditionally disrespected in their rights (APPENDIX_HUMAN-RESOURCES-ACTIVITIES).

Another strategy taken by the PP is its Ethic Code (APPENDIX_ETHICS-AND-CONDUTE-CODE), which describes how the collaborators, partners and contracted professionals involved in the company projects must behave in all situations, especially in terms of involvement with vulnerable people and communities.

It is important to highlight that all of the activities implemented or to be implemented follow the International Labor Organization Convention 169, which Brazil is one of the signatory countries, and the PP enthusiastic follows once it is a company believe that the people have to have its self-determination respected, as proposed by the ILO 169. Including, because of that, the BRC is one of the participants on the UN Global Compact effort.

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

It is not just a value that we follow, as mentioned in the section 2.5.3, but it is a practice as well. One example of this is our worry in foster and valorize the indigenous people, as the PP has done in the Indigenous People Day (April 19th), when by a demand made by the Amanayé people, who lives in Barreirinha Indigenous Land, one of the community areas that project is dealing with, a short movie were recorded valorizing and recognizing the relevance and richness of their culture and territory (APPENDIX_INDIGENOUS-PEOPLE-DAY).

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

Table 22 – Property Rights

Disputes over rights to territories and resources	At Porongaba there are bad faith squatters who claims the right to occupy and sale the land, which is pressuring the forest, once to sell the land they deforest it first.
Respect for property rights	To solve this problem the landowner has applied two different strategies. The first one is donating land to the bona fide squatters, in a way to recognize them and in counterpart they legitim the landowner rights. The second one is through accessing public power institutions and legal system to expel the bad faith squatters and land grabbers of the territory. But it is important to highlight that these actions were taken under the umbrella of Uakiry Redd+ AUDD Grouped Project, which is been developed in the same territory.

2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

Not applicable.

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

Table 23 – Free, Prior, and Informed Consent

Consent	In some of project instances the project is being implemented on private lands, where there is no access by people and/or external communities, not directly affecting the lives of these people, therefore, also because there is no other type of conflict, thus, the main consent required comes directly from landowners, materialized in the signing of the conservation agreement with BRC, in accordance with Brazilian laws and guidelines.
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Outcome of FPIC	Despite the nom requirement by the Brazilian law to have an FPIC, when there is no intersection of the use of land and its resources by outside population to the area, the BRC Social Engagement Protocol ensures a constant information process with local population about the project activities. Beyond that it is important to highlight that no one was displaced or relocated by the project.
Consent	In four instances (PAI#02-05) of the project, where are people living inside the project area was held participatory workshops during 2021. The FPIC was based on free dialogical process, being talked about many themes as costs, risks and benefits of the project activities, there was guaranteed an open space to questions from the communitarians and to collect proposals activities. In this sense, after the process the project was accepted by the communitarians.
Outcome of FPIC	The population consulted has agreed with the project implementation, giving some ideas to be incorporated to the project, as the improvement of the local schools, and the access to internet. It is important highlight that an exclusive group of women was created to guarantee their participation and contributions.

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

Project activities have not resulted in the relocation of people, as evidenced in this document through the description of project activities and through direct observations in the field and interviews with landowners and community members.

The grouped project, as well as its instances, were idealized and designed to respect the traditional use areas of the communities. This is evidenced by the boundaries of the project area, which excluded grazing lands and adjacent forests and extended the benefits of the project beyond the project boundaries to the communities residing in the project area.

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

For all project activity instances, whether already verified or under verification, the pressure for illegal deforestation is widely observed and commonly carried out in rural properties located in the Amazon, “Deforestation Arch” and in the deforestation expansion fronts. In this way, conservation activities need to avoid both planned and illegal deforestation.

Illegal activities that could impact the project are hunting, logging, and mining. The process of identifying threats and risks to the permanence of carbon stocks was done for all instances and has occurred throughout the initial analyses in a GIS environment, identifying through monitoring data sources, such as PRODES, DETER, MAPBIOMAS and remote sensing data (Landsat images, Sentinel, Google Earth) the dynamics of land use in the entire rural property and within the PAI area.

After the desk analysis, any potential illegal activities occurring within the project areas were identified in the field and registered. A mitigation plan for the illegal activities found is on the run and encompasses environmental education, training, promotion of sustainable activities for income generation, monitoring, and supervision by the competent authorities.

Therefore, for all project activity instances, short, medium, and long-term customized strategies are defined to address the risk to the carbon stocks from illegal (unplanned) activities, in a way to guarantee the benefits to the climate, community and biodiversity over the project lifetime.

Inside the Project Activities Instances no illegal activities were identified.

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

In the first monitoring period, which included only PAIs #1 to #5, potential land disputes were identified during the social engagement stages in the Porongaba and Potiguar farms. In Porongaba, the occurrence of sale of possession areas to outsiders is characterized, which constitutes an important driver of deforestation in the territory. In Potiguar, the occurrence of overlapping rights is characterized, where the squatter claims not only ownership rights, but also property rights over the land, based on a land purchase contract. The solution sought by the PP and the landowner was to propose land donation to the bona fide squatters through a negotiation and clarification of how it could occur. In the Potiguar case, so far, nothing has evolved, however this dispute is not getting worse, anyway, the PP seeks to have meetings with interested parties to solve it as soon as possible.

About the Porongaba issue, the landowner has contacted the public power institutions and the legal system to expel the land grabbers from the land. These activities are important to guarantee the proper development of the project and the population acceptance and the recognition of the project as a legitim process.

There are no ongoing disputes inside other PAIs, as mapped by the PP.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

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

Data / Parameter	AA _{planned,i,t}			
Data unit	Ha			
Description	Annual area of baseline planned deforestation for stratum i in year t.			
Source of data	Calculated based on VMD0006 v1.3 equation 4.			
Value applied	PAI#01	Instance	Stratum (i)	AA _{planned,i,t}
		As	186.09	
	PAI#02	Ds	91.65	
		Aa	0.00	
	PAI#03	Ab	404.34	
		Aa	172.13	
	PAI#04	Ab	321.60	
		Aa	248.59	
	PAI#05	Ab	248.59	
		Aa	248.59	
	PAI#06	Ab	248.59	
		Db	990.68	
	PAI#07	Ap	0.00	
		D	116.78	
	PAI#08	Ap	0.00	
		D	0.00	
	PAI#09	Ap	0.00	
		D	289.83	
	PAI#10	Ap	0.00	
		D	381.93	
	PAI#11	Ap	0.00	
		D	129.95	
	PAI#12	Ap	0.00	
		D	0.00	
	PAI#13	Ap	0.00	
		D	202.78	
	PAI#14	Ap	500.00	

		D	0.00	
	PAI#15	Ap	0.00	
		D	0.00	
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on total area of planned deforestation over the baseline period for stratum I ($A_{planned,i}$), the projected annual proportion of land that will be deforested in stratum i during year t ($D\%_{planned,i,t}$) and the Likelihood of deforestation for stratum I (L-Di) according to VMD0006 v1.3 equation 4.			
Purpose of data	Calculation of baseline emissions.			
Comments	-			

Data / Parameter	A _{planned,i}			
Data unit	Ha			
Description	Total area of planned deforestation over the fixed baseline period for stratum i.			
Source of data	Remote Sensing data.			
Value applied	PAI#01	Instance	Stratum (i)	A _{planned,i}
		As	664.90	
	PAI#02	Ds	326.61	
		Aa	863.68	
	PAI#03	Ab	3,179.73	
		Aa	665.86	
	PAI#04	Ab	3,864.98	
		Aa	803.23	
	PAI#05	Ab	3,392.72	
		Aa	1,611.93	
	PAI#06	Ab	2,598.00	
		Db	7,874.83	
	PAI#07	Ap	0.00	
		D	233.56	
	PAI#08	Ap	0.00	
		D	44.15	
	PAI#09	Ap	0.00	
		D	579.66	
	PAI#10	Ap	0.00	
		D	763.86	

	PAI#11	Ap	0.00	
		D	129.95	
	PAI#12	Ap	14.63	
		D	118.80	
	PAI#13	Ap	0.00	
		D	405.57	
	PAI#14	Ap	882.75	
		D	228.31	
PAI#15	Ap	0.00		
	D	404.24		
Justification of choice of data or description of measurement methods and procedures applied	Determined according to what is recognized as an immediate site-specific threat of deforestation, which, in its turn, is a function of the legal permissibility for deforestation, the suitability of the project area for conversion to alternative non-forest land use, the government approval for deforestation and a management plan for deforesting the project area. See section 3.4 of the Project Description for a complete description of measurement methods and procedures applied.			
Purpose of data	Calculation of baseline emissions.			
Comments	-			

Data / Parameter	$D\%_{\text{planned},i,t}$
Data unit	% year-1
Description	Projected annual proportion of land that will be deforested in stratum i at year t.
Source of data	Data obtained from forestry exploration plans submitted to the environmental agency responsible for issuing permits for vegetation suppression in each state.
Value applied	See the values applied in Land information of PAIs individual spreadsheets (APPENDIX_CALCULUS-TABLES)
Justification of choice of data or description of measurement methods and procedures applied	Where a valid verifiable plan exists for rate at which deforestation is projected to occur, this rate must be used, according to VMD0006 v1.3, section 1.3 criteria.

Purpose of data	Determination of baseline scenario.
Comments	-

Data / Parameter	L-D _i
Data unit	%
Description	Likelihood of deforestation in stratum i.
Source of data	Analysis of Land Tenure.
Value applied	100%
Justification of choice of data or description of measurement methods and procedures applied	L-D _i is equal to 100% for all planned deforestation areas that are not both under Government control and zoned for deforestation, according to VMD0006 v1.3, section 1.4.
Purpose of data	Determination of baseline scenario.
Comments	-

Data / Parameter	$\Delta C_{AB\_tree,i}$		
Data unit	t CO ₂ e.ha ⁻¹		
Description	Baseline carbon stock change in aboveground tree biomass in stratum i; t CO ₂ -e ha ⁻¹ .		
Source of data	Calculated based on VMD0006 v1.3 equation 6.		
Value applied	Instance	Stratum (i)	$\Delta C_{AB\_tree,i}$
	PAI#01	As	456,26
		Ds	447,23
	PAIs #02 - #05	Aa	369,94
		Ab	402,00
	PAI#06	Db	463,74

	PAIs #07 - #15	D	543,65
		Ap	306,37
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on the forest carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,bsl,i}$) and the post-deforestation carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,post,i}$), according to VMD0006 v1.3 equation 6.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	$\Delta C_{BB\_tree,i}$																							
Data unit	t CO ₂ e.ha ⁻¹																							
Description	Baseline carbon stock change in belowground tree biomass in stratum i.																							
Source of data	Calculated based on VMD0006 v1.3 equation 8.																							
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>$\Delta C_{BB\_tree,i}$</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>45,61</td></tr><tr><td>Ds</td><td>138,65</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>36,98</td></tr><tr><td>Ab</td><td>40,19</td></tr><tr><td>PAI#06</td><td>Db</td><td>143,77</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>D</td><td>168,55</td></tr><tr><td>Ap</td><td>94,99</td></tr></table>			Instance	Stratum (i)	$\Delta C_{BB\_tree,i}$	PAI#01	As	45,61	Ds	138,65	PAIs #02 - #05	Aa	36,98	Ab	40,19	PAI#06	Db	143,77	PAIs #07 - #15	D	168,55	Ap	94,99
Instance	Stratum (i)	$\Delta C_{BB\_tree,i}$																						
PAI#01	As	45,61																						
	Ds	138,65																						
PAIs #02 - #05	Aa	36,98																						
	Ab	40,19																						
PAI#06	Db	143,77																						
PAIs #07 - #15	D	168,55																						
	Ap	94,99																						
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on the forest carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,bsl,i}$) and the post-deforestation carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,post,i}$); according to VMD0006 v1.3 equation 8.																							
Purpose of data	• Calculation of baseline emissions.																							
Comments	-																							

Data / Parameter	$\Delta C_{AB\_non-tree,i}$																							
Data unit	t CO ₂ e.ha ⁻¹																							
Description	Baseline carbon stock change in aboveground non-tree biomass in stratum i.																							
Source of data	Calculated based on VMD0006 v1.3 equation 7.																							
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>$\Delta C_{AB\_non-tree,i}$</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>33,83</td></tr><tr><td>Ds</td><td>8,71</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>24,60</td></tr><tr><td>Ab</td><td>28,03</td></tr><tr><td>PAI#06</td><td>Db</td><td>9,59</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>D</td><td>28,82</td></tr><tr><td>Ap</td><td>16,24</td></tr></table>			Instance	Stratum (i)	$\Delta C_{AB\_non-tree,i}$	PAI#01	As	33,83	Ds	8,71	PAIs #02 - #05	Aa	24,60	Ab	28,03	PAI#06	Db	9,59	PAIs #07 - #15	D	28,82	Ap	16,24
Instance	Stratum (i)	$\Delta C_{AB\_non-tree,i}$																						
PAI#01	As	33,83																						
	Ds	8,71																						
PAIs #02 - #05	Aa	24,60																						
	Ab	28,03																						
PAI#06	Db	9,59																						
PAIs #07 - #15	D	28,82																						
	Ap	16,24																						
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on forest carbon stock in aboveground non-tree vegetation in stratum ($C_{AB\_non-tree,bsl,i}$) and Post-deforestation carbon stock in aboveground non-tree vegetation in stratum i ($C_{AB\_non-tree,post,i}$); according to VMD0006 v1.3 equation 7.																							
Purpose of data	Calculation of baseline emissions.																							
Comments	-																							

Data / Parameter	$\Delta C_{BB\_non-tree,i}$		
Data unit	t CO ₂ e.ha ⁻¹		
Description	Baseline carbon stock change in belowground non-tree biomass in stratum i.		
Source of data	Calculated based on VMD0006 v1.3 equation 9		
Value applied	Instance	Stratum (i)	$\Delta C_{BB\_non-tree,i}$
	PAI#01	As	6,77
		Ds	1,74
	PAIs #02 - #05	Aa	4,92

		Ab	5,61
	PAI#06	Db	1,92
	PAIs #07 - #15	D	5,76
		Ap	3,25
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on forest carbon stock in belowground non-tree vegetation in stratum ($C_{BB\_nontree,bsl,i}$) and post-deforestation carbon stock in belowground non-tree vegetation in stratum i ($C_{BB\_nontree,post,i}$), according to VMD0006 v1.3 equation 9.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	$\Delta C_{DW,i}$																							
Data unit	t CO ₂ e.ha ⁻¹																							
Description	Baseline carbon stock change in dead wood in stratum i.																							
Source of data	Calculated based on VMD0006 v1.3 equation 10.																							
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>$\Delta C_{DW,i}$</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>34,29</td></tr><tr><td>Ds</td><td>22,40</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>14,20</td></tr><tr><td>Ab</td><td>8,60</td></tr><tr><td>PAI#06</td><td>Db</td><td>31,54</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>Ap</td><td>31,74</td></tr><tr><td>D</td><td>39,03</td></tr></table>			Instance	Stratum (i)	$\Delta C_{DW,i}$	PAI#01	As	34,29	Ds	22,40	PAIs #02 - #05	Aa	14,20	Ab	8,60	PAI#06	Db	31,54	PAIs #07 - #15	Ap	31,74	D	39,03
Instance	Stratum (i)	$\Delta C_{DW,i}$																						
PAI#01	As	34,29																						
	Ds	22,40																						
PAIs #02 - #05	Aa	14,20																						
	Ab	8,60																						
PAI#06	Db	31,54																						
PAIs #07 - #15	Ap	31,74																						
	D	39,03																						
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on forest carbon stock in deadwood in stratum ($C_{DW,bsl,i}$) and post-deforestation carbon stock in deadwood in stratum i ($C_{DW,post,i}$), according to VMD0006 v1.3 equation 10.																							
Purpose of data	Calculation of baseline emissions.																							
Comments	-																							

Data / Parameter	$\Delta C_{LI,i}$																							
Data unit	t CO ₂ e.ha ⁻¹																							
Description	Baseline carbon stock change in litter in stratum i.																							
Source of data	Calculated based on VMD0006 v1.3 equation 11.																							
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>$\Delta C_{LI,i}$</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>19,06</td></tr><tr><td>Ds</td><td>24,16</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>9,49</td></tr><tr><td>Ab</td><td>9,64</td></tr><tr><td>PAI#06</td><td>Db</td><td>24,16</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>Ap</td><td>12,78</td></tr><tr><td>D</td><td>13,96</td></tr></table>			Instance	Stratum (i)	$\Delta C_{LI,i}$	PAI#01	As	19,06	Ds	24,16	PAIs #02 - #05	Aa	9,49	Ab	9,64	PAI#06	Db	24,16	PAIs #07 - #15	Ap	12,78	D	13,96
Instance	Stratum (i)	$\Delta C_{LI,i}$																						
PAI#01	As	19,06																						
	Ds	24,16																						
PAIs #02 - #05	Aa	9,49																						
	Ab	9,64																						
PAI#06	Db	24,16																						
PAIs #07 - #15	Ap	12,78																						
	D	13,96																						
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on forest carbon stock in litter in stratum ($C_{LI,bsl,i}$) and post-deforestation carbon stock in litter in stratum i ($C_{LI,post,i}$), according to VMD0006 v1.3 equation 11.																							
Purpose of data	Calculation of baseline emissions.																							
Comments	-																							

Data / Parameter	$\Delta C_{SOC,i}$													
Data unit	t CO ₂ e.ha ⁻¹													
Description	Baseline carbon stock change in soil organic carbon in stratum i.													
Source of data	Calculated based on VMD0006 v1.3 equation 12.													
Value applied		<table><tr><th>Instance</th><th>Stratum (i)</th><th>$\Delta C_{SOC,i}$</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>(28,68)</td></tr><tr><td>Ds</td><td>(44,01)</td></tr><tr><td>PAIs #02 - #05</td><td>Aa</td><td>15,86</td></tr></table>	Instance	Stratum (i)	$\Delta C_{SOC,i}$	PAI#01	As	(28,68)	Ds	(44,01)	PAIs #02 - #05	Aa	15,86	
Instance	Stratum (i)	$\Delta C_{SOC,i}$												
PAI#01	As	(28,68)												
	Ds	(44,01)												
PAIs #02 - #05	Aa	15,86												

		Ab	(1,21)
	PAI#06	Db	(19,53)
	PAIs #07 - #15	Ap	(18,25)
		D	(17,07)
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on forest carbon stock in soil organic carbon in stratum ($C_{SOC,bsl,i}$) and post-deforestation carbon stock in soil organic carbon in stratum i ($C_{SOC,PD-BSL,i}$), according to VMD0006 v1.3 equation 12.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	R
Data unit	Dimensionless
Description	Root to shoot ratio appropriate to forest type.
Source of data	Nogueira (2008).
Value applied	Dense forest = 0.31; Open or secondary forest = 0.1
Justification of choice of data or description of measurement methods and procedures applied	Eco-region-specific root to shoot ratio is used for accuracy.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	$C_{wp,i}$
Data unit	t CO ₂ e.ha ⁻¹
Description	Baseline carbon stock change in wood products in stratum i
Source of data	Calculated based on VMD0005 v1.1 equation 2

Value applied	Instance	Stratum (i)	$C_{WP,i}$
	PAI#01	As	8,20
		Ds	
	PAIs #02 - #05	Aa	8,60
		Ab	
	PAI#06	Db	
	PAIs #07 - #15	D	
		Ap	
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on mean stock of extracted biomass carbon by class of wood product ty from stratum I ($C_{XB,ty,i}$) and the wood waste (the fraction immediately emitted through mill inefficiency by class of wood product) (WW_{ty}), according to VMD0005 v1.1 equation 2.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	$C_{XB,ty,i}$
Data unit	t CO ₂ e.ha ⁻¹
Description	Mean stock of extracted biomass carbon by class of wood product ty from stratum i.
Source of data	Calculated based on VMD0005 v1.1 equation 1.
Value applied	See the values applied in the table 22_CWp of PAIs individual spreadsheets. (APPENDIX_CALCULUS-TABLES)
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on volume of timber extracted from stratum i (does not include slash left onsite) by species j and wood product class ty ($V_{ex,ty,j}$), mean wood density of species j (D_j), carbon fraction (CF) and the total area of stratum (A_i), according to VMD0005 v1.1 equation 1.
Purpose of data	Calculation of baseline emissions.
Comments	-

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Data / Parameter	$V_{ex,ty,j}$
Data unit	m^3
Description	Volume of timber extracted from within stratum i (does not include slash left onsite) by species j and wood product class ty.
Source of data	Forest Exploration Plan (ANNEX_BASELINE-SCENARIO)
Value applied	See the values applied in the table 22_CWp of PAIs individual spreadsheets. (APPENDIX_CALCULUS-TABLES)
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on volume of timber extracted from stratum i (does not include slash left onsite) by species j and wood product class ty ($V_{ex,ty,j}$), mean wood density of species j (D_j), carbon fraction (CF) and the total area of stratum (A_i), according to VMD0005 v1.1 equation 1.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	D_j
Data unit	t d.m.m ⁻³ .
Description	Mean wood density of species j.
Source of data	Wood Density Tropical Database.
Value applied	APPENDIX_CALCULUS-TABLES, Table22_CWp of PAI#01, PAI#02 and PAI#06 spreadsheets.

Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	CF
Data unit	Dimensionless
Description	Carbon fraction
Source of data	Nogueira et al. 2008
Value applied	0.485
Justification of choice of data or description of measurement methods and procedures applied	Default factor calculated by Brazilian central Amazon.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	SLF _{ty}
Data unit	Dimensionless
Description	Fraction of wood products that will be emitted to the atmosphere within 5 years of timber harvest by class of wood product ty.

