THE LAST HABITAT REDD+ PROJECT MONITORING REPORT 2020 – 2021

Bam Bosques Amazónicos

Document Prepared by PASKAY SAC

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Project Proponent(s)	*Bosques Amazónicos S.A.* *Av. Víctor Andrés Belaunde 147 Vía Principal 123, Office 201 Edificio Real Uno San Isidro, Lima, Perú* *Jorge Cantuarias Falconi* *Phone: +(51 1) 480 11 92* *www.bosques-amazonicos.com* *jcantuarias@bosques-amazonicos.com* *mcantuarias@bosques-amazonicos.com*

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Validation/Verification Body	*AENOR* *Jose Luis Fuentes* *jfuentes@aenor.com*
GHG Accounting/ Crediting Period	*01 March 2020 – 28 February 2039; 20-years*
Monitoring Period of this Report	*01 March 2020 – 31 December 2021*
History of CCB Status	*In process for validation*
Gold Level Criteria	*None*

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1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Table 1.1. Unique project benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Under the implementation of a plan for the protection of critical habitats, 09 species of mammals (including a Peruvian endemic species) categorized in appendices I, II and III of CITES will be protected; 02 species of birds in Appendix I (almost threatened in Peru), 01 amphibian species, 02 species of reptiles and 34 species of birds categorized in Appendix II, and one forest species, the quinilla (*Manilkara bidentata*), categorized in situation vulnerable by national regulations (D.S.004-2014-MINAGRI).	The biodiversity assessment of fauna reached superior levels of species richness in the monitoring period than the baseline evaluation (Table 5.2). Conservation status: - Birds: 2 endemic sp., 2 sp. VU, 2 sp. NT, 3 sp. LC (IUCN), 46 sp. (CITES II), 2 sp. (CITES III). - Mammals: 3 VU, 2 NT, 6 LC, 3 CITES I, 9 (CITES II), 4 NT (MINAGRI 2014, Peru). - Amphibians: 1 CITES I, 2 endemics. - Reptiles: 1 CITES II. Regarding Flora, 63 forest species have been evaluated in the same plots that were surveyed for the baseline, having identified: 1 EN sp. (*Handroanthus serratifloius*), 46 LC sp. (IUCN), 1 VU sp. (*Manilkara bidentata*).	Section 5.1.1	The biodiversity assessment of fauna reached superior levels of species richness in the monitoring period than the baseline evaluation (Table 5.2). Conservation status: - Birds: 2 endemic sp., 2 sp. VU, 2 sp. NT, 3 sp. LC (IUCN), 46 sp. (CITES II), 2 sp. (CITES III). - Mammals: 3 VU, 2 NT, 6 LC, 3 CITES I, 9 (CITES II), 4 NT (MINAGRI 2014, Peru). - Amphibians: 1 CITES I, 2 endemics. - Reptiles: 1 CITES II. Regarding Flora, 63 forest species have been evaluated in the same plots that were surveyed for the baseline, having identified: 1 EN sp. (*Handroanthus serratifloius*), 46 LC sp. (IUCN), 1 VU sp. (*Manilkara bidentata*).
2) Conservation of the biodiversity of the project area	Intensive daily patrolling by the personnel who work in	Sections 5.1.2	Intensive daily patrolling by the personnel who work in

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
as part of an almost continuous biological corridor, around a set of protected natural areas, fragile ecosystems, conservation concessions, and indigenous territories that provide and configure an ecological space necessary for species to ensure connectivity, functionality, and ecological integrity.	the existing camps (Pucallpillo, Quinillal, Milagros and Palmeras in the project area and 2 camps in adjacent zones, Agua Blanca, Mirianita). Recognition as a Private Conservation Area by the Ministry of the Environment	and 5.1.3	the existing camps (Pucallpillo, Quinillal, Milagros and Palmeras in the project area and 2 camps in adjacent zones, Agua Blanca, Mirianita). Recognition as a Private Conservation Area by the Ministry of the Environment
3) Generation of a greater knowledge of biodiversity, on the status of prioritized species and evaluated in inventories, and the ecological characterization of natural communities, through the development of a Science Program, which allows zoning, establishing areas for protection of critical habitats and conserve the project area.	Implementation of the Science Program, involving field site expeditions (2020, 2021). Agreement with San Diego University that resulted in the installation of 300 camera traps. Training for installation of camera traps. Training on the identification and handling of reptiles.	Section 5.1.3	Implementation of the Science Program, involving field site expeditions (2020, 2021). Agreement with San Diego University that resulted in the installation of 300 camera traps. Training for installation of camera traps. Training on the identification and handling of reptiles.
4) Boosting the promotion of 04 mitigation measures (USCUSS sector) and adaptation (Forest sector) to climate change, within the framework of the NDC.	Not available yet.		Not available yet.
5) Ensure the maintenance of ecological processes and environmental services provided by the forest, such	Maintenance of the three types of plant formation that cover the largest area of the project area (*Mauritia*	Sections 5.1.4 and 5.2.2	Maintenance of the three types of plant formation that cover the largest area of the project area (*Mauritia*

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
as water regulation of both the Lower Manantay basin, a tributary of the Ucayali River, and the Lower Pachitea, resilience to climate change, pollination services and natural regeneration of the forest, among other provision, support, and cultural services.	*flexuosa* dominated palm swamp, "aguajales", Palm and Mixed Palm Swamp Forest and Lowland Tropical Rainforest), including the fragile ecosystem called "Honoria Norte".		*flexuosa* dominated palm swamp, "aguajales", Palm and Mixed Palm Swamp Forest and Lowland Tropical Rainforest), including the fragile ecosystem called "Honoria Norte".

1.2 Standardized Benefit Metrics

Table 1.2. Estimates of the net benefit for different metrics during the monitoring period of the project

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.	Does not apply	-	Does not apply
	Net estimated emission reductions in the project area, measured against the without-project scenario.	1,351,165.09 tCO2e	Section 3.2.4.3	1,351,165.09 tCO2e
Forest[1] cover	For REDD[2] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	3,161.43 ha	Section 3.2.2.1	3,161.43 ha

[1] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)
[2] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	For ARR[3] projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Does not apply		Does not apply
Improved land management	Number of hectares of existing production forest land in which IFM[4] practices have occurred as a result of the project's activities, measured against the without-project scenario	Does not apply		Does not apply
	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	Does not apply		Does not apply
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	Improvement skills in health knowledge: 62. Improvement skills in prevention and control of forest fires: 89	Section 4.1.3	Improvement skills in health knowledge: 62. Improvement skills in prevention and control of forest fires: 89
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	Improvement skills in health knowledge: 32. Improvement skills in prevention and	Section 4.1.3	Improvement skills in health knowledge: 32. Improvement skills in prevention and control of forest fires: 12

[3] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)
[4] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
		control of forest fires: 12		
Employment	Total number of people employed in of project activities,[5] expressed as number of full time employees[6]	Full time employees: 136	Section 2.3.14	Full time employees: 136
	Number of women employed in project activities, expressed as number of full time employees	Full time employees: 22	Section 2.3.14	Full time employees: 22
Livelihoods	Total number of people with improved livelihoods[7] or income generated as a result of project activities	Not available yet. Under construction.		Not available yet. Under construction.
	Number of women with improved livelihoods or income generated as a result of project activities	Not available yet. Under construction.		Not available yet. Under construction.
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	62	4.1.3	62
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	32	4.1.3	32
Education	Total number of people for whom access to, or quality of, education	N/A - Not a focus of		N/A - Not a focus of

[5] 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.

[6] 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])

[7] 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.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	was improved as a result of project activities, measured against the without-project scenario	this project		this project
	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	N/A - Not a focus of this project		N/A - Not a focus of this project
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not available yet. Under construction.		Not available yet. Under construction.
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not available yet. Under construction.		Not available yet. Under construction.
Well-being	Total number of community members whose well-being[8] was improved as a result of project activities	Not available yet. Under construction.		Not available yet. Under construction.
	Number of women whose well-being was improved as a result of project activities	Not available yet. Under construction.		Not available yet. Under construction.

[8] 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.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation,[9] measured against the without-project scenario	3,200 ha of avoided planned deforestation where Science Program has taken place, undergoing annual biodiversity expeditions.	Section 5.1.3	3,200 ha of avoided planned deforestation where Science Program has taken place, undergoing annual biodiversity expeditions.
	Number of globally Critically Endangered or Endangered species[10] benefiting from reduced threats as a result of project activities,[11] measured against the without-project scenario	Conservation status: - Birds: 2 sp. VU, 46 sp. (CITES II), 2 sp. (CITES III). - Mammals: 3 VU, 3 CITES I, 9 (CITES II) - Amphibians: 1 CITES I. - Reptiles: 1 CITES II. Flora: 1 EN sp. (*Handroanthus serratifloius*), 1 VU sp. (*Manilkara bidentata*).	Section 5.1.1	Conservation status: - Birds: 2 sp. VU, 46 sp. (CITES II), 2 sp. (CITES III). - Mammals: 3 VU, 3 CITES I, 9 (CITES II) - Amphibians: 1 CITES I. - Reptiles: 1 CITES II. Flora: 1 EN sp. (*Handroanthus serratifloius*), 1 VU sp. (*Manilkara bidentata*).

[9] 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.

[10] Per IUCN's Red List of Threatened Species

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

2 GENERAL

2.1 Project Description

2.1.1 Implementation Description

The Last Habitat REDD+ Project aims at the maintenance and conservation of the forest cover in two properties owned by Bosques Amazónicos SA (BAM): Nuestro Señor Jesucristo (JCC) and Selva Maestra private lands located within the Peruvian regions of Ucayali and Huanuco. The areas of 8,049.87 ha and 14,176.14 ha (GIS updated value, being the original legal value of 12,730.00 ha), respectively, comprises the total Project Area (PA). During this monitoring period, the project contributed to mitigate the effects of planned deforestation by reducing 1,351,165.09 tCO_2e emissions.

As indicated in the Project's Theory of Change Matrix presented in the VCS CCB Project Description, the activities and strategies designed for achieving emission reductions are coupled within three (3) specific objectives, described as follows: avoidance of deforestation and forest degradation, protection of the integrity of biological diversity and ecological processes, and the strengthening of the socio-economic situation of the interest groups, specifically the villages and communities neighboring the project area. These objectives aim to maintain the diversity and structure of the natural forest that the project intent to conservate, by reducing the pressure over planned activities in the forest and also mitigate the effect of deforestation and degradation drivers, such as illegal logging and migratory agriculture.

During the monitoring period (March 2020 to December 2021) the following activities, among others further explained, were carried out for pursuing the Project's three main goals:

- The development of a **monitoring, control, and surveillance system**, which seeks to reduce deforestation threats within the project area through a comprehensive approach that comprises:
  - A satellite monitoring system: daily alerts for identifying hot spots.
  - A field monitoring system: regular inspections (patrolling); reporting; cleaning and maintenance of boundaries; perimeter demarcation; among others.
  - A legal monitoring system: management and follow-up of environmental complaints in conjunction with the corresponding authorities.
- The implementation of **BAM's Science Program** to permanently evaluate and monitor the ecological wealth found within the project area (biodiversity assessments carried out in collaboration of prestigious scientific institutions).
- Development and implementation of the **Community Relationship Plan** that seeks to improve the quality of life of the populations in the area of interest, promoting conservation and sustainable management of forest (regular meetings, cultural events, training and formation in the prevention and control of forest fires; support in basic needs, among others).
- Permanent dialogue and coordination with stakeholders for promoting conservation and sustainable development in the area of influence.

To this end, the project developer coordinated with the different stakeholders, in some cases entering into inter-institutional agreements in order to achieve the project's objectives and maintaining open communication from the design to the implementation of the project, providing openness for dialogue and feedback.

2.1.2 Project Category and Activity Type

- Sectoral scope 14 – Agriculture, Forestry and Other Land Use.
- AFOLU project category: Reduced Emissions from Deforestation and Degradation (REDD).
- Activity type: Avoiding Planned Deforestation.
- Project activity type was defined according to the decision tree located in the methodology used (REDD-MF).

2.1.3 Project Proponent(s)

Table 2.1. Identification, contact and responsibility of the proponents of the Campo Verde REDD Project

Organization name	Bosque Amazónicos SA (BAM)
Contact person	Jorge Cantuarias Falconi
Title	General Manager
Address	Av. Víctor Andrés Belaunde 147 Vía Principal 123, Office 201 Edificio Real Uno San Isidro, Lima 27, Perú
Telephone	+(51 1) 480 11 92
Email	jcantuarias@bosques-amazonicos.com mcantuarias@bosques-amazonicos.com

2.1.4 Other Entities Involved in the Project

Table 2.2. Identification, contact and responsibility of other entities involved in the Project

Organization name	PASKAY SAC
Contact person	Jorge Torres Padilla
Title	General Manager
Address	162 Grimaldo del Solar, Int. 904, Miraflores 15074, Lima, Peru
Telephone	+(51 1) 943 206 810
Email	www.paskay.pe contacto@paskay.pe jtorres@paskay.pe
Role in the project	Preparation of the PD and provision of general advice on the implementation of the project. In charge of monitoring the changes in GHG emission reductions resulting from project activities, for use as offsets, in accordance with the monitoring plan established in the PD. Likewise, in charge of preparing the monitoring reports according to the validated design, and the requirements of the CCB&VCS standards.

2.1.5 Project Start Date (G1.9)

01 March 2020

2.1.6 Project Crediting Period (G1.9)

01 March 2020 – 28 February 2039; 20-year crediting period.

2.1.7 Project Location

The project area comprising two properties (Selva Maestra and Nuestro Señor Jesucristo) is located within the regions of Ucayali and Huánuco in Peru. Three districts are part of the project area, the Campo Verde and Manantay districts (Ucayali), and the Honoria district (Huánuco).

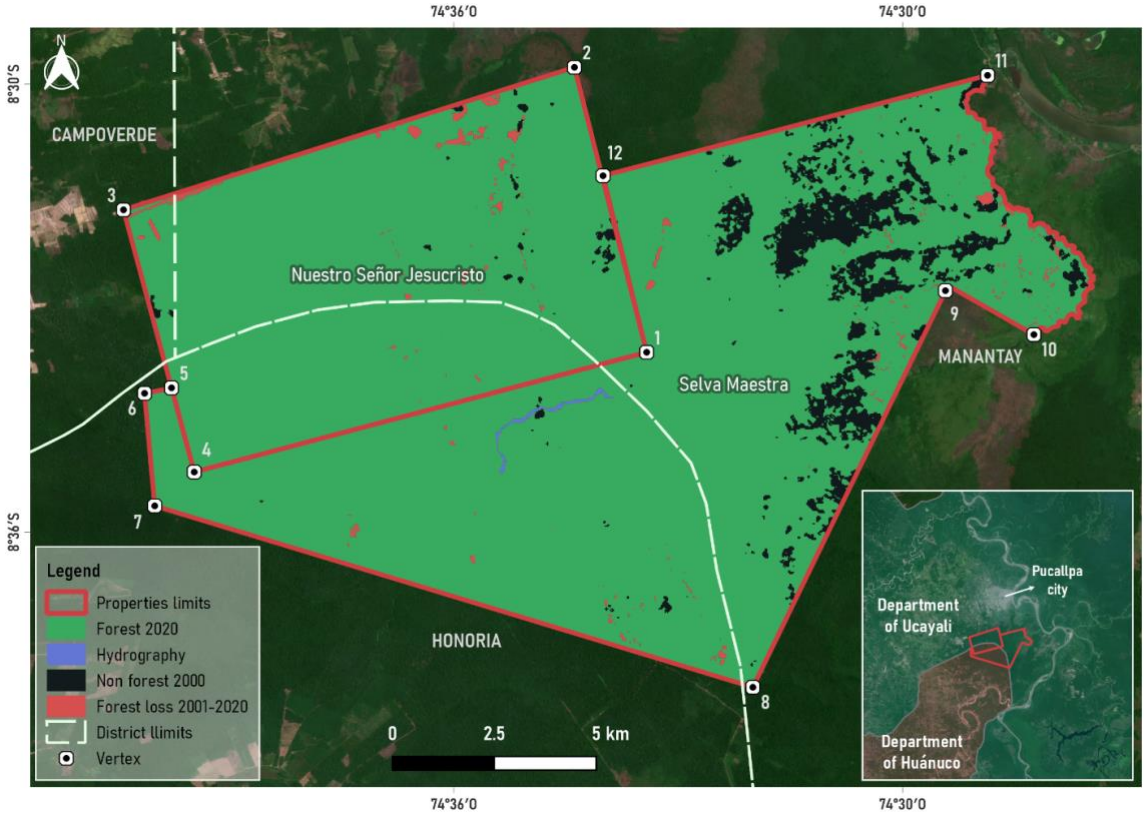


Figure 2.1. Project area boundaries

Table 2.3. Property limits vertices

Vertex	Coordinate East (UTM 18S) (m)	Coordinate North (UTM 18S) (m)	Coordinate X (Latitude) (°)	Coordinate Y (Longitude) (°)
1	548,745.75	9,053,778.57	-74.557037	-8.559872
2	546,980.92	9,060,812.79	-74.573144	-8.496265
3	535,912.21	9,057,306.16	-74.673683	-8.528080
4	537,642.73	9,050,834.54	-74.657907	-8.586603

Vertex	Coordinate East (UTM 18S) (m)	Coordinate North (UTM 18S) (m)	Coordinate X (Latitude) (°)	Coordinate Y (Longitude) (°)
5	537,087.29	9,052,911.71	-74.662971	-8.567819
6	536,425.24	9,052,777.99	-74.668987	-8.569034
7	536,672.52	9,049,999.73	-74.666718	-8.594162
8	551,342.41	9,045,509.27	-74.533349	-8.634640
9	556,078.00	9,055,290.00	-74.490427	-8.546119
10	558,247.19	9,054,201.49	-74.470703	-8.555938
11	557,118.54	9,060,601.78	-74.481037	-8.498061
12	547,680.14	9,058,136.17	-74.566764	-8.520468

2.1.8 Title and Reference of Methodology

This project has used the VCS approved methodology **VM0007**, Version 1.6, 08 September 2020, Sectoral Scope 14, "REDD+ Methodology Framework (REDD+ MF)".

The project also applies a set of modules and tools:

Carbon pool modules:

- **VMD0001** Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools (CP-AB), Version 1.3, 08 September 2020, Sectoral Scope 14.

Baseline modules:

- **VMD0006** Estimation of baseline carbon stock changes and greenhouse gas emissions from planned deforestation/forest degradation and planned wetland degradation (BL-PL). Version 1.3, 08 September 2020, Sectoral Scope 14.

Leakage modules:

- **VMD0009** Estimation of emissions from activity shifting for avoiding planned deforestation/forest degradation and avoiding planned wetland degradation (LK-ASP), Version 1.3, 08 September 2020, Sectoral Scope 14.

Monitoring modules:

- **VMD0015** Methods for monitoring of greenhouse gas emissions and removals in REDD project activities (M-REDD), Version 2.2, 08 September 2020, Sectoral Scope 14.

Miscellaneous modules:

- **VMD0016** Methods for stratification of the project area (X-STR), Version 1.2, 08 September 2020, Sectoral Scope 14

Tools:

- CMD Tool for testing significance of GHG emissions in A/R CDM project activities (**T-SIG**), Version 1.
- **VT0001** Tool for the demonstration and assessment of additionality in VCS agriculture, forestry, and other land use (AFOLU) project activities, Version 3.0, 01 February 2012, Sectoral Scope 14.
- VCS AFOLU Non-Permanence Risk Tool (**T-BAR**), Version 4.0, 19 September 2019.

2.1.9 Other Programs (G5.9)

The project does not participate in any Emission Trading Programs and Other Binding Limits, nor other forms of environmental credit or other GHG program. The current VCS CCB project is entirely independent of any carbon project scheme in Peru; therefore, no double counting has occurred.

2.1.10 Sustainable Development

As described in the PD, section 2.1.12, the project activities are aligned with the national sustainable development priorities, by the fulfillment of the specific objectives of the project: avoid deforestation and forest degradation in the project area, protect the integrity of biological diversity and ecological processes in the project area, and strengthen the socio-economic situation of the interest groups, specifically the villages and communities neighboring the project area.

2.2 Project Implementation Status

2.2.1 Implementation Schedule (G1.9)

Table 2.4. Milestones in the Campo Verde REDD project development and implementation

Date	Milestone(s) in the project's development and implementation
2020	Project start date. First rapid assessment and expedition of biodiversity in Quinillal area.
2020	Installation of infrastructure for territorial security camps.
2020	Patrolling, inspections and maintenance of boundaries of the project area as part of the Monitoring Control and Surveillance System.
2020	Community training and formation in the prevention and control of forest fires.
2020	Community intercultural events to promote forest conservation and to strengthen their relationship with the project and BAM.
2020	Signed cooperation agreements with local communities Santa Teresita de Agua Blanca y Agua Blanca hamlet.
2020	Signing of inter-institutional cooperation framework agreements: CORBIDI
2020	COVID-19 Plan: Community training in health prevention and measures for the implementation of the COVID19 protocols.
2021	Approval and signing of the contract for starting the PD formulation process.
2021	Social and Biodiversity Diagnosis by PASKAY consulting firm.
2021	Definition of strategies and promotion of initiatives to mitigate the vulnerability of the forest ecosystem in the face of deforestation threats and environmental crimes.
2021	Strengthening the capacities of local communities to cover basic services: medical campaigns
2021	Signing of inter-institutional cooperation framework agreements: Universidad Agraria La Molina
2021	Follow-up on criminal complaints and security patrols as part of the legal Monitoring Control

	and Surveillance System
2021	Second Biodiversity assessment of the Quinillal area with researchers from CORBIDI.
2021	Implementation of the satellite monitoring system: early warning fire alerts.
2021	Training for the installation of camera traps for the evaluation of biodiversity within the project area.
2021	Community intercultural events to promote forest conservation and to strengthen their relationship with the project and BAM.
2022	Start of the PD validation process
2022	Part of the Project area recognized as Private Conservation area by the forest national authority.
2023	Signature of further cooperation agreements with local communities and other stakeholders for the promotion of forest conservation.
2023	Validation and first verification achieved (expected)
2024	Initiation of productive pilots for promoting sustainable development in the area
2039	End of project crediting period

2.2.2 Methodology Deviations

No methodology deviations have been applied.

2.2.3 Minor Changes to Project Description (*Rules* 3.5.6)

No minor changes have been proposed.

2.2.4 Project Description Deviations (*Rules* 3.5.7 – 3.5.10)

No project description deviations have been proposed.

2.2.5 Grouped Projects

Not applicable – No new areas were added in the present monitoring period.

2.2.6 Risks to the project

Table 2.5. Project risks identification

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Uncontrolled burning	Prolonged drought events, in periods or days of low or no rainfall, continuously, contribute to the spread of forest fires that originate at a specific time of year (June to September) in which farmers take advantage of the time to open their farms (grave and clearing, burning	**Planning:** Prior to the start of the forest fire season, priority areas, where uncontrolled burning frequently occurs as a result of the opening of farms, are identified.

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	of forests, low secondary vegetation, grasslands) sometimes not being able to control the spread of fires with the help of climatic events (strong winds and high ambient temperatures), possibly affecting the forest, burning of forests, low secondary vegetation, pastures), sometimes not being able to control the burning that spreads with the help of climatic events (strong winds and high ambient temperatures), possibly affecting the project area, forests and biodiversity. In 2021, in the department of Ucayali, a total of 234 forest fires were reported, identifying 7,488.6 hectares affected, with the district of Manantay (where the project area is located) being the most affected with 2,637.6 hectares (35%), being August the month with the highest occurrence of forest fires. https://www.facebook.com/permalink.php?story_fbid=359532442870227&id=100064404236894https://www.facebook.com/permalink.php?story_fbid=359532442870227&id=100064404236894	**Training:** To minimize the risk of uncontrolled burning and fires in the area training has been provided to neighboring communities. **Monitoring Control and Surveillance system (MCSS):** the satellite system has been implemented to provide early warnings to the project team as burning occurs, mainly during times when the intensity and frequency of rainfall decreases to the minimum annual average. The application of satellite technologies used and provided by the SERFOR GEOBOSQUES platform allows visualizing and identifying heat sources, which constitutes a support tool for the prevention and implementation of fire control strategies. Early warning maps of hot spots have been generated, using official information during the monitoring period. Likewise, as part of the Control and Surveillance Monitoring System (Territorial Security), measures are reinforced in times of high heat sources, through permanent surveillance rounds by the territorial security team personnel, who carry out their monitoring work starting from the installed surveillance camps.
Climatic events of precipitation and extreme “droughts”	Extreme rainfall and "droughts" represent a potential risk to the ecosystem, and to the ease of access to the project area (and the possibility of frequent monitoring). In times of low rainfall (June to September) it is relatively easy to access the project area and its surroundings with vehicles (trucks, motorcycles) which facilitates entry for community relations activities in the surrounding area and research within the project area. However, there are many flooding sites within the PA, which, in times of extreme rainfall, makes access difficult (on	**Planning and logistics:** the scheduling of project activities is developed considering possible climatic factors (seasons) that may affect entry to different areas of the project. To minimize risks, the company has adequate means of transportation (e.g. 4x4, motorcycles, small boats, etc.) to properly enter the project area. **Safety protocols:** BAM also has internal occupational health and safety regulations to ensure the well-being of

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	foot or by boat) due to muddy terrain with a lot of mud or creeks and streams with little flow, which does not allow going beyond certain sites. In times of high rainfall, it is no longer possible to enter the temporary flooding areas with vehicles (trucks, motorcycles), considering that a large part of the project area is floodable. Access is facilitated by using the hydrographic network by means of small boats to cover large areas of the project area and develop certain specific activities, with the disadvantage or limitation of installing temporary camps. Both situations can extend the period of previously planned activities, affect the execution of activities and make it difficult to comply with the products that are aimed at generating benefits for the climate, biodiversity and communities.	its employees during their activities at all times.
Illegal logging and timber extraction activities	Illegal logging activities are mainly carried out by organized groups of settlers who come primarily from neighboring communities and who are provided with resources (logistics, budget, payment of wages, equipment) through a timber "facilitator" in order to enable them to access the forest area and possibly the project area, through different fronts, including entry through streams using small boats (peque peque). According to BAM reports, in the last 4 years there has been a tendency to increase these types of illegal entrance, even with forestry tractors, so much so that BAM annually has to file the corresponding complaints for illegal logging and channel them through the ARFFS, which is the competent public entity for its administrative action and inspection, and the Public Ministry through FEMA to carry out criminal investigations of illegal logging crimes and identify those responsible for the illegal activity, proceeding in accordance with its powers, presenting the criminal case before the competent judge. FEMA is the one that	**MCSS:** after an assessment of the most vulnerable areas in terms of this risk, the project boundaries are reinforced by increasing the frequency of monitoring activities (e.g., patrolling). As part of the system, ongoing patrolling and boundary delimitation is a permanent task of the security team: daily patrols are conducted from all camps located in the project area by BAM personnel, who duly report crimes as part of the MCSS (see Table 3.1). **BAM-Community cooperation:** The project also considers addressing these conflicts through roundtable discussions with the communities where these groups of illegal loggers live or come from, seeking to reach reciprocal agreements between the community and BAM. In addition, communication activities are considered, explaining the benefits of the project and the

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	asks the ARFFS to issue substantiated reports (documented evidence of the crime), as the case may be. In 2021, the FEMA of the fiscal district of Ucayali attended to 76.79% of the total cases registered and entered (complaints, files, preventive investigation), being the fiscal district or region at the national level that attended the least cases, according to the Statistical Yearbook of the Public Ministry, 2021. https://cdn.www.gob.pe/uploads/document/file/2912946/Anuario%20Estadistico%202021.pdf.pdf These illegal logging activities increase the level of degradation of the forest ecosystem within the project area, affecting the biodiversity that it contains and the capacity of its forests to continue providing environmental goods and services.	sustainable management of the forests, favoring their conservation. As a result of this dialogue, during the monitoring period, cooperation agreements have been coordinated between BAM and the community. The project also seeks to coordinate with the Community Forestry Control and Surveillance Committee of the native community of Nuevo Paraíso, an area adjacent to the Selva Maestra property, and reach mutually beneficial agreements. At the moment this is the only community bordering the project area, and the committee is recognized by the Regional Forestry and Wildlife Authority. In addition, coordination is being sought with the other neighboring native community of Nuevo Oriente de Chanajao.
Land invasion	The demand for access to forested land to grow agricultural crops is high in the area given the limited availability of land for such economic activities. This triggers the arrival of migrants from other areas or regions in search of forest areas (private or free) where there are no agricultural activities and therefore are not "being exploited economically" and where "the standing forest as such has no productive value" after commercial trees have been extracted for timber sales. In this context, these people (migrants/land invaders) believe they have the right to access the areas (e.g. private lands) and request that they be adjudicated by the competent authorities, given that their owners "are not developing productive economic activity or agricultural purposes", meaning that they are not making use of the area. Based on this self-analysis, a process of land invasion (which legally should not proceed) begins in a planned and organized manner in groups of migrants or producers seeking more land than they need, often supported by the interests of	**MCSS:** The identification of invading groups is fundamental to take appropriate measures (preventive and control). As part of the Monitoring Control and Surveillance System, the project seeks to generate alliances with competent entities in order to promote greater control in the project area and the capacity of the authorities to respond quickly and efficiently to conflicts and risks in the area. **BAM-Community cooperation:** The role of the project's community relations team is essential for conflict management and resolution, considering the needs of these groups for access to land. **Promote sustainable forestry management:** As part of the activities, the project proposes providing training on topics related to sustainable forest management, as well as implementing sustainable production pilots that allow

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	groups of armed land traffickers. In the case of BAM's properties, there have been several cases of land invasions (duly supported by complaints and lawsuits) by third parties trying to take possession and settle in different parts of the project area, which represents a threat of deforestation because these damaging situations lead to forest clearing, logging and burning, being the system of shifting agriculture the regular mode of operation to open farms, leading to land use change and the generation of emissions from deforestation.	communities to generate economic resources through the appropriate management of forest goods and services (instead of the alternative which implies deforestation and degradation).
Unauthorized entry for the use of non-timber products	Residents of the surrounding area who enter the project area frequently without the corresponding authorization to take advantage of the fruits of the aguaje palm trees (Mauritia flexuosa).	**MCSS:** The identification of invading groups is fundamental to take appropriate measures (preventive and control). As part of the Monitoring Control and Surveillance System, the project seeks to identify any possible invasion to illegally and inappropriately harvest forest resources in the project area. **Promote sustainable forestry management:** The project seeks to propose productive pilots to generate win-win strategies, bringing economic benefits to the community and carried out in an environmentally friendly manner. In this sense, the pilots could include productive processes for example on the collection and commercialization of aguaje, avoiding that the population enters unauthorized and with poor technologies for its use. This will be done through the characterization and natural zoning of the properties to evaluate the potential use and management of biodiversity, formulating the respective forest management plans for a sustainable use of non-timber products, increasing the economic value of the standing forest, which does not mean the removal of trees.

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Expansion of the agricultural frontier in the surroundings of the project area	The inhabitants of the settlements around the project area who practice migratory slash-and-burn agriculture, as well as the mobilization of migrant population groups that settle around the project area, become drivers of unplanned deforestation in an effort to find and access to new lands with forest cover, developing extensive agricultural activities, applying unsustainable practices to the detriment of forests (primary, residual, secondary), expanding and advancing the agricultural frontier in the vicinity of the limits of the BAM properties which puts at risk the forested areas within their properties, as observed in the deforestation maps in the last 22 years, as well as the reports of land invasions that occurred in said properties.	**MCCS:** The identification of invading groups is fundamental to take appropriate measures (preventive and control). As part of the Monitoring Control and Surveillance System, the project seeks to identify any possible invasion to illegally and inappropriately harvest forest resources in the project area, or any other risk of deforestation / degradation. **Training:** The project seeks to provide technical assistance and develop capacities to strengthen production chains and apply good sustainable agricultural practices, with a market approach. **BAM-community cooperation:** Implement together with the authorities and representatives of the local communities and leaders of community groups, a strategy of negotiation and resolution of conflicts, which leads to the generation of reciprocity agreements, with commitments aimed at putting an end to incursions and land invasion events.

2.2.7 Benefit Permanence (G1.11)

During its first verification period (2020-2021), the project ensured the permanence of climate, community, and biodiversity benefits through:

- The implementation of measures to mitigate emissions generated by deforestation and forest degradation (e.g., the monitoring, control and surveillance system) as indicated in section 3.1, which includes prevention activities promoted amongst the different groups located in the area of influence (communities, hamlets) such as training on fire prevention and control and the promotion of sustainable forest management of forest and biodiversity preservation. In this manner, the Project seeks to provide communities with tools and skills that will allow them to live in harmony with the forest in the long term, building their capacity to sustainably manage forest recourses in an appropriate manner.

- In the same line, the project incorporates communities and stakeholders into its value proposition so that they can participate in a sustainable model over time. For example, the project includes neighboring communities in its current projects, providing opportunities for work and participation in sustainable development initiatives such as reforestation. The project is also designed so that the communities can participate in monitoring processes and the development of productive pilots, among other proposed activities. The project seeks, through a participatory and economically productive approach, that the community finds value for the development of their families in the conservation and sustainable management of the forest.
- Likewise, the relationship between the project proponent and the communities/other stakeholders favors openness and collaborative participation of different groups to promote forest conservation in the long term. For example, the project proponent has signed collaboration agreements with scientific organizations, authorities, and communities to promote the protection of the forests and their biodiversity, in an environmentally friendly manner and for the well-being of the community.
- The permanent dialogue and openness to feedback that the project promotes and is demonstrated in the following document, as well as the commitment of the different parties to collaboration, allows the project to evolve favorably over time for accomplishing its goals for forest conservation and sustainable socio-economic development.
- The capacity building promoted on sustainable forestry management (e.g., in fire control, productive chains, forestry control and surveillance, social management, technical support, among others) for community groups, leaders and authorities, ensures that the impact of the Project transcends its group of influence and that its impact lasts over time.
- The promotion of knowledge around the biodiversity found in the area (Science Program) in collaboration with independent scientific organizations of great prestige allows the understanding and awareness regarding the ecological value found in the Peruvian Amazon ecosystems (diversity of flora, fauna, etc.) transcend the limits of the Project area, promoting understanding with respect to our ecosystems, vulnerable species, and the value of conservation.