Source of data	Winjun et al., 1998
Value applied	0.2
Justification of choice of data or description of measurement methods and procedures applied	Default value suggested by VMD0005 v1.1.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	OF _{ty}
Data unit	Dimensionless
Description	Fraction of wood products that will be emitted to the atmosphere between 5 and 100 years of timber harvest by class of wood product ty; dimensionless.
Source of data	Winjun et al., 1998.
Value applied	0.8
Justification of choice of data or description of measurement methods and procedures applied	Default value suggested by Winjun et al., 1998.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	C _{WP100,i}																						
Data unit	t CO ₂ -e ha ⁻¹																						
Description	Carbon stock entering the wood products pool at the time of deforestation that is expected to be emitted over 100-years from stratum i.																						
Source of data	Calculated based on VMD0005 v1.1 equation 3.																						
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>C_{WP100,i}</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td rowspan="2">6,89</td></tr><tr><td>Ds</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>7,23</td></tr><tr><td>Ab</td><td>6,88</td></tr><tr><td>PAI#06</td><td>Db</td><td></td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>D</td><td></td></tr><tr><td>Ap</td><td></td></tr></table>			Instance	Stratum (i)	C _{WP100,i}	PAI#01	As	6,89	Ds	PAIs #02 - #05	Aa	7,23	Ab	6,88	PAI#06	Db		PAIs #07 - #15	D		Ap	
Instance	Stratum (i)	C _{WP100,i}																					
PAI#01	As	6,89																					
	Ds																						
PAIs #02 - #05	Aa	7,23																					
	Ab	6,88																					
PAI#06	Db																						
PAIs #07 - #15	D																						
	Ap																						
Justification of choice of data or description of measurement methods and procedures applied	Estimated base on carbon stock entering wood products pool at time of deforestation from stratum I (C _{WP,i}), fraction of wood products that will be emitted to the atmosphere within 5 years of timber harvest by class of wood product ty (SLF _{ty}), and Fraction of wood products that will be emitted to the atmosphere between 5 and 100 years of timber harvest by class of wood product ty (OF _{ty}).																						
Purpose of data	Calculation of baseline emissions.																						
Comments	-																						

Data / Parameter	C _{AB_tree,post,i}		
Data unit	t CO2e.ha-1		
Description	Post-deforestation carbon stock in aboveground tree biomass in stratum i.		
Source of data	Secondary data from peer-reviewed literature (Silva Neto et al., 2012).		
Value applied	Instance	Stratum (i)	C _{AB_tree,post,i}
	PAI#01	As	0,11

		Ds	0,11
	PAIs #02 - #05	Aa	0,11
		Ab	0,11
	PAI#06	Db	0,11
	PAIs #07 - #15	D	0,11
		Ap	0,11
Justification of choice of data or description of measurement methods and procedures applied	-		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	C _{B_B_tree,post,i}			
Data unit	t CO ₂ e.ha ⁻¹			
Description	Post-deforestation carbon stock in belowground non-tree biomass in stratum i.			
Source of data	Secondary data from peer-reviewed literature (Silva Neto et al., 2012).			
Value applied		Instance	Stratum (i)	C _{B_B_tree,post,i}
		PAI#01	As	0,02
			Ds	0,02
		PAIs #02 - #05	Aa	0,02
			Ab	0,02
		PAI#06	Db	0,02
		PAIs #07 - #15	D	0,02
			Ap	0,02

Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of data	Calculation of baseline emissions
Comments	-

Data / Parameter	C _{AB_non-tree,post,i}		
Data unit	t CO ₂ e.ha ⁻¹		
Description	Post-deforestation carbon stock in aboveground non-tree biomass in stratum i.		
Source of data	Secondary data from peer-reviewed literature (Silva Neto et al., 2012).		
Value applied	Instance	Stratum (i)	C_{AB_non-tree,post,i}
	PAI#01	As	15,00
		Ds	15,00
	PAIs #02 - #05	Aa	15,00
		Ab	15,00
	PAI#06	Db	15,00
	PAIs #07 - #15	D	-
		Ap	-
Justification of choice of data or description of measurement methods and procedures applied	-		
Purpose of data	Calculation of baseline emissions.		
Comments			

Data / Parameter	C _{BB_non-tree,post,i}																						
Data unit	t CO ₂ e.ha ⁻¹																						
Description	Post-deforestation carbon stock in belowground non-tree biomass in stratum i.																						
Source of data	Secondary data from peer-reviewed literature (Silva Neto et al., 2012).																						
Value applied		<table><tr><th>Instance</th><th>Stratum (i)</th><th>C_{BB_non-tree,post,i}</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>3,00</td></tr><tr><td>Ds</td><td>3,00</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>3,00</td></tr><tr><td>Ab</td><td>3,00</td></tr><tr><td>PAI#06</td><td>Db</td><td>3,00</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>D</td><td>-</td></tr><tr><td>Ap</td><td>-</td></tr></table>	Instance	Stratum (i)	C _{BB_non-tree,post,i}	PAI#01	As	3,00	Ds	3,00	PAIs #02 - #05	Aa	3,00	Ab	3,00	PAI#06	Db	3,00	PAIs #07 - #15	D	-	Ap	-
Instance	Stratum (i)	C _{BB_non-tree,post,i}																					
PAI#01	As	3,00																					
	Ds	3,00																					
PAIs #02 - #05	Aa	3,00																					
	Ab	3,00																					
PAI#06	Db	3,00																					
PAIs #07 - #15	D	-																					
	Ap	-																					
Justification of choice of data or description of measurement methods and procedures applied	-																						
Purpose of data	Calculation of baseline emissions																						
Comments	-																						

Data / Parameter	$C_{DW,post,i}$		
Data unit	$t\ CO_2e.ha^{-1}$		
Description	Post-deforestation carbon stock in dead wood in stratum i.		
Source of data	-		
Value applied	0		

Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of data	Calculation of baseline emissions
Comments	-

Data / Parameter	$C_{LI,post,i}$
Data unit	t CO ₂ e.ha ⁻¹
Description	Post-deforestation carbon stock in litter in stratum i.
Source of data	-
Value applied	0
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of data	Calculation of baseline emissions
Comments	-

Data / Parameter	$C_{SOC,PD-BSL,i}$
Data unit	t CO ₂ -e ha ⁻¹
Description	Mean post-deforestation stock in soil organic carbon in the post deforestation stratum i

Source of data	See the values applied in the table 21. (APPENDIX_CALCULUS-TABLES > Consolidate results)																							
Value applied	<table><tr><th>Instance</th><th>Stratum (i)</th><th>C_{SOC,PD-BSL,i}</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>104,25</td></tr><tr><td>Ds</td><td>121,21</td></tr><tr><td rowspan="2">PAIs #02 - #05</td><td>Aa</td><td>104,25</td></tr><tr><td>Ab</td><td>121,21</td></tr><tr><td>PAI#06</td><td>Db</td><td>104,25</td></tr><tr><td rowspan="2">PAIs #07 - #15</td><td>Ap</td><td>164,05</td></tr><tr><td>D</td><td>164,05</td></tr></table>	Instance	Stratum (i)	C _{SOC,PD-BSL,i}	PAI#01	As	104,25	Ds	121,21	PAIs #02 - #05	Aa	104,25	Ab	121,21	PAI#06	Db	104,25	PAIs #07 - #15	Ap	164,05	D	164,05		
Instance	Stratum (i)	C _{SOC,PD-BSL,i}																						
PAI#01	As	104,25																						
	Ds	121,21																						
PAIs #02 - #05	Aa	104,25																						
	Ab	121,21																						
PAI#06	Db	104,25																						
PAIs #07 - #15	Ap	164,05																						
	D	164,05																						
Justification of choice of data or description of measurement methods and procedures applied	Calculated from mean carbon stock in soil organic carbon for stratum I (C _{SOC,i,t=0}), land use factor before conversion (FLU), management factor before conversion (FMG) and input factor before, according to VMD0004 v1.0, equation 3. (de Oliveira, D. C., Maia, S. M. F., Freitas, R. D. C. A., & Cerri, C. E. P. 2022))																							
Purpose of data	Calculation of baseline emissions.																							
Comments	-																							

Data / Parameter	GHG _{BSL-E,i,t}																			
Data unit	t CO2e.yr-1																			
Description	Greenhouse gas emissions as a result of deforestation activities within the project boundary in the baseline stratum i in year t.																			
Source of data	Calculated based on VMD0006 v1.3 equation 15.																			
Value applied	<table><tr><th rowspan="2">Instance</th><th rowspan="2">Stratum (i)</th><th>Year</th></tr><tr><th>2023</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>186</td></tr><tr><td>Ds</td><td>92</td></tr><tr><td rowspan="2">PAI#02</td><td>Aa</td><td>186</td></tr><tr><td>Ab</td><td>92</td></tr><tr><td>PAI#03</td><td>Aa</td><td>172</td></tr></table>			Instance	Stratum (i)	Year	2023	PAI#01	As	186	Ds	92	PAI#02	Aa	186	Ab	92	PAI#03	Aa	172
Instance	Stratum (i)	Year																		
		2023																		
PAI#01	As	186																		
	Ds	92																		
PAI#02	Aa	186																		
	Ab	92																		
PAI#03	Aa	172																		

		Ab	322
	PAI#04	Aa	249
		Ab	249
	PAI#05	Aa	249
		Ab	249
	PAI#06	Db	991
	PAI#07	D	117
		Ap	-
	PAI#08	D	-
		Ap	-
	PAI#09	D	290
		Ap	-
	PAI#10	D	382
		Ap	-
	PAI#11	D	-
		Ap	-
	PAI#12	D	-
		Ap	-
	PAI#13	D	203
		Ap	-
	PAI#14	D	-
		Ap	500
	PAI#15	D	404
		Ap	-
GHG _{BSL,E}			159.916
Justification of choice of data or description of measurement methods and procedures applied	Calculated based on the non-CO2 emissions due to biomass burning in stratum i in year t (EBiomassBurn,i,t), according to VMD0006 v1.3 equation 15.		
Purpose of data	Calculation of baseline emissions.		
Comments	Net CO2e emission from fossil fuel combustion in stratum i in year t (EFC,i,t) and direct N2O emission as a result of nitrogen application on the alternative land use within the project boundary in stratum i in year t (N2Odirect-N,i,t) are conservatively excluded from the project scope and the calculation of the baseline estimates following VM0007 v1.6 section 5.4 criteria.		

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Data / Parameter	$E_{\text{BiomassBurn},i,t}$			
Data unit	t CO ₂ e			
Description	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO ₂ , CH ₄ , N ₂ O).			
Source of data	Calculated based on VMD0013 v1.3 equation 1.			
Value applied	Year	PAI	Stratum (i)	$E_{\text{biomassburn},i,t}$
	2023	#01	As	-
			Ds	-
		#02	Aa	5.87
			Ab	6.28
		#03	Aa	53.65
			Ab	-
		#04	Aa	58.45
			Ab	190.36
		#05	Aa	133.72
			Ab	196.64
		#06	Db	-
		#07	Ap	-
			D	-
		#08	Ap	-
			D	-
		#09	Ap	-
			D	-
		#10	Ap	-
			D	-
		#11	Ap	-
			D	-
		#12	Ap	-
			D	-
		#13	Ap	-
			D	-
		#14	Ap	-
			D	-
		#15	Ap	-
			D	-

Justification of choice of data or description of measurement methods and procedures applied	Calculated based on area burnt for stratum i in year t ($A_{burn,i,t}$), average aboveground biomass stock before burning stratum i, in year t ($B_{i,t}$), combustion factor for stratum i (unitless) ($COMF_i$), emission factor for stratum i for gas g ($Gg_{,i}$) and the Global warming potential for gas g (GWP_g), according to VMD0013 v1.3 equation 1. .
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	A _{burn,i,t}																																																													
Data unit	Ha																																																													
Description	Area burnt for stratum i in year t.																																																													
Source of data	Equal to AA _{planned,i,t} in the baseline case.																																																													
Value applied	<table><tr><th>Year</th><th>PAI</th><th>Stratum (i)</th><th>A_{burn,i,t}</th></tr><tr><td rowspan="21">2023</td><td rowspan="2">#01</td><td>As</td><td>-</td></tr><tr><td>Ds</td><td>-</td></tr><tr><td rowspan="2">#02</td><td>Aa</td><td>0.22</td></tr><tr><td>Ab</td><td>0.22</td></tr><tr><td rowspan="2">#03</td><td>Aa</td><td>2.01</td></tr><tr><td>Ab</td><td>-</td></tr><tr><td rowspan="2">#04</td><td>Aa</td><td>2.19</td></tr><tr><td>Ab</td><td>6.67</td></tr><tr><td rowspan="2">#05</td><td>Aa</td><td>5.01</td></tr><tr><td>Ab</td><td>6.89</td></tr><tr><td>#06</td><td>Db</td><td>-</td></tr><tr><td rowspan="2">#07</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">#08</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">#09</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">#10</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">#11</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr></table>				Year	PAI	Stratum (i)	A _{burn,i,t}	2023	#01	As	-	Ds	-	#02	Aa	0.22	Ab	0.22	#03	Aa	2.01	Ab	-	#04	Aa	2.19	Ab	6.67	#05	Aa	5.01	Ab	6.89	#06	Db	-	#07	Ap	-	D	-	#08	Ap	-	D	-	#09	Ap	-	D	-	#10	Ap	-	D	-	#11	Ap	-	D	-
Year	PAI	Stratum (i)	A _{burn,i,t}																																																											
2023	#01	As	-																																																											
		Ds	-																																																											
	#02	Aa	0.22																																																											
		Ab	0.22																																																											
	#03	Aa	2.01																																																											
		Ab	-																																																											
	#04	Aa	2.19																																																											
		Ab	6.67																																																											
	#05	Aa	5.01																																																											
		Ab	6.89																																																											
	#06	Db	-																																																											
	#07	Ap	-																																																											
		D	-																																																											
	#08	Ap	-																																																											
		D	-																																																											
	#09	Ap	-																																																											
		D	-																																																											
	#10	Ap	-																																																											
		D	-																																																											
	#11	Ap	-																																																											
		D	-																																																											

	#12	Ap	-
		D	-
	#13	Ap	-
		D	-
	#14	Ap	-
		D	-
	#15	Ap	-
		D	-
Justification of choice of data or description of measurement methods and procedures applied	For the calculation of baseline emissions, the burned area is considered equivalent to the annual deforested area, assuming that all deforestation is preceded by a fire to clear the land in the baseline case.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	$B_{i,t}$																																						
Data unit	tonnes d.m. ha ⁻¹																																						
Description	Average aboveground biomass stock before burning for stratum i, year t.																																						
Source of data	Calculated based on VMD0013 v1.3 equation 2.																																						
Value applied	<table> <tr> <th>Year</th><th>PAI</th><th>Stratum (i)</th><th>$B_{i,t}$</th></tr> <tr> <td rowspan="12">2023</td><td rowspan="2">#01</td><td>As</td><td>314.09</td></tr> <tr> <td>Ds</td><td>291.07</td></tr> <tr> <td rowspan="2">#02</td><td>Aa</td><td>243.67</td></tr> <tr> <td>Ab</td><td>260.57</td></tr> <tr> <td rowspan="2">#03</td><td>Aa</td><td>243.67</td></tr> <tr> <td>Ab</td><td>260.57</td></tr> <tr> <td rowspan="2">#04</td><td>Aa</td><td>243.67</td></tr> <tr> <td>Ab</td><td>260.57</td></tr> <tr> <td rowspan="2">#05</td><td>Aa</td><td>243.67</td></tr> <tr> <td>Ab</td><td>260.57</td></tr> <tr> <td>#06</td><td>Db</td><td>305.98</td></tr> <tr> <td>#07</td><td>Ap</td><td>206.51</td></tr> </table>	Year	PAI	Stratum (i)	$B_{i,t}$	2023	#01	As	314.09	Ds	291.07	#02	Aa	243.67	Ab	260.57	#03	Aa	243.67	Ab	260.57	#04	Aa	243.67	Ab	260.57	#05	Aa	243.67	Ab	260.57	#06	Db	305.98	#07	Ap	206.51		
Year	PAI	Stratum (i)	$B_{i,t}$																																				
2023	#01	As	314.09																																				
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	#07	Ap	206.51																																				

		D	351.77
	#08	Ap	206.51
		D	351.77
	#09	Ap	206.51
		D	351.77
	#10	Ap	206.51
		D	351.77
	#11	Ap	206.51
		D	351.77
	#12	Ap	206.51
		D	351.77
	#13	Ap	206.51
		D	351.77
	#14	Ap	206.51
		D	351.77
	#15	Ap	206.51
		D	351.77
Justification of choice of data or description of measurement methods and procedures applied	Calculated based on carbon stock in aboveground biomass in trees in stratum i in year t ($C_{AB\_tree,i,t}$), Carbon stock in dead wood for stratum i in year t ($C_{DWi,t}$), Carbon stock in litter for stratum i in year t ($C_{Li,i,t}$) and Carbon fraction of biomass (CF), according to VMD0013 v1.3 equation 2.		
Purpose of data	Calculation of baseline emissions.		
Comments	-		

Data / Parameter	COMF _i
Data unit	Dimensionless
Description	Combustion factor for stratum i .
Source of data	IPCC (2006)
Value applied	0.45

Justification of choice of data or description of measurement methods and procedures applied	Default values in Table 2.6 of IPCC, 2006.
Purpose of data	Calculation of baseline emissions.
Comments	The combustion factor is a measure of the proportion of the fuel that is actually combusted, which varies as a function of the size and architecture of the fuel load (i.e., a smaller proportion of large, coarse fuel such as tree stems will be burnt compared to fine fuels, such as grass leaves), the moisture content of the fuel and the type of fire (i.e., intensity and rate of spread).

Data / Parameter	Gg _i
Data unit	kg t ⁻¹ d.m. burnt
Description	Emission factor for stratum i for gas g
Source of data	IPCC (2006)
Value applied	CH ₄ =6.8; N ₂ O=0.2
Justification of choice of data or description of measurement methods and procedures applied	Default values in Table 2.6 of IPCC, 2006
Purpose of data	Calculation of baseline emissions.
Comments	Defaults can be found in Volume 4, Chapter 2, of the IPCC 2006 Inventory Guidelines in table 2.5 (see APPENDIX_CALCULUS-TABLES: emission factors for various types of burning for CH ₄ and N ₂ O).

Data / Parameter	GWP _g
Data unit	Dimensionless
Description	Global warming potential for gas g.
Source of data	Fifth Assessment Report (AR5) IPCC (2006)
Value applied	CH ₄ =28; N ₂ O=265
Justification of choice of data or description of measurement methods and procedures applied	Default factor from the latest IPCC Assessment Report.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	$\Delta C_{BSL,i,t}$
Data unit	t CO ₂ e
Description	Net carbon stock changes in all pools in the baseline stratum i in year t.
Source of data	Calculated based on VMD0006 v1.3 equation 4.
Value applied	See the values applied in the Table 25, Error! Reference source not found. and Error! Reference source not found..
Justification of choice of data or description of measurement methods and procedures applied	Estimated based on the annual area of baseline planned deforestation for stratum i in year t ($AA_{planned,i,t}$), the baseline carbon stock change in aboveground tree biomass in stratum I ($\Delta C_{AB\_tree,i}$), the baseline carbon stock change in belowground tree biomass in stratum I ($\Delta C_{BB\_tree,i}$), the baseline carbon stock change in aboveground non-tree biomass in stratum ($\Delta C_{AB\_non-tree,i}$), the baseline carbon stock change in belowground non-tree biomass in stratum I

	($\Delta C_{BB\_non-tree,i}$), the baseline carbon stock change in wood products in stratum I ($\Delta C_{WP,i}$), the baseline carbon stock change in dead wood in stratum I ($\Delta C_{DW,i}$), the baseline carbon stock change in litter in stratum I ($\Delta C_{LI,i}$) and the baseline carbon stock change in soil organic carbon in stratum I, according to VMD0006 v1.3 equation 4.
Purpose of data	Calculation of baseline emissions.
Comments	-

Data / Parameter	$\Delta C_{BSL,planned}$		
Data unit	t CO ₂ e		
Description	Net greenhouse gas emissions in the baseline from planned deforestation.		
Source of data	Calculated based on VMD0006 v1.3 equation 1.		
Value applied	Instance	$\Delta C_{BSL,planned}$	
		Year	
		2023	
	PAI#01	194,991	
	PAI#02	255,655	
	PAI#03	273,279	
	PAI#04	268,755	
	PAI#05	268,295	
	PAI#06	559,233	
	PAI#07	77,766	
	PAI#08	904	
	PAI#09	193,002	
	PAI#10	254,335	
	PAI#11	2,662	
	PAI#12	2,610	
	PAI#13	135,037	
	PAI#14	318,526	
PAI#15	269,193		
Total	3,074,245		

Justification of choice of data or description of measurement methods and procedures applied	Estimated based on the net carbon stock changes in all pools in the baseline ($\Delta C_{BSL,i,t}$) and GHG emissions as a result of deforestation activities within the project boundary in the baseline stratum i in year t ($GHG_{BSL-E,i,t}$), according to equation 1 from VMD0006 v1.3.
Purpose of data	Calculation of baseline emissions.
Comments	-

3.1.2 Data and Parameters Monitored (VCS, 3.16)

Data / Parameter	$A_{DefPA,i,u,t}$													
Data unit	Ha													
Description	Area of recorded deforestation in the project area in stratum i converted to land use u in year t .													
Source of data	Remote sensing imagery (Sentinel 2, Landsat 8), PRODES and DETER database.													
Description of measurement methods and procedures to be applied	Annual deforestation is measured in GIS using remote sensing techniques and reported with spatial explicit data by raster and shapefile. evidence.													
Frequency of monitoring/recording	Annual													
Value monitored	<table> <tr> <th>Year</th><th>2023</th></tr> <tr> <td rowspan="10">$A_{DefPA,u,i,t}$</td><td>PAI#01 As -</td></tr> <tr> <td>DS -</td></tr> <tr> <td>PAI#02 Aa 2.35</td></tr> <tr> <td>Ab 0.72</td></tr> <tr> <td>PAI#03 Aa 5.05</td></tr> <tr> <td>Ab -</td></tr> <tr> <td>PAI#04 Aa 11.5</td></tr> <tr> <td>Ab 26.22</td></tr> <tr> <td>PAI#05 Aa 1.27</td></tr> <tr> <td>Ab -</td></tr> </table>	Year	2023	$A_{DefPA,u,i,t}$	PAI#01 As -	DS -	PAI#02 Aa 2.35	Ab 0.72	PAI#03 Aa 5.05	Ab -	PAI#04 Aa 11.5	Ab 26.22	PAI#05 Aa 1.27	Ab -
Year	2023													
$A_{DefPA,u,i,t}$	PAI#01 As -													
	DS -													
	PAI#02 Aa 2.35													
	Ab 0.72													
	PAI#03 Aa 5.05													
	Ab -													
	PAI#04 Aa 11.5													
	Ab 26.22													
	PAI#05 Aa 1.27													
	Ab -													

			PAI#06 Db - Ap - PAI#07 D - Ap - PAI#08 D - Ap - PAI#09 D - Ap - PAI#10 D - Ap - PAI#11 D - Ap - PAI#12 D - Ap - PAI#13 D - Ap - PAI#14 D - Ap - PAI#15 D -
Monitoring equipment	Landsat 8 OLI, Sentinel MSI		
QA/QC procedures to be applied	Accuracy assessment of PRODES classification was performed by comparing each class of the land cover map from the reference period (2011 to 2021 - Acre and 2012 to 2022 - Para) with a set of 200 points randomly distributed over the reference region for each year. The reference data used for this step comes from the visual interpretation of high spatial resolution images available in Google Earth. The global accuracy of the mapping for the different classes of land cover presented values above 95% for all three classes in each year analyzed. The overall accuracy of the forest cover reference map (2020) was 95.5%. In 2022, satellite images were used to validate the APD areas. Landsat 8 was used for 10 years before the start of the project and Sentinel 2 for the start date. An algorithm based on machine learning (Random Forest) was used for the classification of the images, the methodological details and accuracy of which are presented by PAI in Forest_Class_Validation_2022 of APPENDIX_GIS-DATA.		
Purpose of the data	Calculation of project emissions		
Calculation method	Classified images with information about the area of annual deforestation in Brazil are downloaded from PRODES		

	websites and clipped with the project area spatial limits. Images from Sentinel are downloaded from ESA.
Comments	-

Data / Parameter	$C_{P,post,u,i}$			
Data unit	t CO ₂ -e			
Description	Carbon stock in all pools in post-deforestation land use u in stratum i.			
Source of data	Calculated according to VMD0015 v2.2, equation 06			
Description of measurement methods and procedures to be applied	Calculated based on carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,i}$), carbon stock in belowground tree biomass in stratum I ($C_{BB\_tree,i}$), carbon stock in aboveground non-tree vegetation in stratum ($C_{AB\_non-tree,i}$), carbon stock in belowground non-tree vegetation in stratum I ($C_{BB\_non-tree,i}$), carbon stock in dead wood in stratum I ($C_{DW,i}$), carbon stock in litter in stratum I (CL_i), mean post-deforestation stock in soil organic carbon in the post deforestation stratum I ($C_{SOC,PD-BSL,i}$), according to VMD0015 v2.2, equation 06.			
Frequency of monitoring/recording	10 years (in each baseline revalidation)			
Value monitored	Instance	Stratum (i)	$C_{BSL,i}$	$C_{P,post,u,i}$
	PAI#01	As	689,53	122,38
		Ds	738,23	139,34
	PAIs #02 - #05	Aa	598,37	122,38
		Ab	632,19	139,34
	PAI#06	Db	777,57	122,38
	PAIs #07 - #15	Ap	611,30	164,18
		D	946,88	164,18
Monitoring equipment	N/A			
QA/QC procedures to be applied	-			
Purpose of the data	Calculation of project emissions			
Calculation method	See VMD0015 v2.2, equation 05.			

Comments	-
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Data / Parameter	$C_{WP,i}$
Data unit	t CO ₂ -e ha ⁻¹
Description	Carbon stock sequestered in wood products from harvests in stratum i
Source of data	Post exploratory reports
Description of measurement methods and procedures to be applied	See section 4.1.2.8.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-ante: 0 Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	See VMD0015 v2.2, equation 05.
Comments	

Data / Parameter	$\Delta C_{pools,Def,u,i,t}$
Data unit	t CO ₂ -e
Description	Net carbon stock changes in all pools as a result of deforestation in the project case in land use u in stratum i at time t.

Source of data	Calculated according to VMD0015 v2.2, equation 05.					
Description of measurement methods and procedures to be applied	Calculated based on carbon stock in all pools in the baseline case in stratum I ($C_{BSL,i}$), carbon stock in all pools in post-deforestation land use u in stratum I ($C_{P,post,u,i}$) and carbon stock sequestered in wood products from harvests in stratum I ($C_{WP,i}$), according to VMD0015 v2.2, equation 05.					
Frequency of monitoring/recording	10 years (in each baseline revalidation)					
Value monitored	Instance	Stratum (i)	$C_{BSL,i}$	$C_{P,post,u,i}$	$C_{WP,i}$	$\Delta C_{pools,Def,u,i,t}$
	PAI#01	As	689,53	122,38	8,46	558,69
		Ds	738,23	139,34	8,46	590,44
	PAIs #02 - #05	Aa	598,37	122,38	8,88	467,11
		Ab	632,19	139,34	8,88	483,97
	PAI#06	Db	777,57	122,38	0,00	655,18
	PAIs #07 - #15	Ap	611,30	164,18	0,00	447,13
		D	946,88	164,18	0,00	782,71
Monitoring equipment	N/A					
QA/QC procedures to be applied	-					
Purpose of the data	Calculation of project emissions					
Calculation method	See VMD0015 v2.2, equation 05.					
Comments	-					

Data / Parameter	$\Delta C_{P,DefPA,i,t}$
Data unit	t CO ₂ -e
Description	Net carbon stock change as a result of deforestation in the project case in the project area in stratum i at time t.
Source of data	Calculated according to VMD0015 v2.2, equation 03

Description of measurement methods and procedures to be applied	Calculated based on the area of recorded deforestation in the project area stratum i converted to land use u at time t ($A_{DefPA,u,i,t}$) and the net carbon stock changes in all pools in the project case in land use u in stratum i at time t ($\Delta C_{pools,Def,u,i,t}$), according to VMD0015 v2.2, equation 03.																																							
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.																																							
Value monitored	<table><tr><th colspan="2">Year</th><th>2023</th></tr><tr><td rowspan="15">$\Delta C_{P,DefPA,i,t}$</td><td>PAI#01</td><td>-</td></tr><tr><td>PAI#02</td><td>-</td></tr><tr><td>PAI#03</td><td>2.985</td></tr><tr><td>PAI#04</td><td>22.670</td></tr><tr><td>PAI#05</td><td>1.063</td></tr><tr><td>PAI#06</td><td>-</td></tr><tr><td>PAI#07</td><td>771</td></tr><tr><td>PAI#08</td><td>-</td></tr><tr><td>PAI#09</td><td>-</td></tr><tr><td>PAI#10</td><td>-</td></tr><tr><td>PAI#11</td><td>-</td></tr><tr><td>PAI#12</td><td>-</td></tr><tr><td>PAI#13</td><td>-</td></tr><tr><td>PAI#14</td><td>-</td></tr><tr><td>PAI#15</td><td>-</td></tr><tr><td>$\Delta C_{P,DefPA,i,t}$</td><td>Total</td><td>27.489</td></tr></table>			Year		2023	$\Delta C_{P,DefPA,i,t}$	PAI#01	-	PAI#02	-	PAI#03	2.985	PAI#04	22.670	PAI#05	1.063	PAI#06	-	PAI#07	771	PAI#08	-	PAI#09	-	PAI#10	-	PAI#11	-	PAI#12	-	PAI#13	-	PAI#14	-	PAI#15	-	$\Delta C_{P,DefPA,i,t}$	Total	27.489
Year		2023																																						
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$\Delta C_{P,DefPA,i,t}$	Total	27.489																																						
Monitoring equipment	-																																							
QA/QC procedures to be applied	-																																							
Purpose of the data	Calculation of project emissions																																							
Calculation method	See VMD0015 v2.2, equation 03.																																							
Comments	-																																							
Data / Parameter	$A_{DegW,i}$																																							

Data unit	ha																																																																							
Description	Area potentially impacted by degradation processes in stratum i																																																																							
Source of data	Measured																																																																							
Description of measurement methods and procedures to be applied	The area subject to degradation is delineated based on an access buffer from all access points, such as roads and rivers or previously cleared areas, to the project area, with a width equal to the distance of degradation penetration.																																																																							
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.																																																																							
Value monitored	<table><tr><th>Instance</th><th>Stratum (i)</th><th>A_{DegW,i}</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>-</td></tr><tr><td>Ds</td><td>-</td></tr><tr><td rowspan="2">PAI#02</td><td>Aa</td><td>-</td></tr><tr><td>Ab</td><td>-</td></tr><tr><td rowspan="2">PAI#03</td><td>Aa</td><td>2,01</td></tr><tr><td>Ab</td><td>-</td></tr><tr><td rowspan="2">PAI#04</td><td>Aa</td><td>2,19</td></tr><tr><td>Ab</td><td>6,67</td></tr><tr><td rowspan="2">PAI#05</td><td>Aa</td><td>5,01</td></tr><tr><td>Ab</td><td>6,89</td></tr><tr><td>PAI#06</td><td>Db</td><td>-</td></tr><tr><td rowspan="2">PAI#07</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#08</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#09</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#10</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#11</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#12</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#13</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr><tr><td rowspan="2">PAI#14</td><td>Ap</td><td>-</td></tr><tr><td>D</td><td>-</td></tr></table>	Instance	Stratum (i)	A _{DegW,i}	PAI#01	As	-	Ds	-	PAI#02	Aa	-	Ab	-	PAI#03	Aa	2,01	Ab	-	PAI#04	Aa	2,19	Ab	6,67	PAI#05	Aa	5,01	Ab	6,89	PAI#06	Db	-	PAI#07	Ap	-	D	-	PAI#08	Ap	-	D	-	PAI#09	Ap	-	D	-	PAI#10	Ap	-	D	-	PAI#11	Ap	-	D	-	PAI#12	Ap	-	D	-	PAI#13	Ap	-	D	-	PAI#14	Ap	-	D	-
Instance	Stratum (i)	A _{DegW,i}																																																																						
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PAI#14	Ap	-																																																																						
	D	-																																																																						

		PAI#15	Ap	-	
			D	-	
Monitoring equipment	DETER data, Remote Sensing data (Sentinel), GIS software's and field survey.				
QA/QC procedures to be applied	Orbital imaging steps will be supervised by a professional with more than ten years of experience remote sensing in tropical forests. In addition, field survey will be adopted to effect and guarantee quality imaging at extremely high spatial resolution. All Digital Image Processing (PDI) steps will be internally rechecked. The orbital imaging results will be compared with data collected in the field for validation, where such quality assurance and control procedures will be led by forest inventory specialists from the BRC team (see APPENDIX_CARBON-POOLS).				
Purpose of the data	Calculation of project emissions				
Calculation method	See VMD0015 v2.2, equation 08.				
Comments	Ex-ante estimates of net carbon stock changes as a result of degradation in stratum i in the project area in year t ($\Delta C_{P,DegW,i,t}$) were made based on participatory rural appraisals (PRA), though the number of families and the average consumption of wood.				

Data / Parameter	$C_{DegW,i,t}$
Data unit	t CO ₂ -e.ha ⁻¹
Description	Biomass carbon of trees cut and removed through degradation process from plots measured in stratum i in year t.
Source of data	Estimated through diameter of stumps directly measured in the field.
Description of measurement methods and procedures to be applied	The diameter of all tree stumps is measured and conservatively assumed to be the same as the DBH. The above and below ground carbon stock of each harvested tree are estimated using the same allometric regression equation and root to shoot ratio used for estimating the carbon pool in trees in the baseline scenario

Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.																																																																														
Value monitored	<table> <tr> <th>Instance</th> <th>Stratum (i)</th> <th>C_{DegW,i,t}</th> </tr> <tr> <td rowspan="2">PAI#01</td> <td>As</td> <td>-</td> </tr> <tr> <td>Ds</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#02</td> <td>Aa</td> <td>76,16</td> </tr> <tr> <td>Ab</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#03</td> <td>Aa</td> <td>13,83</td> </tr> <tr> <td>Ab</td> <td>15,32</td> </tr> <tr> <td rowspan="2">PAI#04</td> <td>Aa</td> <td>13,54</td> </tr> <tr> <td>Ab</td> <td>19,99</td> </tr> <tr> <td rowspan="2">PAI#05</td> <td>Aa</td> <td>48,55</td> </tr> <tr> <td>Ab</td> <td>-</td> </tr> <tr> <td>PAI#06</td> <td>Db</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#07</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#08</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#09</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#10</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#11</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#12</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#13</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#14</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> <tr> <td rowspan="2">PAI#15</td> <td>Ap</td> <td>-</td> </tr> <tr> <td>D</td> <td>-</td> </tr> </table>			Instance	Stratum (i)	C _{DegW,i,t}	PAI#01	As	-	Ds	-	PAI#02	Aa	76,16	Ab	-	PAI#03	Aa	13,83	Ab	15,32	PAI#04	Aa	13,54	Ab	19,99	PAI#05	Aa	48,55	Ab	-	PAI#06	Db	-	PAI#07	Ap	-	D	-	PAI#08	Ap	-	D	-	PAI#09	Ap	-	D	-	PAI#10	Ap	-	D	-	PAI#11	Ap	-	D	-	PAI#12	Ap	-	D	-	PAI#13	Ap	-	D	-	PAI#14	Ap	-	D	-	PAI#15	Ap	-	D	-
Instance	Stratum (i)	C _{DegW,i,t}																																																																													
PAI#01	As	-																																																																													
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PAI#02	Aa	76,16																																																																													
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PAI#10	Ap	-																																																																													
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PAI#11	Ap	-																																																																													
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PAI#12	Ap	-																																																																													
	D	-																																																																													
PAI#13	Ap	-																																																																													
	D	-																																																																													
PAI#14	Ap	-																																																																													
	D	-																																																																													
PAI#15	Ap	-																																																																													
	D	-																																																																													
Monitoring equipment	Diameter tape.																																																																														
QA/QC procedures to be applied	See SOP for biomass inventory (APPENDIX_CARBO-POOLS).																																																																														

Purpose of the data	Calculation of project emissions.
Calculation method	Calculated through allometric equation used for estimating the carbon pool in trees in the baseline scenario.
Comments	Ex-ante estimates were made based on PRAs, which considered the amount of wood used for firewood, construction of houses and boats per family.

Data / Parameter	AP_i
Data unit	ha
Description	Total area of degradation sample plots in stratum i.
Source of data	Ground measurement.
Description of measurement methods and procedures to be applied	Sampling plots covering 3% of A_{degWi}
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-ante: 13.83 Ex-post: See values applied in PAIs individual spreadsheets of APPENDIX_CALCULUS-TABLES
Monitoring equipment	Tape measure, GPS.
QA/QC procedures to be applied	See SOP for biomass inventory (APPENDIX_CARBON-POOLS).
Purpose of the data	Calculation of project emissions.
Calculation method	Fixed area plots covering 3% of the $A_{DegW,i}$ in the monitoring period.
Comments	-

Data / Parameter	$\Delta C_{P,DegW,i,t}$			
Data unit	t CO ₂ -e			
Description	Net carbon stock changes as a result of degradation in stratum i in the project area in year t.			
Source of data	Calculated according to VMD0015 v2.2, equation 08.			
Description of measurement methods and procedures to be applied	Calculated based on area potentially impacted by degradation processes in stratum I ($A_{DegW,i}$) and biomass carbon of trees cut and removed through degradation process from plots measured in stratum i in year t ($C_{DegW,i,t}$) and total area of degradation sample plots in stratum I (AP_i), according to VMD0015 v2.2, equation 08.			
Frequency of monitoring/recording	Annual			
Value monitored	Year	PAI	Stratum (i)	$\Delta C_{P,DegW,i,t}$
	2023	#01	As	-
			Ds	-
		#02	Aa	-
			Ab	-
		#03	Aa	2,37
			Ab	-
		#04	Aa	1,88
			Ab	8,46
		#05	Aa	14,80
			Ab	-
		#06	Db	-
		#07	Ap	-
			D	-
		#08	Ap	-
			D	-
		#09	Ap	-
			D	-
		#10	Ap	-
			D	-
		#11	Ap	-
			D	-
		#12	Ap	-

			D	-
		#13	Ap	-
			D	-
		#14	Ap	-
			D	-
		#15	Ap	-
			D	-
Monitoring equipment	N/A			
QA/QC procedures to be applied	-			
Purpose of the data	Calculation of project emissions			
Calculation method	See VMD0015 v2.2, equation 08.			
Comments	-			

Data / Parameter	$\Delta C_{P,SelLog,i,t}$
Data unit	t CO ₂ -e
Description	Net carbon stock change as a result of degradation through selective logging of FSC certified forest management areas in the project area in the project case in stratum i in year t.
Source of data	Calculated according to VMD0015 v2.2, equation 09.
Description of measurement methods and procedures to be applied	Calculated based on actual net project emissions arising in the logging gap in stratum i in year t ($C_{LG,i,t}$), actual net project emissions arising from logging infrastructure in stratum i in year t ($C_{LR,i,t}$) and the carbon stock in wood products pool from stratum i, in year t ($C_{WPI,t}$), according to VMD0015 v2.2, equation 09.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-

Purpose of the data	Calculation of project emissions
Calculation method	See section 4.2
Comments	-

Data / Parameter	$C_{LG,i,t}$
Data unit	t CO ₂ -e
Description	Actual net project emissions arising in the logging gap, in stratum i in year t;
Source of data	Calculated according to VMD0015 v2.2, equation 10
Description of measurement methods and procedures to be applied	Calculated based on biomass carbon stock of timber extracted within the project boundary for logging stratum z, in stratum i in year t ($C_{EXT,z,i,t}$), logging damage factor for logging stratum z, in stratum i ($L_{DFz,i}$) and volume extracted from logging stratum z, in stratum i in year t ($V_{EXT,z,i,t}$), according to VMD0015 v2.2, equation 10.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	See VMD0015 v2.2, equation 10 at section 4.2.
Comments	-

Data / Parameter	$C_{EXT,z,i,t}$
Data unit	t CO ₂ -e

Description	Biomass carbon stock of timber extracted within the project boundary for logging stratum z, in stratum i in year t.
Source of data	Calculated according to VMD0015 v2.2, equation 11.
Description of measurement methods and procedures to be applied	Calculated based on the volume of timber extracted of species j for logging stratum z, in stratum i in year t ($V_{EXT,j,z,i,t}$), the basic wood density of species j (D_j) and the carbon fraction of biomass (CF), according to VMD0015 v2.2, equation 11.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	The volume of timber extracted of all species is taken from annual operating plan. Basic wood density of all species is taken from the tropical wood density database. Carbon fraction of biomass for tree species is default according to IPCC (2006). See VMD0015 v2.2, equation 11 at section 4.2.
Comments	-

Data / Parameter	$LDF_{z,i}$
Data unit	$t\ C\ m^{-3}$
Description	Logging damage factor for logging stratum z, in stratum i
Source of data	VMD0015 v2.2
Description of measurement methods and procedures to be applied	Default data

Frequency of monitoring/recording	-
Value monitored	0.67
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	-

Data / Parameter	V _{EXT,z,i,t}						
Data unit	m ³						
Description	Volume extracted from logging stratum z, in stratum i in year t.						
Source of data	Post exploration reports.						
Description of measurement methods and procedures to be applied	-						
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.						
Value monitored		<table><tr><th>Year</th><th>V_{EXT,z,i,t}</th></tr><tr><td>2023</td><td>119.799,63</td></tr></table>	Year	V _{EXT,z,i,t}	2023	119.799,63	
Year	V _{EXT,z,i,t}						
2023	119.799,63						
Monitoring equipment	-						
QA/QC procedures to be applied	-						
Purpose of the data	Calculation of project emissions.						
Calculation method	-						

Comments	-
Data / Parameter	$C_{LR,i,t}$
Data unit	t CO ₂ -e
Description	Actual net project emissions arising from logging infrastructure in stratum i in year t.
Source of data	Calculated according to VMD0015 v2.2, equation 12.
Description of measurement methods and procedures to be applied	Calculated based on change in carbon stock resulting from skid trail creation in stratum i in year t ($\Delta C_{SKID,i,t}$), Change in carbon stock resulting from logging road creation in stratum i in year t ($\Delta C_{ROAD,i,t}$) and the Change in carbon stock resulting from logging deck creation in stratum i in year t ($\Delta C_{DECKS,i,t}$), according to VMD0015 v2.2, equation 12
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-ante: 0 Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	See VMD0015 v2.2, equation 12 at section 4.2.
Comments	-

Data / Parameter	$\Delta C_{SKID,i,t}$
Data unit	t CO ₂ -e
Description	Change in carbon stock resulting from skid trail creation in stratum i in year t.

Source of data	Calculated according to VMD0015 v2.2, equation 13.
Description of measurement methods and procedures to be applied	Calculated based on the Length of skid trails in stratum i in year t ($L_{SKID,i,t}$) and the Skid trail emissions factor (Average emissions resulting from dead wood created in the process of skid trail creation per length of skid trail) in stratum I (SK_i), based on VMD0015 v2.2, equation 13.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	The length of skid trails is taken from forest exploration maps. These maps contain information about all felled trees, primary, secondary and skid trails. Skid trail emissions factor is calculated according to VMD0015 v2.2, equations 14. See VMD0015 v2.2, equation 13 and 14 at section 4.2.
Comments	-

Data / Parameter	$L_{SKID,i,t}$
Data unit	m
Description	Length of skid trails in stratum i in year t .
Source of data	Forest exploration maps and associated GIS files.
Description of measurement methods and procedures to be applied	Measured in GIS.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.

Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	Forest exploration maps contain information about all felled trees, primary and secondary roads, and skid trails.

Data / Parameter	SK_i
Data unit	t CO ₂ -e.m ⁻¹
Description	Skid trail emission factor (Average emissions resulting from dead wood created in the process of skid trail creation per length of skid trail) in stratum i.
Source of data	Calculated according to VMD0015 v2.2, equation 14
Description of measurement methods and procedures to be applied	Calculated based on mean live carbon stock of trees and non-tree biomass assumed to be killed per unit area in creation of skid trail in stratum I ($C_{dest, i}$), the carbon stock change in organic carbon resulting from skid trail creation in stratum I ($\Delta C_{SOC\_sk, i}$) and the Mean width of skid trails in stratum I (W_{SKID}) according to VMD0015 v2.2, equation 14.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of project emissions
Calculation method	-

Comments	Mean live carbon stock of trees and non-tree biomass assumed to be killed is calculated taking in consideration the average carbon stock of trees below the maximum diameter tree that can be within the path of a skid trail, following VMD0015 v2.2, step 02 criteria, and equation 15. Mean width of skid trails is determined in function of the machinery used at the project site. This value will vary among PAIs. See VMD0015 v2.2, equation 14 and 15 at section 4.2.
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Data / Parameter	$C_{dest, i}$
Data unit	t CO ₂ -e
Description	Mean live carbon stock of trees and non-tree biomass assumed to be killed per unit area in creation of skid trail in stratum i.
Source of data	Calculated according to VMD0015 v2.2, equation 15.
Description of measurement methods and procedures to be applied	Calculated based on Carbon stock in aboveground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail in stratum I ($C_{AB\_tree\_dest,i}$), carbon stock in belowground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail in stratum I ($C_{BB\_tree\_dest,i}$), Carbon stock in aboveground non-tree biomass in stratum I ($C_{AB\_non-tree,i}$) and the Carbon stock in belowground non-tree biomass in stratum I ($C_{BB\_non-tree,i}$), based on VMD0015 v2.2, equation 15.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post:0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	Mean live carbon stock of trees and non-tree biomass assumed to be killed is calculated taking in consideration the

	average carbon stock of trees below the maximum diameter tree that can be within the path of a skid trail, following VMD0015 v2.2, step 02 criteria, and equation 15. See VMD0015 v2.2, equation 14 and 15 at section 4.2.
Comments	-

Data / Parameter	$\Delta C_{SOC\_sk,i}$
Data unit	t CO ² -e
Description	Carbon stock change in soil organic carbon resulting from skid trail creation in stratum i
Source of data	Calculated according to VMD0015 v2.2, equation 09
Description of measurement methods and procedures to be applied	Calculated based on mean carbon stock in soil organic carbon for stratum i, in year t=0 ($C_{SOC,i,t=0}$), the Land use factor after conversion; dimensionless (FLU), the management factor after conversion (FMG) and the Input factor after conversion (FI), according to VMD0015 v2.2, equation 09.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	Initial mean carbon stock in soil organic carbon is measured in laboratory through primary data collected in the field, following VMD0004 v1.0 criteria (see APPENDIX CARBON-POOLS). Land use, management and input factors are default value given by IPCC (2006). See VMD0015 v2.2, equation 09 at section 4.2.
Comments	-

Data / Parameter	W_{skid}
Data unit	m
Description	Mean width of skid trails in stratum i
Source of data	Based on the Skidder type model.
Description of measurement methods and procedures to be applied	Interview with the responsible for the forest management operations at the PAI.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	-

Data / Parameter	$\Delta C_{SOC\_sk,i}$
Data unit	t CO ₂ -e ha ⁻¹
Description	Carbon stock change in soil organic carbon resulting from skid trail creation in stratum i.
Source of data	Calculated according to VMD0015 v2.2, equation 09.
Description of measurement methods and procedures to be applied	Estimates are made based on Mean carbon stock in soil organic carbon for stratum I ($CSOC_{i,t=0}$), Land use factor after conversion (FLU), Management factor after conversion (FMG), and Input factor after conversion (FI), according to VMD0015 v2.2, equation 09.

Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	Calculated according to VMD0015 v2.2, equation 09.
Comments	-

Data / Parameter	F _{LU}
Data unit	Dimensionless
Description	Land use factor after conversion.
Source of data	IPCC, (2006).
Description of measurement methods and procedures to be applied	Default value.
Frequency of monitoring/recording	-
Value monitored	Grasslands: See the applicable values in the table 6.2 of the Volume 4, Chp 6, IPCC (2006). Croplands: See the applicable values in the tables 5.5 and 5.10 of the Volume 4, Chp 5, IPCC (2006);
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.

Calculation method	-
Comments	-

Data / Parameter	F_{MG}
Data unit	Dimensionless
Description	Management factor after conversion.
Source of data	IPCC, (2006).
Description of measurement methods and procedures to be applied	Default value.
Frequency of monitoring/recording	-
Value monitored	Grasslands: See the applicable values in the table 6.2 of the Volume 4, Chp 6, IPCC (2006). Croplands: See the applicable values in the tables 5.5 and 5.10 of the Volume 4, Chp 5, IPCC (2006);
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	-

Data / Parameter	F_i
Data unit	Dimensionless
Description	Input factor after conversion.

Source of data	IPCC, (2006).
Description of measurement methods and procedures to be applied	Default value.
Frequency of monitoring/recording	-
Value monitored	Grasslands: See the applicable values in the table 6.2 of the Volume 4, Chp 6, IPCC (2006). Croplands: See the applicable values in the tables 5.5 and 5.10 of the Volume 4, Chp 5, IPCC (2006);
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	-

Data / Parameter	$\Delta C_{ROAD,i,t}$
Data unit	t CO ₂ -e
Description	Change in carbon stock resulting from logging road creation in stratum i in year t
Source of data	Calculated according to VMD0015 v2.2, equation 17
Description of measurement methods and procedures to be applied	Calculated based on the area of roads in stratum i in year t ($A_{ROAD,i,t}$) and the carbon stock in all pools in the baseline case in stratum I ($C_{BSL,i}$), according to VMD0015 v2.2, equation 17.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.

Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	Area of roads is taken from post-harvest assessment reports and post-harvest maps that are based on field measurements. Carbon stock in all pools in the baseline case are estimated as part of the baseline procedures. See VMD0015 v2.2, equation 17 at section 4.2.
Comments	-

Data / Parameter	$A_{ROAD,i,t}$
Data unit	ha
Description	Area of roads in stratum i in year t.
Source of data	Post exploration reports and associated GIS files.
Description of measurement methods and procedures to be applied	Measured in GIS.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-

Comments	-
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Data / Parameter	$\Delta C_{\text{DECKS},i,t}$
Data unit	t CO ₂ -e
Description	Change in carbon stock resulting from logging deck creation in stratum i in year t.
Source of data	Calculated according to VMD0015 v2.2, equation 18.
Description of measurement methods and procedures to be applied	Calculated based on the area of logging decks in stratum i in year t ($A_{\text{DECKS},i,t}$) and the carbon stock in all pools in the baseline case in stratum i ($C_{\text{BSL},i}$) according to VMD0015 v2.2, equation 18.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	Area of logging decks is taken from post-harvest assessment reports and post-harvest maps that are based on field measurements. Carbon stock in all pools in the baseline case are estimated as part of the baseline procedures. See VMD0015 v2.2, equation 17 at section 4.2.
Comments	-

Data / Parameter	$A_{\text{DECKS},i,t}$
Data unit	ha
Description	Area of logging decks in stratum i in year t.

Source of data	Post exploration reports and post-harvest maps.
Description of measurement methods and procedures to be applied	Area of logging decks is taken from post exploration reports and post-harvest maps that are based on field measurements.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions.
Calculation method	-
Comments	-

Data / Parameter	$A_{DistPA,q,i,t}$			
Data unit	ha			
Description	Area impacted by natural disturbance in the project stratum i converted to natural disturbance stratum q in year t; ha			
Source of data	Remote Sensing imagery combined with ground verification			
Description of measurement methods and procedures to be applied	Measured in a GIS environment through the DETER database, NBR analysis in Google Earth Engine and verified in the field using direct observation on site.			
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.			
Value monitored	Year	PAI	Stratum (i)	$A_{DistPA,q,i,t}$
	2023	#01	As	-
			Ds	-

		#02	Aa	-
			Ab	-
		#03	Aa	2,01
			Ab	-
		#04	Aa	2,19
			Ab	6,67
		#05	Aa	5,01
			Ab	-
		#06	Db	-
		#07	Ap	-
			D	-
		#08	Ap	-
			D	-
		#09	Ap	-
			D	-
		#10	Ap	-
			D	-
		#11	Ap	-
			D	-
		#12	Ap	-
			D	-
		#13	Ap	-
			D	-
		#14	Ap	-
			D	-
		#15	Ap	-
			D	-
Monitoring equipment	Remote sensing data, DETER database, field collection and GIS software's			
QA/QC procedures to be applied	Orbital imaging steps will be supervised by a professional with more than ten years of experience remote sensing in tropical forests. In addition, field survey will be adopted to effect and guarantee quality imaging at extremely high spatial resolution. All Digital Image Processing (PDI) steps will be internally rechecked. The orbital imaging results will be compared with data collected in the field for validation, where such quality assurance and control procedures will be led by forest inventory specialists from the BRC team (see APPENDIX_GIS-DATA).			