2.3 Stakeholder Engagement

2.3.1 Stakeholder Access to Project Documents (G3.1)

Project Design: the project plan and design were firstly shared with community representatives through one-to-one meetings and then shared with the community members through decentralized reunions.

As part of the socialization process, printed information brochures about REDD+ The Last Habitat project were distributed to each of the participants. Additionally audiovisual recordings were produced with the assistance of a journalist from the region. A list of participants was compiled. During this process, the impact of the project, its location, the main objectives, the activities to be developed, the importance of protecting the forests, BAM's relationship with the communities, and the main benefits and risks of the project were communicated. See support file: project activities - community

Final PD and Monitoring Report: once the PD and Monitoring Report for period 2020-2021 are finalized and registered under VERRA, these documents will be both shared with the Project's stakeholders through its representatives and made public in BAM's website: www.bosques-amazonicos.com.

2.3.2 Dissemination of Summary Project Documents (G3.1)

As previously mentioned, the project plan and design were shared through community meetings and communication tools such as presentations, brochures, and posters to summarize the most relevant aspects of the project as community benefits.

Figure 2.2. Proof of dissemination of project documentation

Once the PD and Monitoring Report for period 2020 - 2021 are registered under VERRA, the summary of the final documents will be shared with the community through its representatives and made public in BAM's website: www.bosques-amazonicos.com

2.3.3 Informational Meetings with Stakeholders (G3.1)

During the monitoring period, informational meetings with communities and local stakeholders were carried out participatively, described as follows. It is important to note that some of the meetings during the monitoring period had to be adapted to the global context of COVID-19 and to the sanitary restrictions applicable to the situation. See support file: project activities - community

Table 2.6. Informational meetings

Date	Communities	Motive
9/09/2020	Tierra Roja	A coordination meeting was held with the Tierra Roja hamlet to coordinate issues related to Forest Week (a week to promote the conservation and sustainable and adequate use of forest resources) and the prevention of forest fires.
04/08/2021	Agua Dulce y Manco Cápac	Meeting to inform the community about the Last Habitat REDD+ Project developed by BAM, the benefits, opportunities and possible risks of the project. Also, constructive and participatory work to develop the social baseline of the project through socio-economic surveys of local families (statistical sample): identifying the stakeholders their motivations and interests towards the project and their needs and concerns in their local context.
05/08/2021	Agua Blanca, Tierra Roja, CCPP Nueva Esperanza	
06/08/2021	Túpac Amaru Limón, San Cristóbal de Agua Blanca	
07/08/2021	José Olaya, Nuevo Oriente de Chanajao	
09/08/2021	CC.NN. Nueva Alianza y CC.NN. Nuevo Paraíso	
10/08/2021 – 11/08/2021	CC.PP. Nuevo Belén, Ampliación Túpac Amaru, La Lupuna de Manantay	
11/08/2021 – 12/08/2021	CC.PP Nueva Esperanza, La Soledad	
13/08/2021	CC.NN. Nueva Alianza	
1/11/2021	Meeting with Margarita López Vásquez – Director of the initial and primary levels of the I.E. of the Native Community Nuevo Paraiso	Meeting with the educational institution of the native community to learn about the difficulties and needs of children in the community.
02/11/2021	Community meeting – Nuevo Paraíso Native Community	Presentation of BAM with the aim of generating alliances and collaboration in The Last Habitat REDD+ Project.
19/03/2022	CC.NN. Nuevo Paraíso	Consultation about the community participation as a direct

Date	Communities	Motive
		partner of the project. Presentation of the operation of REDD projects, proposal of activities and the possible results and positive impacts towards the community. The community decided to internally evaluate the proposal.

2.3.4 Community Costs, Risks, and Benefits (G3.2)

The participation of the communities in the project has been voluntary during this monitoring period. As it is a grouped project, in the future, if interested, the communities could be part of the project as direct beneficiaries, that is, their areas could be directly included as part of the Project Area (PA).

During the period under evaluation, the Project has included in its value proposition the local communities as indirect beneficiaries (they benefit indirectly from the implementation of the project activities but are not included in the PA), collecting local problems or barriers that impede the sustainable development of the community in harmony with the environment, seeking to address them in order to favor forest conservation and the improvement of community livelihoods.

During the design period, exchanges with the communities and their representatives helped to identify, for example, the drivers of deforestation, the solutions to these challenges as well as the issues associated with the implementation of these solutions. Those inputs are considered in the selection of the activities proposed by the project.

During the participatory and socialization meetings with the different communities and hamlets surrounding the project, the costs, risks and expected benefits of the project were communicated with transparency and openness. As mentioned above, these issues were presented using different tools (summaries, visuals, didactic presentations) to ensure the understanding of all participants.

Both in these participatory meetings and in the social diagnostic study conducted by the project, the needs and suggestions of the stakeholders were taken into consideration in the project design. Indeed, as will be explained later in the document, the project has designed a feedback flow so that communities can submit their requirements and queries for evaluation and consideration by the project team. Likewise, the discussions at the meetings are intended to be reflected in minutes of understanding and, possibly, in cooperation agreements.

2.3.5 Information to Stakeholder on Verification Process (G3.3)

During stakeholder consultation meetings, communities and local authorities were informed about the overall functioning of carbon markets, the standard used to achieve certification and the verification process needed to achieve these carbon credits (validation and verification). Basic and formal communication mechanisms include letters sent by the project's General Coordinator in representation of BAM to stakeholders; emails, phone calls, personal messages (WhatsApp).

In the case of the specific verification process, a letter from the General Project Coordinator has been sent to stakeholder representatives, which includes communication regarding the external audit process and a visit from a certified consultant.

2.3.6 Site Visit Information and Opportunities to Communicate with Auditor (G3.3)

During the process of socialization of the project to the community as well as in the several meetings held with the representatives of the different groups, the steps involved in the design and implementation of the project under the REDD+ mechanism and the VCS+CCB standards were explained, such as the completion of the PD and the visit of the external auditor, indicating the need to schedule interviews with community members and stakeholders.

In the case of the specific verification process, a letter from the General Project Coordinator was sent to stakeholder representatives, including the notification of the external audit process and a visit from a certified consultant.

BAM will ensure that the auditor's visit final schedule is announced in a timely manner and arrangements for the auditor's possible visits/interviews/meetings with defined stakeholders are coordinated in advance.

During the visits and meetings of the auditor, members of the community will voluntarily attend on behalf of their partners, who will be available to directly answer the questions of the auditors in the spaces that the auditor requires.

It is important to highlight that the communities involved are part of the project strategy as indirect beneficiaries, voluntarily deciding whether to participate in the activities contemplated by the project.

For future audits, during the preparation of the monitoring reports and later during the presentation of the results obtained, the community will be reminded of the auditor's visit and the dates and times of the visits will be coordinated in a timely manner.

2.3.7 Stakeholder Consultation (G3.4)

As part of the Project design, an exhaustive social diagnosis was carried out to better understand the situation of each group of influence in terms of, for example, basic needs (health, education, etc.), regular productive activities, among others, with the purpose of mapping the level of capacities / opportunities desires / access of the different groups in terms of conservation, sustainable forest management, sustainable productive activities, etc.

In addition to the diagnosis conducted, decentralized meetings favored to obtain greater understanding on the socio-economic situation, opening dialogue to exchange ideas regarding the priority needs of the community and the integrity of the forests. In general, a very positive relationship was observed between the communities and the forest, understanding the need for the communities to grow their economic and productive capacity to maintain this positive relationship over time.

Likewise, meetings with authorities and community representatives were also conducted in order to enrich the understanding described above.

As mentioned before, detailed aspects of the project, such as benefits, costs and risks, were also informed in these spaces.

As a result of this socialization and discussion process, the project design includes, among other initiatives: a monitoring system that involves the community as part of its value proposition; a community development program that seeks to improve access to basic needs such as health and education;

productive pilots that aim to give the community greater access to sustainable sources of income for the sustenance of their families (pilots that will be carried out in conjunction with the community for their design and implementation), among others. The Theory of Change methodological tool was applied to develop this strategy.

2.3.8 Continued Consultation and Adaptive Management (G3.4)

Throughout the meetings conducted by the project, feedback was received regarding the project strategies and operations. As mentioned before and details in Figure 2.3 below, as part of the Project's strategy to promote a bilateral communication and to include community feedback in the design and implementation on the activities, the project receives all kind of requests which are received by the project team for evaluation and possible implementation. Furthermore, the project coordinator periodically holds meetings with the representatives of the different stakeholders to receive feedback in favor of permanent collaboration between the parties, regularly at BAM's permanent office in the City of Pucallpa, which is open to visits from Monday to Friday. Additionally, the Project's Community Relations team holds regular visits to the different communities/hamlets to maintain permanent communication and collaboration. Other feedback tools have been implemented e.g., suggestion/complaints notebooks installed in camps.

The response process begins with the formalization of the request through a letter from the authority representing the community addressed to the Project to initiate the registration of the request. The second step is the analysis of the proposal described, it is important to point out that during the participatory workshops the communities are encouraged to identify needs, problems and propose solutions that will allow them to improve their livelihoods within the framework of the Project's objectives. Once the proposal has been analyzed, it is divided into two scenarios: a request for a service or work and/or a specific request for a need (donation oriented to community development). The communities by means of the formality of the request will be able to approach the offices or have direct communication with personnel of Bosques Amazónicos to know the state of the request and the evaluation that it has had.

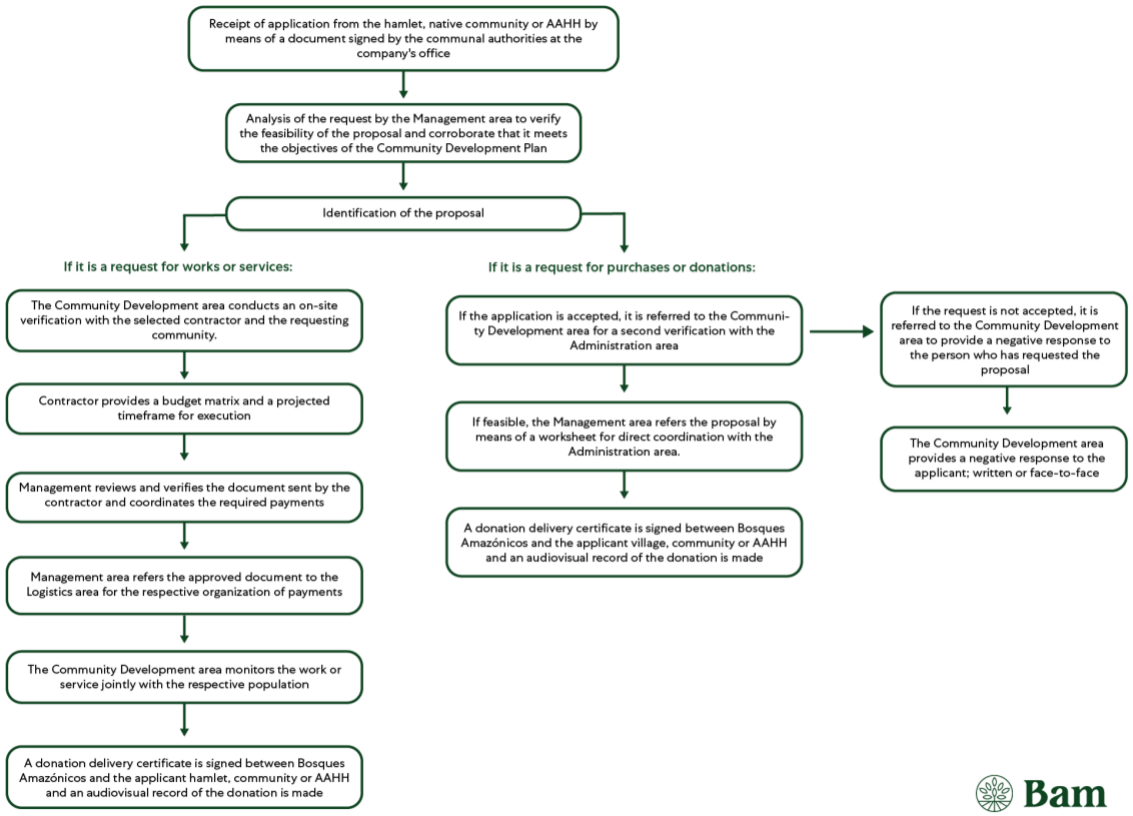


Figure 2.3. Flowchart of the implementation of requests form communities, hamlets, or human settlements (AA.HH.) surrounding the project

2.3.9 Stakeholder Consultation Channels (G3.5)

As mentioned before, the following channels have been used for stakeholder consultation.

- Meetings with community representatives (see Table 2.6)
- Meetings with the communities (see section 2.3.2 and Table 2.6)
- Surveys conducted in during the social diagnosis process.
- Meetings with local authorities (FEMA, GRFFS, Police, etc.)
- Letters of request for donation
- Suggestion notebooks

Meeting minutes as well as photos and presentations shared with the community will be provided to the auditor. See support file: project activities - community.

2.3.10 Stakeholder Participation in Decision-Making and Implementation (G3.6)

The Last Habitat REDD+ Project has been designed, among other aspects, to solve or minimize the problems faced by the communities, and in general, the Campo Verde area, to conserve forests while improving the livelihoods of the population.

Initial Diagnosis: in line with the Theory of Change Matrix and the Community Relationship Plan, which seek to define efficient strategies to improve the socio-economic situation of the stakeholders (hamlets and communities), a diagnosis and monitoring was conducted in 2021 to understand the needs of the beneficiary populations of the project. This understanding was one of the fundamental bases for the design of the activities proposed by the project.

Furthermore, as mentioned before, the process of socialization and the different meetings held with local authorities were taken into consideration for defining the project activities proposed. Regular feedback is promoted for improving the impact capacity and activity assurance over time.

Cooperation agreements: during the monitoring period, framework agreements for cooperation and joint work were signed between BAM and the Agua Blanca hamlet, and between BAM and the Santa Teresita de Agua Blanca hamlet. The company seeks to continue implementing these joint work agreements with its stakeholders, which serve as a framework for joint work in the development of the activities proposed by the project.

Others: In line with the openness to feedback, a book of suggestions and complaints was placed in the territorial security camps of the project.

Figure 2.4. Book of suggestions front page

2.3.11 Anti-Discrimination Assurance (G3.7)

BAM has a Human Resources Department that ensures compliance with Peruvian labor laws and regulations, referring to mitigating discrimination and sexual harassment, among which the following are cited:

- Law No. 26772, provides that job offers and access to educational training means may not contain requirements that constitute discrimination, cancellation or alteration of equal treatment opportunities, and its regulations.

- Ministerial Resolution No. 159-2013-TR, approving the document "Guide to good practices on equality and non-discrimination in access to employment and occupation."

- Law 30709: Law that prohibits remunerative discrimination between men and women; and its corresponding Regulation.

- Law No. 29742: Law for the prevention and punishment of sexual harassment; and its corresponding regulations.

- Legislative Decree No. 1410: Incorporates the crime of harassment, sexual harassment, sexual blackmail, and dissemination of images, audiovisual or audio materials with sexual content to the Penal Code, and modifies the procedure for sanctioning sexual harassment

Likewise, BAM, as the proponent of the project, has a Code of Ethics and Conduct, in which Section 3 on professional and personal integrity (Appendix 1) refers to attitudes and behavior, to carefully evaluate situations that may constitute a conflict between their interests and those of the Group and/or unacceptable conduct from an ethical point of view, even if they do not cause physical loss to the Group; and the basic guidelines to follow in relationships in the work environment, emphasizing non-discrimination, harassment or intimidation.

These policies are promoted and extended to any employee, worker or personnel belonging to the company or any subcontractor, who participate in the project activities. In addition, under the terms of the agreements or covenants signed with the local communities, threats, violence or blocking of access by personnel belonging to BAM or any partner institution of the project, to the areas of work, will be established as breach of the agreement, as a way of mitigating possible discrimination.

2.3.12 Grievances (G3.8)

No grievances were received during the monitoring period.

2.3.13 Worker Training (G3.9)

As part of the action commitments established by BAM in its Corporate Sustainability Policy (Appendix 2) it promotes regular training for workers, favoring professional promotion. In order to strengthen these processes, the company is working on developing a training and education plan for all its employees, in order to efficiently implement the project activities. On the other hand, in the results matrix of the project, it has been considered to develop productive technical and management training activities for social development aimed at community groups, which is indicated for the fulfillment of the objective 3 of the project (strengthening the socio-economic situation of the interest groups of the local communities in the project area).

In that regard, during the monitoring period, three community training in sustainable forestry management / fire prevention and control were held:

- Tierra Roja: Participatory meeting for the development of the forestry week event and promotion of forest fire prevention activities. 27 participants.
- Santa Teresita de Aguablanca: Training on prevention and control of forest fires with 19 participants.
- Caserío Agua Blanca: Training on prevention and control of forest fires with 43 participants.

Likewise, within the activities of the project to achieve objective 1 (avoid deforestation in the project area), training is considered, based on an elaborated Plan, to be developed for forest surveillance and control in the organizational, technical and operational, aimed at the members of the Control and Surveillance Committees of the local communities and the BAM personnel who carry out activities in the camps, for which the project's technical team will also be trained for the respective replication.

It is contemplated that the training provided by the project in the different topics described above will be given in collaboration with different expert organizations.

2.3.14 Community Employment Opportunities (G3.10)

BAM creates employment opportunities at the base of the pyramid, including neighboring communities within the value proposition, generating local rural jobs for both men and women. Within the Ucayali area, BAM employed the following number people to cover its operations during the monitoring period:

Year2020	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Male	4	4	4	4	4	4	4	4	4	4	59	66
Female	1	1	1	1	1	1	1	1	1	1	13	12
Total Workers	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**72**	**78**
Year2021	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Male	56	58	60	69	66	72	85	92	100	102	95	91
Female	11	16	16	17	17	17	20	20	20	20	20	18
Total workers	**67**	**74**	**76**	**86**	**83**	**89**	**105**	**112**	**120**	**122**	**115**	**109**

All of the aforementioned personnel was on the company's payroll, receiving the following benefits:

- Compensation for time of service (CTS) 2 times per year
- Gratuity 2 times a year
- 1 month vacation entitlement
- Life insurance

- Supplementary risk work insurance (SCTR)
- Social Security (Essalud)

Labor regulations are strictly complied with and decent, non-forced or child labor is promoted; based on the capabilities and experience of each person. Equality at work and performance of activities is also promoted, without discrimination. All this as part of the action commitments established in the Corporate Sustainability Policy (Appendix 2), adding that the recruitment, selection, and retention of talent is carried out under a favorable framework of labor relations based on equal opportunities, respect for diversity, and in conciliation with personal and work life.

2.3.15 Relevant Laws and Regulations Related to Worker's Rights (G3.11)

Concerning the fulfillment of the laws, regulations, and labor agreements, both, the project and the company, strictly follow the legal framework and adjust to the Peruvian labor laws. BAM, being an audited company, has the highest standards in Corporate Governance, being extremely strict in the fulfillment of the laws, as well as for the welfare of its personnel and good working conditions.

The Last Habitat REDD+ project is articulated under the standards of the Labor Productivity and Competitiveness Law No. 728, which promotes the training and labor formation of their workers as a mechanism to improve their income and labor productivity, while following the constitutional norms of labor security. Likewise, the workers enjoy the rights established in the Peruvian Labor Law. They receive a fair wage, which is over the minimum wage established by the Peruvian government, they have vacation days available, retirement compensation, bonuses, health insurance, education grants, and other benefits established in the law. Additionally, there are complementary benefits for workers over fifty years of age, such as retirement benefits. Without affecting the aforementioned benefits, the workers can organize into labor unions to negotiate better working conditions if they deem it appropriate.

All workers' rights and benefits all widely known. The project meets the laws and regulations regarding the rights of employees established by the Universal Declaration of Human Rights.

BAM has a policy to promote and ensure the fundamental principles and rights in the work of its employees, rights that are guaranteed in the Code of Ethics and Conduct (Appendix 1). Among the main standards are:

- Supreme Decree 002-97-TR: Single Ordered Text of Legislative Decree No. 728, Law on job promotion and training.
- Supreme Decree 007-2002-TR: Single Ordered Text of the Law on working hours, hours, and overtime work; and its respective Regulation.
- Supreme Decree 004-2006-TR: Provisions on the registration of attendance and exit control in the labor regime of private activity.
- Law No. 28051: Law on food benefits for the benefit of workers subject to the labor regime of private activity and its respective Regulation.
- Law No. 25129: Concept of family allowance to be received by workers in private activity whose remuneration is not regulated by collective bargaining.
- Law No. 27735: Law that regulates the granting of bonuses for workers of the private activity regime for national holidays and Christmas; and its respective Regulation.

- Law No. 29549: Law that modifies Legislative Decree No. 688 Law of consolidation of social benefits and creates the mandatory registration of life insurance contracts law; and its respective Regulation.
- Supreme Decree 009-2020-TR: Approves the regulations of the Emergency Decree No. 044-2019 related to life insurance.
- Supreme Decree 009-1998-TR: Regulation for the application of the right of workers in private activity to participate in the profits generated by the companies where they provide services.
- Supreme Decree 001-1997-TR: Single Ordered Text of the Law on compensation for length of service; and its respective Regulation.
- Supreme Decree 012-2016-TR. They specify the provisions of Law No. 30334, referring to the non-affectation of legal bonuses and the availability of compensation for time of service.
- Law No. 26644: They specify the enjoyment of the right to pre-natal and post-natal rest of the pregnant worker; and its respective Regulation.
- Supreme Decree 002-2016-TR: Adaptation of the regulations that regulate maternity leave and the payment of the maternity subsidy to the provisions of Law No. 30367, Law that protects working mothers against arbitrary dismissal and prolongs their period Rest.
- Law No. 27403: Law that specifies the scope of the permit for breastfeeding.
- Law No. 29409: Law that grants the right to paternity leave to workers in public and private activity; and its respective Regulation.
- Law No. 30012: Law that grants the right to leave to workers with direct family members who are seriously or terminally ill and suffer a serious accident; and its respective Regulation.
- Law No. 30119: Law that grants the right to leave to workers in public and private activities for medical assistance and rehabilitation therapy for people with disabilities; and its respective Regulation.
- Supreme Decree 039-91-TR: establish the internal work regulations, which determine the conditions that employers and workers must abide by in the fulfillment of their benefits.
- Law No. 28783: Occupational Health and Safety Law; its modification (Law 30222).
- Supreme Decree 005-2012-TR: Regulation of the Occupational Health and Safety Law.
- Supreme Decree 010-2014-TR: Approving complementary regulations for the adequate application of the Only Temporary Complementary Provision of Law 30222.
- Law No. 28048: Protection Law in favor of pregnant women who perform work that puts their health and/or the normal development of the embryo and fetus at risk; and its regulations.
- Law 29773: General Law of Persons with Disabilities; and its corresponding Regulation.
- Supreme Decree 020-2001-TR: Regulation of the General Law on labor inspection and defense of the worker (Legislative Decree No. 910 and its Amendment).

All project personnel are informed of the rights that correspond to them as such, in accordance with the laws and regulations of the case, through induction talks and handguides before starting working at the company/project. As such, the personnel at the initiation of their business relationship with the company, is provided with the following information, among others:

- Content and terms of the employment contract (salary, benefits, timeline, etc.)
- Employee's rights, duties, and obligations.
- Company's policies and standards.
- Company's structure

All these information, that have been previously reviewed by the legal area to confirm its compliance with law, are shared in printed/digital copies. In case the company and or project will make a contract with any

personnel being part of indigenous group, the contractual terms of the agreement(s) will be properly shared both written and verbally, translated into the native language.

After the signing of contracts, workers are provided with information on the legal benefits that they acquire when signing the respective contracts, and additionally they are provided with a "Personnel Guide", in the which the social and labor benefits that the worker acquires (in the case of payroll modality) and the procedures to acquire said benefits are described.

2.3.16 Occupational Safety Assessment (G3.12)

The occupational safety assessment is carried out for every activity implemented in the REDD+ project framework. Each activity is analyzed, and the occupational risks are identified, so that every member of BAM's team receives information and participates in training sessions to ensure minimizing any identified risk. All occupational safety regulations related with these activities are complied and all required insurance, personal protection elements, trainings and risk awareness need to be provided. In addition, the measures developed to reduce risks are designed in such way that follows the cultural practices of the surrounding communities.

BAM is responsible for providing training courses on safety, first aid and the use of appropriate protective equipment. Likewise, action plans for forest fires or the presence of illegal loggers are explained. It is essential for BAM that all new employees joining the company receive the necessary training.

The company has an Occupational Health and Safety Regulation (**Appendix** 3) which establishes and regulates the procedures to ensure the safety and health of workers when carrying out the different jobs and activities both within the project area and in the activities carried out with neighboring communities, related to community relations and the development of productive, technical and social management capacities. In the case of occupational accidents, a record is kept, and the area in charge is the Ucayali Regional Management, which reports hierarchically to the CEO.

Third parties, contractors, consultants or specific service providers, by virtue of the regulations on safety and protection at work, are requested to comply with the necessary equipment in the performance of their services, who must have the corresponding Personal Protection Elements. Likewise, they undertake to maintain the necessary insurance policies for their personnel; and they are also obliged to comply with the protocols established by BAM, according to the regulatory framework of the national health authority, for the surveillance, prevention and control of COVID-19 and health in general.

As part of the action commitments established by BAM in its Corporate Sustainability Policy (Appendix 2), it ensures a safe and healthy work environment, complying with current legislation in matters of occupational safety and hygiene and sexual harassment.

2.4 Management Capacity

2.4.1 Required Technical Skills (G4.2)

The technical skills, knowledge, and experience required to implement the project efficiently and successfully are expressed in the terms of reference - ToR (Appendix 4) that have been established for each job position with the objective of performing specific functions. Within the organizational structure of the project, however, minimum skills or requirements are established that must be presented by each of

the members that make up and lead the technical management team (territorial security, community relations, and project coordination), which is detailed next:

- Minimum general experience of 5 years and specific experience of 3 years in topics and knowledge related to the work to be developed and performed in the assigned position.
- Communication and coordination with rural populations and their authorities or representatives
- Management of participatory methodologies and tools in planning, evaluation and information gathering
- Articulation and coordination with public and/or private institutions
- Application of a participatory, intercultural and gender approach
- Knowledge in the use of techniques or procedures for conflict management
- Management of tools for the follow-up and monitoring of activities for the achievement of results and objectives
- Management of office (Excel, Word, power point), email, Google
- Drafting of technical reports

2.4.2 Management Team Experience (G4.2)

BAM is a company with more than 17 years contributing to the restoration, reforestation, and conservation of the ecosystem of the Amazon. Among their top competitive advantage, BAM has a great capacity for execution due to the vast experience of the Company's management team in running of forestry, biodiversity, and carbon project in the Amazon rainforests.

BAM manages a total of 24,433 contiguous hectares of land and a consolidated plantation of 1,200 hectares, which makes it the forestry and environmental services company with the greatest economies of scale and the best logistics in Peru. Through its years of experience in the field of reforestation with highly valued native species BAM has accumulated a forestry genetic material that constitutes a valuable intangible asset, and which gives a highly important competitive advantage to the company, being one of the most experienced enterprises worldwide to work with species such as the shihuahuaco (cumaru).

BAM's main awards and recognitions are detailed as follows:

- BAM's restoration and reforestation program with native species has been recognized locally and internationally as one of the most successful experiences, receiving awards such as the United Nations award granted by the FAO to the best company for the restoration of degraded areas in the jungle and Peru category in 2015; the National Entomology Award in 2015; and the Antonio Brack National Environmental Award for the most eco-efficient development model in Peru in 2011.
- BAM's forest conservation and genetic improvement programs have been recognized in the Peru 2021 and 2022 "Boscares" awards, winning the Forests and Climate Change category, and in the Research and Innovation in Forestry category.
- BAM is a pioneer in the international carbon market. Its restoration and conservation (REDD+) programs have been among the first forest carbon initiatives in the world to achieve the Verified Carbon Standard (VCS), the most prestigious standard in the global voluntary carbon market.
- BAM's plantations are Forest Stewardship Council™ (FSC™) certified, which validates the sustainable management of its operations and ensures compliance with Forest Stewardship Council™ forest management and Chain of Custody standards.

- In accordance with its commitment to sustainability, BAM became the first forestry company to obtain the Environmental Declaration of Ongoing Activities (DAAC) through a Resolution issued by the Ministry of Agrarian Development (MIDAGRI).
- BAM is the first forestry company to enter the Lima Stock Exchange and place debt instruments to scale its sustainable development efforts in the Amazon. In addition, BAM is the first Peruvian company and the first forestry company in LATAM to receive the Climate Bond Initiative's (CBI) "Climate Bond Certified" standard for a green financial instrument aimed at the conservation and restoration of Amazonian ecosystems.

Throughout the years of operation, BAM has promoted scientific research and education in the Amazon, receiving more than two thousand students from universities around the world and working in cooperation with prestigious institutions such as USAID, WWF, GTZ, CIFOR, CORBIDI, the Javier Prado Museum of Natural History of the National University of San Marcos, the Herbarium of the National Agrarian University-La Molina, the San Diego Zoo and Peru Verde, among other organizations. Aligned with is compromise with biodiversity preservation, the company has institutionalized a Science and Conservation Program to permanently study the ecological wealth (flora, fauna, water sources) in their areas of influence; carried out in collaboration with prestigious scientific organizations such as CORBIDI, San Diego Zoo, Perú Verde, the Herbarium of the National Agrarian University – La Molina, the Natural History Museum of the Universidad Mayor de San Marcos, among others.

Regarding the carbon credit business, BAM has developed and has been operating for more than decade two types of carbon-generating projects: credits generated by REDD+ projects (conservation) and credits generated by restoration and reforestation efforts.

REDD+: Since 2009, BAM has been developing the conservation program REDD+ Brazil nut concessions in Madre de Dios (one of the richest areas on the planet in terms of biodiversity) in partnership with +600 local families in the region grouped in the Federation of Brazil nut producers of Madre de Dios (FEPROCAMD) to protect more than 490,000 ha of Brazil nut forests. Since then, BAM and FEPROCAMD have been working together to protect the ancient Brazil nut forests and promote the sustainable development of the community. REDD+ Brazil nut concessions was successfully validated in 2012 under the VCS standard with great social and environmental impact, reaching the Gold Standard level under the CCB standard in 2014. The project avoids the emission of more than 2M tCO_2e per year.

ARR (Reforestation): BAM's reforestation project was the first reforestation initiative with native species in the world to be validated and verified under the VCS standard. To date, BAM has **restored / reforested** +1,200 hectares (depredated secondary forests, purmas, pastures and other degraded lands), planting highly valuable native trees, mainly marupa and shihuahuaco or cumaru (+1.2 million trees planted). Based on its genetic capital, BAM is implementing **a forestry genetic improvement program** in cooperation with the Technological Institute of Costa Rica (TEC), lead organization in forestry genetics, to increase the productivity of its plantations by up to 30%. In line with this, BAM has built a **high-tech nursery** on its private property in Ucayali where the company is developing native forest seedlings of superior genetic quality.

Commercially speaking, having been in the markets since its beginning, BAM maintains strategic alliances and commercial relations with the most important actors in the carbon market. In 2020, BAM verified 5.3 million credits from the period 2013 to 2016 and in 2022 verified 8.8 million credits from the period 2017 to 2020 generated by the REDD+ Brazil nut concessions project, giving the company an important available stock and financial capacity.

According to the Rating Report – PCR Pacific Credit Rating 2021 (Appendix 5), BAM is considered to have an Optimal performance (GC2 category) with respect to its Corporate Governance practices and has an Outstanding level of performance (RSE1 category) with respect to its Corporate Social Responsibility practices.

BAM's Board of Directors is chaired by David Saettone Watmough, Bachelor of Arts in Economics from Queen's University in Kingston, Canada, master's in economics from Princeton University and master's in insurance management from Boston University. Mr. Saettone has extensive experience in finance, business development and the execution of corporate transformation processes, with 21 years of experience as General Manager and member of the Board of Directors of top companies in Peru and LATAM. Mr. Saettone is Past-President of L+1, an organization that brings together leaders from different sectors, institutions, and local governments with the purpose of promoting sustainable economic development in Peru and mitigating the effects of climate change.

The company's Board of directors is made up of 5 members, two of which are independent. Walter Wust is Director and leader of the Science Program, having more than thirty years of experience leading biological diversity assessment programs in Peru. His publications – more than 600 books and guides – have led him to be the most important author on nature, culture, and sustainable resource management experiences in the country. He is the director of Wust Ediciones and WW Editores, as well as a member of the Board of Directors of SERNANP, ACCA, IBC, Lideres+1 and CCERO. In addition, he is the founder and image of the new Engineering and Environmental Management career at the Peruvian University of Applied Sciences UPC. Walter has a bachelor's degree in forestry engineering from the La Molina National Agrarian University with a specialization in forestry management.