Purpose of the data	Calculation of project emissions.
Calculation method	Spatially explicit information on forest degradation is downloaded from the DETER database and clipped with the spatial boundaries of the project area. A field incursion is carried out mapping the forest canopy and the forest floor surface. Forest gaps are identified based on mapping results and georeferenced. Investigation through direct observation of the mapped sites is carried out to conclude whether the area in question has been affected by any natural source of degradation.
Comments	-

Data / Parameter	DDRF (Degradation Disturbance Reduction Factor)
Data unit	Dimensionless
Description	Factor by which $A_{dist,q,i,t}$ is reduced to reflect the impact of the baseline degradation on available stocks for reduction due to disturbance
Source of data	Calculated according to VMD0015 v2.2, equation 19
Description of measurement methods and procedures to be applied	Calculated based on the average volume of fuelwood gathered in the project area in the baseline scenario in stratum i in year t ($FG_{BSL,i,t}$), the mean wood density of species harvested for fuelwood or charcoal production (D_{mn}), the carbon fraction of dry matter (CF), the area of stratum i (A_i) and the carbon stock in all pools in the baseline in stratum i ($C_{BSL,i}$), according to VMD0015 v2.2, equation 19.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: 0
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions

Calculation method	Average volume of fuelwood gathered in the project area is estimated based on a Participatory Rural Appraisal (PRA). Basic wood density of all species is taken from the tropical wood density database. Carbon fraction of biomass for dry matter is default according to IPCC (2006). Carbon stock in all pools in the baseline is calculated according to baseline procedures. The area impacted by natural disturbance is proportionally reduced to reflect previous firewood/charcoal extraction, according to VMD0015 v2.2, equation 19. See VMD0015 v2.2, equations 19 and 20 at section 4.2.
Comments	-

Data / Parameter	A _{burn,i,t}																																						
Data unit	ha																																						
Description	Area burnt for stratum i in year t.																																						
Source of data	Equal to A _{DistPA,q,i,t} + A _{DefPA,i,u,t} in the project case.																																						
Description of measurement methods and procedures to be applied	For the calculation of project emissions, the burned area is considered equivalent to burn scars monitored plus annual deforested area monitored, assuming that all deforestation is preceded by a fire to clear the land in the project case.																																						
Frequency of monitoring/recording	Annual.																																						
Value monitored	<table><tr><th>Instance</th><th>Stratum</th><th>A_{burn,i,t}</th></tr><tr><td rowspan="2">PAI#01</td><td>As</td><td>186</td></tr><tr><td>Ds</td><td>92</td></tr><tr><td rowspan="2">PAI#02</td><td>Aa</td><td>186</td></tr><tr><td>Ab</td><td>92</td></tr><tr><td rowspan="2">PAI#03</td><td>Aa</td><td>172</td></tr><tr><td>Ab</td><td>322</td></tr><tr><td rowspan="2">PAI#04</td><td>Aa</td><td>249</td></tr><tr><td>Ab</td><td>249</td></tr><tr><td rowspan="2">PAI#05</td><td>Aa</td><td>249</td></tr><tr><td>Ab</td><td>249</td></tr><tr><td>PAI#06</td><td>Db</td><td>991</td></tr><tr><td rowspan="2">PAI#07</td><td>Ap</td><td>117</td></tr><tr><td>D</td><td>-</td></tr></table>			Instance	Stratum	A _{burn,i,t}	PAI#01	As	186	Ds	92	PAI#02	Aa	186	Ab	92	PAI#03	Aa	172	Ab	322	PAI#04	Aa	249	Ab	249	PAI#05	Aa	249	Ab	249	PAI#06	Db	991	PAI#07	Ap	117	D	-
Instance	Stratum	A _{burn,i,t}																																					
PAI#01	As	186																																					
	Ds	92																																					
PAI#02	Aa	186																																					
	Ab	92																																					
PAI#03	Aa	172																																					
	Ab	322																																					
PAI#04	Aa	249																																					
	Ab	249																																					
PAI#05	Aa	249																																					
	Ab	249																																					
PAI#06	Db	991																																					
PAI#07	Ap	117																																					
	D	-																																					

	PAI#08	Ap	-
		D	-
	PAI#09	Ap	290
		D	-
	PAI#10	Ap	382
		D	-
	PAI#11	Ap	-
		D	-
	PAI#12	Ap	-
		D	-
	PAI#13	Ap	203
		D	-
	PAI#14	Ap	-
		D	500
	PAI#15	Ap	404
		D	-
.			
Monitoring equipment	NBR analysis in Google Earth Engine.		
QA/QC procedures to be applied	-		
Purpose of the data	Calculation of project emissions		
Calculation method	-		
Comments	-		

Data / Parameter	$C_{P,Dist,q,i}$
Data unit	t CO ₂ -e ha ⁻¹
Description	Carbon stock in all pools in post-natural disturbance q in baseline stratum i.
Source of data	Calculated according to VMD0015 v2.2, equation 24.

Description of measurement methods and procedures to be applied	Calculated based on the carbon stock in aboveground tree biomass in stratum I ($C_{AB\_tree,i}$), carbon stock in belowground tree biomass in stratum I ($C_{BB\_tree,i}$), carbon stock in aboveground non-tree vegetation in stratum I ($C_{AB\_non-tree,i}$), carbon stock in belowground non-tree vegetation in stratum I ($C_{BB\_non-tree,i}$), carbon stock in dead wood in stratum I ($C_{DW,i}$), carbon stock in litter in stratum I ($C_{LI,i}$), mean stock in soil organic carbon in stratum I ($C_{SOC,i}$), according to VMD0015 v2.2, equation 24.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-ante: Coefficient of biomass loss 0.1-0.5, according with Alencar et al. 2006 Ex-post: Coefficient of biomass loss 0.1-0.5, according with Alencar et al. 2006
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	Carbon stock in pools in post-natural disturbance strata is measured following a standard operational procedure for biomass inventory (APPENDIX CARBON-POOLS), which is based on VMD0001 v1.1, VMD0002 v1.0, VMD0003 v1.0 and VMD0004 v1.0 criteria. Carbon stock sequestered in wood products from harvests following natural disturbance in post-natural disturbance stratum is calculated according to VMD0005 v1.1 in the case of use of wood from the stratum where the disturbances of natural cause occurred. See VMD0015 v2.2, equation 24 at section 4.2.
Comments	
Data / Parameter	$\Delta C_{P,Dist,q,i,t}$
Data unit	t CO ₂ -e ha ⁻¹

Description	Net carbon stock changes in pools as a result of natural disturbance in the project case in post-natural disturbance stratum q in stratum i in year t.																																																																										
Source of data	Calculated according to VMD0015 v2.2, equation 23.																																																																										
Description of measurement methods and procedures to be applied	Calculated based on the carbon stock in all pools in the baseline case in stratum I (CBSL,i), carbon stock in pools in post-natural disturbance strata q in stratum I (CP,Dist,q,i) and carbon stock sequestered in wood products from harvests following natural disturbance in post-natural disturbance stratum q, in stratum I (CDist, WP,q,i), according to VMD0015 v2.2, equation 23.																																																																										
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.																																																																										
Value monitored	<table><tr><th>Year</th><th>PAI</th><th>Stratum (i)</th><th>$\Delta C_{P,Dist,q,i,t}$</th></tr><tr><td rowspan="26">2023</td><td rowspan="2">#01</td><td>As</td><td>482,67</td></tr><tr><td>Ds</td><td>516,76</td></tr><tr><td rowspan="2">#02</td><td>Aa</td><td>418,86</td></tr><tr><td>Ab</td><td>442,53</td></tr><tr><td rowspan="2">#03</td><td>Aa</td><td>418,86</td></tr><tr><td>Ab</td><td>442,53</td></tr><tr><td rowspan="2">#04</td><td>Aa</td><td>418,86</td></tr><tr><td>Ab</td><td>442,53</td></tr><tr><td rowspan="2">#05</td><td>Aa</td><td>418,86</td></tr><tr><td>Ab</td><td>442,53</td></tr><tr><td>#06</td><td>Db</td><td>544,30</td></tr><tr><td rowspan="2">#07</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#08</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#09</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#10</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#11</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#12</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td rowspan="2">#13</td><td>Ap</td><td>427,91</td></tr><tr><td>D</td><td>662,82</td></tr><tr><td>#14</td><td>Ap</td><td>427,91</td></tr></table>				Year	PAI	Stratum (i)	$\Delta C_{P,Dist,q,i,t}$	2023	#01	As	482,67	Ds	516,76	#02	Aa	418,86	Ab	442,53	#03	Aa	418,86	Ab	442,53	#04	Aa	418,86	Ab	442,53	#05	Aa	418,86	Ab	442,53	#06	Db	544,30	#07	Ap	427,91	D	662,82	#08	Ap	427,91	D	662,82	#09	Ap	427,91	D	662,82	#10	Ap	427,91	D	662,82	#11	Ap	427,91	D	662,82	#12	Ap	427,91	D	662,82	#13	Ap	427,91	D	662,82	#14	Ap	427,91
Year	PAI	Stratum (i)	$\Delta C_{P,Dist,q,i,t}$																																																																								
2023	#01	As	482,67																																																																								
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		D	662,82																																																																								
	#14	Ap	427,91																																																																								

				D	662,82	
			#15	Ap	427,91	
				D	662,82	
Monitoring equipment	-					
QA/QC procedures to be applied	-					
Purpose of the data	Calculation of project emissions					
Calculation method	Carbon stock in all pools in the baseline case is calculated as part of the procedures to estimate baseline GHG emissions. Carbon stock in pools in post-natural disturbance strata is measured following a standard operational procedure for biomass inventory (APPENDIX CARBON-POOLS), which is based on VMD0001 v1.1, VMD0002 v1.0, VMD0003 v1.0 and VMD0004 v1.0 criteria. Carbon stock sequestered in wood products from harvests following natural disturbance in post-natural disturbance stratum is calculated according to VMD0005 v1.1 in the case of use of wood from the stratum where the disturbances of natural cause occurred. See VMD0015 v2.2, equation 23 at section 4.2.					
Comments	-					

Data / Parameter	$\Delta C_{P,DistPA,i,t}$
Data unit	t CO ₂ -e
Description	Net carbon stock changes as a result of natural disturbance in the project case in the project area in stratum i in year t.
Source of data	Calculated according to VMD0015 v2.2, equation 20.
Description of measurement methods and procedures to be applied	Estimated based on the Area impacted by natural disturbance in post-natural disturbance stratum q in stratum i, in year t ($A_{DistPA,q,i,t}$), and the net carbon stock changes in pools as a result of natural disturbance in post-natural disturbance stratum q in stratum i in year t ($\Delta C_{P,Dist,q,i,t}$), according to VMD0015 v2.2, equation 20.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.

Value monitored	PAI	Stratum (i)	$A_{DistPA,q,i,t}$	$\Delta C_{P,Dist,q,i,t}$	$\Delta C_{P,DistPA,i,t}$
	#01	As	-	482,67	-
		Ds	-	516,76	-
	#02	Aa	-	418,86	-
		Ab	-	442,53	-
	#03	Aa	2,01	418,86	841,91
		Ab	-	442,53	-
	#04	Aa	2,19	418,86	917,30
		Ab	6,67	442,53	2.951,69
	#05	Aa	5,01	418,86	2.098,49
		Ab	-	442,53	-
	#06	Db	-	544,30	-
	#07	Ap	-	427,91	-
		D	-	662,82	-
	#08	Ap	-	427,91	-
		D	-	662,82	-
	#09	Ap	-	427,91	-
		D	-	662,82	-
	#10	Ap	-	427,91	-
		D	-	662,82	-
	#11	Ap	-	427,91	-
		D	-	662,82	-
	#12	Ap	-	427,91	-
		D	-	662,82	-
	#13	Ap	-	427,91	-
		D	-	662,82	-
	#14	Ap	-	427,91	-
		D	-	662,82	-
	#15	Ap	-	427,91	-
		D	-	662,82	-
Monitoring equipment	-				
QA/QC procedures to be applied	-				
Purpose of the data	Calculation of project emissions				

Calculation method	Calculated according to VMD0015 v2.2, equation 20.
Comments	-

Data / Parameter	GHG _{P,E,i,t}				
Data unit	t CO ₂ e.yr ⁻¹				
Description	Greenhouse gas emissions as a result of deforestation activities within the within the project area in the project case stratum i in year t.				
Source of data	Calculated based on VMD0006 v1.3 equation 30.				
Description of measurement methods and procedures to be applied	Calculated based on the non-CO ₂ emissions due to biomass burning in stratum i in year t ($E_{\text{BiomassBurn},i,t}$), according to VMD0006 v1.3 equation 15.				
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.				
Value monitored	PAI	Stratum (i)	$\Delta C_{P,DefPA,i,t}$	$\Delta C_{P,DistPA,i,t}$	GHG _{P-E,i,t}
#01		As	-	-	-
		Ds	-	-	-
#02		Aa	1.099,58	92,15	5,87
		Ab	347,98	97,36	6,28
#03		Aa	2.387,14	849,25	53,65
		Ab	-	-	-
#04		Aa	5.280,09	925,31	58,45
		Ab	12.408,59	2.847,24	190,36
#05		Aa	582,19	-	133,72
		Ab	-	-	196,64
#06		Db	-	-	-

	#07	Ap	-	-	-
		D	-	-	-
	#08	Ap	-	-	-
		D	-	-	-
	#09	Ap	-	-	-
		D	-	-	-
	#10	Ap	-	-	-
		D	-	-	-
	#11	Ap	-	-	-
		D	-	-	-
	#12	Ap	-	-	-
		D	-	-	-
	#13	Ap	-	-	-
		D	-	-	-
	#14	Ap	-	-	-
		D	-	-	-
	#15	Ap	-	-	-
		D	-	-	-
Monitoring equipment	-				
QA/QC procedures to be applied	-				
Purpose of the data	Calculation of project emissions.				
Calculation method	Calculated based on VMD0006 v1.3 equation 30.				
Comments	Net CO ₂ e emission from fossil fuel combustion in stratum i in year t ($E_{FC,i,t}$) and direct N ₂ O emission as a result of nitrogen application on the alternative land use within the project				

boundary in stratum i in year t ($N_2O_{direct-N,i,t}$) are conservatively excluded from the project scope and the calculation of the baseline estimates following VM0007 v1.6 section 5.4 criteria.

Data / Parameter	E _{BiomassBurn,i,t}																																																							
Data unit	t CO ₂ e																																																							
Description	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO ₂ , CH ₄ , N ₂ O)																																																							
Source of data	Calculated based on VMD0013 v1.3 equation 1.																																																							
Description of measurement methods and procedures to be applied	Calculated based on area burnt for stratum i in year t (A _{burn,i,t}), average aboveground biomass stock before burning stratum i, in year t (B _{i,t}), combustion factor for stratum i (unitless) (COMF _i), emission factor for stratum i for gas g (Gg _i) and the Global warming potential for gas g (GWP _g), according to VMD0013 v1.3 equation 1.																																																							
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.																																																							
Value monitored	<table><tr><th>PAI</th><th>Stratum (i)</th><th>A_{burn,i,t}</th><th>B_{i,t}</th><th>E_{biomassburn,i,t}</th></tr><tr><td rowspan="2">#01</td><td>As</td><td>-</td><td>314,09</td><td>-</td></tr><tr><td>Ds</td><td>-</td><td>291,07</td><td>-</td></tr><tr><td rowspan="2">#02</td><td>Aa</td><td>0,22</td><td>243,67</td><td>5,87</td></tr><tr><td>Ab</td><td>0,22</td><td>260,57</td><td>6,28</td></tr><tr><td rowspan="2">#03</td><td>Aa</td><td>2,01</td><td>243,67</td><td>53,65</td></tr><tr><td>Ab</td><td>-</td><td>260,57</td><td>-</td></tr><tr><td rowspan="2">#04</td><td>Aa</td><td>2,19</td><td>243,67</td><td>58,45</td></tr><tr><td>Ab</td><td>6,67</td><td>260,57</td><td>190,36</td></tr><tr><td rowspan="2">#05</td><td>Aa</td><td>5,01</td><td>243,67</td><td>133,72</td></tr><tr><td>Ab</td><td>6,89</td><td>260,57</td><td>196,64</td></tr><tr><td>#06</td><td>Db</td><td>-</td><td>305.98</td><td>-</td></tr></table>	PAI	Stratum (i)	A _{burn,i,t}	B _{i,t}	E _{biomassburn,i,t}	#01	As	-	314,09	-	Ds	-	291,07	-	#02	Aa	0,22	243,67	5,87	Ab	0,22	260,57	6,28	#03	Aa	2,01	243,67	53,65	Ab	-	260,57	-	#04	Aa	2,19	243,67	58,45	Ab	6,67	260,57	190,36	#05	Aa	5,01	243,67	133,72	Ab	6,89	260,57	196,64	#06	Db	-	305.98	-
PAI	Stratum (i)	A _{burn,i,t}	B _{i,t}	E _{biomassburn,i,t}																																																				
#01	As	-	314,09	-																																																				
	Ds	-	291,07	-																																																				
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	Ab	6,89	260,57	196,64																																																				
#06	Db	-	305.98	-																																																				

	#07	Ap	-	206,51	-
		D	-	351,77	-
	#08	Ap	-	206,51	-
		D	-	351,77	-
	#09	Ap	-	206,51	-
		D	-	351,77	-
	#10	Ap	-	206,51	-
		D	-	351,77	-
	#11	Ap	-	206,51	-
		D	-	351,77	-
	#12	Ap	-	206,51	-
		D	-	351,77	-
	#13	Ap	-	206,51	-
		D	-	351,77	-
	#14	Ap	-	206,51	-
		D	-	351,77	-
	#15	Ap	-	206,51	-
		D	-	351,77	-
Monitoring equipment	-				
QA/QC procedures to be applied	-				
Purpose of the data	Calculation of project emissions.				
Calculation method	Calculated based on VMD0013 v1.3 equation 1.				
Comments	-				

Data / Parameter	$\Delta C_{WPS-REDD}$				
Data unit	t CO ₂ -e				
Description	Net GHG emissions in the REDD project scenario up to year t.				
Source of data	Calculated according to VMD0015 v2.2, equation 01.				
Description of measurement methods and procedures to be applied	Calculated based on net carbon stock change as a result of deforestation in the project area in the project case in stratum i in year t ($\Delta C_{P,DefPA,i,t}$), Net carbon stock change as a result of degradation in the project area in the project case in stratum i in year t ($\Delta C_{P,Deg,i,t}$), Net carbon stock change as a result of natural disturbance in the project area in the project case in stratum i in year t ($\Delta C_{P,DistPA,i,t}$) and Greenhouse gas emissions as a result of deforestation and degradation activities within the project area in the project case in stratum i in year t ($GHG_{P-E,i,t}$), according to VMD0015 v2.2, equation 01.				
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.				
Value monitored	<table><tr><td>Project emissions or removals</td></tr><tr><td>$\Delta C_{WPS-REDD}$</td></tr><tr><td>27.589,36</td></tr></table>		Project emissions or removals	$\Delta C_{WPS-REDD}$	27.589,36
Project emissions or removals					
$\Delta C_{WPS-REDD}$					
27.589,36					
Monitoring equipment	N/A				
QA/QC procedures to be applied	BRC GHG information system and controls associated with the project and its monitoring. This information system rules the process for obtaining, recording, compiling and analyzing data and information important for quantifying and reporting GHG emissions and removals relevant for the project (including leakage) and baseline scenario (see APPENDIX_CALCULUS-TABLES).				
Purpose of the data	Calculation of project emissions				
Calculation method	See VMD0015 v2.2, equation 01.				
Comments	-				

Data / Parameter	$\Delta C_{LK-REDD}$					
Data unit	t CO ₂ e					
Description	Net GHG emissions due to leakage from the REDD project activity up to year t*					
Source of data	Calculated according to VMD0007 v1.6 equation 4.					
Description of measurement methods and procedures to be applied	Calculated based on net GHG emissions due to activity shifting leakage for projects preventing planned deforestation up to year t ($\Delta C_{LK-AS,planned}$), and the Net GHG emissions due to market-effects leakage up to year t*(ΔC_{LK-ME}), according to VMD0007 v1.6 equation 4.					
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.					
Value monitored		<table><tr><td>Leakage emissions</td></tr><tr><td>$\Delta CLK-REDD$</td></tr><tr><td>95.577,95</td></tr></table>	Leakage emissions	$\Delta CLK-REDD$	95.577,95	
Leakage emissions						
$\Delta CLK-REDD$						
95.577,95						
Monitoring equipment	-					
QA/QC procedures to be applied	-					
Purpose of the data	Calculation of leakage.					
Calculation method	Calculated according to VMD0007 v1.6 equation 4.					
Comments	-					

Data / Parameter	$\Delta C_{LK-AS,planned}$
Data unit	t CO ₂ e
Description	Net GHG emissions due to activity shifting leakage for projects preventing planned deforestation up to year t*
Source of data	Calculated according to VMD0009 v1.3, equation 01.

Description of measurement methods and procedures to be applied	Calculated based on the area of activity shifting leakage in stratum i in year t ($LK_{Aplanned,i,t}$), the net carbon stock changes in all pre-deforestation pools in baseline stratum i, ($\Delta C_{BSL,i}$) and the Greenhouse gas emissions as a result of leakage of avoiding deforestation activities in stratum i in year t ($GHG_{LK,E,i,t}$), according to VMD0009 v1.3, equation 01.				
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.				
Value monitored		Year	$\Delta C_{LK-AS,planned}$	ΔC_{LK-ME}	$\Delta C_{LK-REDD}$
		2023	-	95.577,95	95.577,95
Monitoring equipment	-				
QA/QC procedures to be applied	-				
Purpose of the data	Calculation of leakage.				
Calculation method	Calculated according to VMD0009 v1.3, equation 01.				
Comments	-				

Data / Parameter	$LK_{Aplanned,i,t}$
Data unit	ha
Description	The area of activity shifting leakage in stratum i in year t.
Source of data	Calculated according to VMD0009 v1.3, equation 06.
Description of measurement methods and procedures to be applied	Calculated according to the total area of monitored deforestation by the baseline agent of the planned deforestation in stratum i in year t ($A_{defLK,i,t}$), and the New calculated forest clearance by the baseline agent of the planned deforestation in stratum i in year t where no leakage is occurring ($NewR_{i,t}$).
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.

Value monitored	Ex-ante: See the values applied in the table 35_LK-ASP of PAIs individual spreadsheets (see APPENDIX_CALCULUS-TABLES) Ex-post: <table><tr><th>Year</th><th>$\Delta C_{LK-AS,planned}$</th><th>ΔC_{LK-ME}</th><th>$\Delta C_{LK-REDD}$</th></tr><tr><td>2023</td><td>-</td><td>95.577,95</td><td>95.577,95</td></tr></table>	Year	$\Delta C_{LK-AS,planned}$	ΔC_{LK-ME}	$\Delta C_{LK-REDD}$	2023	-	95.577,95	95.577,95
Year	$\Delta C_{LK-AS,planned}$	ΔC_{LK-ME}	$\Delta C_{LK-REDD}$						
2023	-	95.577,95	95.577,95						
Monitoring equipment	-								
QA/QC procedures to be applied	-								
Purpose of the data	Calculation of leakage.								
Calculation method	Calculated according to VMD0009 v1.3, equation 06.								
Comments	-								

Data / Parameter	$A_{defLK,i,t}$
Data unit	ha
Description	The total area of monitored deforestation by the baseline agent of the planned deforestation in stratum i in year t.
Source of data	Remote sensing imagery (Sentinel 2, Landsat 8), PRODES database.
Description of measurement methods and procedures to be applied	Annual deforestation is measured in GIS using remote sensing techniques and reported with spatial explicit data by raster and shapefile. evidence.
Frequency of monitoring/recording	Annual
Value monitored	Ex-post: See the values applied in the table 71. APPENDIX_CALCULUS-TABLES > Consolidate Results
Monitoring equipment	Landsat 8 OLI, Sentinel MSI.

QA/QC procedures to be applied	Accuracy assessment of PRODES classification was performed by comparing each class of the land cover map from the reference period (2011 to 2021 - Acre and 2012 to 2022 - Para) with a set of 200 points randomly distributed over the reference region for each year. The reference data used for this step comes from the visual interpretation of high spatial resolution images available in Google Earth. The global accuracy of the mapping for the different classes of land cover presented values above 95% for all three classes in each year analyzed. The overall accuracy of the forest cover reference map (2020) was 95.5%. In 2022, satellite images were used to validate the APD areas. Landsat 8 was used for 10 years before the start of the project and Sentinel 2 for the start date. An algorithm based on machine learning (Random Forest) was used for the classification of the images, the methodological details and accuracy of which are presented by PAI in Forest_Class_Validation_2022 of APPENDIX_GIS-DATA..
Purpose of the data	Calculation of leakage.
Calculation method	Classified images with information about the area of annual deforestation in Brazil are downloaded from PRODES websites and clipped with the project area spatial limits. Images from Sentinel are downloaded from ESA.
Comments	-

Data / Parameter	$NewR_{i,t}$
Data unit	ha
Description	New calculated forest clearance by the baseline agent of the planned deforestation in stratum i in year t where no leakage is occurring.
Source of data	Calculated according to VMD0009 v1.3, equation 04 or 05.
Description of measurement methods and procedures to be applied	Calculated based on projected annual proportion of land that will be deforested outside the project boundary in stratum i in year t ($D\%_{planned,i,t,OP}$), and Total area of planned deforestation outside the project boundary over the baseline period for stratum i ($A_{planned,i,OP}$), according to equation 04 or based on Deforestation by the baseline agent of the planned

	deforestation in stratum i in year t in the absence of the project ($WoPR_{i,t}$), projected annual proportion of land that will be deforested in project stratum i in year t ($D\%_{planned,i,t}$), and Total area of planned deforestation over the baseline period for project stratum I ($A_{planned,i}$).
Frequency of monitoring/recording	Annual
Value monitored	Ex-post: See this information in table_35_LK-ASP of PAIs individual spreadsheets. (APPENDIX_CALCULUS-TABLES)
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of leakage.
Calculation method	Calculated according to VMD0009 v1.3, equation 04 or 05.
Comments	Equation 04 is used when an identified deforestation agent has made public a business plan or similar documentation containing data suited for estimating a conversion rate over the baseline period. Equation 05 is used when the conversion rate must be estimated. In the case of equation 05 is used, the projected annual proportion of land that will be deforested is the same used to set the baseline, while the deforestation provoked by the identified deforestation agent is calculated by VMD0009 v1.3, equation 01 or 02.

Data / Parameter	$D\%_{planned,i,t,OP}$
Data unit	%
Description	Projected annual proportion of land that will be deforested outside the project boundary in stratum i in year t .
Source of data	Deforestation permits for areas outside the project boundary.
Description of measurement methods and procedures to be applied	Defined in deforestation permits.

Frequency of monitoring/recording	N/A
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of leakage.
Calculation method	N/A
Comments	This parameter is used when an identified deforestation agent has made public a business plan or similar documentation containing data suited for estimating a conversion rate over the baseline period in areas outside the project boundary.

Data / Parameter	$A_{planned,i,OP}$
Data unit	ha
Description	Total area of planned deforestation outside the project boundary over the baseline period for stratum i
Source of data	Deforestation permits for areas outside the project boundary.
Description of measurement methods and procedures to be applied	Defined in deforestation permits.
Frequency of monitoring/recording	N/A
Value monitored	Ex-post: 0
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A

Purpose of the data	Calculation of leakage.
Calculation method	N/A
Comments	This parameter is used when an identified deforestation agent has made public a business plan or similar documentation containing data suited for estimating a conversion rate over the baseline period in areas outside the project boundary.

Data / Parameter	$WoPR_{i,t}$
Data unit	ha
Description	Deforestation by the baseline agent of the planned deforestation in the absence of the project in stratum i in year t .
Source of data	Calculated according to VMD0009 v1.3, equation 01 or 02.
Description of measurement methods and procedures to be applied	Projected based on linear regression according to VMD0009 v1.3 equation 01 or based on number of hectares of forest cleared by the baseline agent of the planned deforestation in the five years prior to project implementation in stratum i by agent ag within the country ($HistHa_{i,ag}$), according to VMD0009 v1.3 equation 02.
Frequency of monitoring/recording	Annual
Value monitored	N/A
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of leakage.
Calculation method	Equation 01 is used when the results of the analysis must produce a statistically significant regression with a $p \leq 0.05$ and an adjusted r^2 of ≥ 0.75 . The regression is calculated based on the deforested by the deforestation agent each year over the previous five years within the country. Where no

	statistically significant regression can be found, equation 02 is used
Comments	-

Data / Parameter	HistHai,ag
Data unit	ha
Description	Number of hectares of forest cleared by the baseline agent of the planned deforestation in the five years prior to project implementation in stratum i by agent ag within the country
Source of data	Remote sensing imagery (Sentinel 2, Landsat 8), PRODES database.
Description of measurement methods and procedures to be applied	Annual deforestation is measured in GIS using remote sensing techniques and reported with spatial explicit data by raster and shapefile. evidence.
Frequency of monitoring/recording	Annual
Value monitored	Ex-post: see the values applied in table26_32 of PAIs individual spreadsheets. (APPENDIX_CALCULUS-TABLES)
Monitoring equipment	Landsat 8 OLI, Sentinel MSI.
QA/QC procedures to be applied	Accuracy assessment of PRODES classification was performed by comparing each class of the land cover map from the reference period (2011 to 2021 - Acre and 2012 to 2022 - Para) with a set of 200 points randomly distributed over the reference region for each year. The reference data used for this step comes from the visual interpretation of high spatial resolution images available in Google Earth. The global accuracy of the mapping for the different classes of land cover presented values above 95% for all three classes in each year analyzed. The overall accuracy of the forest cover reference map (2020) was 95.5%. In 2022, satellite images were used to validate the APD areas. Landsat 8 was used for 10 years before the start of the project and Sentinel 2 for the start date. An algorithm based on machine learning (Random Forest) was used for the classification of the

	images, the methodological details and accuracy of which are presented by PAI in Forest_Class_Validation_2022 of APPENDIX_GIS-DATA.
Purpose of the data	Calculation of leakage.
Calculation method	Classified images with information about the area of annual deforestation in Brazil are downloaded from PRODES websites and clipped with the project area spatial limits. Images from Sentinel are downloaded from ESA.
Comments	-

Data / Parameter	$GHG_{LK,E,i,t}$
Data unit	t CO ₂ e
Description	Greenhouse gas emissions as a result of leakage of avoiding deforestation activities in stratum i in year t.
Source of data	Calculated according to VMD0009 v1.3, equation 07.
Description of measurement methods and procedures to be applied	Calculated based on Non-CO ₂ emissions due to biomass burning in stratum i in year t ($E_{biomassburn,i,t}$), according to VMD0009 v1.3, equation 07.
Frequency of monitoring/recording	Annual
Value monitored	Ex-post: see the values applied in the table35_LK-ASP of PAIs individual spreadsheets. (APPENDIX_CALCULUS-TABLES)
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of leakage
Calculation method	Calculated according to VMD0009 v1.3, equation 07

Comments	-
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Data / Parameter	ΔC_{LK-ME}		
Data unit	t CO ₂ -e		
Description	Net greenhouse gas emissions due to market- effects leakage		
Source of data	Calculated according to VMD0011 v1.0 equation 1.		
Description of measurement methods and procedures to be applied	Calculated based on Total GHG emissions due to market-effects leakage through decreased timber harvest ($LK_{MarketEffects,timber}$), and Total GHG emissions due to market leakage through decreased harvest of fuelwood and charcoal sold into regional and/or national markets ($LK_{MarketEffects,FW/C}$),according to VMD0011 v1.0 equation 1.		
Frequency of monitoring/recording	Annual		
Value monitored	<table><tr><td>ΔC_{LK-ME}</td></tr><tr><td>95.577,95</td></tr></table>	ΔC_{LK-ME}	95.577,95
ΔC_{LK-ME}			
95.577,95			
Monitoring equipment	-		
QA/QC procedures to be applied	-		
Purpose of the data	Calculation of leakage		
Calculation method	Calculated according to VMD0011 v1.0 equation 1.		
Comments	-		

Data / Parameter	$LK_{MarketEffects,timber}$
Data unit	t CO ₂ -e
Description	Total GHG emissions due to market- effects leakage through decreased timber harvest

Source of data	Calculated according to VMD0011 v1.0 equation 2		
Description of measurement methods and procedures to be applied	Calculated according to leakage factor for market-effects calculations (LF_{ME}) and summed emissions from timber harvest in stratum i in the baseline case potentially displaced through implementation of carbon project ($ALT_{i,i}$), according to VMD0011 v1.0 equation 2.		
Frequency of monitoring/recording	Annual		
Value monitored	<table><tr><td>$LK_{MarketEffects,timber}$</td></tr><tr><td>92.171,90</td></tr></table>	$LK_{MarketEffects,timber}$	92.171,90
$LK_{MarketEffects,timber}$			
92.171,90			
Monitoring equipment	-		
QA/QC procedures to be applied	-		
Purpose of the data	Calculation of leakage		
Calculation method	Calculated according to VMD0011 v1.0 equation 2		
Comments	-		

Data / Parameter	LF_{ME}
Data unit	Dimensionless
Description	Leakage factor for market-effects calculations.
Source of data	Default data from VMD0011 v1.0
Description of measurement methods and procedures to be applied	A comparison between the proportion of total biomass in commercial species that is merchantable (PMP_i) and the mean proportion of total biomass that is merchantable for each forest type (PML_{FT}) was performed based on the wood volume to be extracted in PAIs #01 and #02 and the wood volume found by the RADAMBRASIL project for all types of forest existing in the project area in all states of Amazonia Legal.
Frequency of monitoring/recording	Annual

Value monitored	0.2
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of leakage
Calculation method	See Appendix IX_Leakage Management of the 1 st Monitoring Report.
Comments	-

Data / Parameter	PMP _i
Data unit	m ³
Description	Total volume in commercial species that is merchantable.
Source of data	Pre-exploratory inventories/Forest Exploration Plans.
Description of measurement methods and procedures to be applied	Commercial species volume was evaluated in both PAIs for all trees with DBH above 30cm.
Frequency of monitoring/recording	-
Value monitored	See values applied in table35_37_LK-ME of PAIs individual spreadsheets (APPENDIX_CALCULUS-TABLES)
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	-
Calculation method	-
Comments	-

Data / Parameter	LDF
Data unit	t C m-3
Description	Logging damage factor.
Source of data	Default value provided by VMD0011 v1.0.
Description of measurement methods and procedures to be applied	-
Frequency of monitoring/recording	-
Value monitored	0.53
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of leakage.
Calculation method	-
Comments	See VMD0011 v1.0 equation 4.

Data / Parameter	LIF
Data unit	t C m-3
Description	Logging infrastructure factor.
Source of data	Default value provided by VMD0011 v1.0.
Description of measurement methods and procedures to be applied	-

Frequency of monitoring/recording	-
Value monitored	0.29
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of leakage.
Calculation method	-
Comments	See VMD0011 v1.0 equation 4.

Data / Parameter	LK _{MarketEffects,FW/C}			
Data unit	t CO ₂ -e			
Description	Total GHG emissions due to market leakage through decreased harvest of fuelwood and charcoal sold into regional and/or national markets			
Source of data	Calculated according to VMD0011 v1.0 equation 5.			
Description of measurement methods and procedures to be applied	Calculated based on Leakage factor for market effects calculations (LF _{ME}), and the summed emissions from fuelwood/charcoal harvests in stratum i in the baseline case potentially displaced through implementation of carbon (AL _{FW/C,i}), according to VMD0011 v1.0 equation 5.			
Frequency of monitoring/recording	Annual			
Value monitored	<table><tr><td>LK_{MarketEffects,FW/C}</td></tr><tr><td>3.406,06</td></tr></table>		LK _{MarketEffects,FW/C}	3.406,06
LK _{MarketEffects,FW/C}				
3.406,06				
Monitoring equipment	-			
QA/QC procedures to be applied	-			
Purpose of the data	Calculation of leakage			

Calculation method	Calculated according to VMD0011 v1.0 equation 5.
Comments	-

Data / Parameter	NER _{REDD}								
Data unit	t CO ₂ e								
Description	Total net GHG emission reductions of the REDD project activity up to year t (t CO ₂ e).								
Source of data	Calculated according to VM0007 v1.6 equation 2.								
Description of measurement methods and procedures to be applied	Calculated based on the net GHG emissions in the REDD baseline scenario up to year t ($\Delta C_{BSL-REDD}$), the net GHG emissions in the REDD project scenario up to year t ($\Delta C_{WPS-REDD}$) and the net GHG emissions due to leakage from the REDD project activity up to year t ($\Delta C_{LK-REDD}$), according to VM0007 v1.6 equation 2.								
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.								
Value monitored	<table><tr><th>Year</th><th>NER_{REDD}</th></tr><tr><td>2023</td><td>2.951.077,27</td></tr><tr><td>Total</td><td>2.951.077,27</td></tr></table>			Year	NER _{REDD}	2023	2.951.077,27	Total	2.951.077,27
Year	NER _{REDD}								
2023	2.951.077,27								
Total	2.951.077,27								
Monitoring equipment	-								
QA/QC procedures to be applied	-								
Purpose of the data	Calculation of VCUs								
Calculation method	According to VM0007 v1.6 equation 2.								
Comments	-								

Data / Parameter	Buffer _{Planned}
Data unit	t CO ₂ e

Description	Buffer withholding for avoiding planned deforestation project activities											
Source of data	Calculated according to VM0007 v1.6 equation 8.											
Description of measurement methods and procedures to be applied	Calculated based on the net greenhouse gas emissions in the baseline from planned deforestation up to year t ($\Delta C_{BSL,planned}$) and the buffer withholding percentage (Buffer%), according to VM0007 v1.6 equation 8.											
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.											
Value monitored	<table><tr><th>Year</th><th>Adjusted_NER_{REDD+}</th><th>Buffer_{Planned}</th></tr><tr><td>2023</td><td>2.951.077,27</td><td>304.665,52</td></tr><tr><td>Total</td><td>2.951.077,27</td><td>304.665,52</td></tr></table>			Year	Adjusted_NER _{REDD+}	Buffer _{Planned}	2023	2.951.077,27	304.665,52	Total	2.951.077,27	304.665,52
Year	Adjusted_NER _{REDD+}	Buffer _{Planned}										
2023	2.951.077,27	304.665,52										
Total	2.951.077,27	304.665,52										
Monitoring equipment	-											
QA/QC procedures to be applied	-											
Purpose of the data	Calculation of VCUs											
Calculation method	Calculated according to VM0007 v1.6 equation 8.											
Comments	See details in APPENDIX_CALCULUS-TABLES.											

Data / Parameter	Uncertainty _{REDD-BSL, SS}
Data unit	%
Description	Total uncertainty in the combined carbon stocks and greenhouse gas sources in the REDD baseline scenario
Source of data	Calculated according to VMD0017 v2.2 equation 5.

Description of measurement methods and procedures to be applied	Calculated based on the percentage uncertainty in the combined carbon stocks and greenhouse gas sources in stratum i in the REDD baseline scenario ($U_{\text{REDD-BSL,SS},i}$), and the sum of combined carbon stocks and GHG sources in the REDD baseline scenario ($E_{\text{REDD-BSL,SS},t,i}$), according to VMD0017 v2.2 equation 5.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: See the values applied in APPENDIX_CALCULUS-TABLES > individual spreadsheets, table 40
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of VCUs
Calculation method	Calculated according to VMD0017 v2.2 equation 5.
Comments	Uncertainty in baseline rate of deforestation is set as zero ($\text{Uncertainty}_{\text{REDD-BSL,RATE}} = 0$), as the deforestation rates are based on actual deforestation plans, following VMD0017 v2.2, section 5.1.1 criteria. In this sense $\text{Uncertainty}_{\text{REDD-BSL,SS}}$ equals to cumulative uncertainty in REDD baseline scenario up to year t ($\text{Uncertainty}_{\text{REDD-BSL},t^*}$).

Data / Parameter	$\text{Uncertainty}_{\text{REDD-WPS}}$
Data unit	%
Description	Total uncertainty in the REDD project scenario
Source of data	Calculated according to VMD0017 v2.2 equation 13.
Description of measurement methods and procedures to be applied	Calculated according to the percentage uncertainty in the combined carbon stocks and greenhouse gas sources in stratum i in the REDD project scenario ($U_{\text{REDD-WPS,SS},i}$) and the sum of combined carbon stocks and GHG sources multiplied by the area of stratum i (A_i) in the REDD project scenario ($E_{\text{REDD-WPS,SS},t,i}$), according to VMD0017 v2.2 equation 13.

Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	Ex-post: See the values applied in APPENDIX_CALCULUS-TABLES > individual spreadsheets, table 40
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of VCUs.
Calculation method	Calculated according to VMD0017 v2.2 equation 13.
Comments	-

Data / Parameter	NER _{REDD+_ERROR}								
Data unit	%								
Description	Cumulative uncertainty for the REDD+ project activities up to year t								
Source of data	Calculated according to VMD0017 v2.2 equation 21								
Description of measurement methods and procedures to be applied	Calculated based on Cumulative uncertainty in REDD baseline scenario up to year t (Uncertainty _{REDD_BSL,t}), the total uncertainty in the REDD project scenario (Uncertainty _{REDD_WPS}), the Net GHG emissions in the REDD baseline scenario up to year t ($\Delta C_{BSL-REDD,t}$), and the Net GHG emissions in the REDD project scenario up to year t ($\Delta C_{WPS-REDD,t}$), according to VMD0017 v2.2 equation 21								
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.								
Value monitored	<table><tr><th>Year</th><th>NER_{REDD+_ERROR}</th></tr><tr><td>2023</td><td>166.437,61</td></tr><tr><td>Total</td><td>166.437,61</td></tr></table>			Year	NER _{REDD+_ERROR}	2023	166.437,61	Total	166.437,61
Year	NER _{REDD+_ERROR}								
2023	166.437,61								
Total	166.437,61								
Monitoring equipment	-								
QA/QC procedures to be applied	-								

Purpose of the data	Calculation of VCUs
Calculation method	Calculated according to VMD0017 v2.2 equation 21
Comments	-

Data / Parameter	Adjusted_NER _{REDD+}							
Data unit	%							
Description	Total net GHG emission reductions of the REDD+ project activities up to year t* adjusted to account for uncertainty							
Source of data	Calculated according to VMD0017 v2.2 equation 21							
Description of measurement methods and procedures to be applied	Calculated based on the total net GHG emission reductions of the REDD project activity up to year t (NER _{REDD}), and the cumulative uncertainty for the REDD+ project activities up to year t (NER _{REDD+_ERROR}).							
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.							
Value monitored	<table><tr><th>Year</th><th>Adjusted_NER_{REDD+}</th></tr><tr><td>2023</td><td>2.951.077,27</td></tr><tr><td>Total</td><td>2.951.077,27</td></tr></table>		Year	Adjusted_NER _{REDD+}	2023	2.951.077,27	Total	2.951.077,27
Year	Adjusted_NER _{REDD+}							
2023	2.951.077,27							
Total	2.951.077,27							
Monitoring equipment	-							
QA/QC procedures to be applied	-							
Purpose of the data	Calculation of VCUs.							
Calculation method	Calculated according to VMD0017 v2.2 equation 21.							
Comments	-							

Data / Parameter	VCUt
Data unit	VCU

Description	Number of Verified Carbon Units at year t* or t2 - t1								
Source of data	Calculated according to VMD0017 v2.2 equation 19.								
Description of measurement methods and procedures to be applied	Calculated based on the total net GHG emission reductions of the REDD+ project activity up adjusted to account for uncertainty (Adjusted_NER _{REDD+}), and the total permanence risk buffer withholding (Buffer _{Planned}), according to VMD0017 v2.2 equation 19.								
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.								
Value monitored	<table><tr><th>Year</th><th>VCU_t</th></tr><tr><td>2023</td><td>2.646.412</td></tr><tr><td>Total</td><td>2.646.411,75</td></tr></table>			Year	VCU _t	2023	2.646.412	Total	2.646.411,75
Year	VCU _t								
2023	2.646.412								
Total	2.646.411,75								
Monitoring equipment	-								
QA/QC procedures to be applied	-								
Purpose of the data	• Calculation of VCUs								
Calculation method	Calculated according to VMD0017 v2.2 equation19.								
Comments	-								

3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

For all project activity instances, project implementation will be monitored considering the project activities as defined in section 2.2.1. The GPD presents a range of potential project activities. The project activities may vary among PAIs. Below we present relevant information, following VM0007 v1.6 section 9.3.1 criteria.

For all project activity instances, BRC will be responsible for the project activity implementation and its monitoring. Implementation of specific project activities can be carried out by

external consultants operating under supervision of BRC. Digital files will be stored in BRC database⁸. Hard copies will be archived at BRC headquarters⁹.

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

The plan for monitoring and its outcomes were accessible on Verra's website¹⁰, including complete documents of the GPD and monitoring reports. Furthermore, the outcomes of the monitoring were presented at public meetings specifically organized for this objective during the stages of social engagement.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions (VCS, 3.15)

Baseline emissions are estimated according to VMD0006 v1.3. This module allows to estimate GHG emissions related to planned deforestation on forest lands that are legally authorized and documented to be converted to non-forest land. These areas would be deforested in the absence of the REDD project activity, and converted to pasture for cattle rising, as presented in section 3.5 of the registered GPD.

The annual area of baseline planned deforestation ($AA_{planned,i,t}$) is calculated according to VMD0006 BL-PL v1.3 equation 5. The tables below show the annual area of planned deforestation over the baseline scenario in all PAIs for the third monitoring period. The tables also present the total area of planned deforestation, for each instance, over the fixed baseline period ($A_{planned,i,t}$), just as reference. The net carbon stock changes in all pools in the baseline ($\Delta C_{BSL,i,t}$) is calculated according to equation 13 from VMD0006 v1.3. The table below shows the net carbon stock changes in all pools in the baseline in all PAIs for the third monitoring period:

Table 24 - Total and annual area of planned deforestation over the baseline scenario in PAIs #01-15 in the third monitoring period. (Table 44 from APPENDIX_CALCULUS-TABLES)

⁸ Backed up at OneDrive associated with a corporative Microsoft account.

⁹ Av. Cezira Giovanoni Moretti 655, sala 7 AgTech Garage Reserva dos Jequitibás, Piracicaba, São Paulo.

¹⁰ <https://registry.verra.org/app/projectDetail/VCS/2551>

Instance	Stratum (i)	AAplanned,i,t	Aplanned,i
PAI#01	As	186.09	664.90
	Ds	91.65	326.61
PAI#02	Aa	0.00	863.68
	Ab	404.34	3,179.73
PAI#03	Aa	172.13	665.86
	Ab	321.60	3,864.98
PAI#04	Aa	248.59	803.23
	Ab	248.59	3,392.72
PAI#05	Aa	248.59	1,611.93
	Ab	248.59	2,598.00
PAI#06	Db	990.68	7,874.83
PAI#07	Ap	0.00	0.00
	D	116.78	233.56
PAI#08	Ap	0.00	0.00
	D	0.00	44.15
PAI#09	Ap	0.00	0.00
	D	289.83	579.66
PAI#10	Ap	0.00	0.00
	D	381.93	763.86
PAI#11	Ap	0.00	0.00
	D	129.95	129.95
PAI#12	Ap	0.00	14.63
	D	0.00	118.80
PAI#13	Ap	0.00	0.00
	D	202.78	405.57
PAI#14	Ap	500.00	882.75
	D	0.00	228.31
PAI#15	Ap	0.00	0.00
	D	0.00	404.24

Table 25 - Net carbon stock changes in all pools in the baseline period in PAIs #01-15 (t CO₂-e) in the third monitoring period. (Table 45 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	$\Delta\text{CBSL}_{i,t}$
PAI#01	185,667.76
PAI#02	244,115.55
PAI#03	259,506.56
PAI#04	255,025.82
PAI#05	255,025.82
PAI#06	526,031.44
PAI#07	73,266.64
PAI#08	904.24
PAI#09	181,835.28
PAI#10	239,619.19
PAI#11	2,661.53
PAI#12	2,609.97
PAI#13	127,224.09
PAI#14	307,216.41
PAI#15	253,617.84
Total	2,914,328.15

The greenhouse gas emissions as a result of deforestation activities within the project boundary is estimated according to VMD0006 v1.3 equation 15 and VMD0013 v1.2, equations 1 and 2. The table below shows the greenhouse gas emissions as a result of deforestation activities within the project boundary in all PAIs for the third monitoring period. For all purposes, the annual area of planned deforestation ($AA_{\text{planned},i,t}$) is considered as burned ($A_{\text{burn},i,t}$) for GHG emission estimates in the baseline scenario, following the common practice of deforestation agents in the region (slash and burn).

Table 26 - non-CO2 emissions in the baseline case in all PAIs (t CO₂-e) in the third monitoring period. (Table 46 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	Stratum	$A_{\text{burn},i,t}$
PAI#01	As	186
	Ds	92
PAI#02	Aa	186
	Ab	92

Instance	Stratum	Aburn,i,t
PAI#03	Aa	172
	Ab	322
PAI#04	Aa	249
	Ab	249
PAI#05	Aa	249
	Ab	249
PAI#06	Db	991
PAI#07	Ap	117
	D	-
PAI#08	Ap	-
	D	-
PAI#09	Ap	290
	D	-
PAI#10	Ap	382
	D	-
PAI#11	Ap	-
	D	-
PAI#12	Ap	-
	D	-
PAI#13	Ap	203
	D	-
PAI#14	Ap	-
	D	500
PAI#15	Ap	404
	D	-
GHGBSL,E		159,916

The baseline net GHG emissions for planned deforestation is determined according to VMD0006 BL-PL v1.3 equation 1. The table below shows the net carbon stock changes in all pools in the baseline in all PAIs for the third monitoring period:

Table 27 - Net GHG emissions in the baseline from planned deforestation in PAIs #1-15 in the third monitoring period (t CO₂-e). (Table 47 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	$\Delta\text{CBSL}_{\text{planned}}$
PAI#01	194,991.43
PAI#02	255,655.42
PAI#03	273,279.10
PAI#04	268,755.09
PAI#05	268,295.15
PAI#06	559,233.16
PAI#07	77,766.13
PAI#08	904.24
PAI#09	193,002.24
PAI#10	254,334.80
PAI#11	2,661.53
PAI#12	2,609.97
PAI#13	135,037.24
PAI#14	318,525.93
PAI#15	269,193.14
Total	3,074,244.58

3.2.2 Project Emissions (VCS, 3.15)

The net GHG emissions in the project case is equal to the sum of stock changes due to deforestation and forest degradation plus the total GHG emissions, minus any eligible forest carbon stock enhancement, according to VMD0015 v2.2, equation 01 (see section 4.2.5 of the validated PD). Data monitored during the third monitoring period is presented in the table below.