The General Management is in charge of Jorge Cantuarias, Economist from the University of Lima with more than 25 years of experience in the development of projects related to agriculture and forestry operations; having served as presidential adviser on forestry and environmental programs during the period 2008-2010, he also founded BAM in 2004. The Management Plan is completed with professionals specialized in commerce and marketing, with experience in the forestry and carbon credit markets.

The other members of the management team, such as the coordinators of the departments of territorial security, legal and community relations, and the project coordinator, have the knowledge, experience and profile required for the implementation of the project (Appendix 6).

2.4.3 Project Management Partnerships/Team Development (G4.2)

There are two main organizations / strategic partners that provide technical support and consulting for BAM, providing the experience of their work for the implementation of activities that are key to the project: **CORBIDI** and **PASKAY**. Likewise, BAM maintains/seeks other agreements with further institutions, to strengthen the capacity for project development.

CORBIDI, the Center for Ornithology and Biodiversity, is a non-profit association that brings together researchers and conservationists created in 2006 with the aim of promoting natural sciences in Peru. It has divisions of ornithology, herpetology, mammalogy, limnology, plant ecology, and veterinary conservation. CORBIDI maintains a scientific collection of birds and has been registered with SERFOR as a repository of biological material since 2007. It has interinstitutional cooperation agreements with SERFOR, MINAM, Naval Medical Research Unit, University of New Mexico, Harvard University, the Royal Ontario Museum, and the University of Arizona, among others. Based on this experience, CORBIDI

ensures an efficient implementation of the activities of identification, monitoring, and permanent protection of biological wealth (flora and fauna) aimed at achieving objective 2 of the project: protect the integrity of biological diversity and processes ecology of the project area.

PASKAY SAC is a consulting company that provides advice on the implementation of comprehensive sustainable development programs and projects with a climate and territorial management approach, contributing to the sustainable development of the environment and the population through the analysis of technical, legal, social, political and economic, design, execution and promotion of activities, projects, programs and research with various actors. PASKAY offers a multidisciplinary vision and innovative solutions, through transversal and comprehensive strategies. Within the framework of the REDD+ The Last Habitat project, BAM contracted the services of PASKAY SAC for the preparation of the baseline of the community, biodiversity and climate components; the design and formulation of the PD of the project under the VCS & CCB standard; and accompaniment until the corresponding validation. To comply with the standards and the monitoring plan according to the validated PD, the activities that correspond to the measurement, monitoring and evaluation of the indicators referring to the generation of positive net benefits for the community and the biodiversity generated by the project, will be developed by the consulting company PASKAY SAC as a strategic partner of the project, with experience in REDD projects and MRV actions, counting on an interdisciplinary team of specialists in specific topics, to prepare the corresponding Monitoring Reports.

Museo de Historia Natural – UNMSM, is an academic institution that belongs to the National University Mayor de San Marcos de Lima, in charge of collecting, researching, and exhibiting representative organisms and samples of the natural heritage of Peru and humanity in relation to its flora and fauna, with the aim of generating scientific knowledge and imparting it at all levels. The specimens of such samples are studied, preserved, and guarded in the Museum, forming specialized scientific collections.

Likewise, BAM has established a Memorandum of Understanding (Appendix 7) with the **PREVENIR Project – USAID,** in order to facilitate the implementation of REDD+ mechanisms through compensation for avoided deforestation to the private sector and carry out monitoring and surveillance actions with the use of technologies. The project is part of USAID's Green Amazon initiative, working with the Government of Peru and civil society to improve conditions to prevent and combat environmental crimes and thus reduce them, as well as reduce the negative impact within and around the communities. Protected areas and forests and indigenous lands, also includes working with environmental defenders in the Peruvian Amazon. This project receives support from the Norwegian Agency for Development Cooperation (NORAD) to deal with crimes in the forestry field. All project interventions will incorporate gender equality and social inclusion, mobilization of resources from the private sector, participation of civil society – particularly indigenous and vulnerable populations – and sustainability.

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

The company's audited Financial Statements are public and will be shared with the auditors and VERRA during the verification process.

Real assets: BAM has a private property of 24,544 hectares in Ucayali, Peru, and a forest plantation (biological asset) of +1,200 hectares which backs its operations as real assets.

Short-term income streams: BAM is the proponent REDD+ a project in Madre de Dios with more than a decade of operation that generates +2 million VCUs per year, which supports the company's short-term income.

Long-term flows: BAM manages a commercial plantation for more than 12 years, which has begun to be sustainably harvest. The commercial species of the BAM plantation, mainly "marupa" and "Shihuahuaco", are forest species with an excellent market price, which ensures an additional revenue stream for the company.

Capital Markets: BAM is the first forestry company in Peru to enter the Lima Stock Exchange, successfully placing thematic debt instruments (green/sustainable) in the market. In 2021 alone, Bosques Amazónicos placed around US$17 million in the capital market, fulfilling all its financial responsibilities, and maintaining an excellent relationship with its investors. Likewise, BAM is the first company in LATAM to certify a green debt instrument under the Climate Bonds Standard of the Climate Bonds Initiative (CBI). The company and its financial health are supervised by the Superintendence of the Securities Market, a decentralized public body attached to the Ministry of Economy and Finance of Peru.

2.4.5 Avoidance of Corruption and Other Unethical Behavior (G4.3)

Within its Internal Rules of Conduct (**Appendix 8**) Chapter VII, 7.3 reporting and reporting of irregularities) BAM encourages its employees and business partners to report in good faith, or based on a reasonable belief, the attempt of bribery, alleged or actual, or any violation or breach of the Rules of Conduct. Any complaint or query related to any suspicion of non-compliance with these rules may be submitted anonymously or by identifying yourself, through email channels or web page, protecting the complainant. Likewise, an internal regime of sanctions is established for those who fail to comply with what is indicated in the Internal Rules of Conduct. Any person who is under the scope of the Regulations will receive a copy of said document, recording its receipt in writing, as a sworn statement, in the sense of having received it and committing to read it carefully, understand it and comply with it. The same procedure will be followed with any person who obtains a position in the company, who will also be explained the principles and fundamental values contained in such Rules during the activities induction in which they participate.

The company applies for the development of its activities, policies for the prevention of money laundering and financing of terrorism, which is established in its Corporate Governance Policy (**Appendix 9**) taking as reference the provisions set forth in the Prevention Rules of Money Laundering and Financing of Terrorism issued by the Superintendency of the Securities Market (PLAFT Regulations), without prejudice to not being an entity supervised by any of the regulatory bodies. In this sense, the company operates under the following directives:

- Not participate and in no way assist in money laundering and financing of terrorism, having as its main commitment to abide by and comply with the regulations on the matter.
- The directors, managers and all company personnel are committed to complying with the PLAFT Standards through the application of the policies described in the Risk Management System document (**Appendix 10**).
- The company will offer its support to the competent authorities through the provision of information that they require for investigation and analysis purposes.

The company, in accordance with the provisions of the PLAFT regulations, considers prohibited operations those that imply the following:

- Customers who receive transfers from countries considered non-cooperative by the FATF, with risk related to money laundering and financing of terrorism, with little banking supervision, or from countries included in the OFAC list.
- Clients acting through trusts without identifying the identity of the settlor, trustee and trustees.
- Politically exposed persons (PEP) or who manage public resources. It is not considered a PEP when acting on behalf of a legal person participating in the State.
- Legal entities in which a PEP owns at least 5% of the capital stock, contribution or participation and that, according to the reporting entity, poses a high risk of money laundering or financing of terrorism.

BAM is an organization in which all the processes that are carried out for the hiring of personnel and service providers avoid nepotism and favoritism. As part of its Corporate Sustainability Policy (Appendix 2) it accepts to support the principles of the United Nations Global Compact, in the fight against corruption.

2.4.6 Commercially Sensitive Information (*Rules* 3.5.13 – 3.5.14)

The privileged, reserved or commercially sensitive information that might be excluded, will be subject to or will take into account the procedures and rules established for the flow and use of such information and that are indicated in the Internal Rules of Conduct (**Appendix 8**) which has the purpose contribute to compliance with the current Regulation on Significant Events and Reserved Information, establishing the procedures and mechanisms that guarantee the confidentiality of reserved or privileged information and the correct preparation and communication of Significant Events to the Superintendency of the Stock Market SMV. BAM, in the exercise of its activities, its representatives and the people who are directly or indirectly related to them must observe these Internal Rules of Conduct, as well as follow the procedures established therein.

During the verification period, information regarding the company's financial situation and other information related to the market will be shared with the auditor.

2.5 Legal Status and Property Rights

2.5.1 Recognition of Property Rights (G5.1)

The property rights of both Selva Maestra and Nuestro Señor Jesucristo (JCC) private lands were established through a purchase and sale contract approved by the Regional Directorate of Agriculture of Ucayali, which are presented as proof of title in (**Appendix 11**). All payments to the State have been done. Therefore, all property rights are recognized, respected, supported, and **duty registered before National Property Registry Office of Pucallpa.**

In 2022, BAM finalized the procedure to make JCC land a private protected area (named ACP according to the Peruvian legal framework). ACP procedure request may be found in (Appendix 12). The company achieved the designation as an ACP in September 2022 under the Ministerial Resolution Nº 193-2022-MINAM.

Regarding Selva Maestra, whereas all property rights are recognized and supported by its purchase and sale contract title there is an overlap with private lands. The surface area and coordinates of the lands corresponding to the orange square (see Figure 2.5 here below and see the surface area and coordinates in Appendix 13) as well as the surface area corresponding to the red square (see Figure 2.5) have been identified (See section 2.5.6. for more details). In this regard, a land right consolidation process is underway by a Law firm as a measure implemented by the project to help to secure statutory rights in Selva Maestra (See section 2.5.6. for more details).

Figure 2.5. Map of Selva Maestra

It must be mentioned that, whereas Selva Maestra property title identifies ownership over 12,730.41 ha. BAM´s shapes elaborated with more recent techniques identified that Selva Maestra ownership rights are over 14,176.13 ha. This is a common problem in Amazon and is due to evolving methods of surface area calculation. The hectares listed in the title were calculated using pen and paper while the most recent calculations done by BAM have been made using a much more accurate software.

2.5.2 Free, Prior and Informed Consent (G5.2)

BAM has full ownership of the project area (JCC and Selva Maestra properties) registered in public records and peaceful and public possession of these properties. Hence, there is no conflict with third parties regarding the recognition of Bosques Amazonicos' properties.

The FPIC process has been duly carried out among groups within the project's area of influence (hamlets, native communities, human settlements, population centers, etc.), as detailed in section 2.3.1, 2.3.2, 2.3.3, 2.3.4. It should be noted that these groups benefit indirectly from the project, as a result of the activities implemented in favor of forest conservation and community development within the project's area of influence (surroundings).

No third party land is or will be affected by the project so no restitution or compensation allocated to any parties applies.

2.5.3 Property Right Protection (G5.3)

Nuestro Señor Jesucristo and Selva Maestra have their rights protected by their sale contract approved by the Regional Directorate of Agriculture of Ucayali, which is protected by good faith registration purchase at the SUNARP, the National Property Registry Office and enforceable against third parties.

Regarding Nuestro Señor Jesucristo, there is no overlap or ongoing disputes, no other landowners or land rights holders are affected. Thus, the project does not lead to the involuntary removal or relocation of property rights holders from their lands and does not force rights holders to relocate activities in Nuestro Señor Jesucristo.

Regarding Selva Maestra, there is no one living in this area, and only a few farmlands remain (mainly coca and yucca corps) with a minimal area (0.5 to 1 ha). However, as mentioned in sections 2.5.1 and 2.5.2. BAM has a recognized title by the authorities and a land right consolidation process is underway by a Law firm through the legal actions before the administrative authorities in Ucayali.

2.5.4 Identification of Illegal Activity (G5.4)

The main illegal activity that could affect the impact of the project is land encroachment, which is classified as an infraction under the Forest and Wildlife Law (Article 146 (e)). However, other threats may affect the project, such as forest fires or illegal logging caused by external agents.

In terms of measures, the Forest and Wildlife Law provides for control and surveillance actions at the regional government level within the scope of its territorial jurisdiction in the framework of specific regulations established by SERFOR and in coordination with the institutions that make up SINAFOR. It also encompasses communal monitoring, control, and surveillance measures, carried out by the community members themselves.

In the meantime, BAM's private lands are carrying out surveillance and patrol measures through the camps that have been set up on their lands as part of the Monitoring Control and Surveillance system implemented by the project. There are 4 camps on the two lands with permanent personnel (3 to 10 people) who oversee the surveillance work. Among their responsibilities, they are in charge of walking the boundaries to identify any possible breaches and reporting any suspicious activities to BAM.

In the event of suspected logging or invasion, the first action is to inform the BAM legal team and management (project general coordination). Immediately after, an action protocol is initiated, whereby the Forest Authority is notified so that it can gather any corresponding information. Simultaneously, the Public Prosecutor's Office and the national police are also notified that a complaint is filed.

In the event of a forest fire, as a result of the rapprochement and relationship that BAM has been building with the different communities, there is an opening for collaboration in which the communities would alert BAM in the event of a possible field burning in neighboring areas, to prevent it from spreading to BAM's property. These agreements are being translated into formal collaboration framework agreements (communities of Agua Blanca and Santa Teresita de Agua Blanca), which BAM seeks to continue promoting and consolidating with other stakeholders in the short term. BAM is also implementing fire management and control training to minimize fire risks.

In any of the aforementioned events, BAM can request the police to intervene and has the logistics, tools, and staff to do so. With the project implementation, BAM has strengthened the control of the area through a holistic monitoring and surveillance system based on 3 pillars: satellite monitoring, field monitoring and legal monitoring which is explained in detail in section 2.1.11.

2.5.5 Ongoing Disputes (G5.5)

The following are the disputes that have affected the property and that have been resolved during the last twenty years, in addition to the dispute BAM is currently dealing with.

NUESTRO SEÑOR JESUCRISTO (JCC): all disputes are solved.

Firstly, the overlapping dispute of land with the Instituto Superior Technological Suiza in JCC was archived by the authorities and therefore resolved. Report 28-2019-OPDR-ABOG/AAR of the Regional Attorney's Office of the Regional Government of Ucayali confirmed that the time limit to file a claim for nullity of the legal act of resolution of purchase and sale of the land in favor of BAM had expired (article 2001 of the Peruvian Civil Code establishes a 10-year time limit). In this sense, the definitive closing of the file was declared and, consequently, it is a closed conflict. There is no overlapping of properties with the Instituto Superior Technological Suiza.

Secondly, there was an issue of conciliation of balances for the purchase and sale of land in JCC. This dispute is archived and, therefore, solved. In this regard, Regional Directorial Resolution No.155-2020-GRU-DRA left without effect letter No.182-2016-GRU-DRA for the collection by conciliation of balances for purchase and sale of land and confirmed that BAM had already proceeded with the payment of this debt. Therefore, a letter from the Regional Management confirming that the reversion of the property does not proceed is not required because the Regional Directorial Resolution No.155-2020-GRU-DRA already confirms the non-reversion. In short, all balances have been paid and the dispute was solved.

Thirdly, there was a dispute of overlapping with public domain-State-owned land in JCC which was archived and solved by Report No. 002-2022-GRU-DRA/DISAFILPA/PSCR-TUPA of the Directorate for Land Rights Consolidation Processes of the Regional Directorate of Agriculture of Ucayali (see the orange strip in Figure 2.6 to visualize the overlap solved and archived). This report confirmed that BAM has ownership over the overlapping area.

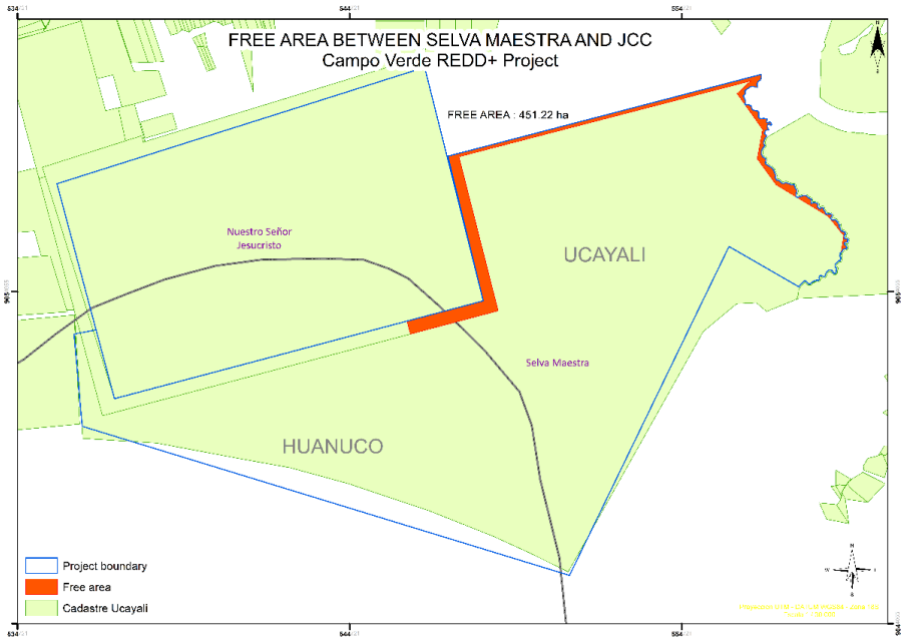


Figure 2.6. Map of Nuestro Señor Jesucristo

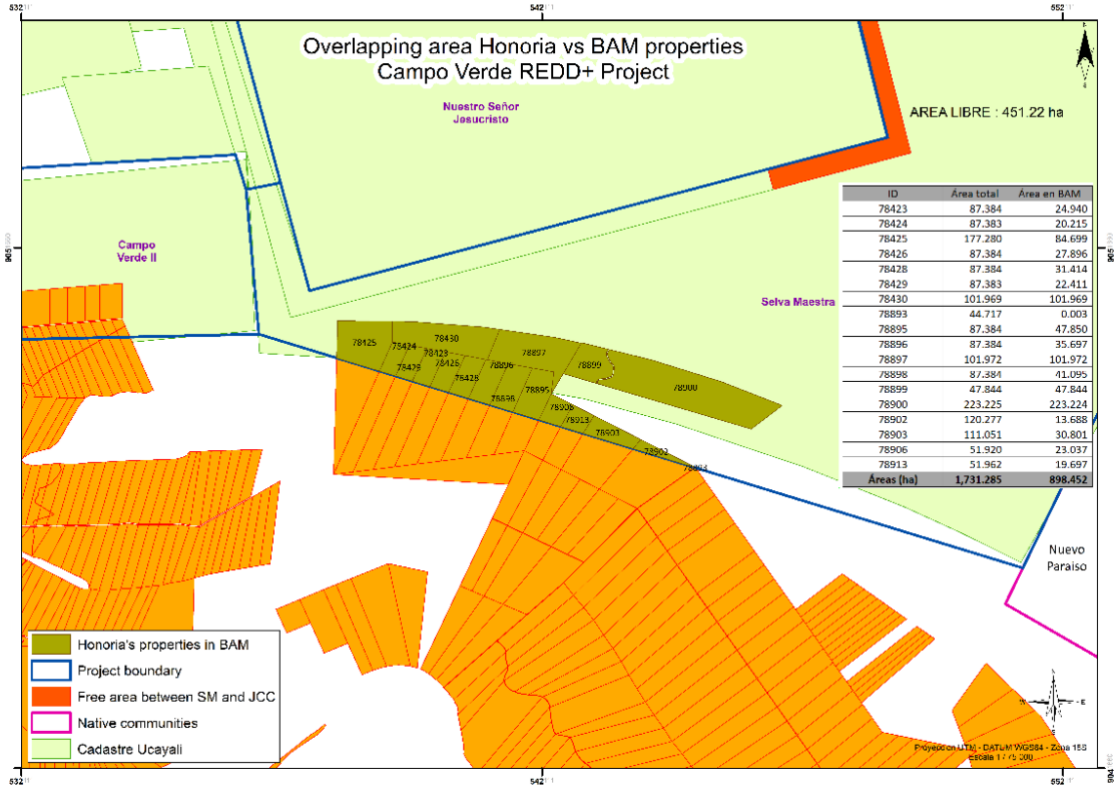
PREDIO SELVA MAESTRA: overlap with few private lands; a land right consolidation process is being carried out by the Project.

As mentioned in section 2.5.2., a land right consolidation process is being carried out by a law firm hired for this purpose. It must be also mentioned that all balances have been paid.

The surface area and coordinates of the lands corresponding to the orange square (see Figure 2.6 and Figure 2.7 here below and see the surface area and coordinates in Appendix 13) and the surface area corresponding to the red square (see Figure 2.8) have been identified as overlaps with BAM ownership rights title.

Superposiciones de predios inscritos sobre el Predio "Selva Maestra"

Figure 2.7. Map of superpositions in Selva Maestra



ID	Área total	Área en BAM
78423	87.384	24.940
78424	87.383	20.215
78425	177.280	84.699
78426	87.384	27.896
78428	87.384	31.414
78429	87.383	22.411
78430	101.969	101.969
78893	44.717	0.003
78895	87.384	47.850
78896	87.384	35.697
78897	101.972	101.972
78898	87.384	41.095
78899	47.844	47.844
78900	223.225	223.224
78902	120.277	13.688
78903	111.051	30.801
78906	51.920	23.037
78913	51.962	19.697
Áreas (ha)	1,731.285	898.452

Figure 2.8. Map of overlapping area plot Honoria vs BAM

At the end of 2022, BAM is still working to secure statutory rights in Selva Maestra, through the acquisition process of overlapping areas with private lands of third parties (see Figure 2.9, regarding the lands which are currently owned by BAM that have been healed).

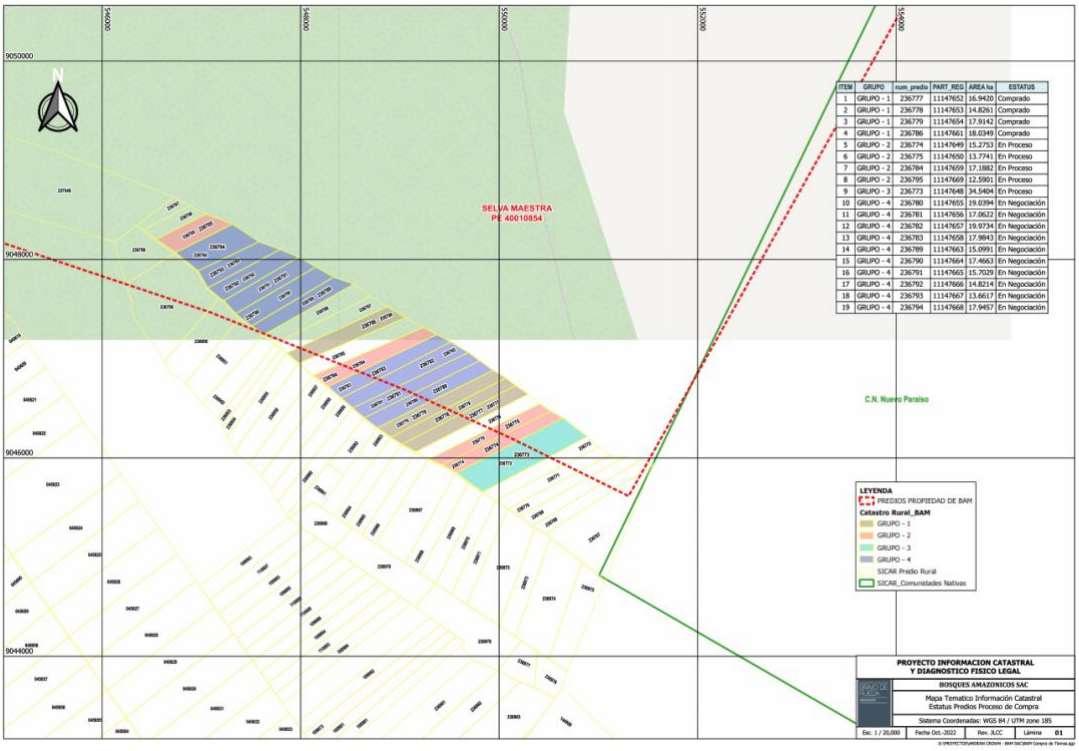


Figure 2.9. Overlapping in 2022

In Table 2.7, we describe the current legal status of the lands overlapping in Selva Maestra, which are included in the land rights consolidation process which is being carried out by the project.

Table 2.7. Legal status of overlapping areas in Selva Maestra

Land	Hectares	Landowner	Area and percentage overlapping	Legal status
Selva Maestra	12,730	Ganadera Campo Verde	11.32 ha 0.086%	BAM's title prevails over Ganadera Campo Verde's title because BAM title has an earlier date (previous).
Selva Maestra	12,430	Fundo Instituto Superior Tecnológico Suiza	0.15 ha 0.001%	Ministry of Education acquired this land right illegally as Legislative Decree 838 did not establish that public entities could benefit from it. However, Ministry of Education title's is older than BAM's title (previous).
Selva Maestra	12,730	Ganadera Campo Verde	404.62 ha	BAM's title prevails over Ganadera Campo Verde's title because BAM title has an earlier date (previous).
Selva		Cadastral Units		On October 26th, 2021, BAM filed a claim

Land	Hectares	Landowner	Area and percentage overlapping	Legal status
Maestra		(UC) (see red square in Map No. 4)		at the Regional Directorate of Agriculture of Huánuco. The claim is currently under review. Furthermore, it must be mentioned that BAM´s titles are registered in the National Public Registry of Property (SUNARP) which prevails.

In addition, there is an overlap between BAM's Selva Maestra land and the lands of the community of Nuevo Paraiso (see the red circle in Figure 2.10 here below). However, this does not constitute a dispute because BAM has always respected this Community's surface area and the Community´s title prevails over BAM's title because it was stated previously to BAM's title.

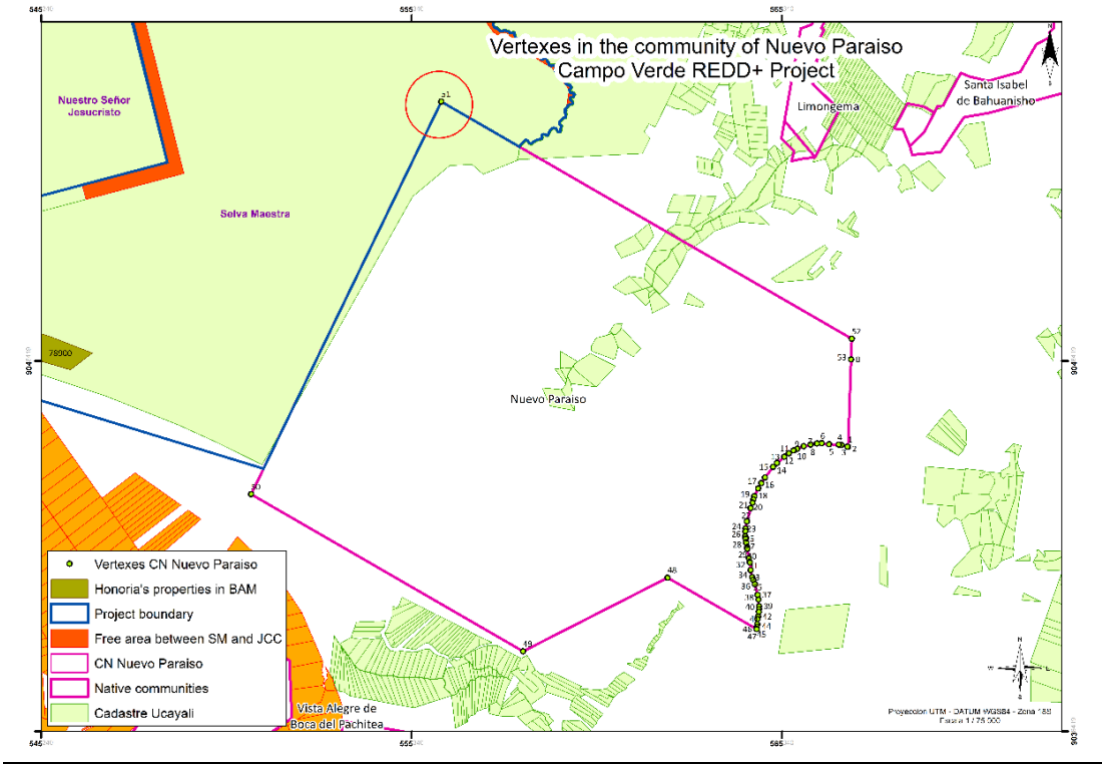


Figure 2.10. Map of vertexes in Nuevo Paraiso

2.5.6 National and Local Laws (G5.6)

The project complies with all relevant national and regional laws and regulations relevant to the Project activities, and there has been no change in any of the regulations mentioned in the section 2.5.7 of the PD.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation

Data / Parameter	***AAplanned,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	See the values applied in Table 3.4 and Table 3.5.
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 (Aplanned,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 5.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***Aplanned,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	See the values applied in Table 3.4 and Table 3.5.
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 3.2.1.1 for a complete description of measurement methods and procedures applied.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***D%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	-
Value applied	There is no fixed proportion, but fixed annual areas (see Table 3.3)
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 the data	Determination of baseline scenario.
Comments	-

Data / Parameter	***L-Di***
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-Di 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 the data	Determination of baseline scenario.
Comments	-

Data / Parameter	***ΔCAB_tree,i***
Data unit	t CO2e.ha-1
Description	Baseline carbon stock change in aboveground tree biomass in stratum i; t CO2-e ha-1.
Source of data	Calculated based on VMD0006 v1.3 equation 6.
Value applied	See the values applied in Table 3.8.

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 (CAB_tree,bsl,i) and the post-deforestation carbon stock in aboveground tree biomass in stratum i (CAB_tree,post,i), according to VMD0006 v1.3 equation 6.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***ΔCBB_tree,i***
Data unit	t CO2e.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	See the values applied in Table 3.8.
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 (CAB_tree,bsl,i) and the post-deforestation carbon stock in aboveground tree biomass in stratum I (CAB_tree,post,i); according to VMD0006 v1.3 equation 8.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***ΔCSOC,i***
Data unit	t CO2e.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	See the values applied in Table 3.8.
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 (CSOC,bsl,i) and post-deforestation carbon stock in soil organic carbon in stratum i (CSOC,PD-BSL,i), according to VMD0006 v1.3 equation 12.

Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***CAB_tree,i***
Data unit	t CO2e.ha^{-1}
Description	Carbon stock in aboveground biomass in trees in the baseline in stratum i,
Source of data	FREL (2021)[12] - Lowland Tropical Rainforest Garcia, Honorio & Del Castillo (2012)[13] - Mixed Palm Swamp and Palm Swamp - Mauritia flexuosa dominated palm swamp
Value applied	See the values applied in Table 3.6.
Justification of choice of data or description of measurement methods and procedures applied	The selected sources meet the criteria VMD0001 v1.1
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***CBB_tree,i***
Data unit	t CO2e.ha^{-1}
Description	Carbon stock in belowground biomass in trees in the baseline in stratum i
Source of data	FREL (2021)[14] - Lowland Tropical Rainforest Freitas et al. (2006)[15] - Mixed Palm Swamp and Palm Swamp - *Mauritia flexuosa* dominated palm swamp
Value applied	See the values applied in Table 3.6.
Justification of choice of data or description of measurement methods and procedures applied	The selected sources meet the criteria VMD0001 v1.1

[12] https://redd.unfccc.int/files/nref_peru_final.pdf
[13] https://revistas.iiap.org.pe/index.php/foliaamazonica/article/view/43/80
[14] https://redd.unfccc.int/files/nref_peru_final.pdf
[15] https://repositorio.iiap.gob.pe/bitstream/20.500.12921/228/2/Freitas_documentotecnico_2006.pdf

Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***R***
Data unit	Dimensionless
Description	Root to shoot ratio appropriate to forest type.
Source of data	Freitas et al. (2006)
Value applied	Pure and mixed aguajal = 0.40
Justification of choice of data or description of measurement methods and procedures applied	BGC of pure and mixed aguajal.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***CSOC,i***
Data unit	t CO2e.ha^{-1}
Description	Mean carbon stock in soil organic carbon in the baseline in stratum i.
Source of data	Cuellar & Salazar (2016)[16] and Garcia, Honorio & Del Castillo (2012) [17]
Value applied	See the values applied in Table 3.6.
Justification of choice of data or description of measurement methods and procedures applied	The selected sources meet the criteria VMD0004 v1.0.
Purpose of the data	Calculation of baseline emissions.
Comments	-

[16] http://repositorio.inia.gob.pe/handle/20.500.12955/490
[17] https://revistas.iiap.org.pe/index.php/foliaamazonica/article/view/43/80

Data / Parameter	***CF***
Data unit	Dimensionless
Description	Carbon fraction
Source of data	IPCC 2006
Value applied	0.47
Justification of choice of data or description of measurement methods and procedures applied	The reference level of forest emissions due to gross deforestation of Peru in the Amazon biome works with the carbon fraction proposed by the IPCC (2006)
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***CAB,post,i***
Data unit	t CO2e.ha^{-1}
Description	Post-deforestation carbon stock in aboveground tree biomass in stratum i.
Source of data	FREL (2021) - Lowland Tropical Rainforest Garcia, Honorio & Del Castillo (2012) - Mixed Palm Swamp and Palm Swamp - *Mauritia flexuosa* dominated palm swamp
Value applied	See the values applied in Table 3.7.
Justification of choice of data or description of measurement methods and procedures applied	Based on referenced literature values.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***CBB,post,i***
Data unit	t CO2e.ha-1
Description	Post-deforestation carbon stock in belowground tree biomass in stratum i.

Source of data	FREL (2021) - Lowland Tropical Rainforest Garcia, Honorio & Del Castillo (2012) - Mixed Palm Swamp and Palm Swamp - *Mauritia flexuosa* dominated palm swamp
Value applied	See the values applied in Table 3.7.
Justification of choice of data or description of measurement methods and procedures applied	Based on referenced literature values.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	**CSOC, post,i**
Data unit	t CO2-e ha^{-1}
Description	Mean post-deforestation stock in soil organic carbon in the post deforestation stratum i
Source of data	Cuellar & Salazar (2016) and Garcia, Honorio & Del Castillo (2012)
Value applied	See the values applied in Table 3.7.
Justification of choice of data or description of measurement methods and procedures applied	Based on referenced literature values.
Purpose of the 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	See the values applied in Table 3.10.

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 the 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.

Data / Parameter	***EBiomassBurn,i,t***
Data unit	t CO2e
Description	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO2, CH4, N2O).
Source of data	Calculated based on VMD0013 v1.3 equation 1.
Value applied	See the values applied in Table 3.11.
Justification of choice of data or description of measurement methods and procedures applied	Calculated based on area burnt for stratum i in year t (Aburn,i,t), average aboveground biomass stock before burning stratum i, in year t (Bi,t), combustion factor for stratum i (unitless) (COMFi), emission factor for stratum i for gas g (Gg,i) and the Global warming potential for gas g (GWPg), according to VMD0013 v1.3 equation 1.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***Aburn,i,t***
Data unit	ha
Description	Area burnt for stratum i in year t.
Source of data	Equal to AAplanned,i,t in the baseline case.
Value applied	See the values applied in Table 3.11.

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 the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***Bi,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	See the values in Table 3.6.
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 (CAB_tree,i,t), Carbon stock in dead wood for stratum i in year t (CDWi,t), Carbon stock in litter for stratum i in year t (CLI,i,t) and Carbon fraction of biomass (CF), according to VMD0013 v1.3 equation 2.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***COMFi***
Data unit	Dimensionless
Description	Combustion factor for stratum i.
Source of data	IPCC 2006
Value applied	0.5
Justification of choice of data or description of measurement methods and procedures applied	Default values in Table 2.6 of IPCC, 2006 - Appendix 2.
Purpose of the 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	CH4=6.8; N2O=0.2, CO2=1580
Justification of choice of data or description of measurement methods and procedures applied	Default values in Table 2.6 of IPCC, 2006 - Appendix 2.
Purpose of the 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 2: emission factors for various types of burning for CH4 and N2O).

Data / Parameter	***GWPg***
Data unit	Dimensionless
Description	Global warming potential for gas g.
Source of data	Fifth Assessment Report (AR5) IPCC (2006)
Value applied	CH4=28; N2O=265
Justification of choice of data or description of measurement methods and procedures applied	Default factor from the latest IPCC Assessment Report.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***ΔCBSL,i,t***
Data unit	t CO2e
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 Table 3.12.
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 (AAplanned,i,t), the baseline carbon stock change in aboveground tree biomass in stratum I (ΔCAB_tree,i), the baseline carbon stock change in belowground tree biomass in stratum I (ΔCBB_tree,i), the baseline carbon stock change in aboveground non-tree biomass in stratum (ΔCAB_non-tree,i), the baseline carbon stock change in belowground non-tree biomass in stratum I (ΔCBB_non-tree,i), the baseline carbon stock change in wood products in stratum I (ΔCWP,i), the baseline carbon stock change in dead wood in stratum I (ΔCDW,i), the baseline carbon stock change in litter in stratum I (ΔCLI,i) and the baseline carbon stock change in soil organic carbon in stratum I, according to VMD0006 v1.3 equation 4.
Purpose of the data	Calculation of baseline emissions.
Comments	-

Data / Parameter	***ΔCBSL,planned***
Data unit	t CO2e
Description	Net greenhouse gas emissions in the baseline from planned deforestation.
Source of data	Calculated based on VMD0006 v1.3 equation 1.
Value applied	See the values applied in Table 3.12.
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 (ΔCBSL,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 the data	Calculation of baseline emissions.
Comments	-

3.1.2 Data and Parameters Monitored

Data / Parameter	**ADefPA,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
Description of measurement methods and procedures to be applied	Annual deforestation is measured using remote sensing techniques and reported with spatial explicit data by raster and shapefile evidence.
Frequency of monitoring/recording	Annual
Value monitored	38.57 (see Table 3.15)
Monitoring equipment	GEOBOSQUES official data, validated with Planet-NICFI images.
QA/QC procedures to be applied	GIS measurement using remote sensing techniques and field evaluations.
Purpose of the data	Calculation of project emissions
Calculation method	Monitoring will be carried out using the country's official tool GEOBOSQUES.
Comments	-

Data / Parameter	CP,post,u,i
Data unit	t CO2-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 (CAB_tree,i), carbon stock in belowground tree biomass in stratum I (CBB_tree,i), carbon stock in aboveground non-tree vegetation in stratum (CAB_non-tree,i), carbon stock in belowground non-tree vegetation in stratum I (CBB_non-tree,i), carbon stock in dead wood in stratum I (CDW,i), carbon stock in litter in stratum I (CLI,i), mean post-deforestation stock in soil organic carbon in the post deforestation stratum I (CSOC,PD-BSL,i), according to VMD0015 v2.2, equation 06.

Frequency of monitoring/recording	10 years (in each baseline revalidation)
Value monitored	See the values applied in Table 3.6
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	ΔCpools,Def,u,i,t
Data unit	t CO2-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 (CBSL,i), carbon stock in all pools in post-deforestation land use u in stratum I (CP,post,u,i) and carbon stock sequestered in wood products from harvests in stratum I (CWP,i), according to VMD0015 v2.2, equation 05.
Frequency of monitoring/recording	10 years (in each baseline revalidation)
Value monitored	See the values applied in Table 3.16
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	ΔCP,DefPA,i,t
Data unit	t CO2-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	Calculated based on the area of recorded deforestation in the project area stratum i converted to land use u at

applied	time t (ADefPA,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 (ΔCpools,Def,u,i,t), according to VMD0015 v2.2, equation 03.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values in Table 3.17
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	ADegW,i
Data unit	ha
Description	Area potentially impacted by degradation processes in stratum i
Source of data	Buffer area from all access points
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 5 years.
Value monitored	See the values applied Table 3.23
Monitoring equipment	GPS and Compass.
QA/QC procedures to be applied	Each brigade has a team leader in charge of supervising the collection of information. All the information collected will be double-checked in the cabinet.
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 (ΔCP,DegW,i,t) were made based on participatory rural appraisals (PRA) and field evaluations.

Data / Parameter	CDegW,i,t
Data unit	t CO2e 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 5 years.
Value monitored	See the values applied in Table 3.23
Monitoring equipment	Diameter tape.
QA/QC procedures to be applied	Field measurement quality control.
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, the construction of houses and boats per family.

Data / Parameter	APi
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 1% of ADegW,i
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	25.775 ha (see Table 3.23)
Monitoring equipment	Tape measure, GPS.

QA/QC procedures to be applied	Remote evaluation.
Purpose of the data	Calculation of project emissions.
Calculation method	Fixed area plots covering 1% of the ADegW,i in the monitoring period.
Comments	-

Data / Parameter	ΔCP,DegW,i,t
Data unit	t CO2-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 (ADegW,i) and biomass carbon of trees cut and removed through degradation process from plots measured in stratum i in year t (CDegW,i,t) and total area of degradation sample plots in stratum I (APi), according to VMD0015 v2.2, equation 08.
Frequency of monitoring/recording	Annual
Value monitored	See the values applied in Table 3.24
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	ΔCP,SelLog,i,t
Data unit	t CO2-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	Calculated based on actual net project emissions arising in the logging gap in stratum i in year t (CLG,i,t), actual

applied	net project emissions arising from logging infrastructure in stratum i in year t (CLR,i,t) and the carbon stock in wood products pool from stratum i, in year t (CWPi,t), according to VMD0015 v2.2, equation 09.
Frequency of monitoring/recording	-
Value monitored	0
Monitoring equipment	N/A
QA/QC procedures to be applied	-
Purpose of the data	Calculation of project emissions
Calculation method	-
Comments	-

Data / Parameter	Aburn,i,t
Data unit	ha
Description	Area burnt for stratum i in year t.
Source of data	Equal to ADistPA,q,i,t + ADefPA,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	See the values applied in Table 3.18
Monitoring equipment	-
QA/QC procedures to be applied	Remote monitoring and surveillance system.
Purpose of the data	Calculation of project emissions
Calculation method	-
Comments	-

Data / Parameter	GHG P,E,i,t
Data unit	t CO2e.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-CO2 emissions due to biomass burning in stratum i in year t (EBiomassBurn,i,t), according to VMD0006 v1.3 equation 15.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values applied in Table 3.19
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 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.

Data / Parameter	EBiomassBurn,i,t
Data unit	t CO2e
Description	Greenhouse gas emissions due to biomass burning in stratum i in year t of each GHG (CO2, CH4, N2O)
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 (Aburn,i,t), average aboveground biomass stock before burning stratum i, in year t (Bi,t), combustion factor for stratum i (unitless) (COMFi), emission factor for stratum i for gas g (Gg,i) and the Global warming potential for gas g (GWPg), according to VMD0013 v1.3 equation 1.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values applied in Table 3.18
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	ΔCWPS-REDD
Data unit	t CO2-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 (ΔCP,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 (ΔCP,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 (ΔCP,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 (GHGP-E,i,t), according to VMD0015 v2.2, equation 01.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	15,232.47 (See Table 3.19)
Monitoring equipment	N/A
QA/QC procedures to be applied	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.
Purpose of the data	Calculation of project emissions
Calculation method	See VMD0015 v2.2, equation 01.
Comments	-

Data / Parameter	ΔCLK-AS,planned
Data unit	t CO2e
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	Calculated based on the area of activity shifting leakage in stratum i in year t (LKAplanned,i,t), the net carbon

applied	stock changes in all pre- deforestation pools in baseline stratum I, (ΔCBSL,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 5 years.
Value monitored	0
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	NER REDD
Data unit	t CO2e
Description	Total net GHG emission reductions of the REDD project activity up to year t (t CO2e).
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 (ΔCBSL-REDD), the net GHG emissions in the REDD project scenario up to year t (ΔCWPS-REDD) and the net GHG emissions due to leakage from the REDD project activity up to year t (ΔCLK-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	See the values applied in Table 3.26
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	BufferPlanned
Data unit	t CO2e

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 (ΔCBSL,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 5 years.
Value monitored	14 % (see Table 3.29)
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	-

Data / Parameter	UncertaintyREDD-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 (UREDD-BSL,SS,i), and the sum of combined carbon stocks and GHG sources in the REDD baseline scenario (EREDD-BSL,SS,t,i),according to VMD0017 v2.2 equation 5.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values applied in Table 3.27
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of VCUs
Calculation method	Calculated according to VMD0017 v2.2 equation 5.
Comments	Uncertainty in baseline rate of deforestation is set as zero (UncertaintyREDD-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 UncertaintyREDD-BSL,SS equals to cumulative uncertainty in REDD baseline scenario up to year t (UncertaintyREDD-BSL,t*).

Data / Parameter	UncertaintyREDD-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 (UREDD-WPS,SS,i) and the sum of combined carbon stocks and GHG sources multiplied by the area of stratum i (Ai) in the REDD project scenario (EREDD-WPS,SS,t,i), according to VMD0017 v2.2 equation 13.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values applied in Table 3.27
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	Calculation of VCUs.
Calculation method	Calculated according to VMD0017 v2.2 equation 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 (UncertaintyREDD_BSL,t), the total uncertainty in the REDD project scenario (UncertaintyREDD_WPS), the Net GHG emissions in the REDD baseline scenario up to year t (ΔCBSL-REDD,t), and the Net GHG emissions in the REDD project scenario up to year t (ΔCWPS-REDD,t), according to

	VMD0017 v2.2 equation 21
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	See the values applied in Table 3.28
Monitoring equipment	-
QA/QC procedures to be applied	-
Purpose of the data	-
Calculation method	Calculation of VCUs
Comments	Calculated according to VMD0017 v2.2 equation 21

Data / Parameter	Adjusted_NERREDD+
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 (NERREDD), and the cumulative uncertainty for the REDD+ project activities up to year t (NERREDD+_ERROR).
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 5 years.
Value monitored	Equals the value of NER REDD
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	No deduction should result for uncertainty given that the value (5.03%) is below the threshold (15%)

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	Calculated based on the total net GHG emission

methods and procedures to be applied	reductions of the REDD+ project activity up adjusted to account for uncertainty (Adjusted_NERREDD+), and the total permanence risk buffer withholding (BufferPlanned), according to VMD0017 v2.2 equation 19.
Frequency of monitoring/recording	Before every verification event with a minimum frequency of 05 years.
Value monitored	See the values applied in Table 3.29
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

3.1.3.1 Monitoring Organizational Structure

The organizational structure that carried out the monitoring activities in cooperation with PASKAY (external consultant) is detailed below:

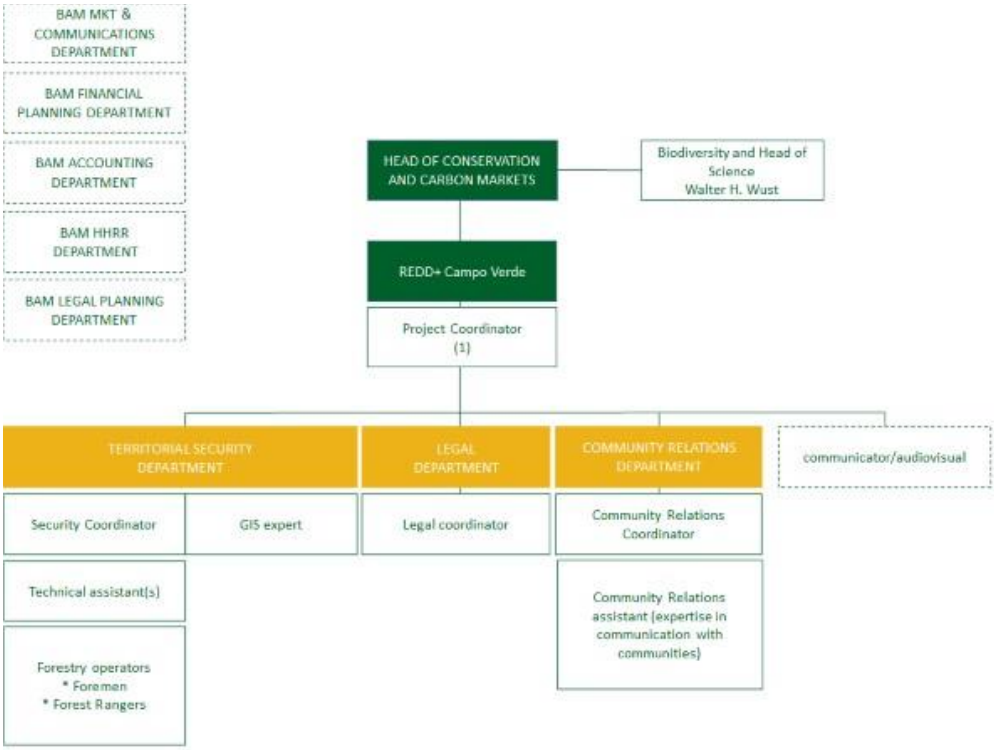


Figure 3.1. Organizational structure

a. Science and conservation program leader

During the monitoring period, the head of BAM's Science Program lead all studies carried out to evaluate and monitor the ecological wealth found within the area of influence of the project. Among its assigned functions were to lead the activity in terms of the development of biodiversity expeditions and inventories, perform ecological characterization, and establish alliances with prestigious scientific institutions. The expeditions carried out during the monitoring period and lead by the Head of Science are detailed further on the document.

b. General coordinator of the Project

The Last Habitat REDD+ General Coordinator had the responsibility to lead the group in charge of conducting the activities for the optimal implementation of the project, ensuring compliance with the budget and the defined deadlines. Furthermore, the General Coordinator had the responsibility to represent BAM in front of the different interest groups such as competent authorities, collaborative

organizations, community, among others, reporting the progress of the execution to the Head of Conservation and Carbon Markets.

c. Coordinator of the Department of Territorial Security (Monitoring Control and Surveillance)

The coordinator of the Department of Territorial Security has had the role of ensuring the security of the territory, avoiding deforestation, degradation and any environmental crime or threat to the forests included in the project area. Specifically, to identify, control and monitor any threat or conflict that could have occurred within the project area. The activities implemented by the Department of Territorial Security for fulfilling their responsibilities are detailed further below.

d. Legal Coordinator

The Legal Coordinator has been in charge of all processes related to possible risks of deforestation in the area such as invasions, illegal logging, and others, as well as the collaboration on such matters with the competent authorities.

e. Community Relations Coordinator

The Community Relations coordinator have been working with the different groups in the area of influence to continue strengthening the relationship between BAM and its stakeholders, ensuring fluid bilateral communication, a reciprocal and close relationship that allows achieving the objectives of the project, as well as to improve the life situation of the people directly or indirectly involved in it. The Community Relations coordinator have also represented BAM before communities and opinion leaders.

f. Audiovisual assistant / communicator

The audiovisual assistant / communicator has been in charge of registering and archiving the events, activities, etc. made by the project and around it in videos, photos, reports, or other communication tools that allow sharing and recording its progress.

All this team is exclusively dedicated to the project activities and had been widely supported by BAM's biggest structure: admin, financial planning, marketing, accounting, etc.

3.1.3.2 Monitoring Plan and Activities

As stated on the PD, the process for identifying, controlling, and reporting any possible threat of deforestation is explained in the diagram below:

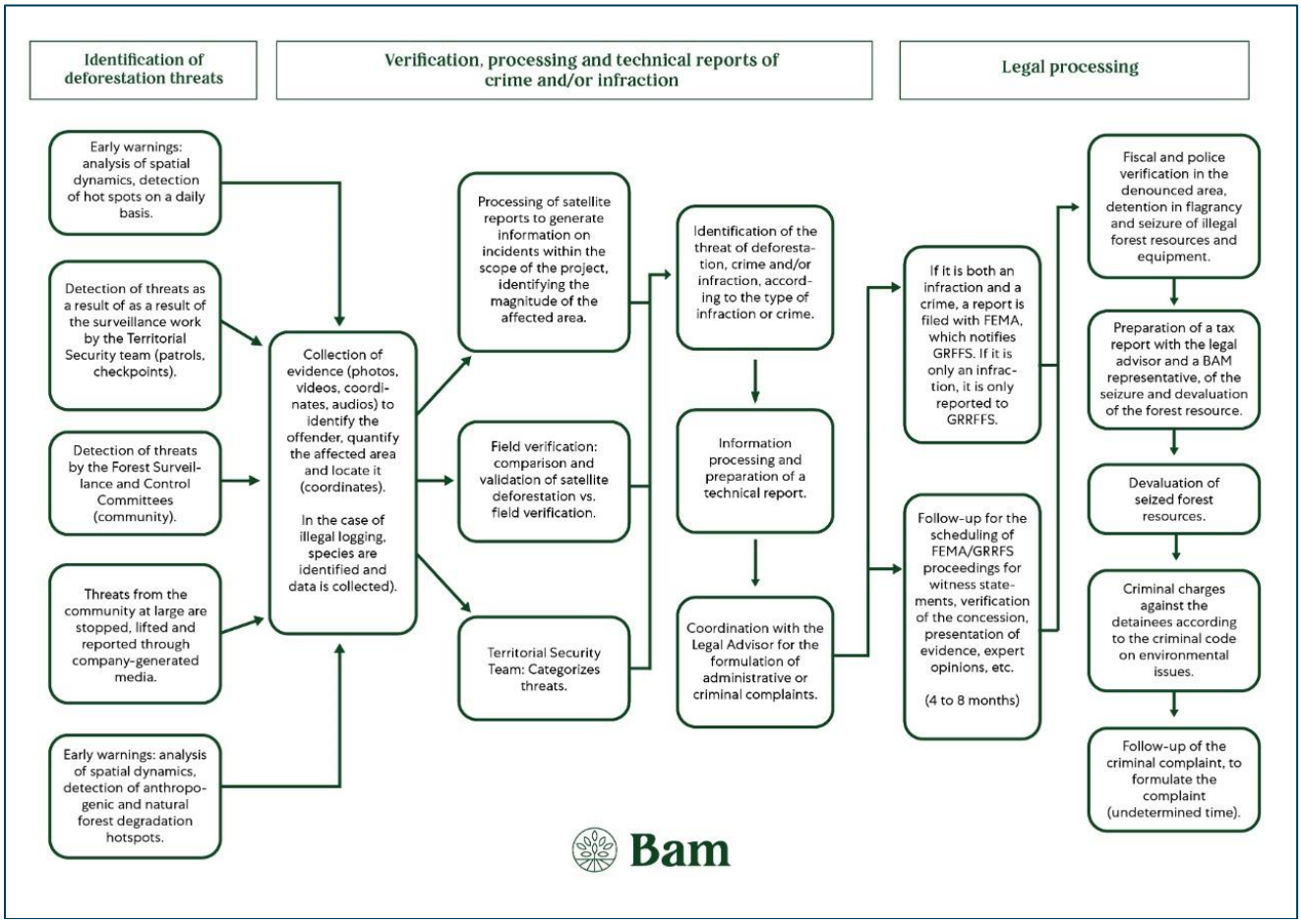


Figure 3.2. Process of identification, control, and report.

During the monitoring period, among the different activities developed, a comprehensive monitoring control and surveillance system was implemented, which includes:

- Satellite monitoring: daily alerts on fire hotspots (Figure 3.3 and Figure 3.4) were reported using satellite data for identifying on a permanent basis any possible risk of deforestation in the area, providing the ability to respond this matter immediately.
- Technical and legal monitoring: as part of the technical monitoring system the project team conducted regular patrolling on the area and demarcation of the project limits and boundaries, reporting and confronting any unusual/illegal activity to the legal team, and later, if the case, to the competent authorities for controlling any possible risk in the area of influence.

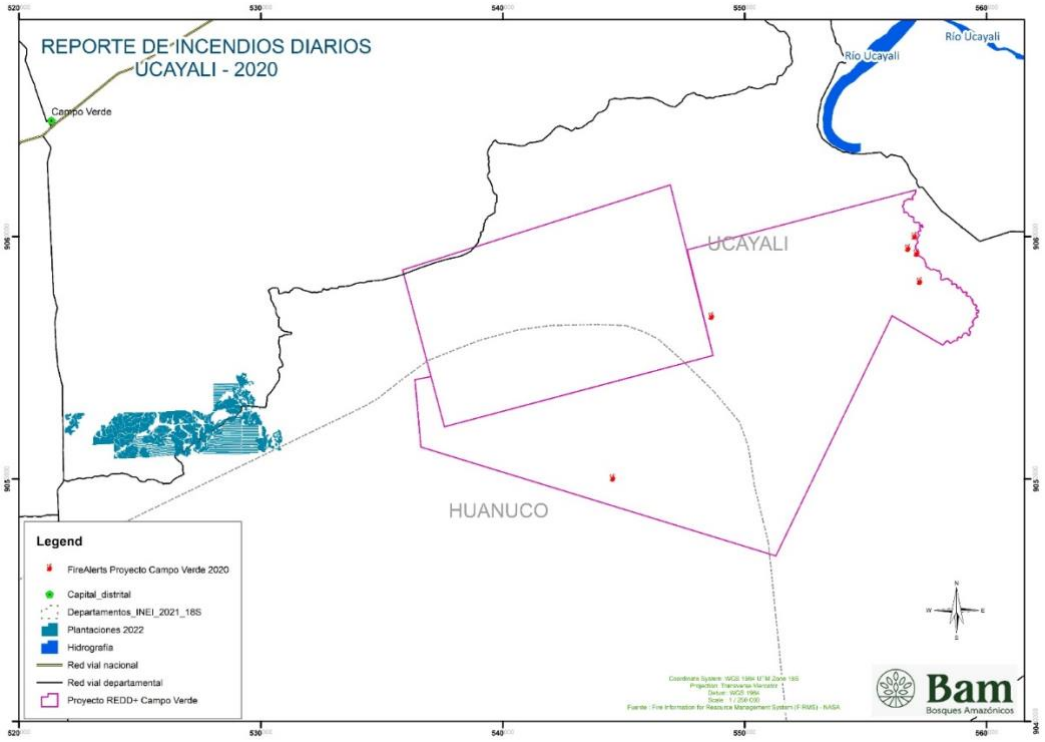


Figure 3.3. Fires and hot spots in Project Area (2020)

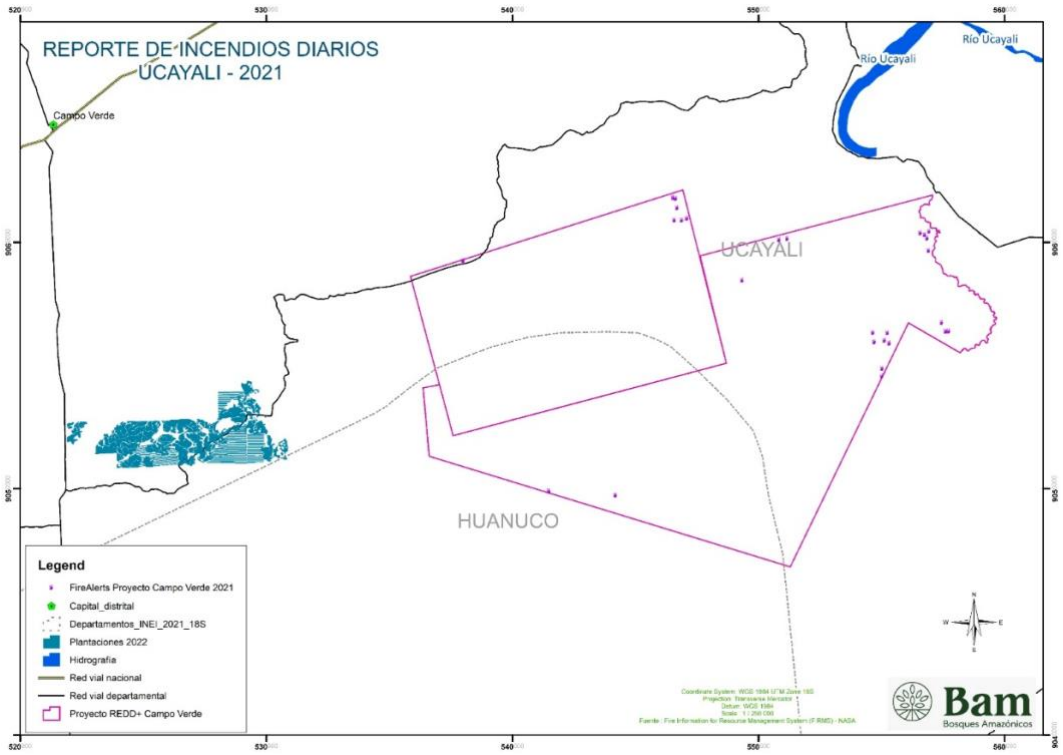


Figure 3.4. Fires and hot spots in Project Area (2021)

Table 3.1. Activities implemented as part of the Monitoring Control and Surveillance system

	Activities	Date	Comment (if needed)
1	Eviction of invaders with heavy machinery.	January, February, March 2018	Part of the monitoring, control and surveillance system developed on an ongoing basis (permanent).
2	Seizure of 900 units of Cumala wood species, being taken care of for more than 3 months - sawmill in Manantay	Feb-18	
3	Invitation with neighbors and authorities to address the issue of illegal logging.		Reinforcing the joint work with the corresponding authorities.
4	First intervention in the Shiquihual and Maputay area against illegal loggers in Selva Maestra, resulting in a decrease in anthropogenic activity.	April-18	
5	Reconstruction of Milagros camp.	June – July-18	Camps must be renewed in order to be maintained over time.
6	Installation of a wire fence in Mirianita camp on the north side of the camp.	Jan – Aug 2019	
7	Preparation of materials and construction of fence at the Palmeras camp.	Feb – Mar-19	
8	Construction of the Palmeras camp.	Nov-19	The company seeks to implement new territorial security camps to safeguard and monitor a larger area of forest.
9	Installation of fence in the Agua Blanca camp.	Sept - Oct 2019	
10	Maintenance of boundaries and cleaning of roads in the camps: Pucallpillo, Quinillal, Agua Blanca, Palmeras and Mirianita.	January, April, and May 2020	To properly define property boundaries. Reports were made on the construction of facilities in the camps.
11	Installation of the Quinillal camp.	March-20	
12	Patrols in camps: Milagros, Palmeras, Pucallpillo, Quinilla, Mirianita and JCC, achieving a total of approximately 13 patrols in total, and inter-daily patrols at Camp Agua Blanca.	April-20	With intervention to groups of invaders.
13	Installation of 400 posts and demarcations with wire fences in the construction of the Mirianita camp.	May-20	
14	Replanning the boundaries for the	May-20	

	Activities	Date	Comment (if needed)
	installation of row fences.		
15	Patrols in camps: Palmeras, Pucallpillo, Quinillal and Mirianita, achieving a total of approximately 10 patrols. Daily patrols in JCC and Milagros and inter-daily patrols in Agua Blanca.	Jan-20	Patrol operations against illegal logging and visits by the Territorial Security Supervisor.
16	Installation of poles at the Mirianita camp	June-20	
17	Entry of PASKAY's technical team to the Native Community (CCNN) of Nuevo Paraíso.	July-20	Strengthening community relations and fostering bilateral communication. Social diagnosis. Project socialization.
18	Medical visit to the Mirianita camp.	July-20	Strengthening the health and safety of the company's workers.
19	Meeting with the Association of Rice Farmers of the Belen hamlet	Aug-20	Strengthening community relations and fostering bilateral communication.
20	Intensive patrols due to strong threats in Agua Blanca, Pucallpillo and Milagros camps.	Aug-20	Threats: possible entry to the farm, shots fired and intercepted motorized vehicles.
21	Patrolling in Quinillal camp.	Sept-20	
22	Installation of boundary lines with Mr. Walter Sánchez.	Oct-20	
23	Forestry group visit to the Quinillal camp.	Oct-20	
24	Meeting at the San Antonio de Honoria Community Center.	Nov-20	Strengthening community relations and fostering bilateral communication.
25	Reported crime: Trespassing and violence with firearms in Selva Maestra.	July-2021	These complaints are the result of illegal interventions by the peasant patrols of Honoria entering the Palmeras camp and destroying the boundaries and signs of the Selva Maestra property.
26	Paskay's visit to Quinillal for biodiversity evaluation.	Oct-21	
27	Reported crime: Usurpation and kidnapping.	2021	Details of the crime: It occurred as a result of an illegal intervention in Palmeras camp. The criminals intercepted two workers of the camp where they were held for two and a half days in the hamlet of San

	Activities	Date	Comment (if needed)
			Antonia. The complaint was filed with the police station of Honoria and then passed to the corporate criminal prosecutor's office of Campo Verde.
28	Reported crime: Deforestation in Selva Maestra.	2021	Details of the crime: Mr. Luis Hacha Jimenez put a caterpillar tractor and made a 2 and a half kilometers open field in the Selva Maestra property.
29	Reported crime: Usurpation and violence in Selva Maestra.	2021	Reported: Tomas Huamán Becerra and Víctor Nolasco Stage of proceedings: filed.
30	Reported crime: Deforestation in Selva Maestra.	2021	Reported: Luis Acha Jiménez Stage of proceedings: preliminary investigation.

The methods used for generating/measuring, recording, storing, aggregating, collating, and reporting the data on monitored parameters are detailed below:

- Monitoring (Territorial Security): As part of the surveillance system, daily reports of hot spots are generated and recorded in the company's system. Likewise, the technical field security team keeps a record in logbooks, where any possible event or action in the field is reported. As for the legal aspect of monitoring threats in the field, legal complaints are handled by the lawyer in charge, who develops and reports the files to the general coordinator of the project for subsequent storage of the information.
- Community: Reports on the different actions and activities carried out are prepared by the head of community relations in the area and sent to the project's general coordinator. All activities carried out with the community have a photographic record that is stored as supporting documentation.
- Biodiversity: biodiversity expedition reports are developed in collaboration with scientific organizations which are reported and stored in the BAM storage system. Notes with the most relevant results from the organizations are also shared and published online (e.g. Blog) .

The physical files are stored in the project's administrative office located in the town of Pucallpa, while the digital files are stored in an electronic folder called "THE LAST HABITAT REDD PROJECT - BAM" located on the BAM server. In addition, the company has external disks for copying documents.

a) Handling of internal auditing data

Financial: BAM's corporate financial planning and budgeting area follows up on the implementation of activities carried out in accordance with the established budget. The company's EEFF are reported and audited (externally) on a quarterly basis.

Legal/compliance: BAM's corporate legal area, led by an expert advisor, is in charge of monitoring and ensuring the highest standards of good corporate governance, following the policies implemented by the company (e.g., sustainability policies, fair labor, etc.).

The results of the company's activities, including those of the project, are reported at board meetings, which in turn are publicly disclosed to the market.

The organizational structure of the project (3 different areas, a general coordination and a department manager) ensures a permanently controlled and evaluated work. Furthermore, the involvement of an independent company (e.g., PASKAY) for the monitoring of the activities promotes a permanent and impartial evaluation of the project activity.