Table 28. Net GHG emissions in the REDD project scenario, in the instances where deforestation has occurred, up to year t^* (t CO₂-e) (ex-post). (Table 48 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	PAI	Stratum (i)	$\Delta\text{CP,DefPA}_{i,t}$	$\Delta\text{CP,Deg}_{i,t}$	$\Delta\text{CP,DistPA}_{i,t}$	$\text{GHGP-E}_{i,t}$	$\Delta\text{CP,Enh}_{i,t}$	$\Delta\text{CWPS-REDD}$
2023	#01	As	-	-	-	-	-	-
		Ds	-	-	-	-	-	-
	#02	Aa	1,099.58	-	92.15	5.87	-	1,197.60
		Ab	347.98	-	97.36	6.28	-	451.61
	#03	Aa	2,387.14	2.37	849.25	53.65	-	3,292.41
		Ab	-	-	-	-	-	-

Year	PAI	Stratum (i)	ΔCP,DefPA,i,t	ΔCP,Deg,i,t	ΔCP,DistPA,i,t	GHGP-E,i,t	ΔCP,Enh,i,t	ΔCWPS-REDD
	#04	Aa	5,280.09	1.88	925.31	58.45	-	6,265.73
		Ab	12,408.59	8.46	2,847.24	190.36	-	15,454.66
	#05	Aa	582.19	14.80	-	133.72	-	730.70
		Ab	-	-	-	196.64	-	196.64
	#06	Db	-	-	-	-	-	-
	#07	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#08	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#09	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#10	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#11	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#12	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#13	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#14	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-
	#15	Ap	-	-	-	-	-	-
		D	-	-	-	-	-	-

Carbon stock enhancement is conservatively assumed to be zero in all strata, following VMD0015 v2.2 step 02 criteria.

3.2.2.1 Deforestation in the Project Scenario

The area of recorded deforestation was measured through DETER data and visual interpretation of high spatial resolution satellite imagery from Sentinel. Only the PAI#2, PAI#03, PAI#04 and PAI#05 had activity data regarding the deforestation. The PAI#1 and PAI#6-15 hadn't

any activity data regarding this monitoring aspect. The areas values identified are presented in the table below.

Table 29. Deforestation monitored in the project area in the third monitoring period (ex-post) (ha). (Table 49 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	Stratum	ADefPA,u,i,t
PAI#01	As	-
	Ds	-
PAI#02	Aa	2.35
	Ab	0.72
PAI#03	Aa	5.05
	Ab	-
PAI#04	Aa	11.50
	Ab	26.22
PAI#05	Aa	1.27
	Ab	-
PAI#06	Db	-
PAI#07	Ap	-
	D	-
PAI#08	Ap	-
	D	-
PAI#09	Ap	-
	D	-
PAI#10	Ap	-
	D	-
PAI#11	Ap	-
	D	-
PAI#12	Ap	-
	D	-
PAI#13	Ap	-
	D	-
PAI#14	Ap	-
	D	-
PAI#15	Ap	-

Instance	Stratum	ADefPA,u,i,t
	D	-

The net carbon stock change because of deforestation in the project area in the project scenario is calculated according to VMD0015 v2.2, equation 03. The table below presents the net carbon stock change because of deforestation in the project area in the project scenario in the third monitoring period:

Table 30. Net carbon stock change because of deforestation in the project case in the first monitoring period (ex-post) (t CO₂-e). (Table 50 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	$\Delta CP, DefPA, i, t$
PAI#01	-
PAI#02	1,447.56
PAI#03	2,387.14
PAI#04	17,688.68
PAI#05	582.19
PAI#06	-
PAI#07	-
PAI#08	-
PAI#09	-
PAI#10	-
PAI#11	-
PAI#12	-
PAI#13	-
PAI#14	-
PAI#15	-
Total	22,105.57

3.2.2.2 Forest Degradation in the Project Scenario

3.2.2.2.1 TIMBER, FUELWOOD AND CHARCOAL COLLECTION IN THE PROJECT SCENARIO

The area of forests subjected to degradation due to timber, fuel wood and charcoal collection was defined through a 1 Km buffer ratio from each family house location in every community in

PAIs#2-5 where the project areas have communities inside their boundaries. Forest degradation through timber, fuel wood and charcoal collection was disregarded in PAI#01 and PAI#06 to PAI#15, because no communities live in these areas.

Stumps were counted and measured in 8 sample plots A Pi (transects of 100 0mx40m) representing 2.07 % of $A_{degW,i}$. Biomass carbon of cut and removed trees from measured plots was estimated through the same allometric equations used to determine the above ground biomass in the tree component.

Net carbon stock changes as a result of degradation ($\Delta C_{P,DegW,i,t}$) was calculated according to VMD0015 v2.2, equation 08 and determined insignificant based on T SIG, third monitoring period.

The tables below present the area impacted by degradation processes of logging.

Table 31. Area impacted by degradation processes in stratum i in the third monitoring period (ex-post) (t CO₂-e).
(Table 52 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	Stratum (i)	ADegW,i
PAI#01	As	-
	Ds	-
PAI#02	Aa	-
	Ab	-
PAI#03	Aa	2.01
	Ab	-
PAI#04	Aa	2.19
	Ab	6.67
PAI#05	Aa	5.01
	Ab	6.89
PAI#06	Db	-
PAI#07	Ap	-
	D	-
PAI#08	Ap	-
	D	-
PAI#09	Ap	-
	D	-
PAI#10	Ap	-
	D	-

Instance	Stratum (i)	ADegW,i
PAI#11	Ap	-
	D	-
PAI#12	Ap	-
	D	-
PAI#13	Ap	-
	D	-
PAI#14	Ap	-
	D	-
PAI#15	Ap	-
	D	-

Table 32 - Biomass carbon of trees cut and removed through degradation process from measured plots in stratum i in year t in the first monitoring period (ex-post) (t CO₂-e). (Table 53 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	Stratum (i)	CDegW,i,t
PAI#01	As	-
	Ds	-
PAI#02	Aa	76.16
	Ab	-
PAI#03	Aa	13.83
	Ab	15.32
PAI#04	Aa	13.54
	Ab	19.99
PAI#05	Aa	48.55
	Ab	-
PAI#06	Db	-
PAI#07	Ap	-
	D	-
PAI#08	Ap	-
	D	-
PAI#09	Ap	-
	D	-
PAI#10	Ap	-

Instance	Stratum (i)	CDegW,i,t
PAI#11	D	-
	Ap	-
PAI#12	D	-
	Ap	-
PAI#13	D	-
	Ap	-
PAI#14	D	-
	Ap	-
PAI#15	D	-
	Ap	-

Table 33 - Net carbon stock change as a result of degradation in the project case in the first monitoring period (ex-post) (t CO₂-e). (Table 54 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance	$\Delta CP, DegW, i, t$
PAI#01	-
PAI#02	-
PAI#03	2.37
PAI#04	10.35
PAI#05	14.80
PAI#06	-
PAI#07	-
PAI#08	-
PAI#09	-
PAI#10	-
PAI#11	-
PAI#12	-
PAI#13	-
PAI#14	-
PAI#15	-
Total	27.51

3.2.2.2.2 SELECTIVE LOGGING IN THE PROJECT SCENARIO

GHG emissions due to selective logging in the project scenario were zero. No forest management operations were held in any project instance in the first monitoring period. Ex-post estimates were done based on the GHG emissions arising in the logging gap, logging infrastructure and the carbon stock in wood products pool, according to VMD0015 v2.2, equation 09 (see section 4.2.2.2 of the validated PD)

3.2.2.3 Natural Disturbance in the Project Scenario

The area impacted by natural disturbance ($A_{DistPA,q,i,t}$) is monitored and measured according to DETER database associated with direct observations. The area impacted by natural disturbance is proportionally reduced to reflect previous firewood/charcoal extraction (DDRF), in ex post estimates, according to VMD0015 v2.2, equation 19 (see section 4.2.3 of the validated PD). In the case the natural disturbance monitored is also related to wildfires, the area of natural disturbance is equal to the sum of the areas of all burn scars perceived in an annual basis, following VMD0015 v2.2, equations 22 and 21.

Only the PAI#2, PAI#3, PAI#04 and PAI#05 had activity data regarding the natural disturbances. The PAI#1 and PAI#6-15 didn't have any activity data regarding this monitoring aspect. The disturbed areas identified per PAI are presented in the table below. The DDRF was constant to all PAIs.

Table 34. Area impacted by natural disturbances (ex post) (ha). (Table 66 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Instance/Stratum		$A_{DistPA,q,i,t}$
DDRF		-
PAI#01	As	-
	Ds	-
PAI#02	Aa	0.22
	Ab	0.22
PAI#03	Aa	2.01
	Ab	-
PAI#04	Aa	2.19
	Ab	6.67
PAI#05	Aa	5.01

Instance/Stratum		ADistPA,q,i,t
DDRF		-
	Ab	6.89
PAI#06	Db	-
PAI#07	Ap	-
	D	-
PAI#08	Ap	-
	D	-
PAI#09	Ap	-
	D	-
PAI#10	Ap	-
	D	-
PAI#11	Ap	-
	D	-
PAI#12	Ap	-
	D	-
PAI#13	Ap	-
	D	-
PAI#14	Ap	-
	D	-
PAI#15	Ap	-
	D	-

Carbon stock changes in all pools as a result of natural disturbance (CP,Dist,q,i) is calculated according to VMD0015 v2.2, equation 24. Net carbon stock changes in pools because of natural disturbance is calculated according to VMD0015 v2.2, equation 23.

GHG emissions resulting from areas undergoing natural disturbance are calculated according to VMD0015 v2.2, equation 20. Data calculated for the PAIs which had activity data in the third monitoring period are presented in the table below.

Table 35 - Net carbon stock change as a result of natural disturbance in the project case in the project area in stratum i in year t (t CO₂-e ha⁻¹) (ex post). (Table 67 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	PAI	Stratum (i)	ADistPA,q,i,t	ΔCP,Dist,q,i,t	ΔCP,DistPA,i,t
2023	#01	As	-	482.67	-
		Ds	-	516.76	-
	#02	Aa	-	418.86	-
		Ab	-	442.53	-
	#03	Aa	2.01	418.86	841.91
		Ab	-	442.53	-
	#04	Aa	2.19	418.86	917.30
		Ab	6.67	442.53	2,951.69
	#05	Aa	5.01	418.86	2,098.49
		Ab	-	442.53	-
	#06	Db	-	544.30	-
	#07	Ap	-	427.91	-
		D	-	662.82	-
	#08	Ap	-	427.91	-
		D	-	662.82	-
	#09	Ap	-	427.91	-
		D	-	662.82	-
	#10	Ap	-	427.91	-
		D	-	662.82	-
	#11	Ap	-	427.91	-
		D	-	662.82	-
	#12	Ap	-	427.91	-
		D	-	662.82	-
	#13	Ap	-	427.91	-
		D	-	662.82	-
	#14	Ap	-	427.91	-
		D	-	662.82	-
	#15	Ap	-	427.91	-
		D	-	662.82	-

3.2.2.4 Non-CO2 Emissions in the Project Scenario

Burn scars from wildfires ($A_{burn,q,i,t}$) are measured according to ΔNBR $\Delta NBR47$ spectral index and verified with high spatial resolution satellite imagery from Sentinel, along with ground verifications (see section 4.2.3 of the validated PD).

Only the PAI#2, PAI#3, PAI#04 and PAI#05 had activity data regarding the burned areas. The PAI#1 and PAI#6-15 didn't have any activity data regarding this monitoring parameter. The areas' values identified are presented in the table below.

The average aboveground biomass stock before burning (Bi,t) is calculated according to VMD0013 v1.2, equation 2 (see section 4.2.4 of the validated PD). Non- CO_2 emissions due to biomass burning are calculated according to VMD0013 v1.2, equation 1 (see section 4.2.4 of the validated PD). Data calculated for the third monitoring period is presented in the table below.

Table 36 - Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO_2 , CH_4 , N_2O) (t CO_2e). (Tables 68, 69 and 70 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	PAI	Stratum (i)	$A_{burn,i,t}$	Bi,t	COMFi	$E_{biomassburn,i,t}$
2023	#01	As	-	314.09	0.45	-
		Ds	-	291.07	0.45	-
	#02	Aa	0.22	243.67	0.45	5.87
		Ab	0.22	260.57	0.45	6.28
	#03	Aa	2.01	243.67	0.45	53.65
		Ab	-	260.57	0.45	-
	#04	Aa	2.19	243.67	0.45	58.45
		Ab	6.67	260.57	0.45	190.36
	#05	Aa	5.01	243.67	0.45	133.72
		Ab	6.89	260.57	0.45	196.64
	#06	Db	-	305.98	0.45	-
	#07	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#08	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#09	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#10	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-

Year	PAI	Stratum (i)	Aburn,i,t	Bi,t	COMFi	Ebiomassburn,i,t
	#11	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#12	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#13	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#14	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-
	#15	Ap	-	206.51	0.45	-
		D	-	351.77	0.45	-

GHG emissions from fossil fuels and nitrogen application were conservatively excluded following VM0007 v1.6, table 06, criteria. Non CO₂ emissions due to biomass burning in stratum i in year t $E_{\text{BiomassBurn},i,t}$ is equal to Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t $\text{GHG}_{P,E,i,t}$.

3.2.3 Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

GHG emissions due to leakage are based on activity shifting and market effects leakage throughout the project lifetime. Leakage emissions are determined according to VMD0007 v1.6 equation 4 (see section 4.3 of the validated PD). Data calculated for the third monitoring period is presented in the table below.

Table 37 - Net GHG emissions due to leakage from the REDD project activity (t CO₂-e) (ex-post). (Table 71 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	$\Delta C_{\text{LK-AS,planned}}$	$\Delta C_{\text{LK-ME}}$	$\Delta C_{\text{LK-REDD}}$
2023	-	95,577.95	95,577.95

3.2.3.1 Activity Shifting Leakage

Net GHG emissions due to activity shifting leakage ($\Delta C_{\text{LK-AS,planned}}$) is zero in the third monitoring period, once there are no deforested areas across all the other lands managed by the identified deforestation agents disregarding the project boundary. Once there are no deforested

areas across all the other lands managed by the identified deforestation agents, the net GHG emissions due to activity shifting leakage ($\Delta\text{CLK-AS,planned}$) is zero (see APPENDIX_GIS-DATA).

Basically, when no leakage is occurring, the deforestation by the identified agent of the planned deforestation in the absence of the project ($\text{WoPR}_{i,t}$) is equal to the total area of planned deforestation over the baseline period outside of the project boundary ($A_{\text{planned},i,\text{OP}}$), multiplied the projected annual proportion of land that will be deforested ($D\%_{\text{planned},i,t}$). So, if ($A_{\text{planned},i,\text{OP}}=0$) it wasn't identified any deforestation by the five different baseline agents parts of the project ID 2551 in this monitoring period, no leakage is occurring and the planned deforestation ($A_{\text{defLK},i,t}$) was equal zero.

New calculated forest clearance by the baseline agent of the planned deforestation was calculated according VMD0009 v1.3, equation 05. The area of activity shifting leakage is determined according to VMD0009 v1.3, equation 06.

3.2.3.2 Market Effects Leakage

Leakage factor for market effects calculations (LF_{ME}) is calculated according to VMD0011 v1.0 criteria (see section 4.3.2).

Carbon emission due to displaced timber harvests in the baseline scenario ($C_{\text{BSL,XBT},i,t}$) is calculated according to VMD0011 v1.0 equation 4. Summed emissions from timber harvest potentially displaced through implementation of carbon project $\text{AL}_{\text{T},i}$ is estimated according to VMD0011 v1.0 equation 3. Market Effects Leakage Through Decreased Timber Harvest $\text{LK}_{\text{MarketEffects,timber}}$ is estimated according to VMD0011 v1.0 equation 2.

Carbon emission due to displaced fuelwood/charcoal harvests in the baseline scenario is calculated according to VMD0011 v1.0 equation 7. Summed emissions from fuelwood/charcoal harvests in the baseline case potentially displaced through project implementation ($\text{AL}_{\text{FW/C},i}$) is calculated according to VMD0011 v1.0 equation 6. Market Effects Leakage Through Decreased Harvest of Fuelwood and Charcoal Sold into Regional and/or National Markets ($\text{LK}_{\text{MarketEffects,FW/C}}$) are calculated according to VMD0011 v1.0 equation 5.

GHG emissions from market effects $\Delta\text{C}_{\text{LK-ME}}$ are calculated according to VMD0011 v1.0 equation 1 Data calculated for the third monitoring period are presented in the table below.

Table 38 - Net greenhouse gas emissions due to market- effects leakage (t CO₂-e) (ex post). (Table 74 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	$V_{\text{BSL,EX},i,t}$	$\text{FG}_{\text{BSL},t}$	$\text{LK}_{\text{MarketEffects,timber}}$	$\text{LK}_{\text{MarketEffects,FW/C}}$	$\Delta\text{C}_{\text{LK-ME}}$
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2023	119,799.63	20,959.84	92,171.90	3,406.06	95,577.95
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3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

3.2.4.1 Total Net GHG Emission Reduction

Net GHG emission reduction estimates are based in VM0007 v1.6 equation 2 (see section 4.4.1). Data calculated for the third monitoring period is presented in the table below.

Table 39. Total net GHG emission reductions of the REDD project activity (t CO₂e) (ex-post). (Table 75 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	Baseline emissions or removals	Project emissions or removals	Leakage emissions	Net GHG emission reductions or removals
	Δ CBSL-REDD	Δ CWPS-REDD	Δ CLK-REDD	NER _{REDD}
2023	3,074,244.58	27,589.36	95,577.95	2,951,077.27

State the non-permanence risk rating (%)	12%
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).	Not applicable
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☐ No Not applicable
State, in tCO ₂ e, the expected total GHG benefit to date.	2,951,077.27 tCO ₂ e

If a loss occurred (including a loss event or reversal), state the amount of tCO₂e lost:

Project loss was not significant in this monitoring period.

Table 40 – Net GHG emissions/reductions for the first baseline period.

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Buffer pool allocation (tCO ₂ e)	Reductions VCU (tCO ₂ e)	Removals VCU (tCO ₂ e)
01-Jan-2021 to 31-Dec-2021	1,087,657	31,626	45,858	105,603	904,570	-
01-Jan-2022 to 31-Dec-2022	3,056,895	32,397	101,566	302,450	2,620,482	-
01-Jan-2023 to 31-Dec-2023	3,074,245	32,397	95,578	304,185	2,642,085	-
01-Jan-2024 to 31-Dec-2024	2,031,630	32,397	68,403	199,923	1,730,906	-
01-Jan-2025 to 31-Dec-2025	1,990,279	32,397	57,550	195,788	1,704,544	-
01-Jan-2026 to 31-Dec-2026	2,097,921	32,397	57,550	206,552	1,801,421	-
Total	13,338,625	193,611	426,505	1,314,501	11,404,008	-

Table 41 – Ex-ante/achieved reductions/removals.

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Jan-2023 to 31-Dec-2023	2,642,085	2,951,077.27	11.695%	Conservative assumptions have been adopted to develop the baseline
Total	2,642,085	2,951,077.27	11.695%	Same as above

3.2.4.2 Calculation of AFOLU Pooled Buffer Account Contribution

Buffer is calculated through VM0007 v1.6 equation 8 (see section 4.4.2). Buffer withholding percentage is calculated according to AFOLU Non-Permanence Risk Tool v4.2 (APPENDIX_RISK-REPORT). The overall non permanence risk rating is presented in the table below:

Table 42. Overall Risk Rating for the second monitoring period.

Risk Category		Rating
a)	Internal risk	0,00
b)	External risk	0,00
c)	Natural Risk	7,50
Overall risk rating (a + b + c)		12

3.2.4.3 Uncertainty Analysis

Uncertainty in baseline rate of deforestation is set as zero ($Uncertainty_{BSL,RATE} = 0$), as the deforestation rates are based on actual deforestation plans, following VMD0017 v2.2, section 5.1.1 criteria. Uncertainty in the combined carbon stocks and greenhouse gas sources in the REDD baseline scenario is estimated according to VMD0017 v2.2 equation 5. The percentage uncertainty in the combined carbon stocks and greenhouse gas sources were calculated as the 95% confidence interval half width as a percentage of the mean (see APPENDIX_CARBON-POOLS). Total

Uncertainty in REDD baseline scenario is estimated according to VMD0017 v2.2 equation 6. The uncertainty in REDD project scenario is estimated according to VMD0017 v2.2 equation 13. The total error in the REDD+ project activity is therefore calculated by VMD0017 v2.2 equation 21 2149.

Deductions are made in the case total error in the REDD+ project activity exceeds 15% of NERREDD at the 95% confidence level according to VMD0017 v2.2 equation 21 (see section 4.4.3 of the validated PD). Data calculated for the second monitoring period is presented in the table below.

Table 43. Total net GHG emission reductions of the REDD+ project activities up to year t*adjusted to account for uncertainty (t CO₂e) (ex-post). (Table 77 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	NER _{REDD}	NER _{REDD+_ERROR}	Adjusted_NER _{REDD+}
2023	2,951,077.27	166,437.61	2,951,077.27
Total	2,951,077.27	166,437.61	2,951,077.27

3.2.4.4 Calculation of Verified Carbon Units

Total number of Verified Carbon Units (VCUs) generated by the project activity implementation is estimated (ex-ante) according to VM0007 v1.6 equation19 (see section 4.4.4 of the validated PD). The initial of the third monitoring period is from 1st January 2023 until 31st December 2023, due that the vintages were breakdown in two: 2021 (20th October 2021 until 31st December 2021) and 2022 (1st January 2022 until 31st December 2022), according with the VCS registration and Issuance process v4.2, section 4.1.2.

Data calculated for the third monitoring period are presented in the table below.

Table 44. Number of Verified Carbon Units (VCU) (ex-post). (Table 78 from "APPENDIX_CALCULUS-TABLES" - Consolidated Results)

Year	Adjusted_NER _{REDD+}	Buffer _{Planned}	VCU _t
2023	2,951,077.27	304,665.52	2,646,412
Total	2,951,077.27	304,665.52	2,646,411.75

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)

Community Group	São Lourenço e Serra Azul Communities (Extractivism Reserve – Resex Guariba-Roosevelt)
Impact	Empowerment, autonomy, and inclusion of young people on social organization
Type of Benefit/Cost/Risk	Direct actual benefit: Internship program for young people from the territory. Indirect actual benefit: Empowerment and maintaining the future of the community. Direct predicted benefit: Workshops with young people from the territory on cultural and historical recovery, socio-environmental law, and construction of a development plan for youth. Indirect predicted benefit: Engagement of young people in community activities and maintenance of the livelihoods for future generations.
Change in Well-being	Empowerment of the 20 young leaders in the territory.

Community Group	Extractivism Reserve – Resex Guariba-Roosevelt
Impact	Promotion of youth training
Type of Benefit/Cost/Risk	Direct actual benefit: Staff qualification for office work at the association Indirect actual benefit: Empowerment and strengthen of the local social organization.

	Direct predicted benefit: Training in office issues to qualify the association team. Indirect predicted benefit: Engagement of young people in the community activities
Change in Well-being	Formation of new and young staff to empower the association.

Community Group	São Lourenço e Serra Azul Communities (Extractivism Reserve – Resex Guariba-Roosevelt)
Impact	Improvement of local organization management
Type of Benefit/Cost/Risk	Direct actual benefit: Activities that promoted the recovery of the community's history and discussions about their demands. Support for local association management. Indirect actual benefit: Identification and strengthening of the cultural, historical, and social value of the territory. Community empowerment and autonomy. Direct predicted benefit: Situational diagnosis of local associations and preparation of strategic planning. Indirect predicted benefit: Engagement and strengthening of local associations.
Change in Well-being	Impact on the livelihoods of the 20 families in the communities through the strengthening of the representative association.

PAIs#2-5 -

Community Group	Communities of Porongaba
Impact	Strengthening local culture
Type of Benefit/Cost/Risk	Direct actual benefit: Development of activities that strengthen local culture, such as sporting and religious celebration and the renovation of the community chapel. Indirect actual benefit: Promoting community engagement in project activities and well-being

Change in Well-being	Engagement of 150 people through activities that protect cultural and spiritual values and improve their well-being
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Community Group	Communities of Porongaba
Impact	Land donation and land rights
Type of Benefit/Cost/Risk	Direct actual benefit: Creates a better legal situation for the bona fides occupants and their families – 2,750ha donated benefiting 43 families. Indirect actual benefit: Make it possible to these families access new forms of public policies, as low-cost finances.
Change in Well-being	Development of properly legal situation to the families gives them security to produce their own existence.

Community Group	Communities of Porongaba and Palmares
Impact	Access to energy and water
Type of Benefit/Cost/Risk	Direct actual benefit: Donation of solar kits, water pumps and other related materials to improve quality of life. Benefiting 43 families (42 Porongaba, 01 Palmares). Indirect actual benefit: It avoid risks to go to the riverbanks to take water, guarantee the possible of store food refrigerated, and other benefits, as be able to have access to the internet and other communication means.
Change in Well-being	These goods allow families to have direct access to water and energy, what improves their condition of life in many ways, as having access to a better communication system, condition of refrigerate food and others benefits.

Community Group	Communities of Porongaba and Palmares
Impact	Empowerment, autonomy, and inclusion of women
Type of Benefit/Cost/Risk	Direct actual benefit: Activities that promoted engagement and inclusion of women in the project. Donation of women's football uniforms and ball.

	Indirect actual benefit: Women feeling part of the project activities, recognizing their voice and opinion. Direct predicted benefit: Courses and training for women to generate income. Indirect predicted benefit: Empowerment and autonomy of women
Change in Well-being	Inclusion of 26 women in project activities, promoting spaces for speaking and listening. Support for the sport and well-being of 20 women through the donation of football uniforms.

PAI#6 -

Community Group	Curara Community
Impact	Structuring the manioc flour value chain and community social organization
Type of Benefit/Cost/Risk	Direct actual benefit: Activities that promoted the recovery of the community's history, discussions about their demands. Exchange of knowledge with other communities about manioc flour production and social organization. Indirect actual benefit: Generation of learning, knowledge, and inspiration for the community. Direct predicted benefit: Workshops on social organization as (associativism and cooperativism). Logistical support for manioc flour production. Indirect predicted benefit: Strengthening the activities that promote income generation.
Change in Well-being	Impact on the livelihoods of the 30 families in the community through the development of the manioc flour value chain.

PAIs#7-15 -

Community Group	Rio Bonito and Rio Azul Communities (Águia Settlement) and Barreirinha Indigenous Land;
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Impact	Sustainable economic development and strengthening of local value chains. (APPENDIX_STRENGTHENING-VALUE-CHAINS)
Type of Benefit/Cost/Risk	Direct actual benefit: Activities that promote knowledge about value chain structuring, business planning, and social organization for 48 people. Indirect actual benefit: Promotion of social organization; Recognition of the value of their territories and productive chains. Direct predicted benefit: Execution of business plans for commercial activities; Sustainable economic development of the communities. Indirect predicted benefit: Strengthening of social organizations.
Change in Well-being	Impact on the livelihoods of 40 families at PA Águia (30 in the Rio Bonito community and 10 in the Rio Azul community) and 9 families at Barreirinha Indigenous Land through the mapping of potential commercial activities in these communities and the development of individualized business plans.

Community Group	Barreirinha Indigenous Land.
Impact	Strengthening and valorization of the identity and culture of the Amanayé people. (APPENDIX_INDIGENOUS-PEOPLE-DAY)
Type of Benefit/Cost/Risk	Direct actual benefit: Celebration and recording of Indigenous Peoples Day in the community. Indirect actual benefit: Strengthening the culture and identity of the Amanayé people within the community, enabling new generations to learn and perpetuate their traditions; Generation of knowledge (and consequent appreciation) about Amanayé culture beyond the community through the dissemination of the video that recorded the celebration.
Change in Well-being	Strengthening community ties. Participation of approximately 60 people.

Community Group	Irmã Dorothy Settlement
Impact(s)	Improvement of access to education for children and adolescents in the Irmã Dorothy community.
Type of Benefit/Cost/Risk	Direct actual benefit: Construction of the Dorothy Stang Municipal Elementary School.
Change in Well-being	Improved conditions for educational development and expanded access to education for, at least, 42 settled students in the first year.

Community Group	Irmã Dorothy Settlement
Impact(s)	Improvement of water access for students of Dorothy Stang Municipal Elementary School and their families.
Type of Benefit/Cost/Risk	Direct actual benefit: Construction of an artesian well in the community and installation of water pumps, water tanks, and hydraulic systems to supply the Dorothy Stang Municipal Elementary School. Indirect predicted benefit: Improvement of education and health conditions for the community
Change in Well-being	Improvement in access to water, education, and health for at least 42 families in the first year.

Community Group	Bom Jesus Settlement
Impact(s)	Improvement of water access for students of Dorothy Stang Municipal Elementary School and their families.
Type of Benefit/Cost/Risk	Direct actual benefit: Construction of an artesian well in the community and installation of water pumps, water tanks, and hydraulic systems to supply the Dorothy Stang Municipal Elementary School. Indirect predicted benefit: Improvement of education and health conditions for the community
Change in Well-being	Improvement in access to water, education, and health for at least 32 families in the first year.

4.1.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

The precautionary principle serves not only to avoid a risk, but more importantly to legitimize and acknowledge the risks, which can be useful to clarify some issues in case decisions turn out to be wrong in the future.

BRC is aware that, as in any project that works with people, the implementation of activities can change the internal relationships between community members. Therefore, some measures to mitigate negative impacts have been taken and are detailed below.

Donating land is one of the most complex activities of the project and therefore generates some negative impacts. The objective of the action was to guarantee the right to land to the communities in Porongaba's area. But land issues are a delicate challenge for the project. The land donation process is long and bureaucratic, which is why some people are frustrated with this situation. Furthermore, there are still problems with deforestation and invasion in the areas. At the moment the mitigation measures taken to solve this problem is related to improve communication with the communitarians, which is a challenge, once inside the territory there is people fighting against the project, because of the intention to avoid deforestation, as the project has been successful in the region of Porongaba, where the project activities have shrunk the deforestation in the area. Beyond that, the PP is focused on solving all the bureaucratic problems as soon as possible to avoid frustration by the beneficiaries.

Another negative impact mapped by the PP is the use of internet around school's area at Porongaba, which was already mentioned in the second monitoring report, to solve that was combined with the schools representants and the part of the community that a community center would be constructed in a more appropriated place to avoid conflicts on internet use, however, because of logistics problems it was not possible to do it in this monitoring period. But the project will develop this action when it became possible, for now the PP is analyzing alongside the local population where the best place to build it is.

One point more that we have mentioned as a problem to be solved was a better and more effectivity relation and partnership between the BRC and the city hall to develop health actions together, unhappily through the conversations among the parts, was found some bureaucratic obstacles to make this partnership in an appropriate way. By now our team are deepening the understanding of possibilities to make an official agreement and implement the heath activities in the territory.

Conducting activities exclusively with women may create a certain discomfort for some men, as they may perceive it as a loss of their privileged space. Furthermore, they may feel scared by women's empowerment. Therefore, all specific activities involving women will be well communicated and contextualized, preventing misunderstanding and unresolved doubts. Furthermore, activities addressing discussions on gender issues will be conducted in public meetings and workshops with men and women.

Meanwhile at Curara Community the PP has not mapped negative impact so far, once the activities are being defined yet, following the interests and demands from the local population. In this sense, the PP is aware that after deepening the implementation and the diagnose of the beneficiaries' interests will be clarified the possible negative impacts.

In Barreirinha Indigenous Land and Águia Settlement Project the activity of developing new value chains is being implemented in slow mode, because of the implementation of the new project in the area, the Cauaxi AUD Grouped Project, which is going to assimilate some of the original activities from the Brazilian Amazon APD Grouped Project, and this time to migrate the activities can generate frustration with the population, however the strategy to mitigate it is through communication and the implementation of other activities, showing to them our good intentions and the way we work.

At Bom Jesus Settlement Project the challenge is related to the refurbishment of the school, which is already negotiated with the Rondon do Pará city hall, and because of bureaucratic issues and logistics problems needed to be postponed. To mitigate the frustration and show that the project is being developed properly, the construction of the artesian well to be attached to the school is already under development, despite the access to this service will be liberated just after the refurbishment itself.

4.1.3 Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

The net well-being impacts of the project are positive compared with their well-being conditions under the without project scenario. Among them, access to electrical energy, access to water, and suitable conditions for food storage are prioritized through the installation of photovoltaic systems, donation of water pumps, and freezers for 23 families in Porongaba and Palmares, and land donation to bona fide squatters.

The Porongaba community requested the renovation of "Nossa Senhora das Candeias" Chapel, so that they could have a good space to practice their spirituality and faith, improving the well-being of families living there. The chapel innovation involved expanding the existing structure to accommodate more people and refurbishing its painting. Before the renovation, the chapel measured

24 m², now measuring 48 m². BRC also donated two religious images and built two bathrooms (Male and Female).



Figure 2 - “Nossa Senhora das Candeias” Chapel renovation

To inaugurate the chapel, a celebratory event was held, and the entire community participated. During this occasion, the chapel was also decorated in collaboration with the community, incorporating elements and materials as requested by them.



Figure 3 - Nossa senhora das Candeias Chapel decoration

On the same day as the chapel's inauguration celebration, the Children's Day festivities and two football tournaments (one for women and one for men) were also conducted. The events concluded with a collective lunch for all participants, estimated to be at least 300 individuals. During the celebration, 110 toy packages were donated to children, with an additional 40 distributed in the

following days. For the football tournaments, medals and trophies were donated for the first and second-place players.

Additionally, the women's football team "Estrelas da Porongaba" had requested uniforms and balls to strengthen and empower women in the community's football, which were also distributed on this occasion. All these celebratory activities aimed at cultural, spiritual, and sports empowerment were highly significant and important for the community.

Another conducted activity aimed at contributing to the well-being of women in the community was the initiation of the formation of women's groups. Three workshops were conducted, one with the women from Palmares community and the other two with the women from the Porongaba community (center and riverbanks). The workshops sought to create safe spaces for dialogue and listening for the involved women, promote moments of self-awareness, empowerment, and appreciation for their journeys and dreams, and encourage their participation in the project. A total of 26 women of various ages and characteristics participated. These were crucial moments for these women, and below are some testimonials provided at the end of the workshops.

"I stopped to think about things I've never thought before. I had never thought about my mom and my grandma in this way. It was important to discover things about myself too."

Edeane, Seringal Palmares

"It was fun to express what you feel. Many times, we get sad without being able to talk about it."

Fabírcia, Seringal Palmares

"It's very important to do this. We work too much and forget about ourselves."

Dilcilene, Seringal Palmares

The families of the Porongaba community face significant challenges in accessing the cities of Rio Branco and Sena Madureira, where they can access basic health services and address other matters that are only possible in urban centers. With the aim of facilitating this access and seeking

to provide security and quality of life for these families, the project contributed to the maintenance of rural roads on the property during the months of July and August. These rural roads enable families to have land access to schools and churches in the region, which is essential, especially during dry seasons.

The first lane to undergo maintenance was the one from Porongaba headquarters, connecting the Nova Olinda Lane to the Iaco River, with a length of 18 km. Subsequently, maintenance activities were initiated on 15 km of the Baixa Alegre and Santa Luzia lanes. In addition to generating benefits for the community, this maintenance also contributes to the optimization of project activities, ensuring greater security and reduced travel time.



Figure 4 - Maintenance of lanes in Porongaba

Another activity which is been developed, to generate improvement in communities' wellbeing is the process of land donation to the bona fide squatter's families, which showed interest in receiving the papers of the area where they live for a long time. This is a complex process which demands some steps to be taken, as georeferencing the area, do the notary work, pay taxes, emit property certifications and, finally, the receiving and recognition of property rights papers. It has started in middle 2022 with public meetings to check which families were interested in participating, while during 2023, most of the steps were taken, missing by now just the last one, the land rights transference itself, however it is a bureaucratic process which depends on public power time. BRC also conducted a knowledge exchange about social organization and manioc flour production in the Curara Community (Manicoré - AM), with the participation of two individuals from the São Lourenço Community of the Guariba-Roosevelt Extractive Reserve (Aripuanã - MT). One of the objectives of the activity was to foster spaces for the exchange of experiences and mutual learning between the territories, contributing to the appreciation of the traditional culture of both participating communities.

At Guariba Roosevelt Extractive Reserve, following the local association's demand, the project has hired a local company (Jurupará Socioambiental) to support and develop some activities in the ground, as the promotion of youth development to fortify the territory through trainings, and the formation of young people to work for the association, focusing in empower the social organization, through office training. Now there are 20 youth people involved on the workshops for youth development and one young lady which is hired as trainee to advice the local association, chosen by themselves. Further than that, these activities are related, together with the scope of the contract between the PP and the Jurupará Socioambiental company, to the empowerment of social organizations, in the case AMORAR (Associação dos Moradores da Reserva Extrativista Guariba Roosevelt), helping them to empower its practices.

On Águia Settlement project and Barreirinha Indigenous Land happened the workshop of sustainable economic development and strengthening of local value chains, helping the beneficiaries to understand tools and strategies to create their own business plan to structure a value chain, and it is an activity which continues fostering the beneficiaries with properly tools to achieve the interest of strengthen productivity chains. Around 50 families were involved in these activities, and were impacted directly, but this number can get bigger once the initial participants share their knowledge with other inhabitants of the areas.

The indigenous people day were celebrated in Barreirinha Indigenous Land through the valorization of the culture and history of them. For it, the PP has supported the celebration itself and the production of a short video valorizing the Amanayé culture. We believe that it helps the self-esteem of the people and as said by their chief, this kind of action helps them to maintain the youth people aware about their origin and culture. Around 60 people participated in the activities.

The education issue is one of the most important goals of the project, in this sense, the construction of a school at Irmã Dorothy Settlement is activity which is been developed and that will be donated to the Rondon do Pará municipality, to improve the quality and the access to this service. But not just the building that has been donated, there is the furniture and the construction of an artesian well in the school to guarantee access to water, and indirectly the whole process of education. In total, initially, around 40 families will benefit from these project activities.

At the Bom Jesus Settlement Project the refurbish of the school is already agreed with the local population and the public power, but, by the moment, the PP has just built the artesian well which is going to foster the water supply to the school, in the beginning it will achieve around 32 students and the scholar community.

The installation of artesian well in these two schools will be a tool to improve the accessibility to water, and in this case the focus will be on helping the students on their condition of study.

All these activities developed by the project has produced innumerous employes and job opportunities, which has helped some people to improve their income, as the necessity to hire of carpenters, boatmen, cooks, and others is a constant on the development of the project.

About the standardized metrics in this monitoring period there were some activities which were not implemented by innumerous reasons, as fostering livelihoods, that will be implemented some actions in the next project phase. Other activity which not happened were related to health demands, because of some challenges faced by the PP, mainly related to institutional defies as the construction of an official agreement.

4.1.4 Protection of High Conservation Values (CCB, CM2.4)

All activities undertaken are centered around forest conservation and the recognition of local culture, including the protection of HCVs. Thus, in addition to not negatively impacting them, the project also provides activities that bring benefits to these areas. An example is the chapel renovation in Porongaba community, which was previously recognized as an HCV by the community.

At Barreirinha Indigenous Land the Capim River was mapped as an HCV, even no activity was developed directly to valorize the place, the whole focus of the project, environmental conservation, indirectly helps to protect the Capim River. More than that, the celebration of Indigenous People Day is indirectly a way to protect the HCV's (in this case, Capim River) through the recognition of the cultural issues valued by the Amanayé people, as the environmental worries.

HCV's are a hard concept to understand by the population, even to the PP, however it is necessary to work with it, not just to preserve them, but to show the socio and cultural responsibility of the project. In this sense, the PP has the duty to map all of the HCV's in a properly way, so in the next cycle we intend to develop and use better strategies and methodologies for the identification

and validation of all of them in each community we work, to valorise and mitigate negative impacts on it, avoiding risks to it and to the project itself.

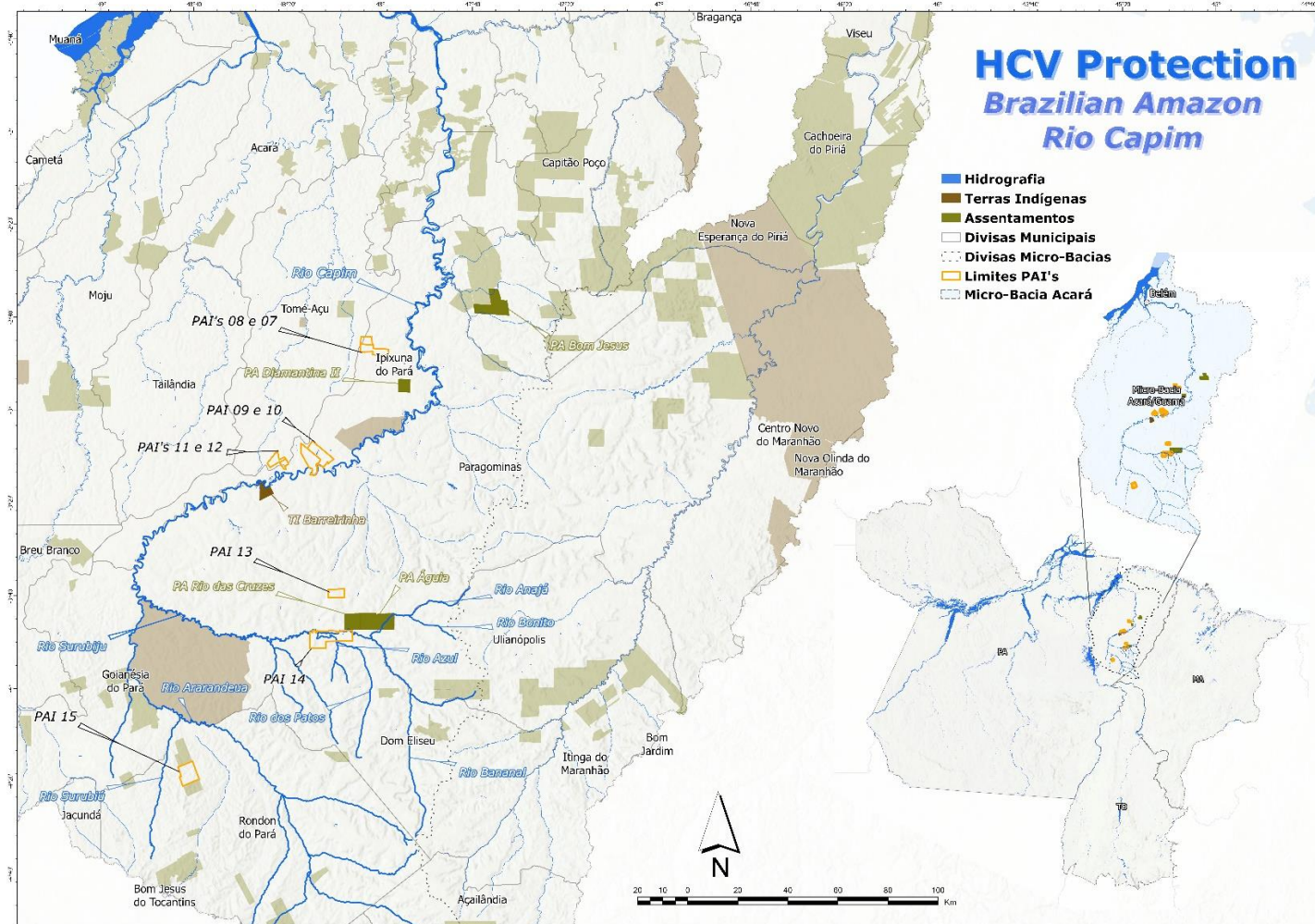


Figure 5 – Community High Conservation Value Identified

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

In a general manner, there is no negative impact mapped to the stakeholders, excepting the ones related to frustrated expectations create by them.

Other point to highlight is the potential impact made to the land grabbers, who are inside Porongaba, expelling them from the area through increase the governance level over the necessary dialog made by the landowner with the government agencies, which are the responsible for monitor environmental and for land crimes. However, it is necessary to relate that the PP do not recognize them as legitim stakeholders, once they are against the law, thus in our point of view, the project has no negative impacts mapped.

4.2.2 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

The main net impacts on other stakeholders are related to the relationship with public and local institutions to carry out project activities.

In the municipality of Aripuanã, state of Mato Grosso, a meeting with Municipal Secretariat of Rural Development revealed that is crucial for them to strengthen community organizations. This helps in managing the resources and materials they provide to the communities. Therefore, the project has been in development since October 2023 in collaboration with a local company, Jurupará Socioambiental, will not only contribute to community impacts, but also assist the activities of municipal secretariats. So, in this case, the project activity is going to be a reinforcement to the need of a better interlocution between the local population and the public power, what mean a positive impact in this relation.

Additionally, a meeting with the Coordination of Conservation Units (CUCO) of the State Secretariat of Mato Grosso revealed threats to the regularization of the Guariba-Roosevelt Extractive Reserve (Resex) and the community's presence in the territory. In this sense, strengthening the association and its youth members helps reinforce the struggle for the territory and the guarantee of their livelihoods.

Similarly, noteworthy is the relationship being built with the National Foundation of Indigenous Peoples – FUNAI. There is an intention to advance a partnership so that the project can

contribute to the qualification process in the indigenous area where the Curara community is located. This involves providing logistical support for necessary activities. Thus, the project activity is going to be a tool to improve the relation between the Indigenous institute and the Curara Community.

At Rondon do Pará, the construction and refurbishment of schools made by the PP due an agreement with the town hall is impacting positively the relation and the actions of them in the territory of Bom Jesus and Irmã Dorothy Settlements Projects. This activity is deepening the public power presence on the territory, what is a good impact to all stakeholders involved.

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 community monitoring plan presents the activities described in the project design and others that emerged throughout the development of the project, the benefited communities and other stakeholders involved, the sampling methods used, dates, frequency (when it is possible) of each one of them.

Even the requirements been of the certification standard is to make the social monitoring once each five years, the BRC has defined as strategy to report it annually, what means that some numbers will vary slowly year by year, mainly because some characteristics of the social dimension takes time to been effective and visible in its results.

In that way, monitoring is a continuous process of planning, recording, and evaluation. The theory of change involves different implementation stages of the project activities, and relates to many thematic, in what makes it complex, once it is needed a lot of tools to analyze and act upon the project proposes, so using the data of the monitoring period the PP can adapt all the corrective actions necessities to make the project real effective.

It is important to emphasize the difference between efficiency, efficacy and effectiveness. So, in this sense, efficiency is the ability to achieve the goals previously accorded in the right time, with the proper quality and the lowest cost, and efficacy is to use all the tools necessary and accessible to generate the best results, while effectiveness is what is really intended, which is a real improvement on communities' quality of life and on environment. As the project seeks through its actions to promote positive net impact on communities, therefore effectiveness, large monitoring periods are needed to evaluate if each of the actions summed with others, will achieve at the end, what the project desires and needs to reach its goals.

To guarantee the proper comprehension of the data to monitor the project activities, BRC has developed a platform (app) to collect and analyze this information in a way that will be possible to record and manage all the needs to the development of the project. This system will help the PP to check what is effective and what is not, and from it adapt and improve the activities. But, not just that, this strategy is going to be useful to avoid loss of data from applied questionnaires and interviews, fostering in a digital way all the information demanded to be reported.

All these points clarified, the table below outlines the community monitoring plan for this cycle, considering all activities that have been developed since the beginning of the project and some that are still in the planning phase. The table is divided into three programs: (i) institutional relations; (ii) diagnosis and monitoring; and (iii) social impact.

The institutional relations program is associated with engaging other stakeholders, such as meetings and partnerships (formalized or not) with public institutions, companies, and NGOs. The diagnosis and monitoring program refers to the collection and analysis of data, through applied questionnaires, the BRC platform, or participatory workshops.

The social impact program pertains to actions directly related to the project's social impact across five main thematic areas: education, health, livelihoods, well-being, and land rights. It is essential to emphasize that the impact occurs in the long term, is a continuous process of assessment and improvement, and that the other programs directly contribute to generating and effectively monitoring the impact.