During the monitoring process, process flowcharts have been established for the correct monitoring of operations e.g., monitoring, control and surveillance system, attention to complaints and suggestions from the community.

b) Sampling approaches and QA/QC procedures

The monitoring of the climate section includes the generation of annual deforestation maps that allow quantifying the loss of forest cover in the monitoring period. Considering that the geospatial information provided by GEOBOSQUES was used as the baseline activity data, being the official information of the Peruvian State, it was necessary to carry out an accuracy evaluation to comply with the requirements of the VMD0015 tool. For this, control points distributed in a completely random and stratified manner were established (according to the strata defined by GEOBOSQUES). This procedure is explained in section 3.2.2.1.1 (Accuracy assessment), having reached a Kappa index of 0.92, which exceeds the threshold value of 0.9 Proposed by the VMD0015 methodology. The frequency of evaluation of deforestation is annual. As quality control measures, many more evaluation points (150) were selected per class than the minimum required, as well as the validation focused on a reduced extension that included the project area and surrounding areas, reducing the noise generated by a map made on a national scale.

The monitoring of the degradation was an evaluation in the field that considered the sampling criteria of 1% of the area potentially subject to degradation, the distribution of the points was carried out by means of a systematic distribution of the transects. It was found that the emissions were not significant, as they did not exceed the 5% threshold of the T-SIG tool, as described in section 3.2.2.2.1. This monitoring responds to the frequency of establishment of the PRA (every 2 years). As quality control measures, there was a technical team of forest engineers who carried out the evaluation in the field, and which were monitored, trained, and supervised by PASKAY SAC personnel, the complete results and description of the details of the field trip is detailed in **Appendix 17**.

3.1.4 Dissemination of Monitoring Plan and Results (CL4.2)

The results of the biodiversity assessment expeditions carried out as part of the BAM Science Program are published in social networks and on the company's website: *First expedition*; *Second expedition*; *videos*

As part of the socialization process, project information brochures were distributed to all participating members of the different communities visited as part of The Last Habitat REDD+ interest group. In addition, printed information leaflets were distributed to the participants of the workshop on pest control and the use of trichoderma in seeds or soil, carried out in collaboration with SENASA.

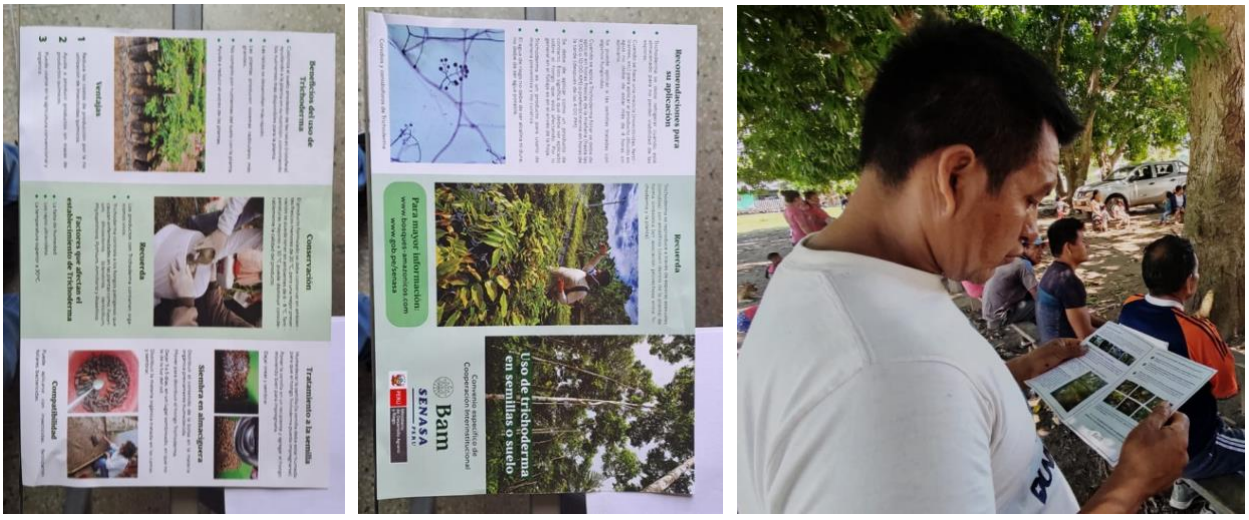


Figure 3.5. Brochures

On the other hand, the different activities and progress of the project were published in local media, such as the print media in Diario Ahora and Diario Ímpetu, and on television in UTV Noticias. In line with this, press articles are periodically published in local media such as Inforegión and Caretas.

Figure 3.6. Publications in local media

Additionally, the progress and results of the project are communicated annually in the Annual Reports, quarterly and/or semi-annually to the company's shareholders and investors through a digital newsletter and mailing, and periodically on the social networks: Instagram and Facebook.

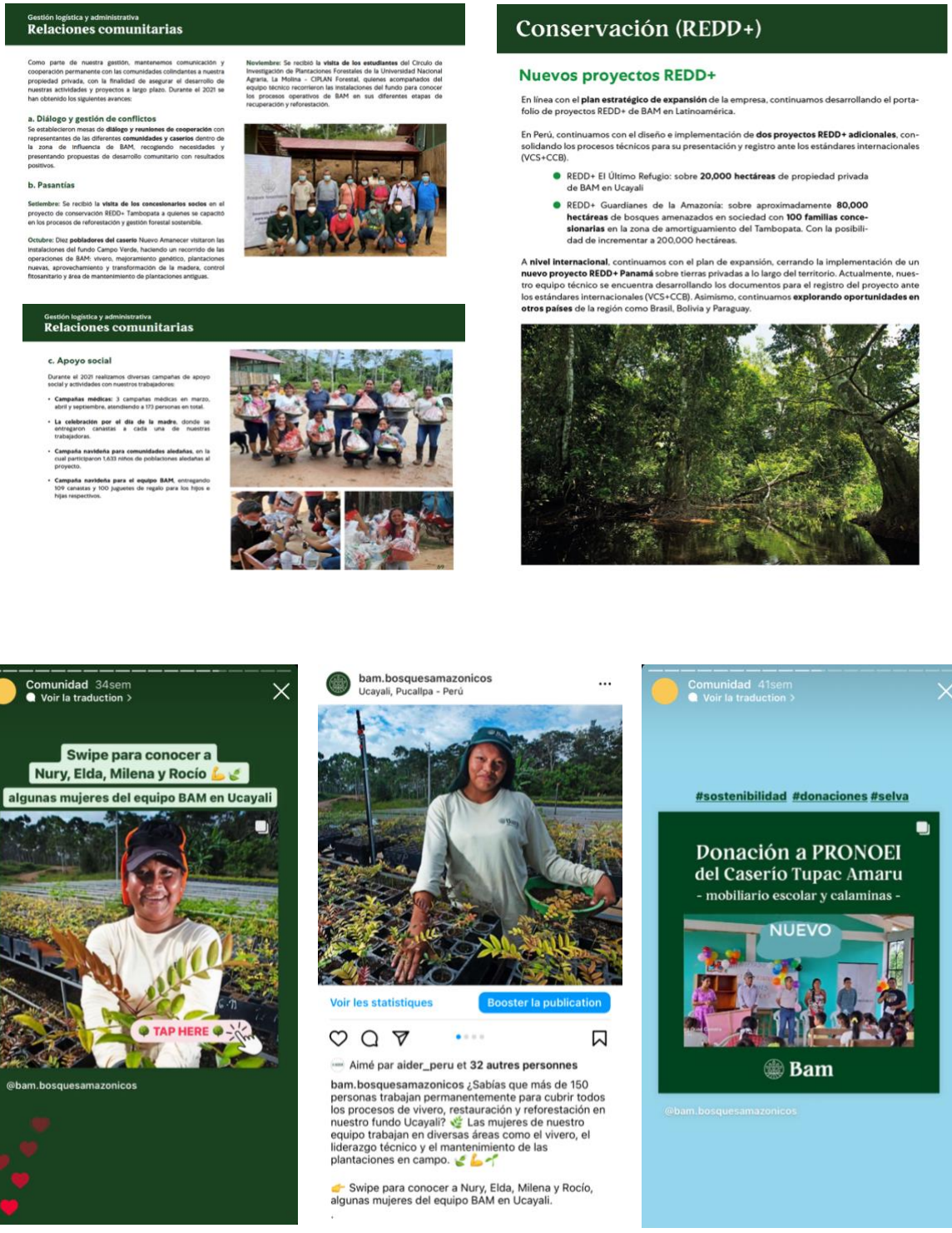


Figure 3.7. Annual reports and information shared in social media

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions

The baseline emissions calculated in the project are based on the conversion of forest to croplands (oil palm, *Myrciaria dubia* "Camu camu", and *Ricinus communis* "Higuerilla").

Considering the total area of the two land parcels (22,226 hectares), the permitted and planned conversion area is 14,176 ha. Accordingly, the planned deforestation methodology (APD) is applied to the conversion area. The ex-ante stratification is based on ancillary data as described in VMD0016 (X-STR) v 1.2. The areas of strata delineated prior to the allocation of inventory plots using stratified sampling are known exactly and require no accuracy assessment.

The stratification was based on forest inventories conducted in 2006 and 2012 for the two project areas, these inventories worked with multiple representations of ecozones, depending on the vegetation present. However, given that the carbon values to be worked on (Table 3.6) represent the Peruvian lowland forest in general (which includes a large part of the ecozones of the Peruvian Amazon), it was only necessary to highlight two different zones of this large group, the ecozones belonging to characteristic wetlands of the Peruvian jungle, the "aguajales". It was necessary to highlight this class to detriment of the others, due to its high carbon levels (especially in the SOC compartment), and the dominance of a palm tree (*Mauritia flexuosa*) above the presence of trees. In this way, the ecozones were regrouped according to three defined classes, described in Table 3.2.

Table 3.2. Ecozone stratification of each Project Area.

PAI name	Stratum	Ecozone/stratum description	Area (ha)	Percentage (%)
JCC - Nuestro Señor Jesucristo	1	Lowland Tropical Rainforest	4,722.12	58.66
	2	Palm and Mixed Palm Swamp Forest	704.15	8.75
	3	*Mauritia flexuosa* dominated palm swamp	2,449.99	30.44
	4	Other lands (non-forest)	173.62	2.16
	Total		**8,049.87**	**100.00**
Selva Maestra	1	Lowland Tropical Rainforest	11,876.00	83.77
	2	Palm and Mixed Palm Swamp Forest	985.37	6.95
	3	*Mauritia flexuosa* dominated palm swamp	22.76	0.16
	4	Other lands (non-forest)	1,292.01	9.11
	Total		**14,176.14**	**100.00**

On the 2006/2012 ecozone map, the forest/non-forest map was intersected in order to eliminate the non-forest areas existing in 2020. In this way, the remaining forest area per ecozone can be calculated and shown in Figure 3.8.

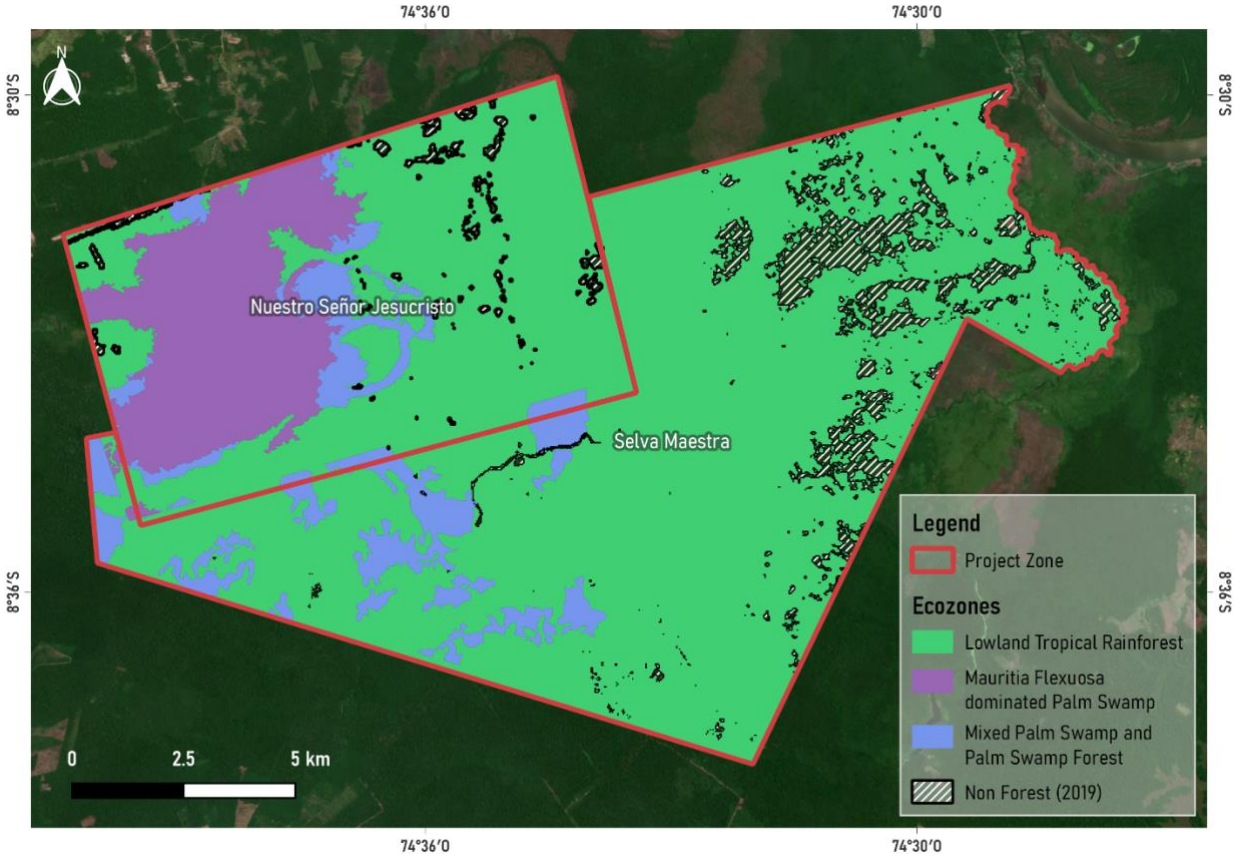


Figure 3.8. Ecozone stratification and deforested areas by 2019

3.2.1.1 Projected annual proportion of land that will be deforested

The deforestation rate for the baseline scenario of the PA1 and PA2 was calculated based on the values given by the "Technical Economic Feasibility Study Agro-industrial Exploitation" (**Appendix 14**) and "File 7698 of the Special Project for Land Titling and Rural Cadaster" (**Appendix 15**) revised. The annual area of baseline planned deforestation ($AA_{planned,i,t}$) is calculated according to VMD0006 BL-PL v1.3 equation 5

Equation 3.1. Annual area of baseline planned deforestation

$$\boldsymbol{AA_{planned,i,t} = \left(A_{planned,i} * D\%_{planned,i,t}\right) * L - D_i}$$

$AA_{planned,i,t}$	Annual area of baseline planned deforestation for stratum i at time t; ha.
$D\%_{planned,i,t}$	Projected annual proportion of land that will be deforested in stratum i during year t.
$A_{planned,i}$	Total area of planned deforestation over the baseline period for stratum i; ha.
$L - D_i$	Likelihood of deforestation for stratum i; %
i	1, 2, 3, … M strata

The total area of planned deforestation over the baseline period ($A_{planned,i,t}$), in each PAI (Table 3.3), is 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. The projected annual proportion of land that will be deforested in stratum i during year t. (D%planned,i,t) is determined according to the provisions of the land title granted by the Ministry of Agriculture for "Selva Maestra" and by the Technical Economic Feasibility Study Agro-industrial Exploitation for "Nuestro Señor Jesucristo". These authorizations should be understood as verifiable plans where the actual annual deforestation proportion is known and documented. As only private areas are under this project's scope, L-Di is set to be 100%, according to the VMD0006 v1.3 requirements.

Table 3.3. Projected areas to be deforested in each PA, per year.

PAI	Selva Maestra (ha)	JCC - Nuestro Señor Jesucristo (ha)				
Conversion to:	Pastures	Oil palm	Camu camu	Higuerilla	Infrastructure	Total JCC
Year 1	600	-	-	-	1,000	1,000
Year 2	600	-	-	-	1,000	1,000
Year 3	600	-	-	-	507	507
Year 4	600	500	250	500	-	1,250
Year 5	600	500	250	500	-	1,250
Year 6	600	500	250	500	-	1,250
Year 7	600	500	250	500	-	1,250
Year 8	600	-	-	-	-	-
Year 9	600	-	-	-	-	-
Year 10	600	-	-	-	-	-
Year 11	600	-	-	-	-	-
Year 12	400	-	-	-	-	-
Total	7,000	2,000	1,000	2,000	2,507	7,507

Because the deforestation plans do not detail the distribution of hectares to be deforested by stratum, a conservative solution was chosen to allocate the area to be deforested in proportion to the percentage of forest per ecozone. In this way, the 600 hectares per year in the Selva Maestra sector were distributed proportionally over the 3 ecozones, until the planned 7,000 hectares were reached (Table 3.4). The same was done for the "Nuestro Señor Jesucristo" sector, where the 7,507 hectares were distributed proportionally by stratum (Table 3.5).

Table 3.4. Planned area to be deforested by stratum (Selva Maestra)

Year	Selva Maestra			Total
	$AA_{planned,1,t}$ (ha) (Stratum 1)	$AA_{planned,2,t}$ (ha) (Stratum 2)	$AA_{planned,3,t}$ (ha) (Stratum 3)	$AA_{planned,i,t}$ (ha)
Year 1	553.05	45.89	1.06	600.00
Year 2	553.05	45.89	1.06	600.00
Year 3	553.05	45.89	1.06	600.00
Year 4	553.05	45.89	1.06	600.00
Year 5	553.05	45.89	1.06	600.00
Year 6	553.05	45.89	1.06	600.00
Year 7	553.05	45.89	1.06	600.00
Year 8	553.05	45.89	1.06	600.00
Year 9	553.05	45.89	1.06	600.00
Year 10	553.05	45.89	1.06	600.00
Year 11	553.05	45.89	1.06	600.00
Year 12	368.70	30.59	0.71	400.00
Total	6,452.28	535.35	12.37	7,000.00

Table 3.5. Planned area to be deforested by stratum (Nuestro Señor Jesucristo)

Year	JCC - Nuestro Señor Jesucristo			Total
	$AA_{planned,1,t}$ (ha) (Stratum 1)	$AA_{planned,2,t}$ (ha) (Stratum 2)	$AA_{planned,3,t}$ (ha) (Stratum 3)	$AA_{planned,i,t}$ (ha)
Year 1	599.54	89.40	311.06	1,000.00
Year 2	599.54	89.40	311.06	1,000.00
Year 3	303.97	45.33	157.71	507.00
Year 4	749.42	111.75	388.83	1,250.00
Year 5	749.42	111.75	388.83	1,250.00
Year 6	749.42	111.75	388.83	1,250.00
Year 7	749.42	111.75	388.83	1,250.00
Year 8	-	-	-	-
Year 9	-	-	-	-
Year 10	-	-	-	-
Year 11	-	-	-	-
Year 12	-	-	-	-
Total	4,500.74	671.14	2,335.13	7,507.00

3.2.1.2 Estimation of carbon stocks by carbon pools

To calculate baseline emissions, three carbon pools were considered: aboveground biomass (stems, branches, and foliage - AGB), belowground biomass (roots - BGB), as well as the organic carbon from the soil (SOC). Litter and deadwood pools were conservatively excluded, as allowed by methodology. The harvested wood products pool is not applicable since there are no predicted forest management activities related to logging and wood milling in the project.

Carbon forest values were extracted from literature sources, which involved documents prepared with data at the national level (Forest Reference Emission Levels, FREL), as well as institutional studies carried out for the study area (department of Ucayali), more details in the Forest values of AGB (C_{AB_tree}), BGB, (C_{BB_tree}), and totals ($C_{BSL,i}$) and the corresponding post-deforestation use carbon data ($C_{AB\_post,i}$; $C_{BB\_post,i}$; $C_{SOC\_post,i}$) are shown in Table 3.14

Although the stratification allowed to recognize areas with peatlands ("aguajales"), it was decided that the SOC deposits should be treated conservatively as "shallow peat strata", and therefore considered as "mineral soil", according to VMD0016 v.1.2, in order to avoid overestimations since the true depth of the peat layers were not available. For the SOC values, point observations of this compartment in similar wetlands for the same zone (Ucayali) as the project area. Only for the case of root biomass (BGC) de *Mauritia flexuosa*, a root-shoot expression was used, coming from the "Pacaya Samiria" National Reserve, also located in the Amazon, but in thedepartment of Loreto.

Table 3.6. Carbon pools considered for calculation of the baseline scenario (pre-deforestation)

Forest: Lowland Tropical Rainforest				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ pre,i}$	Aboveground carbon (AGC)	427.07	15.21	FREL 2021[18]
$C_{BB.\ pre,i}$	Belowground biomass (BGC)	195.44	6.39	FREL 2021
$C_{SOC.\ pre,i}$	Soil organic carbon (SOC)	262.03	35.31	Cuellar & Salazar 2016[19]
Total		884.54	38.97	
Forest: Mixed Palm Swamp and Palm Swamp				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ pre,i}$	Aboveground carbon (AGC)	188.03	59.73	Garcia, Honorio & Del Castillo 2012[20]

[18] https://redd.unfccc.int/files/nref_peru_final.pdf
[19] http://repositorio.inia.gob.pe/handle/20.500.12955/490
[20] http://revistas.iiap.org.pe/index.php/foliaamazonica/article/view/43/80

$C_{BB.\ pre,i}$	Belowground biomass (BGC)	76.07	6.35	Freitas *et al.* 2006
$C_{SOC.\ pre,i}$	Soil organic carbon (SOC)	725.49	327.51	Garcia, Honorio & Del Castillo 2012
Total		989.59	332.40	
Forest: *Mauritia flexuosa* dominated palm swamp				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ pre,i}$	Aboveground carbon (AGC)	353.21	55.59	Garcia, Honorio & Del Castillo 2012
$C_{BB.\ pre,i}$	Belowground biomass (BGC)	142.90	11.94	Freitas *et al.* 2006
$C_{SOC.\ pre,i}$	Soil organic carbon (SOC)	725.49	327.51	Garcia, Honorio & Del Castillo 2012
Total		1,221.60	332.40	

Table 3.7. Carbon pools considered for calculation of the post-deforestation use

Pastures				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ post,i}$	Aboveground carbon (AGC)	78.41	75.48	Cuellar & Salazar 2016
$C_{BB.\ post,i}$	Belowground biomass (BGC)	13.04	10.44	Cuellar & Salazar 2016
$C_{SOC.\ post,i}$	Soil organic carbon (SOC)	260.35	55.50	Cuellar & Salazar 2016
Total		95.95	33.38	
Oil palm				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ post,i}$	Aboveground carbon (AGC)	52.74	11.98	Cuellar & Salazar 2016
$C_{BB.\ post,i}$	Belowground biomass (BGC)	17.47	9.45	Cuellar & Salazar 2016
$C_{SOC.\ post,i}$	Soil organic carbon (SOC)	263.53	40.86	Cuellar & Salazar 2016
Total		91.02	11.89	
Croplands: Camu camu				

Parameter	Carbon pool	Mean Value ($tCO_2e\ ha^{-1}$)	CI (95%)	Source
$C_{AB.\ post,i}$	Aboveground carbon (AGC)	59.58	25.90	Díaz-Córdova et al. 2015 [21]
$C_{BB.\ post,i}$	Belowground biomass (BGC)	9.32	3.29	Díaz-Córdova et al. 2015
$C_{SOC.\ post,i}$	Soil organic carbon (SOC)	261.95	41.12	Cuellar & Salazar 2016
Total		330.85	48.71	
Croplands: Higuerilla				
Parameter	**Carbon pool**	**Mean Value ($tCO_2e\ ha^{-1}$)**	**CI (95%)**	**Source**
$C_{AB.\ post,i}$	Aboveground carbon (AGC)	12.42	5.19	Valdez-Rodriguez et al. 2018[22]
$C_{BB.\ post,i}$	Belowground biomass (BGC)	3.20	1.10	Valdez-Rodriguez et al. 2018
$C_{SOC.\ post,i}$	Soil organic carbon (SOC)	261.95	41.12	Cuellar & Salazar 2016
Total		277.57	41.46	

It was decided to conservatively omit SOC changes in the transitions from lowland forest to crops and infrastructure, because the difference was spurious, only for the cases of conversion of wetlands to other uses was the change considered. For the transition from wetlands to infrastructure, a factor of 0.8 (IPCC 2006) for SOC was used, where the remaining carbon in infrastructure areas was conservatively estimated to be 80% of the Lowland Tropical Rainforest SOC pool (262.03 *0.8 = 209.624).

Table 3.8. Calculation of the differences between pre and post deforestation uses

Forest: Lowland Tropical Rainforest to Pastures		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	348.66
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	182.40

21 https://www.researchgate.net/publication/316711165_ALMACENAMIENTO_DE_CARBONO_EN_INDIVIDUOS_DE_CAMU_CAMU_ARBUSTIVO_Myrciaria_dubia_HBK_Mc_Vaugh_PLANTADOS_EN_EL_CENTRO_EXPERIMENTAL_SAN_MIGUEL_IQUITOS_PERU

22 http://cienciasagricolas.inifap.gob.mx/index.php/agricolas/article/view/734/1807

$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	Set to 0
Total		531.06
Forest: Mixed Palm Swamp and Palm Swamp to Pastures		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	109.62
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	63.03
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	465.14
Total		637.79
Forest: *Mauritia flexuosa* dominated palm swamp to Pastures		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	274.8
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	129.86
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	465.14
Total		869.80
Forest: Lowland Tropical Rainforest to Oil Palm		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	374.33
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	177.97
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	Set to 0
Total		522.30
Forest: Mixed Palm Swamp and Palm Swamp to Oil Palm		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	135.29

$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	58.6
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	461.96
Total		655.85
Forest: *Mauritia flexuosa* dominated palm swamp to Oil Palm		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	300.47
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	125.43
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	461.96
Total		887.86
Forest: Lowland Tropical Rainforest to Camu Camu		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	367.49
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	186.12
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	Set to 0
Total		553.61
Forest: Mixed Palm Swamp and Palm Swamp to Camu Camu		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	128.45
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	66.75
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	463.54
Total		658.74
Forest: *Mauritia flexuosa* dominated palm swamp to Camu Camu		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**

$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	293.63
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	133.58
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	463.54
Total		890.75
Forest: Lowland Tropical Rainforest to Higuerilla		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	414.65
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	192.24
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	Set to 0
Total		606.89
Forest: Mixed Palm Swamp and Palm Swamp to Higuerilla		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	175.61
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	72.87
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	463.54
Total		712.02
Forest: *Mauritia flexuosa* dominated palm swamp to Higuerilla		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	340.79
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	139.7
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	463.54
Total		944.03
Forest: Lowland Tropical Rainforest to Infrastructure		

Parameter	Carbon pool	Value ($tCO_2e\ ha^{-1}$)
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	427.07
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	195.44
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	Set to 0
Total		622.51
Forest: Mixed Palm Swamp and Palm Swamp to Infrastructure		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	188.03
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	76.07
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	518.49
Total		779.97
Forest: *Mauritia flexuosa* dominated palm swamp to Infrastructure		
Parameter	**Carbon pool**	**Value ($tCO_2e\ ha^{-1}$)**
$\Delta C_{AB.,i} = C_{AB.\ pre,i} - C_{AB.\ post,i}$	Aboveground carbon (AGC)	353.21
$\Delta C_{BB.,i} = C_{BB.\ pre,i} - C_{BB.\ post,i}$	Belowground biomass (BGC)	142.9
$\Delta C_{SOC.,i} = C_{SOC.\ pre,i} - C_{SOC.\ post,i}$	Soil organic carbon (SOC)	515.87
Total		1,011.98

3.2.1.3 Estimation of carbon stocks changes and GHG emissions

Equation 3.2 is applied to calculate the carbon stock changes and GHG emissions in the baseline scenario ($\Delta C_{BSL,i,t}$).

Equation 3.2. Equation for estimating carbon stock changes in the baseline scenario

$$\Delta C_{BSL,i,t} = AA_{planned,i,t} * (\Delta C_{ABtree,i}) + \sum_{t-10}^{t} \left(AA_{planned,i,t} * (\Delta C_{BBtree,i}) * \frac{1}{10} \right) + \sum_{t-20}^{t} (AA_{planned,i,t} * (\Delta C_{SOC,i}) * \frac{1}{20})$$

The first part of Equation 3.2 corresponds to the carbon stock changes of AGC from replacing forest to pasture/crops (baseline). In turn, the second refers to the emissions from root decomposition in a 10-year lifespan. The third refers to emissions from soil organic carbon in a 20-year lifespan. Carbon stock changes, distributed by year and by carbon pool, are presented in Table 3.9.

Table 3.9. Carbon stock changes, distributed by year and by carbon pool

Year	SELVA MAESTRA				NUESTRO SEÑOR JESUCRISTO				ΔCBSL,i,t
	AGC	BGC	SOC	Subtotal (tCO2)	AGC	BGC	SOC	Subtotal (tCO2)	
2020	198,151.44	10,390.59	1,091.85	209,633.88	382,724.61	16,842.51	10,329.22	409,896.34	619,530.22
2021	198,151.44	20,781.18	2,183.71	221,116.33	382,724.61	33,685.01	20,658.45	437,068.07	658,184.40
2022	198,151.44	31,171.77	3,275.56	232,598.77	194,041.38	42,224.16	25,895.37	262,160.91	494,759.68
2023	198,151.44	41,562.36	4,367.42	244,081.22	1,279,290.76	101,634.24	60,661.62	1,441,586.62	1,685,667.83
2024	198,151.44	51,952.95	5,459.27	255,563.66	1,279,290.76	161,044.32	95,427.86	1,535,762.95	1,791,326.61
2025	198,151.44	62,343.54	6,551.12	267,046.11	1,279,290.76	220,454.40	130,194.11	1,629,939.28	1,896,985.38
2026	198,151.44	72,734.14	7,642.98	278,528.55	1,279,290.76	279,864.48	164,960.36	1,724,115.60	2,002,644.15
2027	198,151.44	83,124.73	8,734.83	290,010.99		279,864.48	164,960.36	444,824.85	734,835.84
2028	198,151.44	93,515.32	9,826.68	301,493.44		279,864.48	164,960.36	444,824.85	746,318.28
2029	198,151.44	103,905.91	10,918.54	312,975.88		279,864.48	164,960.36	444,824.85	757,800.73
2030	198,151.44	103,905.91	12,010.39	314,067.74		263,021.98	164,960.36	427,982.34	742,050.08
2031	132,100.96	100,442.38	12,738.29	245,281.63		246,179.47	164,960.36	411,139.83	656,421.46
2032		90,051.79	12,738.29	102,790.08		237,640.32	164,960.36	402,600.68	505,390.76
2033		79,661.20	12,738.29	92,399.49		178,230.24	164,960.36	343,190.60	435,590.09
2034		69,270.61	12,738.29	82,008.90		118,820.16	164,960.36	283,780.52	365,789.42
2035		58,880.01	12,738.29	71,618.31		59,410.08	164,960.36	224,370.44	295,988.75
2036		48,489.42	12,738.29	61,227.72			164,960.36	164,960.36	226,188.08
2037		38,098.83	12,738.29	50,837.13			164,960.36	164,960.36	215,797.49
2038		27,708.24	12,738.29	40,446.54			164,960.36	164,960.36	205,406.90
2039		17,317.65	12,738.29	30,055.95			164,960.36	164,960.36	195,016.31
Total	2,311,766.78	1,205,308.53	186,707.00	3,703,782.31	6,076,653.63	2,798,644.82	2,652,611.72	11,527,910.17	15,231,692.48

Furthermore, since fire after deforestation is a common practice, the emissions from biomass burning shall be calculated. Following VMD0006, the Equation 3.3 is applied using parameters and values cited in Table 3.10, and the calculations are displayed in Table 3.11.

Equation 3.3. Equation to estimate emissions from biomass burning in the baseline scenario

$$GHG_{BSL-E,i,t} = E_{BiomassBurn,i,t} = \sum_{g=1}^{G}(((A_{Burn,i,t} * B_{i,t} * COMF_i * G_{g,i}) * 10^{-3}) * GWP_g)$$

$E_{BiomassBurn,i,t}$ Greenhouse emissions due to biomass burning as part of deforestation activities in stratum i in year t; tCO2e of each GHG (CO2, CH4, N2O);

$A_{Burn,i,t}$ Area burnt for stratum i at time t (ha);

$B_{i,t}$ Average aboveground biomass stock before burning stratum i, time t; tons d.m. ha^{-1};

$COMF_i$ Combustion factor for stratum i; dimensionless (default value derived from Table 2.6 of IPCC, 2006);

$G_{g,i}$ Emission factor for stratum i for gas g; kg t-1 dry matter burnt (default values derived from Table 2.5 of IPCC, 2006);

GWP_g Global warming potential for gas g; t CO2/t gas g (default values from IPCC AR5 – IPCC (2013): CO2 = 1; CH4 = 25; N2O = 298);

g 1, 2, 3 … g greenhouse gases;

i 1, 2, 3, … M strata

t 1, 2, 3, … t* years elapsed since the start of the REDD

Table 3.10. Parameters for estimation of emissions from biomass burning

AGC	Mean Value (tCO_{2e} ha^{-1})	Biomass	$COMF_i$	Gas	$G_{g,i}$	GWP_g
Stratum 1	427.07	247.82	0.5	CO_2	1580	1
Stratum 2	188.03	109.11	0.5	N_2O	0.2	265
Stratum 3	353.21	204.96	0.5	CH_4	6.8	28

Table 3.11. Emissions calculations from biomass burning

Year	Total $A_{Burn,i,t}$			Emissions N_2O	Emissions CH_4	$E_{Biomassburn}$
	Stratum 1	Stratum 2	Stratum 3			
Year 1	1,152.37	135.35	312.28	9,655.29	34,686.18	44,341.47
Year 2	1,152.37	135.35	312.28	9,655.29	34,686.18	44,341.47
Year 3	856.88	91.27	158.85	6,753.97	24,263.30	31,017.27
Year 4	1,302.21	157.70	390.09	11,126.56	39,971.63	51,098.19
Year 5	1,302.21	157.70	390.09	11,126.56	39,971.63	51,098.19
Year 6	1,302.21	157.70	390.09	11,126.56	39,971.63	51,098.19

Year	Total $A_{Burn,i,t}$			Emissions N2O	Emissions	$E_{Biomassburn}$
Year 7	1,302.21	157.70	390.09	11,126.56	39,971.63	51,098.19
Year 8	553.00	45.94	1.06	3,770.25	13,544.43	17,314.67
Year 9	553.00	45.94	1.06	3,770.25	13,544.43	17,314.67
Year 10	553.00	45.94	1.06	3,770.25	13,544.43	17,314.67
Year 11	553.00	45.94	1.06	3,770.25	13,544.43	17,314.67
Year 12	368.67	30.62	0.71	2,513.52	9,029.69	11,543.21

3.2.1.4 Baseline net GHG emissions for planned deforestation

The calculation of net emissions for planned deforestation is performed with Equation 3.4, which accounts for the emissions generated by changes in carbon stocks and emissions from biomass burning.

Equation 3.4. Baseline net GHG emissions for planned deforestation

$$\Delta C_{BSL,planned} = \sum_{t=1}^{t*} \sum_{i=1}^{M} (\Delta C_{BSL,i,t} + \Delta GHG_{BSL-E,i,t})$$

Table 3.12. Net and accumulated baseline GHG emissions for planned deforestation

Year	$\Delta C_{BSL,i,t}$	GHG_{BSL-E}	$\Delta C_{BSL,planned}$	$\Delta C_{BSL,planned,\ accum}$
2020	619,530.22	44,341.47	663,871.69	663,871.69
2021	658,184.40	44,341.47	702,525.87	1,366,397.56
2022	494,759.68	31,017.27	525,776.94	1,892,174.50
2023	1,685,667.83	51,098.19	1,736,766.02	3,628,940.53
2024	1,791,326.61	51,098.19	1,842,424.79	5,471,365.32
2025	1,896,985.38	51,098.19	1,948,083.57	7,419,448.89
2026	2,002,644.15	51,098.19	2,053,742.34	9,473,191.23
2027	734,835.84	17,314.67	752,150.51	10,225,341.74
2028	746,318.28	17,314.67	763,632.96	10,988,974.70
2029	757,800.73	17,314.67	775,115.40	11,764,090.10
2030	742,050.08	17,314.67	759,364.75	12,523,454.85
2031	656,421.46	11,543.21	667,964.67	13,191,419.53
2032	505,390.76	0.00	505,390.76	13,696,810.29
2033	435,590.09	0.00	435,590.09	14,132,400.38
2034	365,789.42	0.00	365,789.42	14,498,189.81
2035	295,988.75	0.00	295,988.75	14,794,178.56

Year	$\Delta C_{BSL,i,t}$	GHG_{BSL-E}	$\Delta C_{BSL,planned}$	$\Delta C_{BSL,planned,\ accum}$
2036	226,188.08	0.00	226,188.08	15,020,366.64
2037	215,797.49	0.00	215,797.49	15,236,164.13
2038	205,406.90	0.00	205,406.90	15,441,571.03
2039	195,016.31	0.00	195,016.31	15,636,587.34
Total	15,231,692.48	404,894.86	15,636,587.34	

3.2.2 Project Emissions

Project emissions were estimated ex-post, using Equation 1 (Equation 3.5 in this document) of module M-REDD (VMD0015, Version 2.2). Values for individual parameters are explained in Table 3.13 and Table 3.14.

Equation 3.5. Equation to estimate net GHG emissions in the REDD project scenario

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

Where:

$\Delta C_{WPS-REDD}$	Net GHG emissions in the REDD project scenario up to year t*; tCO2e;
$\Delta C_{P,DefPA,i,t}$	Net carbon stock change as a result of deforestation in the project area in the project case in stratum i within the project area in year t; tCO2e;
$\Delta C_{P,Deg,i,t}$	Net carbon stock change as a result of degradation in the project area in the project case in stratum i within the project area in year t; tCO2e;
$\Delta C_{P,DistPA,i,t}$	Net carbon stock change as a result of natural disturbance in the project area in the project case in stratum i within the project area in year t; tCO2e;
$GHG_{P-E,i,t}$	Greenhouse gas emissions as a result of deforestation and degradation activities within the project area in the project case in stratum i in year t; tCO2e;
$\Delta C_{P,Enh,i,t}$	Net carbon stock change as a result of forest growth and sequestration during the project in areas projected to be deforested in the baseline[2] in stratum i in year t; tCO2e;
i	1, 2, 3, … M strata
t	1, 2, 3, … t* years elapsed since the start of the REDD VCS project activity

Equation 3.6. Equation to estimate GHG emissions in the project scenario

$$GHG_{P,E,i,t} = E_{FC,i,t} + E_{BiomassBurn,i,t} + N_20_{direct-N,i,t}$$

Where:

$GHG_{P,E,i,t}$	Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t; t CO2-e
$E_{BiomassBurn,i,t}$	Emission from fossil fuel combustion in stratum i within the project area in year t; t CO2-

e

$N_20_{direct-N,i,t}$	Direct NO2 emission as a result of nitrogen application on the alternative land use in stratum i within the project area in year t; t CO2-e
i	1, 2, 3, … M strata
t	1, 2, 3, … t* years elapsed since the start of the REDD VCS project activity

Table 3.13. Parameters and values used to calculate net GHG emissions in the REDD project scenario

Parameter	Description	Value	Justification
$\Delta C_{WPS-REDD}$	Net GHG emissions in the REDD project scenario; tCO_2e	15.232.47	Calculated below in Table 3.19
$\Delta C_{P,DefPA,i,t}$	Net carbon stock changes as a result of deforestation in the project area in the project case in stratum i at time t; t CO_2e	14,101.16	Calculated below in Table 3.17
$\Delta C_{P,DegPA,i,t}$	Net carbon stock changes as a result of degradation in the project area in the project case in stratum i at time t; t CO_2e	Set to 0	See 3.2.2.1.2
$\Delta C_{BSL,i}$	Net carbon stock changes in all pools in baseline stratum i; $tCO_2e\ ha^{-1}$	Calculated in Table 3.12	
$GHG_{LK,E,i,t}$	Greenhouse gas emissions as a result of leakage of avoided deforestation activities in stratum i in year t; t CO_2e	Set to 0	According to Section 3.7.16 of the VCS Methodology Requirements, v4.1 and the module VMD0009: "Where the specific deforestation agent can be identified, leakage does not need to be considered where it can be demonstrated that the management plans and/or land-use designations of the deforestation agent's other lands (which shall be identified) have not materially changed as a result of the project (e.g., the deforestation agent has not designated new lands as timber concessions, increased harvest rates in lands already managed for timber, cleared intact forests for agricultural production or increased fertilizer use to enhance agricultural yields). In this sense, the purpose of BAM are the
LK_{peat}	Net greenhouse gas emissions due to leakage to peatlands as a result of implementation of a planned deforestation project at time t; t CO_2e		

Parameter	Description	Value	Justification
			establishment of projects that prevent deforestation and/or reforestation projects for the purpose of restoring degraded areas, consequently, they do not have any other property with the purpose of deforestation.

Table 3.14. Parameters and values used to calculate annual ex-post GHG emissions

Parameter	Description	Value	Justification
$GHG_{P,E,i,t}$	Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t; tCO_{2e}	1,131.31	Calculated below in Table 3.18
$E_{BiomassBurn,i,t}$	Non-CO_2 emissions due to Biomass burning in stratum *i* in year *t*; tCO_{2e}	1,131.31	Calculated below in Table 3.18
$E_{FC,i,t}$	Net carbon stock changes in all pools in baseline stratum i; tCO2e ha^{-1}	Set to 0	GHG emissions from fossil fuel combustion are not significant.
$N_2O_{direct-N,i,t}$	Direct N_2O emission as a result of nitrogen application on the alternative land use in stratum *I* within the project area in year *t*; tCO_{2e}	Set to 0	No N fertilizers were applied in the project scenario.

3.2.2.1 Monitoring deforestation

Equation 3.7. Net carbon stock changes as a result of deforestation in the project case

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

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

$\Delta C_{P,DefPA,i,t}$ Net carbon stock change as a result of deforestation in the project case in the project area in stratum i in year t; t CO_2e

$\Delta C_{P,DefLB,i,t}$ Net carbon stock change as a result of deforestation in the project case in the leakage belt in stratum i in year t, t CO_2e

$A_{DefPA,u,i,t}$	Area of recorded deforestation in the project area stratum i converted to land use u in year t; ha
$A_{DefLB,u,i,t}$	Area of recorded deforestation in the leakage belt stratum i converted to land use u in year t; ha
$\Delta C_{pools,Def,u,i,t}$	Net carbon stock changes in all pools in the project case in land use u in stratum i in year t; t CO_2e ha^{-1}
u	1, 2, 3, … U post-deforestation land uses
i	1, 2, 3, … M strata
t	1, 2, 3, … t* years elapsed since the start of the project activity

Equation 3.8. Net carbon stock changes as a result of degradation

$$\Delta C_{pools,Def,u,i,t} = C_{BSL,i} - C_{P,post,i} - C_{WP,i}$$

$\Delta C_{pools,Def,u,i,t}$	Net carbon stock change in all pools as a result of deforestation in the project case in land use u in stratum i in year t; t CO_2e ha^{-1}
$C_{BSL,i}$	Carbon stock in all pools in the baseline case in stratum i; t CO_2e ha^{-1}
$C_{P,post,u,i}$	Carbon stock in all pools in post-deforestation land use u in stratum i; t CO_2e ha^{-1}
$C_{WP,i}$	Carbon stock sequestered in wood products from harvests in stratum i; t CO_2e ha^{-1}
u	1, 2, 3, … U post-deforestation land uses
i	1, 2, 3, … M strata
t	1, 2, 3, … t* years elapsed since the start of the project activity

Table 3.15. Areas of recorded deforestation in the project area in the monitoring period

	$A_{DefPA,u,1,t}$	$A_{DefPA,u,2,t}$	$A_{DefPA,u,3,t}$	$A_{DefPA,,i,t}$
	(Stratum 1) (ha)	**(Stratum 2)**	**(Stratum 3)**	
Selva Maestra	27.14	0.00	0.00	27.14
JCC- Nuestro Señor Jesucristo	9.54	1.89	0.00	11.43
Total	36.68	1.89	0.00	38.57

Table 3.16. Carbon stock changes in all pools in the monitoring period

	Carbon content (tCO2e/ha)				**Emission Factor (tCO2e/ha)**		
	Stratum 1	**Stratum 2**	**Stratum 3**	**New Land Use (Pastures)**	**Δ Strat 1 to Pastures:**	**Δ Strat 2 to Pastures:**	**Δ Strat 3 to Pastures:**
AGC	427.07	188.03	353.21	**78.41**	348.66	109.62	274.80

	Carbon content (tCO2e/ha)				Emission Factor (tCO2e/ha)		
	Stratum 1	**Stratum 2**	**Stratum 3**	**New Land Use (Pastures)**	**Δ Strat 1 to Pastures:**	**Δ Strat 2 to Pastures:**	**Δ Strat 3 to Pastures:**
BGC	195.44	76.07	142.9	**13.04**	182.40	63.03	129.86
SOC	262.03	725.49	725.49	**260.35**	-	465.14	465.14

Table 3.17. Annual distribution of project emissions in the monitoring period

Year	SELVA MAESTRA				NUESTRO SEÑOR JESUCRISTO				$\Delta C_{P,DefPA,i,t}$
	AGC	BGC	SOC	Subtotal (tCO2)	AGC	BGC	SOC	Subtotal (tCO2)	
2020	4,863.87	254.45	0.00	5,118.32	1,630.93	86.29	39.77	1,756.99	6,875.30
2021	4,598.88	494.98	0.00	5,093.87	1,902.13	185.90	43.96	2,131.99	7,225.85
2022		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2023		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2024		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2025		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2026		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2027		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2028		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2029		494.98	0.00	494.98		185.90	43.96	229.86	724.84
2030			0.00	0.00			43.96	43.96	43.96
2031			0.00	0.00			43.96	43.96	43.96
2032			0.00	0.00			43.96	43.96	43.96
2033			0.00	0.00			43.96	43.96	43.96
2034			0.00	0.00			43.96	43.96	43.96
2035			0.00	0.00			43.96	43.96	43.96
2036			0.00	0.00			43.96	43.96	43.96
2037			0.00	0.00			43.96	43.96	43.96
2038			0.00	0.00			43.96	43.96	43.96
2039			0.00	0.00			43.96	43.96	43.96
Total	9,462.75	4,709.30	0.00	14,172.05	3,533.06	1,759.39	874.93	6,167.38	20,339.43

Table 3.18. Emissions calculations from biomass burning in the monitoring period

Year	Total $A_{Burn,i,t}$			Emissions N_2O	Emissions CH_4	$E_{Biomassburn}$
	Stratum 1	Stratum 2	Stratum 3			

Year	Total $A_{Burn,i,t}$			Emissions N_2O	Emissions CH_4	$E_{Biomassburn}$
2020	18.09	1.71	-	123.74	444.55	568.29
2021	18.59	0.18	-	122.60	440.43	563.02

Table 3.19. Net GHG emissions in the REDD project scenario in the monitoring period

Year	$\Delta C_{P,DefPA,i,t}$	$GHG_{P-e,i,t}$	$\Delta C_{P,Deg,i,t}$	$\Delta C_{WPS-REDD}$
2020	**6,875.30**	**568.29**	**0.00**	**7,443.60**
2021	**7,225.85**	**563.02**	**0.00**	**7,788.88**
2022	724.84	0.00	0.00	724.84
2023	724.84	0.00	0.00	724.84
2024	724.84	0.00	0.00	724.84
2025	724.84	0.00	0.00	724.84
2026	724.84	0.00	0.00	724.84
2027	724.84	0.00	0.00	724.84
2028	724.84	0.00	0.00	724.84
2029	724.84	0.00	0.00	724.84
2030	43.96	0.00	0.00	43.96
2031	43.96	0.00	0.00	43.96
2032	43.96	0.00	0.00	43.96
2033	43.96	0.00	0.00	43.96
2034	43.96	0.00	0.00	43.96
2035	43.96	0.00	0.00	43.96
2036	43.96	0.00	0.00	43.96
2037	43.96	0.00	0.00	43.96
2038	43.96	0.00	0.00	43.96
2039	43.96	0.00	0.00	43.96
Total	20,339.43	1,131.31	0.00	21,470.74
Average	1,016.97	56.57	0.00	1,073.54

3.2.2.1.1 Accuracy assessment

We used the Peruvian government's national deforestation data, the GEOBOSQUES Platform, which performs an annual assessment of forest loss. The current monitoring period evaluated the deforestation in the Project area for the period 2020 - 2021. This product is derived from Landsat images of medium spatial resolution (30 m), being the same source of information used to make the calculations in the baseline. In this way, the Forest Benchmark Map is updated for the year 2021 (Figure 3.9), considering the end of the current monitoring period.

In order to meet the requirements of the methodology, the image had to be validated for the section comprising the Project area. The Geobosques image comprises four classes (Forest loss, Non-Forest, Forest, and Water), each of which was analyzed as a stratum. A stratified sampling was performed taking 150 reference points per class. These points were randomly distributed for each of the four strata, generating a total of 600 evaluation points. The distribution of strata and points are shown in Figure 3.8.

Table 3.20. Analysis of error matrix

	Forest Loss (2001 – 2021)	Non-Forest (2000)	Forest 2021	Water	Total	Commission error
Forest Loss (2001 – 2021)	143	0	7	0	150	**0.047**
Non-Forest (2000)	0	140	10	0	150	**0.067**
Forest 2021	0	10	140	0	150	**0.067**
Water	0	8	2	140	150	**0.067**
Total	143	158	159	140	600	
Omission error	**0**	**0.114**	**0.119**	**0**		**0.062**

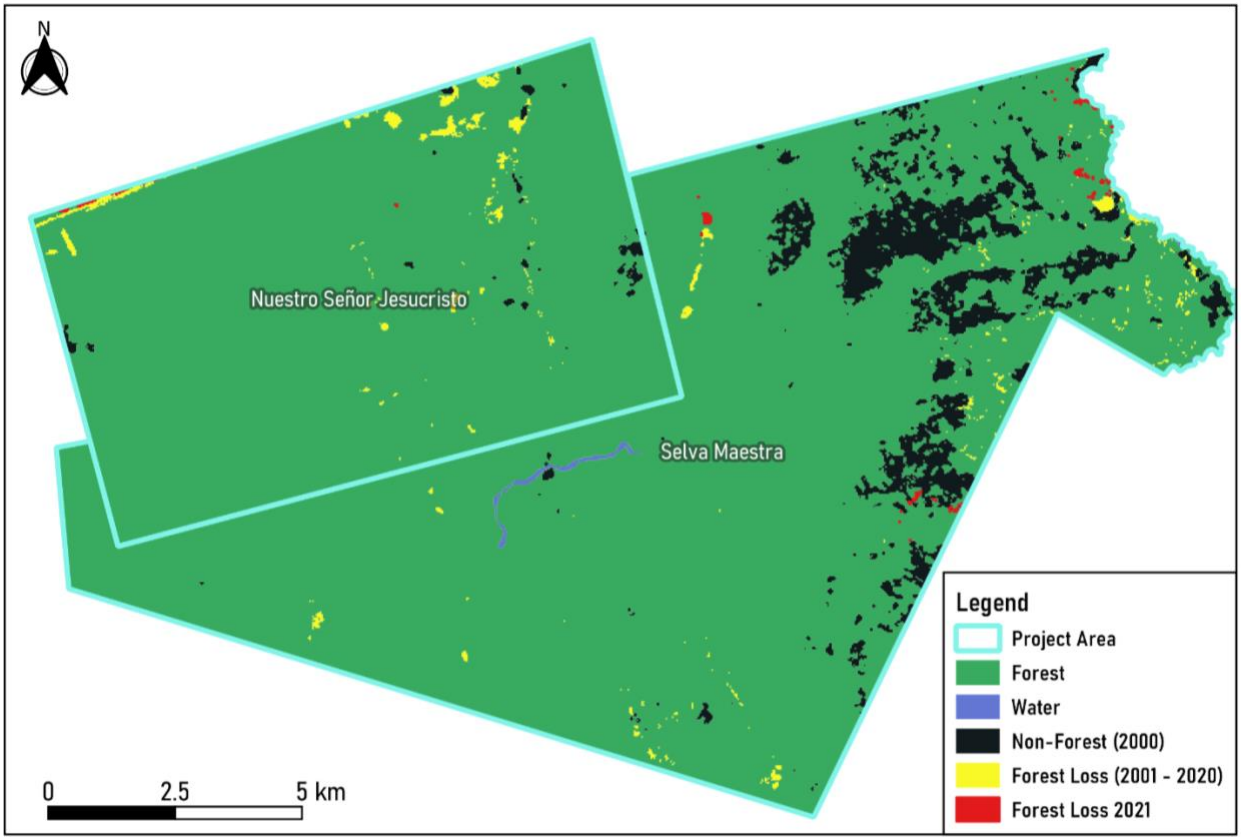


Figure 3.9. Forest Benchmark Map 2021

The points were contrasted with the Planet-NICFI mosaics, made for the month of December 2021, which have a spatial resolution of 4.77 m. The results of the contrast can be observed in Table 3.20. and the subsequent analysis of the Kappa index in Table 3.21.

Table 3.21. Kappa index

Category	KIA
Forest Loss (2001 – 2021)	0.938731
Non-Forest (2000)	0.909502
Forest 2021	0.909297
Water	0.913043
Overall	0.917778

As the Kappa index value exceeded the threshold of 0.9, the images of the 2020 - 2021 monitoring period became validated.

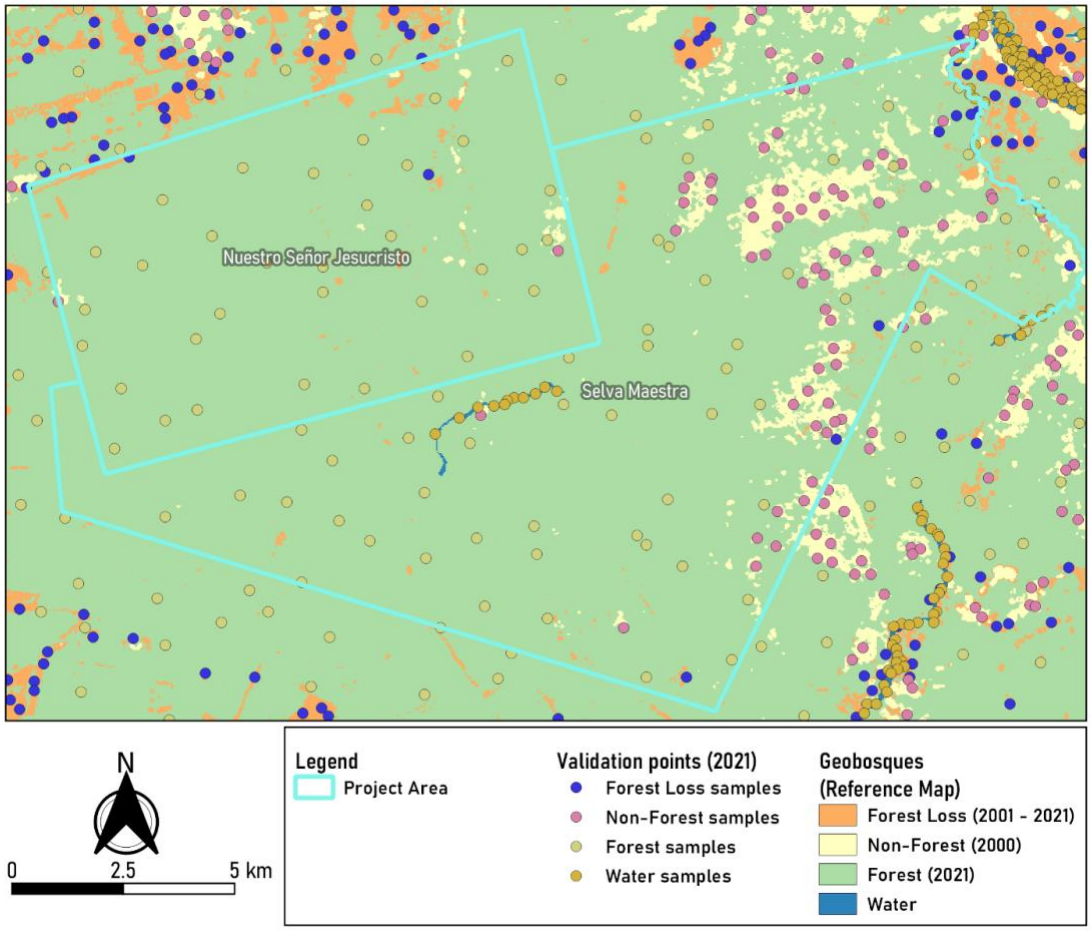


Figure 3.10. Validation points distribution

3.2.2.2 Monitoring degradation

3.2.2.2.1 Degradation through extraction of trees for illegal timber or fuelwood and charcoal

A participatory rural appraisal (PRA) was carried out in the city of Pucallpa in September 2021 (see **Appendix 16**). As a result, it was observed that the project areas were subject to some potential degradation. Since the PRA concluded that degradation events did occur, a limited inventory to 1% was carried out, following the steps of methodology VMD0015. This survey was carried out in the "Area probably subject to degradation", generated by means of a 1 km wide buffer (on both sides), whose value was obtained during the PRA (maximum distance an individual would be willing to travel from the access point). This buffer was generated considering all access points in the project area.

In the project area there are three large camps ("Milagros", "Quinillal" and ·Palmeras") and five access routes, the "Río Blanco" stream, near the Milagros camp; the "Río Negro" stream, which crosses in half the entire "Nuestro Señor Jesucristo" area; the “Quinillal” camp trail; the “Shiquihual” stream, which crosses the "Selva Maestra" property diagonally; and lastly, an access trail to the "Palmeras" camp. In all cases, the streams had a negligible width (less than 3 meters) and a depth of 1-2 m, in the dry season.

Due to the small size, it was necessary to carry out a track survey to define the routes, since geospatial information could not recognize the paths.

Transects 1 km long and 10 meters wide were established, generating an area of 1 ha at each evaluation point. In certain cases, where the kilometer length could not be reached, plots 500 km long and 20 meters wide were established, keeping the minimum evaluation area at 1 ha.

It was possible to fully evaluate the plots defined in the path of the "Río Blanco" stream, the "Quinillal" trail, and the access to the "Palmeras" camp. However, it was not possible to evaluate the plots in “Río Negro”, nor in “Shiquihual”. In the first case, there were security problems (threats from local residents) that did not allow the entry of the survey brigade, except for the complete tracking and survey of two incomplete transects (N11 and N12) that was carried out on the first day. In the second case, the low water level in the “Shiquihual” stream, the only access point, did not allow any brigade to travel to the buffer zone defined for that route. The complete development of the field evaluation can be found in **Appendix 17**.

Figure 3.11. Area probably subject to degradation and transects

Transects were established with a total accumulated area of 25.78 ha. The details of these can be found in Table 3.23. Equation 8 of VMD00015 v.2.2 (here Equation 3.9) is used to calculate the effect of degradation.

Equation 3.9. Net carbon stock changes as a result of degradation

$$\Delta C_{P,DegW,i,t} = A_{DegW,i} * \frac{C_{DegW,i,t}}{AP_i}$$

$\Delta C_{P,DegW,i,t}$	Net carbon stock changes as a result of degradation in stratum i in the project area in year t; t CO_2e
$A_{DegW,i}$	Area potentially impacted by degradation processes in stratum i; ha
$C_{DegW,i,t}$	Biomass carbon of trees cut and removed through degradation process from plots measured in stratum i in year t; t CO_2e
AP_i	Total area of degradation sample plots in stratum i; ha
i	1, 2, 3, … M strata
t	1, 2, 3, … t* years elapsed since the start of the project activity

Given that the carbon values previously used (Table 3.6) were taken from the literature, it was necessary to apply the VMD0001 module in order to calculate the individual carbon of each stump evaluated. Allometric equations described in Table 3.22 were used. The density of the individuals that were identified (at the genus level) was obtained from the Global Wood Density Database of Zanne et al. (2009)[23]. For tree individuals that could not be identified in the field, the density value of the most demanded forest species in the area that was identified in the PRA, the "cumala" (*Virola sp.*), was used.

Table 3.22. Allometric equations

Compartment	Allometric equation	Variables	DBH	Reference
Trees in tropical rainforest (BA)	$BA=0,0673 \times (\rho \times dap^2 \times H)^{0,976}$	dbh (1,3 m); Total height (m) and density (g/cm^3)	dbh ≥ 5 cm	(Chave et al. 2014)[24]
Amazon Palms (PA)	$PA^{0,25} = 0,55512 \times (0,37 \times dap^2 \times H_{stipe})^{0,25}$	dbh (1,3 m); Stipe height (m)	dbh ≥ 10 cm	(Goodman et al. 2013)[25]

[23] Zanne, Amy E. et al. (2009), Data from: Towards a worldwide wood economics spectrum, Dryad, Dataset, https://doi.org/10.5061/dryad.234
[24] Chave, Jérôme et al. (2024). Improved allometric models to estimate the aboveground biomass of tropical tres. https://doi.org/10.1111/gcb.12629
[25] Goodman, Rosa C. et al. (2013). Amazon palm biomass and allometry. https://doi.org/10.1016/j.foreco.2013.09.045

Root biomass (BR)	$BR = \exp[-1{,}0587 + 0{,}8836 \times \ln(TAB)]$	Total Aboveground biomass (TAB) (Tn/ha)	-	(Cairns et al. 1997)[26]

*dbh: Diameter at breast height (cm)

Table 3.23. Evaluated transects and compartment separation (AGC and BGC)

Transect	AP_i (ha)	$AGC_{DegW,i,t}$ (tCO_2e)	$BGC_{DegW,i,t}$ (tCO_2e)	$C_{DegW,i,t}$ (tCO_2e)
P1_1	1.000	-	-	-
P1_2	1.000	-	-	-
P1_3	1.000	0.58	0.10	0.68
P1_4	1.000	-	-	-
P1_5	1.000	26.41	3.84	30.26
P1_6	1.000	3.05	0.50	3.55
P2_1	1.000	0.75	0.14	0.88
P2_2	1.000	-	-	-
P2_3	1.000	-	-	-
Q1	1.000	33.71	5.91	39.61
Q2	1.000	6.22	0.93	7.15
Q3	1.000	20.33	3.81	24.14
Q4	1.000	15.94	2.14	18.08
Q5	1.000	38.32	5.42	43.73
B1	1.000	36.90	21.93	58.83
B2	1.000	22.44	10.87	33.32
B3	1.000	9.59	5.65	15.24
B4	1.000	12.51	9.20	21.71
B5	1.000	4.32	2.98	7.30
B5*	1.000	6.28	10.29	16.56
B6	1.000	5.88	2.57	8.44
B6b	1.000	2.58	0.49	3.07
B7	1.000	7.87	2.39	10.26
B8	1.000	-	-	-
B9	1.000	12.37	24.77	37.15

[26] Cairns, Michael A. et al. (1997). Root biomass allocation in the world's upland forests. https://doi.org/10.1007/s004420050201

Transect	AP_i (ha)	$AGC_{DegW,i,t}$ (tCO_2e)	$BGC_{DegW,i,t}$ (tCO_2e)	$C_{DegW,i,t}$ (tCO_2e)
N11	0.350	15.14	2.31	17.45
N12	0.425	9.70	1.38	11.08
Total	**25.775**	**290.88**	**117.61**	**408.49**
Average (tCO_2e *ha^{-1})		**11.29**	**4.56**	**15.85**

Table 3.24. Evaluation of the significance of emissions due to degradation, using T-SIG tool

Sector	$A_{DegW,i}$ (ha)	$\Delta AGC_{P,DegW,i,t}$ (tCO_2e)	$\Delta BGC_{P,DegW,i,t}$ (tCO_2e)	$\Delta C_{P,DegW,i,t}$ (tCO_2e)
Blanco	785.15	8,860.56	3,582.71	12,443.27
Negro	1,667.36	18,816.53	7,608.35	26,424.88
Palmeras	730.44	8,243.19	3,333.08	11,576.27
Quinillal	752.92	8,496.86	3,435.65	11,932.51
Shiquihual	3,180.17	35,888.99	14,511.49	50,400.48
Total	**7,116.02**	**80,306.13**	**32,471.28**	**112,777.41**
$\Delta C_{BSL,i,t}$		**8,388,029.57**	**4,010,640.16**	**12,398,669.73**
<5% (Non-significant Emissions)		**0.96%**	**0.81%**	**0.91%**

Based on the results of the table, it is observed that in no compartment, nor in the total sum, do the carbon emissions due to degradation exceed 5% of the emissions due to changes in the carbon stock, in this way, these emissions are considered insignificant, and the value is conservatively set to zero.

3.2.3 Leakage

Leakage emissions from the displacement of planned deforestation are estimated in compliance with the VCS REDD methodology VM0007, specifically the LK-ASP.

3.2.3.1 Estimation of Activity Shifting Leakage

The parameters, values used, and the justification are given in Table 3.25

Table 3.25. Parameters and values used to estimate activity shifting leakage of the project

Parameter	Description	Value	Justification
$\Delta C_{LK-AS,planned}$	Net greenhouse gas emissions due to activity shifting leakage for projects preventing planned deforestation; tCO_2e	Set to 0	No activity shifting will be caused by the REDD project since no economical/ commercial activity or deforestation/ degradation has been carried out so far in the project area and elsewhere by the agent of deforestation
$LKA_{planned,i,t}$	The area of activity shifting leakage in stratum i at time t; ha	Set to 0	

Parameter	Description	Value	Justification
$\Delta C_{BSL,i}$	Net carbon stock changes in all pools in baseline stratum i; $tCO_2e\ ha^{-1}$	Calculated in Table 3.9	
$GHG_{LK,E,i,t}$	Greenhouse gas emissions as a result of leakage of avoided deforestation activities in stratum i in year t; $t\ CO_2$		According to Section 3.7.16 of the VCS Methodology Requirements, v4.1 and the VMD0009, "Where the specific deforestation agent can be identified, leakage does not need to be considered where it can be demonstrated that the management plans and/or land-use designations of the deforestation agent's other lands (which shall be identified by location) have not materially changed as a result of the project (e.g., the deforestation agent has not designated new lands as timber concessions, increased harvest rates in lands already managed for timber, cleared intact forests for agricultural production or increased fertilizer use to enhance agricultural yields). In this sense, the purpose of BAM are the establishment of projects that help to avoid deforestation, as well as reforestation projects with the purpose of restoring degraded areas, consequently, they do not own any other property destined to deforestation, the corporate purpose of the company can be verified in the corporate name and in the Peruvian Registries
LK_{peat}	Net greenhouse gas emissions due to leakage to peatlands as a result of implementation of a planned deforestation project at time t; $t\ CO_2e$	Set to 0	

3.2.4 Net GHG Emission Reductions and Removals

Table 3.26. Ex-Ante Estimated of Net Emission Reduction Credits

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
2020	**663,871.69**	**7,443.60**	**0.00**	**656,428.10**
2021	**702,525.87**	**7,788.88**	**0.00**	**694,736.99**
2022	525,776.94	724.84	0.00	525,052.11

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
2023	1,736,766.02	724.84	0.00	1,736,041.18
2024	1,842,424.79	724.84	0.00	1,841,699.96
2025	1,948,083.57	724.84	0.00	1,947,358.73
2026	2,053,742.34	724.84	0.00	2,053,017.50
2027	752,150.51	724.84	0.00	751,425.67
2028	763,632.96	724.84	0.00	762,908.12
2029	775,115.40	724.84	0.00	774,390.56
2030	759,364.75	43.96	0.00	759,320.79
2031	667,964.67	43.96	0.00	667,920.72
2032	505,390.76	43.96	0.00	505,346.81
2033	435,590.09	43.96	0.00	435,546.14
2034	365,789.42	43.96	0.00	365,745.47
2035	295,988.75	43.96	0.00	295,944.80
2036	226,188.08	43.96	0.00	226,144.13
2037	215,797.49	43.96	0.00	215,753.54
2038	205,406.90	43.96	0.00	205,362.94
2039	195,016.31	43.96	0.00	194,972.35
Total	15,636,587.34	21,470.74	0.00	15,615,116.60
Average	781,829.37	1,073.54	0.00	780,755.83

3.2.4.1 Uncertainty of Emissions and Removals in Project Area in Baseline and Project Scenario

Table 3.27 shows the total uncertainty accounts for uncertainty for activity data (UncertaintyBSL,RATE,t* = 0%) and emission factor (Uncertainty REDD_BSL,SS = 5.03%). Total uncertainty in the baseline scenario is therefore 5.03%.