Table 45 – Communities Diagnosis and Monitoring

Activities	Benefited communities and other stakeholders involved	Sampling methods used, dates and frequency	Results
<u>Institutional relations</u>			
Meetings with public, private institutions and NGOs to present the project and	Guariba-Roosevelt Resex communities (PAI#01) Municipal Government of Aripuanã - MT	The number of meetings with public, private and NGOs Date: 2nd to 4th	16 meetings with 9 public institutions, 1 company and 2 community associations

prospect for partnerships	Municipal Departments of Aripuanã - MT (Education, Health, Social Assistance, Rural Development, Environment) National Foundation of Indigenous People (FUNAI) Special Secretariat for Indigenous Health (SESAL) Jurupará Socioambiental Company Municipal Chamber of Councilors of Aripuanã – MT	February 2023 8th to 12th May 2023 9th to 11th August 2023 Frequency: Semi- annual	
Meetings with public, private institutions and NGOs to present the project and prospect for partnerships	Porongaba, Palmares, Katianã and Potiguar communities (PAI#2-5) Municipal Department of Health of Sena Madureira - AC Brazilian Agricultural Research Company (EMBRAPA) Center of the State Department of Education of Sena Madureira	The number of meetings with public, private and NGOs Date: 16th and 18th May 2023 15th August 2023 22sd September 2023 Frequency: semi- annual	4 meetings with 4 public institutions

	Center for Social Assistance Reference		
Meetings with public, private institutions, and NGOs to present the project and prospect for partnerships	Curara community (PAI#06) Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas (IDAM) National Foundation of Indigenous People (FUNAI) Special Secretariat for Indigenous Health (SESAI) Chico Mendes Institute for Biodiversity Conservation (ICMBIO) Municipal Department of Environment	The number of meetings with public, private and NGOs Date: 2nd and 3rd March 2023 21st and 27th November 2023 Frequency: semi-annual	7 meetings with 5 public institutions
Meetings with public, private institutions, and NGOs to present the project and prospect for partnerships	Communities of Barreirinha, Rio Bonito - PA Águia, Rio Azul - PA Águia, Rio das Cruzes, Vila Brasil, PA Diamantina II, PA Bom Jesus, PA Irmã	The number of meetings with public, private and NGOs Date: 12nd January 2023 19th April 2023 21st September	4 meetings with 4 public institutions

	Dorothy, Concrem II, TI Barreirinha (PAI#7-17) Municipal Department of Education of Rondon do Pará -PA State Secretariat of Environment and Sustainability - PA Municipal Department of Education of Rondon do Pará -PA National Institute of Colonization and Agrarian Reform - INCRA - Marabá -PA	2023 04th December 2023 Frequency: On demand	
<u>Diagnosis and monitoring</u>			
Participatory rural appraisal workshops with communities	Guariba-Roosevelt Resex communities (PAI#01) Curara community (PAI#06) Local associations	The number of participatory rural appraisal workshops conducted with communities. Date: 12th and 14th August 2023 23th November 2023 Frequency: biannual	3 participatory rural appraisal workshops

Data collection by the social platform BRC	Guariba-Roosevelt Resex communities (PAI#01) Curara community (PAI#06) Local population and associations	The number of socio-economic questionnaires applied in the communities (manual and digital) Date: 25th January to 1st February 2023 13th August 2023 Frequency: Triannual	5 socio-economic questionnaires applied
<u>Social Impact – Education</u>			
School renovation / construction and donation of materials and equipment.	Porongaba community (PAI#04) Sena Madureira Municipal Secretary of Education	The number of schools renovated will be counted at each monitoring event. Date: Jan 2022 to Dec 2022 Frequency: Variable	Two schools renovated
		The number of schools equipped was counted at this monitoring event. Date: 21th to 22th October 2021 Frequency: Variable	02 TVs, 02 computers and 02 printers delivered in state schools Iolanda and Manuel Rufino.

		The number of schools equipped with library will be counted at each monitoring event. Date: - Frequency: Once	Planning phase
	Bom Jesus (PAI#15) Rondon do Pará Municipal Secretary of Education	The number of schools renovated and equipped was counted at this monitoring event. Date: - 21th Jul 2023 Frequency: Variable	Planning phase
	Irmã Dorothy (PAI#15) Rondon do Pará Municipal Secretary of Education	The number of schools constructed will be counted at each monitoring event Date: - Frequency: Once	One school renovated
		The number of schools equipped was counted at this monitoring event Date: - Frequency: Once	One school
Implementation of artesian well / water access	Bom Jesus (PAI#15) Irmã Dorothy (PAI#15)	The number of artesian well implemented Data: Frequency: Once	2 artesian well implemented

	National Institute of Colonization and Agrarian Reform State Secretary of Environment and Sustainability		
Articulation with the State / Federal Public Power and private initiative to support education in the project area.	Porongaba community (PAI#04) Sena Madureira Municipal Secretary of Education	The number of meetings with public sector to support education programs Data: - Frequency: under necessity	1 meeting with municipal and state secretaries
Lectures, workshops and courses on the environment, forests, environmental services, biodiversity, conservation, sustainable forest management, climate change, carbon cycle, environmental legislation, labor legislation, associations, among others.	Curara community (PAI#06) PA Águia (PAI#16-17)	The number of lectures, workshops and courses was counted at this monitoring event. Date: Frequency: variable	1 workshop on biodiversity 1 workshop on forest mensuration
Social Impact - Health			

Itinerant Health Program support.	Porongaba community (PAI#04) Health Municipal Secretary of Sena Madureira - AC	The number of events records were summarized at this monitoring event. Date: 08th Sep 2021 to 10th 2022 Frequency: On demand	The itinerant health event took place on September 8, 9 and 10, 2022. A total of 100 people were benefited by the PP by subsidizing the program.
		The number of MOUs will be summarized at each monitoring event. Date: - Frequency: On demand	Operational, but not formalized yet
Capacity building / training focused on worker safety in tree felling.	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Communitarians	The number of training records will be summarized at each monitoring event. Date: - Frequency: -	Planning phase
Creation and implementation of a rescue plan.	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04)	The number of plans created and executed. Date: - Frequency: Once	Under development

	Potiguar community (PAI#05) Community Health Agent		
Promotion of sanitation through the implantation of toilets	Porongaba community (PAI#04) Sena Madureira Municipal Secretary of Education	Number of new bathrooms. Date: Oct 2021 to Dec 2023 Frequency: Once	09 new bathrooms deployed at schools, BRC headquarter and renovated chapel
Promotion of improvements in water quality and access to water.	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Communitarians	The number of waters potability analysis made was counted at this monitoring event. Date: 02nd August 2021 Frequency: On demand	09 samples were collected in different springs used by the communities and analyzed in laboratory
	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Communitarians	The number of water filters distributed was counted at this monitoring event. Date: 23rd August 2021 Frequency: Once	10 filters distributed
	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04)	The number of water pumps will be counted at each monitoring event. Date: 30th Oct 2021 to 31st Dec 2021	18 water pumps and solar kits distributed 23 water pumps and solar kits distributed

	Potiguar community (PAI#05) Communitarians	September to December 2023 Frequency: Once	
Social Impact - Livelihood			
Sustainable Forest Management	Property Castanhal (PAI#01) Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Property Lagoa Grande (PAI#06) FSC certifier	The number of trainings in forest management, reduced impact logging and work safety and equipment records delivered were summarized at this monitoring event. Date: 31st December 2022 November 2022 November 2023 Frequency: Once every five years	01 training 01 set of safety equipment's delivered. 02 certification of forest management (FSC) to conservation at the territories
Biomass inventory	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Communitarians and professionals	The number of training records were summarized at this monitoring event. Date: 30th July to 25th August 2021 Frequency: on demand	01 training, 8 people

Capacity building / training related to Technical Assistance and Rural Extension (ATER)	Porongaba community (PAI#04) Communitarians and professionals	The number of training records and people were summarized at this monitoring event. Date: 05th to 06th and 16th October 2021 Frequency: annual	02 trainings, 19 people
Capacity building / training / workshop focused on encouraging social organization and collective work in the community, promoting the project to local associations	Curara community (PAI#6) Guariba-Roosevelt Resex communities (PAI#1) Communitarians	The number of training / workshop and equipment records delivered will be summarized at each monitoring event. Date: 22th to 25th Nov 2023 Frequency: On demand	1 workshop on social organization, 27 people involved
Training and workshops for promotion of rural youth development	Guariba-Roosevelt Resex communities (PAI#1) Young communitarians and Jurupará Socioenvironmental company	The number of training / workshops developed with young people of the communities will be summarized at each monitoring event. Date: - Frequency: On demand	Planning phase

Engagement and strengthening of local associations	Guariba-Roosevelt Resex communities (PAI#1) AMORARR (the local association)	The number of meetings and actions developed with local associations were summarized at this monitoring event. Date: 28th Sep 2023 Frequency: quarterly (where there are local associations)	1 meeting with association
Fostering structuration of value chain	Curara community (PAI#6) Guariba-Roosevelt Resex communities (PAI#1) Communitarians	The number of fostering structuration of value chain Date: 22nd to 25th Nov 2023 Frequency: biannual	1 knowledge exchange promoted with 2 communities – 27 people involved
Hiring of community personnel	All communities (PAI#01 to PAI#17)	The number of people employed was counted and summarized at each monitoring event. Date: 20 September 2021 to 31 December 2022 Frequency: Annual	04 people + XX people

Social Impact - Well-being			
Installing repeating towers + additional equipment to provide internet	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05)	The number of operational towers and the amount of optic fiber installed were counted with the service provider during the project monitoring. Date: 21 to 22 Dec. 2022. Frequency: Once	8 towers (60m high) installed. 1 tower (72m high) installed. 1 tower (82m high) installed. 70Km of optic fiber installed.
Donation and installing of energy kits	Katianã community (PAI#02) Palmares community (PAI#03) Porongaba community (PAI#04) Potiguar community (PAI#05) Communitarians	The number of solar panels and battery banks Date: 21 to 22 Dec. 2022. September to December 2023 Frequency: On demand	36 solar panels deployed. 36 Battery bank deployed 46 solar panels deployed. 46 Battery bank deployed
Support for religious, cultural and sports structures, equipment and materials	Porongaba community (PAI#04) Catholic church and communitarians	The number of religious, cultural and sports structures, equipment and materials counted at each monitoring event Date: 12th Oct 2023	1 chapel renovation 2 religious statues

		Frequency: On demand	
Support in the maintenance of transportation infrastructure	Porongaba community (PAI#04) Communitarians	The number of access roads that underwent maintenance and their extension in kilometers. Date: May to August 2023 Frequency: On demand	3 access roads underwent maintenance, totaling 23 km.
Support for traditional celebrations and festivities	Porongaba community (PAI#04) TI Barreirinha (PAI#11 to PAI#13) Communitarians	The number of traditional festivities that BRC supported at each monitoring event Date: 19th Apr 2023 12th Oct 2023 22nd Dec 2023 Frequency: On demand	1 indigenous peoples day celebration 1 children's day celebration 1 children's Christmas
Encourage of women's groups aiming at empowerment, participation and equity	Porongaba and Palmares communities (PAI#3-4) Communitarians	The number of workshops with women's groups Date: 09th to 11th Oct 2023 Frequency: Annual	3 workshops with women's groups

	Porongaba community (PAI#04) Communitarians	The number of women's football uniforms delivered Date: 09th to 11th Oct 2023 Frequency: On demand	20 women's football uniforms
Social Impact - Right to land			
Land donation	Porongaba community (PAI#04) Notary system	The number of plots of land that were donated and their respective extension. Date: Frequency: Once	43 plots of land; 2651,1 ha

4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

As per practice, required by the Verra's rules, the monitoring plan and monitoring results will be available on Verra's website through the GPD and monitoring reports full documents. Beyond that, the project activities will be presented to the local stakeholders through meetings and informs, what is previewed to happen during the third and fourth social engagement stages.

Furthermore, BRC has planned to create a semiannual newsletter for each region and a general annual report covering all instances. This newsletter will be disseminated in print to the communities and other stakeholders that BRC visit, as well as digitally via email and WhatsApp. It will include a summary of the main project activities in each community and municipality, allowing everyone to stay informed and reach out for any questions and/or suggestions.

4.4 Optional Criterion: Exceptional Community Benefits

Not Applicable.

4.4.1 Short-term and Long-term Community Benefits (CCB, GL2.2)

Not Applicable.

4.4.2 Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Not Applicable.

4.4.3 Net Impacts on Women (CCB, GL2.5)

Not Applicable.

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not Applicable.

4.4.5 Governance and Implementation Structures (CCB, GL2.8)

Not Applicable.

4.4.6 Smallholders/Community Members Capacity Development (CCB, GL2.9)

Not Applicable.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)

Table 46 – Biodiversity Changes

Change in Biodiversity	Community of amphibians, reptiles, mammals, and birds
Monitored Change	Predicted, positive and direct impact: Avoidance of deforestation. Predicted, positive and indirect impact: maintenance of species richness and conservation of endemic and endangered species.
Justification of Change	The main factor that contributes to promote biodiversity positive impact was the avoidance of forest deforestation. The project promoted the conservation of native forests that represent a useful habitat area for hundreds of species.

	Survey campaigns that encompassed four groups of vertebrates (mammals, birds, amphibians, and reptiles) were used to estimate the impact on biodiversity. The results demonstrated that 859 species are being conserved within the project areas, 29 of them are threatened with extinction.
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5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

Implementation of project activities had no negative impact on biodiversity. The HCVs attributes of the project were maintained through the conservation of forest cover, reduction of fragmentation and maintenance of habitats availability.

5.1.3 Net Positive Biodiversity Impacts (CCB, B2.2, GL1.4)

Without the project, the scenario would be characterized by the suppression of forest for the implementation of cattle raising or agriculture. The forest suppression represents habitat loss for hundreds of species that depends on forest environments for survival, foraging, and reproduction. With the project, the forest is conserved, safeguarding biodiversity. Since the project activities have caused no negative impacts on biodiversity, the net positive impact is positive.

Table 47 – Demonstration that the project will not adversely impact habitats for rare, threatened, or endangered species.

Threatened species	The monitoring campaigns revealed the presence of five globally threatened species classified as EN and CR by the IUCN Red List (<i>Ateles chamek</i>, <i>Inia geoffrensis</i>, <i>Pteronura brasiliensis</i>, <i>Psophia obscura</i> and <i>Cebus kaapori</i>) within the project area. All project activities are designed to promote forest conservation; therefore, no species will be adversely impacted.
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5.1.4 High Conservation Values Protected (CCB, B2.4)

The HCVs related to biodiversity in the project zone are HCV1 (Species Diversity) and HCV2 (Landscape-level ecosystems, ecosystem mosaics and IFL). All project activities were designed to promote forest conservation; therefore, no HCVs were negatively impacted.

5.1.5 Species Used (VCS, 3.19; CCB, B2.5, 2.6)

No species (plants or animals) have been introduced as an effect of project activities, nor have populations of invasive species increased because of project activities during the monitoring period. The main economic activity of the region is livestock, and for this reason a "non-native" grass species (*Brachiaria* sp.) was introduced by local families during the pasture formation. Although *Brachiaria* can be considered an aggressive species, it cannot establish in shaded environments such as tropical forests and is therefore not considered invasive in the project areas.

5.1.6 Invasive Species (VCS, 3.19; CCB, B2.5)

Table 48 – Invasive Species

Existing invasive species	Mitigation measures to prevent spread or continued existence of invasive species
<i>Brachiaria</i> sp.	All project activities are designed to promote forest conservation, and they will not promote the spread of this species in natural environments. This <i>Brachiaria</i> is naturally suppressed by the shade of the forest, not presenting risks to the native species.

5.1.7 GMO Exclusion (CCB, B2.7)

No genetically modified organism (GMO) was used in the project activities during the monitoring period.

5.1.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Project activities do not foresee the usage of inputs, such as fertilizers, chemicals, or pesticides in the project area, since it is based on conservation activities that seek to avoid deforestation and forest degradation.

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

Considering it is a conservation project, no potential negative impacts on biodiversity outside the project zone was identified as a result of the project activities implementation, on the contrary, the biodiversity outside the project zone is expected to be benefit by the project since the project area acts as a forest remnant in an agricultural landscape.

5.2.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

Since no negative impacts on biodiversity outside the project zone was identified within the present monitoring period, the net offsite biodiversity benefits are positive.

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

This section presents the biodiversity variables monitored, sampling methods, dates, frequency, locations, and results, for all PAI. As described in the PD, biodiversity monitoring plan includes the monitoring of four biodiversity groups (mammals, birds, reptiles, and amphibians) considering four biodiversity variables (species richness, number of threatened species, number of endemic species, and game species). Monitoring variables are directly linked to the project's biodiversity conservation objectives and to the predicted outcomes, outputs, and impacts identified in the project's causal model related to biodiversity conservation.

- Monitoring frequency**

The minimum monitoring frequency required by the standard is five years. However, since the beginning of the project, twelve biodiversity monitoring campaigns were conducted across the project instances. In the present monitoring period, three fauna monitoring campaigns were conducted, the first was held from February 20th to March 12th and covered instance 07 to 15, the second campaign was conducted from April 20th to May 2nd in instance PAI#01 – Fazenda Castanhal, and the third campaign was conducted from June 21st to July 04th in instance PAI#06 – Fazenda Lagoa Grande. The complete dates, frequency, and respective monitoring period for each PAI are described in Table 49.

Instances 01 to 05 had already gone to four fauna campaigns each, whereas instance 06 to 15 had been gone to two survey campaigns. Since these instances reached a high sample effort, they will be monitored again within five years, following the standard requirements.

Table 49 – Fauna monitoring campaigns conducted within the project areas. Dates are written as day/month/year.

Monitoring period	State	PAI	Campaign Date	Season
Initial Diagnosis	MT	PAI#01	30/04/2021 to 05/05/2021	Rainy
	AC	PAI#02-05	05/04/2021 to 18/04/2021	Rainy

1 st Monitoring Period (02/08/2021 to 19/10/2021)	MT	PAI#01	08/10/2021 to 16/10/2021	Dry
	AC	PAI#02-05	09/10/2021 to 22/10/2021	Dry
2 nd Monitoring Period (20/10/2021 to 31/12/2022)	AC	PAI#02-05	26/03/2022 to 02/04/2022	Rainy
	PA	PAI#07-15	27/06/2022 to 11/07/2022	Dry
	MT	PAI#01	10/09/2022 to 25/09/2022	Dry
	AC	PAI#02-05	07/08/2022 to 22/08/2022	Dry
	AM	PAI#06	18/11/2022 to 01/12/2022	Rainy
3 rd Monitoring Period (01/01/2023 to 31/12/2023)	PA	PAI#07-15	24/02/2023 to 12/03/2023	Rainy
	MT	PAI#01	20/04/2023 to 02/05/2023	Rainy
	AM	PAI#06	21/06/2023 to 04/07/2023	Dry

- **Sampling methods**

The sampling methods followed the methodology described in the monitoring plan of the registered PD. Four groups were monitored: mammals, birds, reptiles, and amphibians. The sampling was conducted using the active search and camera traps survey methods. The active search method consisted of free surveys carried out by specialists searching for animals (e.g., sighting or vocalizations) or their signs (e.g., footprints, tracks, feces, bones, etc.), walking at a constant speed rate along pre-existing trails. The objective of this method is to provide the most complete and reliable list of species for the site surveyed. Walking routes were conducted within the project areas, as well as small boat routes that covered streams and adjacent environments. All visual and/or acoustic records that resulted in an unequivocal identification of the species were included. Visual identification was made using binoculars (Bushnell 10x42) and recording equipment (Sony PX240 and Roland R05) and identification books when necessary. All records were listed in a field spreadsheet and verified by photographic records whenever possible.

For mammals and birds, the survey was conducted in two time periods, the first period beginning at sunrise until 1pm and the second period beginning after the hottest hours, around 3:00 pm, and lasting into the night period. Whereas for amphibians and reptiles the data collection occurred during the morning period (5:00 am - 12:00 p.m.) and twilight/night (4:00 p.m. - 10:00 p.m.) to cover the period of greatest amphibian and reptile activity. Camera traps were installed on fauna trail/paths, attached to tree trunks approximately 45 cm above the ground (Figure 7). The camera remained in operation for 24 hours, and attractive baits were used to enhance the recordings.

All survey campaigns were conducted by fauna consultant specialists, the evidence is available in the “APPENDIX_BIODIVERSITY > Consultants_Reports”. All the data collected by the consults is later included in a data base where all the information regarding nomenclature, endemism, and threat is standardized and summarized in a unique document and one species list spreadsheet, both available in “APPENDIX_BIODIVERSITY > Bio_Results_Summary”.



Figure 6 – Active search method.



Figure 7 – Camera trap installation.

- Monitoring Results

In each campaign, the sampling effort is increased and the chance to find new species is higher. For that reason, it is important to present the collected information from all biodiversity campaigns, showing the cumulative number of species richness, number of threatened, endemic, and game species found in the project area.

The fauna monitoring activities carried out in the project found a total of **859 species**, including 593 birds, 62 mammals, 80 reptiles and 124 amphibians. Regarding the level of endemism, 346 species are endemic to the Amazon Forest (200 birds, 29 mammals, 32 reptiles and 85 amphibians). Following the IUCN Red List classification, 29 species recorded during the fauna monitoring activities are classified under some level of threat: 24 species are classified as Vulnerable (VU), 3 species are classified as Endangered (EN) and 2 species are classified as Critically Endangered (CR). The Endangered species are the mammals *Ateles chamek*, *Inia geoffrensis* and *Pteronura brasiliensis*. The Critically Endangered species are the bird *Psophia obscura* and the primate *Cebus kaapori*.

In the previous Monitoring Reports the bird species *Pteroglossus bitorquatus* was classified as Endangered (EN) of extinction. However, in recent IUCN assessment, its level of threat was reduced to Near Threatened (NT) category, therefore its name was removed from project's endangered species list.

Table 50 – Cumulative results of the fauna monitoring carried out in the Brazilian Amazon Grouped Project.

	Amphibians	Birds	Mammals	Reptiles	Total
Richness	124	593	62	80	859
Endemic Species	92	218	30	39	379
Endangered Species*	0	13	15	1	29

*Classified as Vulnerable, Endangered and Critically Endangered according to IUCN Red List.

The complete results describing the number of species recorded in each PAI and monitoring campaigns are found in “APPENDIX_BIODIVERSITY > Consultants_Reports”



Figure 8 – A) *Myrmecophaga tridactyla*, B) *Panthera onca*, C) *Guaruba guarouba*, D) *Pteroglossus bitorquatus*, E) *Adelphobates galactonotus*, F) *Ceratophrys cornuta*, G) *Erythrolamprus aesculapii*, H) *Platemys platycephala*.
 Locations: PAI#7-15 (C, E, G and H), PAI#6 (B) and PAI#1 (A, D and F).

5.3.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

The monitoring plan and monitoring results will be available on Verra's website, through the full monitoring reports documents. In addition, biodiversity monitoring results have been posted on BRC's social media and website. Results summaries were also communicated to the local communities through meetings and workshops carried out in February 2023 in Iaco River Communities (associated with PAI#2-5) and in June of 2023 in the Curara Community (associated with PAI#06 Fazenda Lagoa Grande). Furthermore, individualized reports detailing the biodiversity monitoring results were prepared for the farm owners. The complete information about these activities is available in "APPENDIX_BIODIVERSITY > Bio_Monit_Dissemination".

5.4 Optional Criterion: Exceptional Biodiversity Benefits

- **High Biodiversity Conservation Priority Status (GL3.1/ GL3.2/ GL3.3/ GL3.4)**

In the last monitoring period, the project was validated in the Gold Level for Exceptional Biodiversity Benefits by meeting the vulnerability criteria of the CCB Standard: v3.1 (GL3.1.a). The monitoring revealed the presence of five globally threatened species classified as EN and CR by the IUCN Red List (*Ateles chamek*, *Inia geoffrensis*, *Pteronura brasiliensis*, *Psophia obscura* and *Cebus kaapori*) within the project area. These species trigger the vulnerability criteria and classify the project area as a Key Biodiversity Area (KBA) (Langhammer et al. 2007).

All trigger species found within the project area are suffering population decline due to habitat loss caused by forest degradation and deforestation. In this scenario, the most important measure taken by the project activities to maintain the survival of the trigger species is the conservation of the forest cover and avoidance of deforestation within the project area. The project areas will act as biodiversity remnants in a landscape that is mostly dominated by grazing and agriculture.

All monitoring campaigns carried out in the project area registered the presence of at least one threatened species. The complete results describing the occurrence of the endangered species in each region are available in "APPENDIX_BIODIVERSITY > Bio_Results_Summary". The complete information about the IUCN Red List assessment, species geographic range map, population trends, threats and ecology characteristics are available in "APPENDIX_BIODIVERSITY > Trigger_Species_Assessment".

5.4.1 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

The tables below describe actions taken to maintain population status of the trigger species in the project zone.

Trigger Species	<i>Ateles chamek</i>
With-project Scenario	Project activities aim to ensure the survival of the trigger species through the conservation of the forest cover and preventing legal and illegal deforestation within the project area. The project area serves as a remnant of biodiversity in a landscape that is mostly dominated by grazing and agriculture.

Trigger Species	<i>Psophia obscura</i>
With-project Scenario	The project activities aim to maintain the survival of the trigger species through the conservation of the forest cover and avoidance of legal and illegal deforestation within the project area. The project area acts as biodiversity remnants in a landscape that is mostly dominated by grazing and agriculture

Trigger Species	<i>Cebus kaapori</i>
With-project Scenario	The project activities aim to maintain the survival of the trigger species through the conservation of the forest cover and avoidance of legal and illegal deforestation within the project area. The project area acts as biodiversity remnants in a landscape that is mostly dominated by grazing and agriculture.

Trigger Species	<i>Inia geoffrensis</i>
With-project Scenario	Project activities aim to ensure the survival of the trigger species by maintaining forest cover and preventing legal and illegal deforestation within the project area. The project area serves as a biodiversity remnant in a landscape largely dominated by grazing and agriculture.

Trigger Species	<i>Pteronura brasiliensis</i>
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With-project Scenario

Project activities aim to ensure the survival of the trigger species by maintaining forest cover and preventing legal and illegal deforestation within the project area. The project area serves as a biodiversity remnant in a landscape largely dominated by grazing and agriculture.