Table 3.27. Total error in REDD+ project activity baseline scenario

Variables	Value
$U_{REDD-BSL,SS}$	5.03%
$U_{REDD-BSL,RATE,t*}$	0.00%
$U_{REDD-BSL,t*}$	5.03%
$\Delta C_{BSL,REDD}$	15,636,587.34
$U_{REDD-WPS}$	0,00%

As the total uncertainty for the project baseline is below the threshold of 15%, no deduction to the net emission reductions should be operated. On the other side, in this monitoring period, there is no ex-post changes in the values of the monitoring parameters, the uncertainty of these sources is already included in the uncertainty of the baseline scenario, therefore the value is set to zero, following the Part 3 of the module VMD0017 v2.2 (X-UNC).

Table 3.28. Cumulative uncertainty for the REDD+ project activities

Year	$\Delta C_{BSL,REDD}$	$\Delta C_{WPS-REDD}$	$U_{REDD-BSL,t}$*	$U_{REDD-WPS}$	$NER_{REDD+ERROR}$
2020	**663,871.69**	**7,443.60**	**5.03%**	**0.00%**	**4.97%**
2021	**702,525.87**	**7,788.88**	**5.03%**	**0.00%**	**4.97%**
2022	525,776.94	724.84	5.03%	0.00%	5.02%
2023	1,736,766.02	724.84	5.03%	0.00%	5.03%
2024	1,842,424.79	724.84	5.03%	0.00%	5.03%
2025	1,948,083.57	724.84	5.03%	0.00%	5.03%
2026	2,053,742.34	724.84	5.03%	0.00%	5.03%
2027	752,150.51	724.84	5.03%	0.00%	5.02%
2028	763,632.96	724.84	5.03%	0.00%	5.02%
2029	775,115.40	724.84	5.03%	0.00%	5.02%
2030	759,364.75	43.96	5.03%	0.00%	5.03%
2031	667,964.67	43.96	5.03%	0.00%	5.03%
2032	505,390.76	43.96	5.03%	0.00%	5.03%
2033	435,590.09	43.96	5.03%	0.00%	5.03%
2034	365,789.42	43.96	5.03%	0.00%	5.03%
2035	295,988.75	43.96	5.03%	0.00%	5.03%
2036	226,188.08	43.96	5.03%	0.00%	5.03%
2037	215,797.49	43.96	5.03%	0.00%	5.03%
2038	205,406.90	43.96	5.03%	0.00%	5.03%
2039	195,016.31	43.96	5.03%	0.00%	5.03%

3.2.4.2 Estimation of VCS buffer

To account for non-permanence risks associated with an AFOLU project, VCS registration requires to set aside in a buffer a fraction of the total carbon stock benefits. According to the VM0007 methodology, leakage emissions do not factor in this calculation. To calculate the buffer, the VCS AFOLU non-permanence risk tool (v3.3) was used. This analysis is presented in **Appendix 18**, obtaining a rating of 14%.

3.2.4.3 Calculation of Verified Carbon Units

Expected VCUs correspond to the net emission reductions according to the baseline, minus the non-permanence risk buffer (14% in the present case) and minus the uncertainty buffer (0% in the present case). The ex-ante estimation of VCUs to be generated during the first 10 years is presented in Table 3.29.

Table 3.29. Ex-ante calculation of the expected Verified Carbon Units during the first 20 years of the Project

Year	NER_{REDD}	$Buffer_{planned}$ (14%)	Adjusted_NER_{REDD+}	VCU
2020	**656,428.10**	**85,771.69**	**656,428.10**	**570,656**
2021	**694,736.99**	**91,134.20**	**694,736.99**	**603,602**
2022	525,052.11	69,164.88	525,052.11	455,887
2023	1,736,041.18	235,892.02	1,736,041.18	1,500,149
2024	1,841,699.96	250,684.25	1,841,699.96	1,591,015
2025	1,947,358.73	265,476.48	1,947,358.73	1,681,882
2026	2,053,017.50	280,268.70	2,053,017.50	1,772,748
2027	751,425.67	102,775.54	751,425.67	648,650
2028	762,908.12	104,383.08	762,908.12	658,525
2029	774,390.56	105,990.62	774,390.56	668,399
2030	759,320.79	103,880.86	759,320.79	655,439
2031	667,920.72	91,892.85	667,920.72	576,027
2032	505,346.81	70,748.55	505,346.81	434,598
2033	435,546.14	60,976.46	435,546.14	374,569
2034	365,745.47	51,204.37	365,745.47	314,541
2035	295,944.80	41,432.27	295,944.80	254,512
2036	226,144.13	31,660.18	226,144.13	194,483
2037	215,753.54	30,205.49	215,753.54	185,548
2038	205,362.94	28,750.81	205,362.94	176,612
2039	194,972.35	27,296.13	194,972.35	167,676
Total	15,615,116.60	2,129,589.43	15,615,116.60	13,485,527
Average	780,755.83	106,479.47	780,755.83	674,276

3.3 Optional Criterion: Climate Change Adaptation Benefits

Not Applicable. The project does not plan to get the Gold Climate Level.

3.3.1 Activities and/or processes implemented for Adaptation (GL1.3)

Not Applicable.

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CM2.1)

There are no local communities, hamlets or families living within the project area, which is privately owned by Bosques Amazónicos SA. However, as part of the community development process proposed by the project, the value proposition / theory of change includes the communities surrounding the project (communities, hamlets, stakeholders).

The results of the indicators proposed in each of the three objectives of the community pillar established in the PD (theory of change) are presented below.

As part of the first monitoring period of the project, initial community activities have focused on reaching out to the community to engage in collaborative discussions and understanding of priority needs. Likewise, for the socialization of the project. It should be noted that the monitoring period falls on the global pandemic due to COVID-19, thus many of the activities planned have been compromised by the respective health restrictions such as social gatherings.

Objective 1: Reduce greenhouse gas emissions caused by degradation and/or deforestation in the project area.

Table 4.1. Increase in the capacity of local territorial governance and sustainable management of natural resources

Community Group	Communities located in the project zone with communication routes connected to the project area or close to it. Native communities: - CC.NN. Nuevo Paraiso - CC.NN. Nueva Alianza Rural communities: - Caserío Nueva Belén - Agua Dulce - José Olaya - Tupac Amaru Limón - AA.HH. Lupuna - AA.HH. Ampliación Tupac - Nueva Esperanza - Agua Blanca - Soledad - Manco Cápac - Tierra Roja
Impact	Community assessment and socialization of the project: during the monitoring period, progress was made in conducting a social assessment to identify and understand the situation and needs of

	stakeholders in order to design and implement activities based on the information gathered with a view to achieving the greatest positive and long-term impact possible. In addition, as detailed before, a socialization process was carried out to share the conservation objective of the project, voluntarily involving the participation of the different communities, hamlets and groups for the implementation of monitoring activities and sustainable management of forest resources. Working meetings: held with local authorities to deepen stakeholder needs and advance in collaborative agreements for the protection and adequate management of forest resources. Cooperation agreements: collaboration agreement celebrated with the communities of Agua Blanca and Santa Teresita de Agua Blanca for capacity building around conservation and sustainable forest management as well as community development needs. Monitoring, control and surveillance system: implemented by the project to identify and control deforestation threats in the project zone (project area and surrounding areas) in collaboration with local authorities, which indirectly provides monitoring and protection tools for neighboring community areas.
Type of Benefit/Cost/Risk	Actual and Direct Benefit (Opening of a space for dialogue with the communities through their boards of directors, with each of the communities listed above): community assessment and socialization, working meetings, cooperation agreements. Actual and Indirect: monitoring control and surveillance system implemented by the project.
Change in Well-being	In process

Objective 2: Protect the integrity of biological diversity and ecological processes in the project area.

Table 4.2. Tropical forest maintenance within the communities

Community Group	Communities located in the project zone with communication routes connected to the project area or close to it. - Tierra Roja - Santa Teresita de Agua Blanca - Caserío Agua Blanca
Impact	Community training in sustainable forestry management / fire prevention and control: ▪ Tierra Roja: Participatory meeting for the development of the forestry week event and promotion of forest fire prevention activities. 27 participants. ▪ Santa Teresita de Aguablanca: Training on prevention and

	control of forest fires with 19 participants. ▪ Caserío Agua Blanca: Training on prevention and control of forest fires with 43 participants. Awareness-raising activities (event): carried out on the importance of conservation and sustainable forest management in order to increase community capacity in this area: "Forestry week". Monitoring, control and surveillance system: implemented by the project to identify and control deforestation threats in the project zone (project area and surrounding areas) in collaboration with local authorities, which indirectly provides monitoring and protection tools for neighboring community areas. Implementation of the BAM Science Program: to identify and monitor the ecological value of the area in order to increase social awareness for the conservation of the Amazonian ecosystems
Type of Benefit/Cost/Risk	Actual and direct benefit: benefits from a work of prevention and mitigation of potential fire problems by the development of agriculture by the communities. Actual and indirect benefit: Science program
Change in Well-being	In process

Objective 3: Strengthen the socioeconomic situation of the interest groups, specifically of the villages and communities neighboring the project area.

Table 4.3. Socio-economic improvement of community groups

Community Group	Communities located in the project zone with communication routes connected to the project area or close to it. - Caserío Nueva Belén - AA.HH. Lupuna - AA.HH. Ampliación Tupac - Nueva Esperanza - Agua Blanca - Soledad - Manco Cápac - Tierra Roja - El Pimental - Santa Teresita de Agua Blanca
Impact	In the context of the global COVID-19 pandemic, during the monitoring period, health issues and support for the basic needs of the community were prioritized in the face of a scenario of shortages and the impossibility of communication/transportation. In this regard, the

	following activities were implemented ▪ Support for the construction of a health post (hopes to benefit more than 100 families around) in AA.HH. Nuevo Belen. ▪ Health campaigns promoted with the support of a local clinic: in Santa Teresita de Agua Blanca, Nuevo Belen, Nuevo Amanecer, Soledad. ▪ Donations of groceries and fuel distributed: Santa Teresita de Agua Blanca, Nueva Esperanza ▪ Socio-cultural events: family baskets and gifts for children were donated as part of cultural events, promoting the sustainable development of forestry activities and the strengthening of relationships between communities and BAM for the conservation of ecosystems.
Type of Benefit/Cost/Risk	Actual and Direct Benefit
Change in Well-being	In process to be built. Due to the global situation, it was necessary to respond efficiently to urgent health needs (medical, food supply), considering also the restrictions in terms of meetings and transportation. In the following years, it is expected to prioritize alternative economic activities to extraction and social benefits related to improving community livelihood in the middle-long term.

4.1.2 Negative Community Impact Mitigation (CM2.2)

The following table shows the actions carried out to mitigate the negative impacts analyzed in the project design.

Table 4.4. Negative Community Impact Mitigation

Negative impacts	Mitigation strategy (as described in the PDD)	Monitoring Report 2020 – 2021
Institutional problems and conflicts between communities or associations	Mechanism for dealing with complaints and requests Within the mechanism, the project will be responsible for receiving all requests related to problems and/or conflicts between institutions, community associations or the population in general associated with the project or impacted by it and will have an average of 30 days to respond and determine a strategic for the mitigation or resolution of the conflict and communicate to the applicant(s) the actions to be carried out.	No conflicts reported.

Negative impacts	Mitigation strategy (as described in the PDD)	Monitoring Report 2020 – 2021
Lack of activity planning	Lack of activity planning strategic plan, strategic lines, and implementation schedule for project activities. The project will have a clear schedule for the implementation of the activities, which will be socialized and validated with authorities and representatives of each sector and/or community for their information. The project has always developed, and will continue to develop, briefings prior to the implementation of the activities to ensure their proper execution. Additionally, through the mechanism for attention to requests and complaints, the project will also receive requests regarding planning and coordination of activities in the territory, with a proper response limit time of 15 business days	Due to the global pandemic, some of the project activities were compromised due to restrictions established at the national level to safeguard health emergencies (e.g. mass gatherings). despite this, the project continued to implement protection and community development activities within the possibilities of the case, prioritizing immediate strategies to respond to the urgent needs resulting from the national state of emergency. It is worth mentioning that the project has been developing plans for the implementation of activities according to: - The established theory of change matrix - The social diagnosis carried out - A community plan developed in detail for the articulated work with each interest group. As mentioned above, the design and activities to be implemented have been duly socialized with the communities and hamlets. Meeting minutes have been signed following the discussions held.
Collective work generates division and/or organizational problems among project participants	The realization of each project activity will begin with an initial training with which the proposal of the activity and its characteristics will be announced, so that each sector and community chooses its participation and that of its members. Once the participants have been defined, it will begin with specific training by activity.	No conflicts reported.
Ineffective socialization	The project has analyzed the need to improve and expand communication channels with the	No conflicts reported.

Negative impacts	Mitigation strategy (as described in the PDD)	Monitoring Report 2020 – 2021
processes and communication channels	sectors and communities involved in the following way: Socialization meetings and workshops to guarantee access to information for all community groups associated with the project. The project has specific communication channels for each audience and they will be adapted according to the dynamics of the project, the communities and the needs	During the monitoring period, social visits to the communities have begun with the aim of beginning to raise awareness and explain the objectives of the project. An intervention strategy has been developed.

4.1.3 Net Positive Community Well-Being (CM2.3, GL1.4)

For the 2020-2021 period, the project has begun the social construction of relations with the communities around the project area. The current status of each of the communities identified in the PD and the actions carried out in this period are presented below. The project does not expect to obtain Gold Level.

Table 4.5. Net Positive Community Well-Being

Communities	Actions 2020 – 2021	Net positive Well-Being 2020 – 2021
Tupac Amaru	None	None
Lupuna de Manantay	Visits and coordination meetings as part of the project's socialization process.	In process to be built.
Pijuayal	Visits and coordination meetings as part of the project's socialization process.	In process to be built.
Santa María	None	None
Nuevo Jerusalem	None	None
San Antonio de Honoria	None	None
Nuevo Naranjal	None	None
Nuevo San Martín	None	None
Nuevo Amanecer	▪ Social action for families: In December 2020 and 2021 family baskets and gifts for children were donated. ▪ Health campaigns. ▪ A training course on health and COVID-19 was held for 43 people in the hamlet.	Provide the community with immediate solutions to deal with the state of emergency decreed due to Covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic.

Communities	Actions 2020 – 2021	Net positive Well-Being 2020 – 2021
		Cultural events: BAM seeks to strengthen the internal relations of the communities and with the company, providing them with an adequate recreational space for the development of different intercultural activities.
Nuevo Alianza	Collection of information for the elaboration of the baseline of the project and to know the sectoral problems.	In process to be built.
Nuevo Paraiso	Collection of information for the elaboration of the baseline of the project and to know the sectoral problems. Informative meeting with the entire community to explain what a REDD+ project means, and the responsibilities involved. Participatory community coordination meetings. Social support for families: In December 2021, family baskets and gifts for children were donated.	Dissemination of the project and strengthening of the Community Territorial Surveillance Committee. Cultural events: BAM seeks to strengthen the internal relations of the communities and with the company, providing them with an adequate recreational space for the development of different intercultural activities.
Soledad	Health campaigns	Provide the community with immediate solutions to deal with the state of emergency decreed due to covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic.
Manco Capac	Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated.	Cultural events: BAM seeks to strengthen the internal relations of the communities and with the company, providing them with an adequate recreational space for the development of different intercultural activities.
Agua Blanca	▪ A framework cooperation agreement was signed between BAM and Agua Blanca. ▪ A theoretical and practical workshop on the prevention and control of forest fires was held in the Agua Blanca hamlet with 43	Capacity building in sustainable forestry management. Further collaboration with BAM for the management of forest

Communities	Actions 2020 – 2021	Net positive Well-Being 2020 – 2021
	participants from 7 different hamlets and 1 Agroforestry Producers Association of Campo Verde. ▪ Support for the purchase of food tickets for the anniversary of the Agua Blanca hamlet. ▪ Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated.	and community development (cooperation agreements) Support in basic needs Support in the promotion of inter cultural events.
Nueva Esperanza	▪ Food donation ▪ Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated.	Due to the state of emergency decreed and the limited access to mobility and transportation for food supply, BAM saw it as a priority to support communities in basic access to goods.
Santa Teresita de Agua Blanca	▪ Health campaigns ▪ Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated. ▪ A framework cooperation agreement was signed between BAM and Santa Teresita de Agua Blanca. ▪ Fuel (20 gallons of oil) was delivered to the lieutenant governor of the Santa Teresita de Agua Blanca hamlet for cleaning the main entrance to the community and the Agua Blanca camp. ▪ A training course on fire prevention and health was held with 19 participants in the hamlet.	Provide the community with immediate solutions to deal with the state of emergency decreed due to covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic. Due to the state of emergency decreed and the limited access to mobility and transportation for food supply, BAM saw it as a priority to support communities in basic access to goods.
Pucalpillo	Social support for families: family baskets and gifts for children were donated.	Strengthening community relations and promotion of inter cultural events.
El Pimental	Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated.	Strengthening community relations and promotion of inter cultural events.
Tierra Roja	Collection of information for the elaboration of the baseline of the project and to know the sectoral problems. A coordination meeting was held with the	Capacity building in sustainable forestry management. Strengthening community

Communities	Actions 2020 – 2021	Net positive Well-Being 2020 – 2021
	participation of 27 people from the Tierra Roja hamlet to coordinate issues related to the celebration of the Forest Week and forest fire prevention. Social support for families: In December 2020 and 2021, family baskets and gifts for children were donated.	relations and promotion of inter cultural events.
AA.HH Nuevo Belen	Support in the construction of a health and post Health campaigns Social support for families: In December 2021, family baskets and gifts for children were donated.	Provide the community with immediate solutions to deal with the state of emergency decreed due to covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic. Strengthening community relations and promotion of inter cultural events.
Ampliación Lupuna	Health campaigns Social support for families: In December 2021, family baskets and gifts for children were donated.	Provide the community with immediate solutions to deal with the state of emergency decreed due to covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic. Strengthening community relations and promotion of inter cultural events.
Ampliación Túpac Amaru	Health campaigns Social support for families: In December 2021, family baskets and gifts for children were donated.	Provide the community with immediate solutions to deal with the state of emergency decreed due to covid-19 and raise awareness of measures to safeguard health in the context of the global pandemic. Strengthening community relations and promotion of inter

Communities	Actions 2020 – 2021	Net positive Well-Being 2020 – 2021
		cultural events.

4.1.4 Protection of High Conservation Values (CM2.4)

In the territory where the communities are located (adjacent to the project area), two high conservation values have been identified: Bodies of water and tropical forests.

The activities of the project are oriented to the conservation and protection of ecosystems during the monitoring period, no negative impacts are reported on the high conservation values (HCVs) identified. The project activities considered in Section 2.1.11 of the P.D have conservation as their main objective.

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (CM3.2)

The proposed activities and results of the project during the monitoring period does not present negative impacts on Other Stakeholders.

In the period 2020 and 2021, the project's intervention strategy has been centered to generate links with community groups in the area of influence through specific social support. Furthermore, the project implementation strategy has focused on consolidating collaboration agreements with other organizations (e.g. scientific institutions such as CORBIDI) and local authorities to strengthen the capacity of the project for positive impact (forest protection and community development). The other stakeholders involved pursue the same objectives of biodiversity protection and community development, so the activities implemented by the project do not have a negative impact in that regard.

4.2.2 Net Impacts on Other Stakeholders (CM3.3)

No impacts or problems with other actors are reported during the period 2020 and 2021.

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan (CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

During the present period, the monitoring plan related to the expected objectives of the project regarding community impact is in the initial process (establishment of the baseline, social diagnosis, establishment of the first agreements, socialization processes, etc.). As of August 2021, the social baseline for the analysis of each of the communities that participate (indirectly) in the project, which will be evaluated over time, starts.

The monitoring methodology includes specific periodic social assessments consisting of household surveys to measure the quantitative impacts on the local communities. Progress is shown on the objectives shown below.

Table 4.6. Specific objective 1: Reduce greenhouse gas emissions caused by degradation and/or deforestation in the project area.

Indicator	Indicator type	Method	Results of this monitoring period	Who measures	When
Consolidate strategic alliances with competent authorities and other neighboring organizations (e.g., communities) in order to strengthen the response capacity against threats of deforestation and/or environmental crimes in the project area	# cooperation agreements concluded annually with government entities # cooperation agreements concluded annually with non-governmental entities	Cooperation agreements fully signed.	Two agreements signed with two communities and two workshops held	BAM (Head of community relations)	Annually
Help form and consolidate V&CF Committees with the participation of neighboring communities to prevent and stop threats of deforestation and/or environmental crimes	N° Committees formed and/or strengthened to forest monitoring and control	Minutes of workshops or meetings held to reach agreements	In progress	BAM (Head of community relations)	In progress
Train interest groups in general in order to promote conservation, sustainable forest management and response to threats of deforestation in the area of influence of the project	#Workshop / campaigns implemented	List of attendance / audiovisual records	Three workshops in control and fire prevention were held	BAM (Head of community relations)	Annually

Table 4.7. Specific objective 2: Protect the integrity of biological diversity and ecological processes in the project area.

Indicator	Indicator type	Method	Results of this monitoring period	Who measures	When
Implement workshops and awareness efforts on the importance of protecting biodiversity in the project area	#workshops implemented on biodiversity preservation	List of attendance / audiovisual records	In progress	BAM (Head of community relations)	In progress

As can be seen in point 4.1.3, work has been done with 3 sectors on the control and management of forest fires as part of the prevention process.

Table 4.8. Specific objective 3: Strengthen the socio-economic situation of the interest groups, specifically of the villages and communities neighboring the project area.

Indicator	Indicator type	Method	Results of this monitoring period	Who measures	When
Improve the capacity of communities to cover basic services	Service and/or social infrastructure projects implemented per year	Implementation reports / audiovisual documentation	Several food and health donations were made to meet the urgent needs of the communities in the context of the global pandemic by COVID 19	BAM (Head of community relations)	Annually
Improve the technical capacities of the community to develop sustainable production	#workshops and internships carried out in productive practices and techniques in important or critical links of the productive chain	List of attendance / audiovisual records	In progress. Two workshops in control and fire prevention in two	BAM (Head of community relations)	Annually

Indicator	Indicator type	Method	Results of this monitoring period	Who measures	When
chains			communities		
Develop production chains in the project or buffer area that involve the surrounding communities	#productive and/or commercial pilot projects implemented	Semi-annual report on the impact of the implemented pilot project	Under construction. In the 2021 Social and economic information from the communities has been collected in order to know the needs and realities of 10 communities	BAM (Head of community relations)	Under construction

4.3.2 Monitoring Plan Dissemination (CM4.3)

This Monitoring Plan will be presented to community and other stakeholders following procedures described in 2.3.2 Dissemination of Summary Project Documents (G3.1). This Monitoring Plan will be online and accessible to all stakeholders.

4.4 Optional Criterion: Exceptional Community Benefits

The project does not plan to apply to Community Gold Level.

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

The project does not plan to apply to Community Gold Level.

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

The project does not plan to apply to Community Gold Level.

4.4.3 Net Impacts on Women (GL2.5)

The project does not plan to apply to Community Gold Level.

4.4.4 Benefit Sharing Mechanisms (GL2.6)

The project does not plan to apply to Community Gold Level.

4.4.5 Governance and Implementation Structures (GL2.8)

The project does not plan to apply to Community Gold Level.

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

The project does not plan to apply to Community Gold Level.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (B2.1)

The changes produced in biodiversity as a result of project activities during the monitoring period are described. These changes are monitored and measured through indicators defined in the respective monitoring plan of the project, through field evaluations of biodiversity, which have allowed data collection in three different sites in the project area. This monitoring report includes the results of biodiversity assessments in 2020 and 2021 (year of biodiversity baseline), and new evaluation carried out in the year 2022.

Table 5.1. Richness of Flora species

Change in Biodiversity	Richness of flora species in the Project Area
Monitored Change	The activities of the project are focused on restoring, maintaining and improving the integrity or functionality of natural ecosystem spaces through territorial security and surveillance actions, monitoring and protection of biological wealth (wild flora and fauna) and the implementation of the Program Science, in the project area of 22,226.01 ha, hoping that the forest and the richness of the biological diversity contained in it will be maintained and improved over time. 63 forest species have been evaluated in the same plots that were surveyed for the baseline, having identified: 1 EN species (*Handroanthus serratifloius*), 46 LC species (IUCN), 1 VU species (*Manilkara bidentata*), according to the classification criteria of MIDAGRI Peru.
Justification of Change	The identification of the flora species was carried out in the dry season (between the end of September and the beginning of October) applying the methodology proposed by the Rapid Assessment Program - RAP of Conservation International, for the assessment of biodiversity using different methods. and techniques, such as the survey of Modified Gentry Plots of 0.1 ha The protection and conservation of the forest is carried out mainly through the implementation of a system of territorial security and early warning of fire hotspots and also, avoiding carrying out any agro-industrial activity that generates a change in land use. Consequently, it is possible to maintain the forest cover, habitats, and biological diversity of wild flora and fauna in the natural ecosystems of the project area, and wildlife can continue fulfilling its ecological role.

Table 5.2. Richness of Fauna species

<table>
<tr><td>Change in Biodiversity</td><td>Richness of wildlife species in the Project Area.</td></tr>
<tr><td>Monitored Change</td><td>The project activities have the same focus as the one discussed in the flora evaluation, with emphasis on the important habitat for the fauna present in the project area. A total accumulated value of 491 identified species of wildlife have been recorded in the dry season, evaluated in three sampling areas:

<table>
<tr><th colspan="4">Species richness (N° species registered)</th></tr>
<tr><td>Taxonomic Group</td><td>Baseline 2021</td><td>First MR 2022</td><td>Accumulated</td></tr>
<tr><td>Birds</td><td>140</td><td>307</td><td>357</td></tr>
<tr><td>Mammals</td><td>35</td><td>36</td><td>45</td></tr>
<tr><td>Amphibians</td><td>26</td><td>41</td><td>45</td></tr>
<tr><td>Reptiles</td><td>27</td><td>29</td><td>44</td></tr>
</table>

Conservation status, by category, of the main species of each taxonomic group:
• Birds: 2 endemic sp endémicas EBA-66 (Myrmoborus melanurus, Talaphorus chlorocercus), 2 sp.VU (M. melanurus, Tinamus tao), 2 sp NT, 3 sp LC (IUCN), 46 sp (CITES II), 2 sp (CITES III)
• Mammals: 3 VU (Tapirus terrestris, Tayassu pecari, Myrmecophaga tridactyla), 2 NT, 6 LC (IUCN), 3 CITES I (Panthera onca, Puma concolor, Leopardus pardalis), 9 (CITES II), 4 NT (MINAGRI 2014, Peru)
• Amphibians: 1 CITES I (Allobates femoralis), 2 endemics (Dendropsophus sp, Scinax sp)
• Reptiles: 1 CITES II (Caiman crocodilus).</td></tr>
<tr><td>Justification of Change</td><td>The identification of fauna species was carried out in the dry season, applying the methodology proposed by the Rapid Assessment Program - RAP of Conservation International, using count points, playback and photographic shots, recordings, mist nets for capture (in bird assessment), linear transects, indirect censuses through direct and indirect sightings, camera traps (assessment of medium and large</td></tr>
</table>

	mammals) and mist nets (capture of flying mammals), transects and search for visual encounters (VES), used in amphibian and reptile group assessments For more details on method descriptions, see section 5.3.1. 5 species of birds were registered, indicators of the good state of conservation of the ecosystem, due to their importance in the trophic chain: *Ara arauna, Harpia harpyja, Sarcoramphus papa, Lophostrix cristata y Herpetotheres cachinans*

5.1.2 Mitigation Actions (B2.3)

The implementation of various project activities has not generated negative impacts on biodiversity, mainly due to the implemented actions aimed at protecting and conserving the habitats and the surface of the forest cover within the project area, maintaining the integrity and the identified species, some of which are endemic and/or threatened in some category, distributed in HCV areas. Mainly, territorial security actions, as part of the threat and risk reduction process, have promoted the maintenance of the forest in its greatest extension, so that it does not suffer fragmentation processes in various critical areas, and reduce the pressure of external actors on forest degradation. Similarly, the landscape in the project area did not have significant changes in terms of maintenance of areas with forest cover, maintaining the configuration of land use mosaics.

One of the activities that is carried out continuously is intensive patrolling, carried out periodically or in shifts during the day, depending on the information on invasion threats that is obtained, and that has been reported during the period 2020 to 2022 by the personnel who work in the 4 existing camps (Pucallpillo, Quinillal, Milagros and Palmeras) within the project area, installed at strategic points, in addition to another 2 camps installed in the environment (Agua Blanca, Mirianita) on properties owned by BAM (called Mirianitas II) that adjoins the two properties in the project area. Likewise, operations have been carried out against the illegal felling of trees and verifications in the field of felled and quartered trees (sawmilling with a chainsaw), and in many cases groups of people who invaded or tried to enter the area had to be intervened on-site. BAM property within the project area. For the issue of control of the illegal extraction of flora and fauna, an Agreement (Memorandum of Understanding) has been signed with the USAID Prevenir project whose objective is to establish mutual understanding with clear parameters of coordination and effective collaboration in the achievement of the objectives shared objectives established to facilitate the implementation of REDD+ mechanisms, through compensation for avoided deforestation to the private sector, thus promoting the conservation of forests and their sustainable management in the territories of influence of the USAID Prevent Project.

On various occasions, assemblies and/or dialogue meetings have been held with representatives of populated centers or hamlets, or their grassroots organizations, to which some groups of invaders belong, to explain the legal consequences of these incursions without proper authorization and solve the problems raised. It is worth mentioning that due to the good relations and reciprocal activities that the BAM company maintains in alliance with the Nuevo Paraíso native community, whose lands border the Selva Maestra property, joint patrol operations have been carried out with groups of patrols, guards of the community forest, in order to monitor the common boundaries and protect the surrounding wooded areas,

from the entry of invaders in search of areas for the conversion of the forest into agricultural land and/or illegal extraction and transport of wood.

Once the incursions into the project area were reported, the reports were prepared with the support and evidence to file the respective complaints, to the authorities of the competent state entities in charge of processing the requests for crimes against forests and/or for illegal trafficking of timber forest products, after their review and processing, proceed with the processes of investigations, proceedings, verifications, visual inspections, verifications in the field of deforestation, and illegal logging, interventions and confiscations of illegally extracted wood, if found, with support from the police forces and personnel from the prosecutor's office specializing in environmental crimes.

On the other hand, in order to have the entire perimeter of the boundaries of the project area delimited and marked in the field, so that groups of external people know that it is a privately owned area, cleaning and maintenance activities are carried out the boundaries, roads, patrol trails in the forest, installation and repair of informative signage and perimeter fences of barbed wire arranged in 4 rows. Activities that are complemented with the maintenance and improvement of the infrastructure of said camps.

Regarding the control of forest fires that occur within the project area due to the spread of fire by the wind, from the opening or cleaning of cultivation areas carried out by producers who live outside and close to the limits of the area (in other cases were intentional with different motivations), they could be controlled in time so that they do not spread over a larger area, with the support of the camp staff, mainly in the Quinillal sector where these events frequently occur, in the dry season (called “summer” by the minimum amount or absence of precipitation for long periods).

Other complementary measures that have been implemented, in support of the aforementioned processes, and as part of the Science Program activities, in 2020 the first plane overflight was carried out over the BAM properties in Ucayali, obtaining the first aerial photographic material of the farm, identifying possible sources of deforestation, which allows better planning of territorial security and forest protection activities. Likewise, quite apart from the dialogue processes with the invading groups to resolve the conflicts, meetings and assemblies are being held with the surrounding local authorities and communities, in order to reach agreements and commitments, aimed at reducing pressure and threats to the forest landscape and project area, and providing them with social support, thus strengthening reciprocal relationships.

Table 5.3. Activities carried out by BAM according to their specific objective 1: Identify, monitor and permanently protect the biological richness (flora and fauna) within the Project Area

Nº	Activities	Date	Supporting documents
1.1	First plane overflight over the BAM properties in Ucayali, obtaining the first aerial photographic material of the farm, identifying possible sources of deforestation	March 2020	Photograph archive
1.2	First biodiversity assessment expedition to Quinillal, Ucayali (wet season)	March 2020	-Scientific reports for each specialty -Article on the blog of the BAM website
1.3	Second biodiversity assessment expedition to Quinillal, Ucayali (dry season). CORBIDI's team of expert scientists recorded 674	August 2021	-Scientific reports for each specialty -Article on the blog of the

Nº	Activities	Date	Supporting documents
	different species of wild flora and fauna. Biodiversity assessment expedition to Quinillal, Ucayali (wet season)		BAM website -Post in social networks
1.4	First expedition to Agua Blanca, Ucayali (dry season) with the CORBIDI team	August 2022	–Scientific reports for each specialty. -Photographic archive -Reel on BAM's social networks
1.5.	Part of the Campo Verde forests protected by BAM recognized as the Second Private Conservation Area (ACP) in Ucayali, Peru	October 2022	- BAM Social Media Posts -Publication on the website of the Peruvian State
1.6.	The biodiversity baseline was carried out as part of the monitoring of the project together with the PASKAY team	July 2021	-Baseline of biodiversity (**Appendix 19**) -Reports of the biological disciplines
1.7.	Ecological characterization of the natural communities of the property (primary, secondary, lowland forests, intervened areas), which will allow zoning with a view to their conservation and eventual sustainable use. As a result of the botanical team efforts in the first expedition to Quinillal.	March 2020	Botanical report of the expedition to Quinillal 2020
1.8.	Installation of 300 camera traps on BAM properties in Ucayali, within the framework of the BAM agreement with the University of San Diego	Aug - Sept 2022	-Photographic archive -Posts on BAM's social networks
1.9.	Solid waste management in the camps	Permanent	Photographic archive

Table 5.4. Activities carried out by BAM according to their specific objective 2: Establish alliances with top-level scientific institutions that ensure international prestige and recognition of the information generated

Nº	Activities	Date	Supporting documents
2.1	Mutual cooperation agreement between Bosques Amazónicos SFM S.A. and the Center for Ornithology and Biodiversity (CORBIDI)	15/11/2019	Signed agreement
2.2	Framework agreement for inter-institutional cooperation between AIDER and Bosques Amazónicos	22/07/2020	Signed agreement
2.3	Agreement with the UNMSM Natural History Museum	2021	-Agreements with the UNMSM and the San Marcos Foundation -Signed document
2.4	Framework agreement for inter-institutional cooperation between the La Molina National Agrarian University (UNALM) and Bosques Amazónicos S.A.	2021	Signed agreement
2.5.	Agreement with the San Diego Zoo	2022	Signed agreement

Nº	Activities	Date	Supporting documents
2.6.	Agreement with the NGO Peru Verde	2022	Signed agreement
2.7.	Visit of 8 students from the Forest Plantation Research Circle of the Agrarian University to our Mirianita farm in Campo Verde, Ucayali	12/11/2021	-Photographic archive -Posts on BAM's social networks
2.8.	Agreement with Rainforest Expeditions	October 2022	Signed agreement
2.9.	Group internship of the Forest Plantation Research Circle - CIPLAN Forestal attached to the Faculty of Forest Sciences of the National Agrarian University La Molina - UNALM	March – April 2022	CIPLAN internship report
2.10.	Co-organization together with SENASA in a forest pest control workshop course at the premises of the Instituto Superior Tecnológico Suiza and an internship in the farm of km12 of BAM	15/11/2022	-Triptych - PPT presentation -Event schedule
2.11.	Participation as exhibitors in the virtual workshop on the control of forest pests	2021	PPT presentation
2.12.	Specific inter-institutional cooperation agreement between the National Agrarian Health Service (SENASA) and Bosques Amazónicos S.A.	2022	Signed agreement

Table 5.5. Activities carried out by BAM according to their specific objective 3: Control the illegal extraction of flora and fauna in the project area with the support of the authorities and other competent organizations.

Nº	Activities	Date	Supporting documents
3.1	Agreement with the USAID Prevenir project	14/03/2022	Signed agreement
3.2	Establishment of the different Territorial Security camps in the project area	Permanent	Plan of the Territorial Security camps

Table 5.6. Activities carried out by BAM according to their specific objective 4: Implement workshops and awareness-raising efforts on the importance of biodiversity protection in the project area.

Nº	Activities	Date	Supporting documents
4.1	Training for the installation and monitoring of camera traps in Quinillal	August 2021	Camera trap report
4.2	Second training for the installation and monitoring of camera traps	2022	Project document on the use and installation of trap cameras by Daniel Blanco
4.3	Training on the identification and handling of reptiles in the pools, carried out by Luis Alberto Garcia, CORBIDI herpetologist, to the Rainforest Aquafarms team, who manage the BAM fish farms.	21/06/2022	-Rainforest Aquafarms Report -Proof of training -Presentation of the training -Photos and video of the training

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

The net impacts of the project on biodiversity were positive, considering the land use scenario without the project as a reference. The change in land use of 3,200 ha to agro-industrial crops, for the first monitoring period, has been avoided, which will continue throughout the useful life of the project, and which has allowed maintaining and conserving the natural ecosystem such as forest areas and habitats that house a diversity of flora and fauna species, which have been evaluated and recorded to date.

Likewise, in order to identify, protect and monitor biological wealth, through the implementation of the Science Program, two expeditions (2020 - 2021) have been carried out for the evaluation of biodiversity in four taxonomic groups (mammalogy, ornithology, herpetology and limnology) to the sampling zone of Quinillal and Agua Blanca (outside the project area), in the wet season as well as in the dry season, with the team of expert scientists from the CORBIDI Ornithology and Biodiversity Center, recording 674 different species of flora and wildlife in Quinillal and managing to generate relevant information to plan and identify strategies for the conservation of biological diversity in the project area.

Regarding the first expedition in Quinillal, (wet season), three groups of mammals (flying, small flightless and medium to large flightless) were evaluated using different techniques, being the most important species detected, the "sachavaca" (*Tapirus terrestris*), a species that is considered Vulnerable by the IUCN, as well as the subspecies of “puffin” (*Saimiri boliviensis peruviensis*) that is endemic to Peru. It was possible to register 226 species of birds belonging to 21 orders and 48 families. A total of 213 species or 94% of the registered birds correspond to species restricted to the biomes of the North Amazon and South Amazon. Of these, *Thamnomanes schistogynus*, *Myrmoborus melanurus*, *Hypocnemoides maculicauda*, *Hylopezus berlepschi*, *Empidonomus aurantioatrocristatus*, and *Pipra fasciicauda* are birds exclusive to the Southern Amazon biome, and only *Fluvicola pica* is exclusive to the Northern Amazon biome. These records complement the fact that the study area is located at the intersection of two biogeographical regions.

Myrmoborus melanurus is reported as Vulnerable by IUCN and Near Threatened in Peru, Setophaga striata is classified as Vulnerable by IUCN and has not been categorized in Peru, in addition 36 species are included in CITES appendices, and only *Jabiru mycteria* and *Falco peregrinus* are included in Appendix I, which generally includes the species facing the highest degree of danger, but which means that their trade is heavily regulated. On the other hand, 23 species of amphibians (7 families) and 19 species of reptiles (10 families) were recorded, being the most abundant amphibian species *Leptodactylus leptodactyloides*, *Scinax ruber* and *Dendropsophus triangulum* and in reptiles they were *Gonatodes humeralis*, followed by *Ameiva ameiva*. Through these samplings, it would have been possible to register 68% of the possible species that would be present in the study area.

In the second expedition to Quinillal (dry season), 39 species of mammals were recorded, estimating the presence of more than 55 species (accumulation curve). Likewise, a cumulative total of 286 bird species were registered (considering the two evaluation seasons), distributed in 22 orders and 52 families that represent almost 15% of the birds of Peru in just 12 kilometers traveled. In the wet season, 225 species were recorded and in the dry season, 243 species were recorded, of which 63% were present in both seasons, which indicates that at least 182 species inhabit these forests throughout the year. 19 amphibian species (4 families) and 24 reptile species (13 families) were recorded, where the most abundant amphibian species were Allobates conspicuus, followed by *Leptodactylus leptodactyloides*, and in reptiles they were *Gonatodes humeralis*, followed by *Alopoglossus avilapiresae*. It was possible to enrich the list of species for the Quinillal area obtained during the evaluation of the dry season, increasing

the richness of species in 1 amphibian and 11 reptile species, reaching a total of 26 amphibian and 31 reptile species, which represents 38.2% and 29.8% respectively of the total known for the department of Ucayali (MINAM, 2018). According to the Clench model, the expected number is 67 herpetozoa, which would be closer to the real richness of the herpetofauna as sampling efforts accumulate. For IUCN *Chelonoides denticulatus* is categorized as Vulnerable (VU).

As part of the first floristic expedition to Quinillal (2020), an ecological characterization of the natural communities (primary, secondary, lowland forests, intervened areas) has been carried out, which will allow improving the zoning for conservation and eventual sustainable use. All trees ≥ 10 cm DBH within Permanent Plot 1 (100 x 100m = 1 ha) have been tagged, corresponding to approximately 100 species, where nearly 90% of the existing trees were identified at Family level, being Legumes (Fabaceae), Palms (Arecaceae), Malvaceae, Sapotaceae and Moraceae the ones with the largest number of recorded individuals, these last two families indicative of an advanced stage of forest succession; clearly indicating that it is a rain forest of the Amazon plain, mature or in an advanced stage of succession, and in a good state of conservation. The installation of this Permanent Plot is of special importance, since its monitoring over time will produce useful scientific information on taxonomy, floristics, plant-animal interactions, and forest dynamics.

Likewise, within the framework of the BAM agreement with the University of San Diego, 300 camera traps have been installed on BAM properties, for which the camp staff from the Quinillal area were trained to install and monitor the respective cameras. In order to ensure international recognition for the information generated, agreements have been established with top-level scientific institutions, such as the UNMSM Natural History Museum, the La Molina National Agrarian University (UNALM), the San Diego Zoo, among other. BAM staff have also been trained in reptile identification and handling.

Finally, recognition was achieved by the Ministry of the Environment, of the Private Conservation Area, ACP Campo Verde, for a period of 40 years, which includes the area of the JCC - Nuestro Señor Jesucristo property, with an area of 8,049.70 ha, constituting the Technical Sheet of the ACP its Master Plan, which contains a list of obligations and restrictions to which the owner agrees and the zoning of the same, whose general objective is to conserve a representative sample of the mature rain forest of the Amazon plain, in good state of conservation and with sustenance capacity for the wild fauna associated with it; likewise, to preserve the aguajales ecosystems due to the high concentration of carbon stored in the form of peat within the scope of the ACP Campo Verde. In this regard, Annual Reports must be submitted regarding compliance with the commitments established in the Technical Sheet.

5.1.4 High Conservation Values Protected (B2.4)

The development of the components of the territorial supervision system has managed to protect the forest cover that involves maintaining the identified HCVs, important for the conservation of biodiversity, both the low terrace forest areas and aguajales with ecological importance, the fragile ecosystem called "Honoria Norte" [27]and bodies of water, mainly within the project area, which has allowed maintaining the integrity and functionality of habitats, natural ecosystems and flora and fauna species, protecting them from external pressures and threats.

[27] Technical Record of State of Conservation Department of Huanuco. https://cdn.www.gob.pe/uploads/document/file/1721168/FT-HCO-12_Bosque_Aluvial_Inundable_-_Honoria_Norte.pdf

5.1.5 Invasive Species (B2.5)

Not applicable. Since the project activities have not considered introducing or promoting the use of any exotic species, both plant and animal, in the project area. The deforested areas will be recovered through the installation of forest plantations, under appropriate modalities and arrangements, using native species of ecological and economic interest, in order to rehabilitate degraded soils and improve the biological connectivity of the forest landscape.

5.1.6 Impacts of Non-native Species (B2.6)

It does not apply to the project, since the project activities have not considered introducing or promoting the use of any exotic species, both plant and animal, in the project area. The deforested areas will be recovered through the installation of forest plantations, under appropriate modalities and arrangements, using native species of ecological and economic interest, in order to rehabilitate degraded soils and improve the biological connectivity of the forest landscape.

5.1.7 GMO Exclusion (B2.7)

It does not apply to the project, since the use of GMO genetically modified organisms, under any concept, is not planned within the project activities.

5.1.8 Inputs Justification (B2.8)

Not applicable. Chemical inputs and biological control are not used in any of the project activities. Only its use is in minimal quantities as part of the logistical operations for the maintenance and operation of the camps located within the project area and for which a protocol for the management of inputs and waste generated for storage, use, and disposal will be developed. Transportation and disposal in appropriate places, of said supplies, complemented with preventive and mitigation measures to be implemented by the personnel who carry out both territorial surveillance activities in the camps and research studies. Therefore, some adverse effects that could eventually occur would not be linked to the implementation of project activities.

5.2 Offsite Biodiversity Impacts

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

The implementation of the project activities, in the reported period, has focused on the protection, territorial monitoring and conservation of the forest in order to maintain the forest cover, avoiding deforestation due to change of use and degradation through activities of illegal logging. Therefore, no negative impacts on biodiversity have been generated outside the project area.

5.2.2 Net Offsite Biodiversity Benefits (B3.3)

Not applicable. There have been no negative impacts on biodiversity outside the project area. On the contrary, there has been a significant positive impact on biodiversity in the project area, which can be demonstrated with the approx. 22,226.01 ha of forest cover that remain preserved, in its three types of plant formation that cover the largest area of the project area (Mauritia flexuosa dominated palm swamp, "aguajales", Palm and Mixed Palm Swamp Forest and Lowland Tropical Rainforest), which has allowed to

protect and maintain in its natural state, areas identified with high conservation values, such as the fragile ecosystem "Honoria Norte" of 4,596 ha, and bodies of water, with the diversity of flora and fauna that they house. Therefore, the net effect of the project on biodiversity was positive.

5.3 Biodiversity Impact Monitoring

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

The biodiversity variables monitored, the methods used, the dates, the frequency and the results of the evaluations carried out in the three sampling zones, Quinillal, Milagros and Palmeras, located within the project area (details of the evaluated zones are presented in **Appendix 19**).

Table 5.7. Biodiversity variables (sampling, indicators, and results)

<table>
<tr><th>Biodiversity Components</th><th>Sampling methods, dates, frequency, locations</th><th>Indicators</th><th>Results</th></tr>
<tr><td>Forest</td><td>Rapid Inventory of woody plants: Modified Gentry Plots (MGP) 0.1 ha, with 10 2m x 50m transects.

Red list IUCN / CITES / DS 004 2014 MINAGRI

Dates:

Baseline: August 6 to 16, 2021

Monitoring Report 1: September 25 to October 07, 2022

Locations (3):

Sampling areas: Quinillal (Z1), Milagros (Z2) and Palmeras (Z3)

Frequency: annual</td><td>Presence/absence

Diversity index

Species conservation status</td><td>Richness: 63 forest species

<table><tr><th>FLORA (MR1)</th><th>Z1</th><th>Z2</th><th>Z3</th></tr><tr><td>N° sp: 63</td><td>19</td><td>38</td><td>33</td></tr><tr><td>N° Ind.</td><td>51</td><td>78</td><td>65</td></tr><tr><td>Margalef</td><td>4.57</td><td>8.49</td><td>7.66</td></tr><tr><td>Fisher α</td><td>10.98</td><td>29.24</td><td>26.81</td></tr></table>
IUCN:

(EN) Handroanthus serratifloius

(LC) 46 sp.

MINAGRI:

(VU) Manilkara bidentata</td></tr>
<tr><td>Mammals</td><td>Line transects with indirect records (fresh tracks, feces, hair, burrows, partially consumed fruits/seeds)</td><td>Presence/absence

Diversity index

Species conservation</td><td>Richness: 45 identified species (accumulated)</td></tr>
</table>

<table>
<tr><th>Biodiversity Components</th><th>Sampling methods, dates, frequency, locations</th><th>Indicators</th><th>Results</th></tr>
<tr><td></td><td>and complementary methods (camera traps, mist nets, night surveys)

Red list IUCN / CITES / DS 004 2014 MINAGRI

Dates:

Baseline: August 6 to 16, 2021

Monitoring Report 1: September 25 to October 07, 2022

Locations (3):

Sampling areas: Quinillal (Z1), Milagros (Z2) and Palmeras (Z3)

Frequency: biannual</td><td>status</td><td>
<table>
<tr><th>Mammals (MR1)</th><th>Z1</th><th>Z2</th><th>Z3</th></tr>
<tr><td>N° sp: 36</td><td>26</td><td>19</td><td>26</td></tr>
<tr><td>N° Ind.</td><td>227</td><td>104</td><td>370</td></tr>
<tr><td>Margalef</td><td>5.12</td><td>5.46</td><td>5.11</td></tr>
<tr><td>Fisher α</td><td>9.16</td><td>16.47</td><td>9.23</td></tr>
</table>
IUCN:

(VU) Tapirus terrestris, Tayassu pecari, Myrmecophaga tridactyla (NT) Panthera onca, Puma concolor

(LC) Saimiri boliviensis, Aotus nigriceps, Pithecia monachus, Leopardus pardalis, Pecari tajacu, Bradypus variegatus

CITES I: Panthera onca, Puma concolor, Leopardus pardalis

MINAGRI

(NT) Panthera onca, Puma concolor, Tapirus terrestris, Tayassu pecari
</td></tr>
<tr><td>Birds</td><td>Count points (every 200 m and for 10 minutes) and complementary methods (play-back, intensive search, photographic technique, mist nets)

Red list IUCN / CITES / DS 004 2014 MINAGRI

Dates:

Baseline: August 6 to 16,</td><td>Presence/absence

Diversity index

Species conservation status</td><td>Richness: 357 identified species (accumulated)
<table>
<tr><th>Birds (MR1)</th><th>Z1</th><th>Z2</th><th>Z3</th></tr>
<tr><td>N° sp: 307</td><td>191</td><td>184</td><td>199</td></tr>
<tr><td>N° Ind.</td><td>1214</td><td>1252</td><td>1289</td></tr>
<tr><td>Margalef</td><td>26.75</td><td>25.66</td><td>27.65</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Biodiversity Components</th><th>Sampling methods, dates, frequency, locations</th><th>Indicators</th><th>Results</th></tr>
<tr><td></td><td>2021

Monitoring Report 1: September 25 to October 07, 2022

Locations (3):

Sampling areas: Quinillal (Z1), Milagros (Z2) and Palmeras (Z3)

Frequency: biannual</td><td></td><td>
<table>
<tr><td>Simpson_1-D</td><td>0.975</td><td>0.981</td><td>0.985</td></tr>
</table>

Endemics EBA-66:
Myrmoborus melanurus, Talaphorus chlorocercus

IUCN:

(VU) Myrmoborus melanurus, Tinamus tao

(NT) Celeus torguatus, Spizaetus ornatus

(LC) Pteroglossus beauharnaisii, Jabiru mycteria, Talaphorus chlorocercus
</td></tr>
<tr><td>Water bodies</td><td>Herpetofauna Assessment: Visual Encounter Search (VES)

Red list IUCN / CITES / DS 004 2014 MINAGRI

Dates:

Baseline: August 6 to 16, 2021

Monitoring Report 1: September 25 to October 07, 2022

Locations (3):

Sampling areas: Quinillal (Z1), Milagros (Z2) and Palmeras (Z3)</td><td>Presence/absence

Diversity index

Species conservation status</td><td>Richness: 89 sp.

45 sp. amphibians, 44 sp. reptiles identified (cumulative).

<table>
<tr><th>Anphib/ Reptiles (MR1)</th><th>Z1</th><th>Z2</th><th>Z3</th></tr>
<tr><td>N° sp</td><td>37</td><td>35</td><td>34</td></tr>
<tr><td>N° Ind.</td><td>149</td><td>116</td><td>130</td></tr>
<tr><td>Margalef</td><td>7.194</td><td>7.152</td><td>6.78</td></tr>
<tr><td>Simpson</td><td>0.9095</td><td>0.9386</td><td>0.9056</td></tr>
<tr><td>Fisher Alpha</td><td>15.77</td><td>17.02</td><td>14.98</td></tr>
</table>

<table>
<tr><th>Anphib. (MR1)</th><th>Z1</th><th>Z2</th><th>Z3</th></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Biodiversity Components</th><th>Sampling methods, dates, frequency, locations</th><th>Indicators</th><th>Results</th></tr>
<tr><td></td><td>Frequency: biannual</td><td></td><td>
<table>
<tr><td>N° sp: 41</td><td>25</td><td>21</td><td>21</td></tr>
<tr><td>N° Ind.</td><td>129</td><td>90</td><td>107</td></tr>
<tr><td>Reptiles (MR1)</td><td>Z1</td><td>Z2</td><td>Z3</td></tr>
<tr><td>N° sp: 29</td><td>12</td><td>13</td><td>13</td></tr>
<tr><td>N° Ind.</td><td>19</td><td>25</td><td>19</td></tr>
</table>
Endemics:

Dendropsophus sp, Scinax sp.

CITES:

I Allobates femoralis

II Caiman crocodilus
</td></tr>
</table>

In the evaluation of wild flora, the method used was a sampling based on Modified Gentry Plots (MGP), which consists of taking a census, identifying the genus, species and family of the individuals, in an area of 0.1 ha (10 50 m long x 2 m wide transects, randomly distributed, without overlapping and 20 m apart), measuring all tree individuals whose stem has a diameter at breast height (DBH) greater than or equal to at 0.10 m.

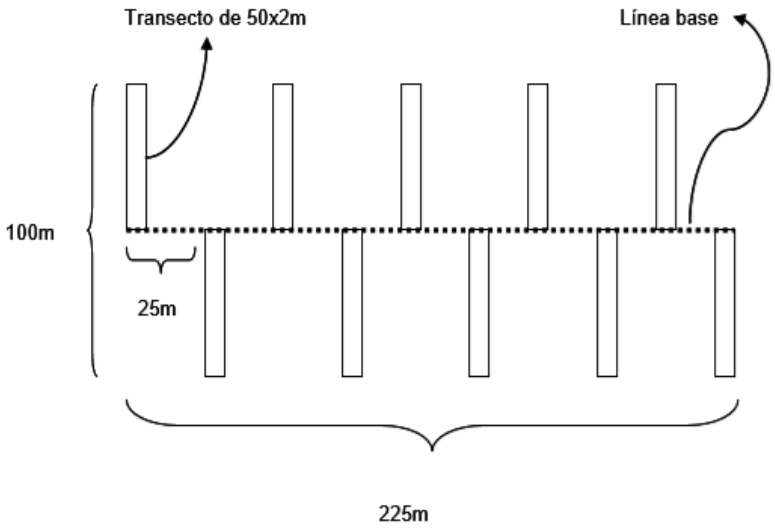


Figure 5.1. Transects distribution

In addition, measurements of stem height, position and crown shape were made. Among other parameters, the IVI (Importance Value Index) was calculated for each species, as the sum in percentages of relative abundance, relative frequency and relative dominance (IVI results are shown in **Appendix 20**). With this index it is possible to evaluate the "ecological weight" of each species within the corresponding forest type. Obtaining similar IVI for the indicator species, suggest the equality or at least the similarity of the stand in its composition, in its structures, in relation to the site and in its dynamics.

63 species belonging to 24 families were identified, being the Fabaceae with the highest representation in number of individuals found (25.7%), followed by the Myristicaceae (13.4% individuals), Malvaceae (8.7% individuals) and Arecaceae (8.2% individuals). The diameter distribution in the 3 evaluated zones presents the shape of an "inverted J", typical of these types of primary forests.

For the evaluation of mammals, the same sampling sites of the Biological Evaluation were selected for the development of the Baseline. The methodology of the Rapid Assessment Program, RAP (Rapid Assessment Program), of Conservation International (CI. 2012) was used, carrying out the field work during four calendar days per study area; that is, twelve days per evaluated area. For the directed sampling, those registered as sites of direct, indirect or photographic sighting of mammals, during the Biological Evaluation for the elaboration of the Base Line, were used as reference points.

The methodology for the direct and indirect observation of small non-flying mammals and larger mammals was based on censuses in linear transects (**Appendix 21**), with a minimum bidirectional day and night average of 6.61 km per day, at each sampling station. The capture of digital images by means of heat-sensitive camera traps, active 24 hours a day, was used as a support method. Twelve (12) BUSHNELL (IMA53) automated equipment with external camouflage and water resistance characteristics were used. Its use helped eliminate individual sampling bias and reduced research hours in the field; by operating 24 hours a day, which allowed their camouflaged placement at georeferenced sampling stations, increasing detection rates even for highly elusive species. Mist nets were also used for the non-lethal capture of small flying mammals, only during night tours, using eight 12 m long mist nets, placed at a height of 1.5 m above the ground.

The census of diurnal line transects, as a recognized methodology to study medium and large vertebrates in tropical forests, has the advantage of low cost and allows direct identification of species during the evaluation, without requiring the lethal collection of specimens for processing. The transects had a minimum length of 2 kilometers of cumulative day and night bidirectional route for the determination of the sampling effort for each locality. The trail systems and boundaries of each study area were used as linear transects. The number of sampling sites and the distances between them vary in each sampling site and depending on their accessibility, proximity to bodies of water (clay licks, lakes, ponds and ravines) and the topography of the place. The transects were more than 300 m apart. from the base camp, in order to avoid bias in data collection due to reactive behavior of individuals close to the camp.

Efforts were focused on recording medium and large mammals, including species that are easy to observe, the same ones that are important in the ecosystem, many of them being considered "umbrella species" that, due to their large size and diet (predators), They require large spaces to complete their life cycle. The direct sighting included the animals: Seen (V) and Heard (E); and the indirect recording of the animals: Smelled (O), Tracked (R) and Tracks (H) (Carrillo et al. 2000), which constituted the basis of the observation efforts carried out by the Mammalogy brigade. In addition, the support of digital images,

recorded by camera trapping, was used. Sampling days provided twenty (25) 'visits' or detection events in the presence-absence matrix, an adequate number for site occupancy analyzes in most recorded species. However, for robust density estimates, a minimum of 40 detection events is recommended, although 20 sightings may provide sufficient estimates (Peres, 1999).

Three (03) transects were covered, one in each Study Area, with a total length of 15.42 km in Zone 01 (Quinillal), 36.55 km in Zone 02 (Milagros) and 27.30 km in Zone 03 (Palmeras)., adding a total sampling effort of 79.27 km. The Occurrence Index was calculated (see results in **Appendix 22**), which is qualitative and complementary to the use of other detection methods, such as camera traps, to confirm the presence of a kind. It consists of the sum of the direct and indirect records of medium and large mammals, assigning each record to three different categories, each of which is assigned a different value. Confirmation of a species is obtained when the sum of all types of records reaches a score equal to or greater than 10. This technique is suggested to be done in places where there are few direct records and higher indirect records.

The number of species found in the three study areas was 36 identified species. From the results of the richness calculation, it can be deduced that the Monkey Fraile (Saimiri boliviensis) species is the one with a much higher value in the three study areas, with 222 individuals, with a Relative Abundance of 75.22, 138.21 and 17.77. for every 10 km of travel in the areas of Quinillal, Milagros and Palmeras respectively. It is followed in order of importance by Saguinus fuscicollis. The Saimiri boliviensis is an important species as a disperser of fruit tree seeds that make up the majority of its diet, a function that guarantees the stability of the forests in the evaluated area, providing sustenance to many other species that have similar diets.

For the evaluation of the bird community, the Count Points were used as the main method, through which qualitative and quantitative data were obtained. Likewise, complementary methods such as the play-back technique and intensive search were used, which were useful to register or confirm the presence of some during the evaluation. In point surveys, the observer remains at a fixed point and takes note of all birds seen and heard in a limited or unlimited area during a given period of time. To avoid bias in data collection, it was considered that the points were approximately 200 meters apart. The evaluation time was 10 minutes at each point. The main data that were considered were, species and number of individuals, in addition to the start and end time, coordinates, type of vegetation, climatic conditions, among others.

To increase the probability of detection, a variant of the intensive search census was used, which was carried out during the 200 m journey between point and point. The method consists of carrying out a census in an area that the observer covers completely in search of birds. In this way unfamiliar songs or calls are less of a problem as the bird can be searched for and visually identified if necessary.

This method is very important because it allows to follow the species that vocalize far away or that generate doubts at the moment of their identification. The Playback technique is a complementary method to improve the inventory of species. It is a tool widely used by experienced ornithologists for the recognition of inconspicuous or cryptic species, which, due to the similarity of their color patterns, or because they are especially shy, are difficult to detect visually. Basically, it consists of reproducing the vocalizations of a species, attentively waiting for an auditory or visual response that allows an objective record to be made. Photography techniques are used to illustrate and confirm with greater certainty the record of some very elusive and difficult-to-observe species. These techniques are complemented by the playback technique, using vocalization to attract the individual up to a close distance, within the range of

a 300mm telephoto lens, for which a Canon EOS 6D Mark II camera with a 400mm EF lens and a NIKON D7000 with a 300mm EF lens.

For the identification of species, the book of the Birds of Peru was available at all times in its digital version (Schulenberg et al. 2010); and Merlin, which is an application developed by the Cornell Lab of Ornithology that contains photos, sounds, distribution maps, and identification tips for more than 6,000 species of birds around the world. In addition, audio players were used with the recordings of all the birds in Peru, which were used as a comparison when necessary. A TASCAN DR05 recorder was also used to record vocalizations. The auditory identification was carried out following as a guide the songs of the Birds of Peru by Peter Boesman and the online song base xeno-canto (http://www.xeno-canto.org/). The taxonomic classification was carried out according to the SAAC (Remsen, et al. 2022) and for the common names the list of birds of Peru was used (Plenge, M. A., 2022).

12m long mist nets were placed in different sectors of the forest, trying to cover the entire area. These were placed to capture some rare species, since these complement the visual records, registering visually and auditorily cryptic species with this method. On several occasions the nets had to be redirected to specific places where there were doubtful records of some species, and it was necessary to catch the bird to confirm its presence.

As a result of the evaluation, 308 species of birds distributed in 24 orders and 51 families (list of species are shown in **Appendix 23**) were registered, which represent almost 17 % of the birds of Peru and 34% of the birds registered in the department of Ucayali (eBird, 2022). Of the total number of species, 205 were recorded at the counting points, while the remaining 103 species were observed incidentally during their stay in the area, either: walking the trails randomly, moving from point to point, or during the night. The accumulated record of species totals 357 (considering the 2021 evaluation), which means that approximately 19% of the birds in all of Peru live in the evaluated forests.

The Clench equation is the most widely used model and has shown a good fit in most real situations and for most taxa, as it successfully describes the trajectory of species accumulation curves in vertebrate community assessments (Soberón and Llorente 1993). Using the data obtained with the 90 count points, Clench's equation estimates the total number of species that could be recorded in the area at 265. This result underestimates the actual size of the bird community that inhabits the area, since it is known that the number of species recorded in this reported assessment is 308 species. As a reference, the results of the evaluations made by Valqui and Novoa, (2021) in the Quinillal area, using the MacKinnon fixed list method, recorded 286 species and estimated that the size of the bird community for the area is 352 species, almost the same number (357) that results from joining the results of the evaluations carried out in 2021 and 2022.

The composition of the bird community is interesting due to its geographical location on the border between two large Biomes, the North and South Amazonia, therefore, the species composition represents both biogeographic regions. Furthermore, it is in an ecotone zone between the large areas of endemism (EBA) of the lowlands of southeastern Peru and the lowlands of the Alto Amazonas-Napo, therefore the zone is very important to understand some patterns of distribution of Amazonian birds in our country.

In the evaluation of reptiles and amphibians carried out in the period, the search by visual encounter (VES) was used, this methodology was chosen because it can be used for different types of habitats. For this, free searches were used with a standardized effort of 7 hours of work per night on each sampling day. In this way, the results can be compared between the evaluated areas. The searches were intensive

and the movement was slow and constant, checking vegetation, bodies of water, trunks and diverse material that serves as a refuge for both amphibians and reptiles. The samplings were carried out from 7:00 p.m. to 2:00 a.m. the following day. Additionally, the species recorded opportunely in the areas surrounding the sampling areas were also counted, such as the search for breeding ponds and other environments where the presence of amphibians and reptiles could exist. The species registered with this method were only considered to complement the richness. The individuals found were photographed, recorded in the field notebook, and determined as soon as possible in the field or in the office with the help of guides, bibliographic material, and comparison with specimens in scientific collections.

The field work was carried out with an effort of 252 man-hours in 12 days of sampling, allowing to cover a sampling area of 8 km2 (2 km2/night) in each sampling area, registering a total of 389 individuals belonging to 70 species between amphibians and reptiles. The amphibians were distributed in 6 families and 2 orders; while the reptiles in 14 families and 3 orders. The families that were found to be best represented are Hylidae with 29 species and in reptiles Colubridae with 9, being the most diverse families in the Neotropics (Frost 2022, Uetz et al. 2022). Considering the evaluation of 2021, a total of 89 species registered in the study area are reached, corresponding 45 to amphibians and 44 to reptiles (list of species in **Appendix 24**).

The accumulation curves, the variable on which the comparisons will be based, calculate the effectiveness (in terms of species detected by the researchers) of the sampling and do not try to estimate diversities based on the number of species and individuals found in a sampling that it may have had many biases during its field phase. They will be calculated through the EstimateS version 9.1.0 program. using the Chao1 and 2 estimators and the ICE for the comparison of different non-parametric estimators. Efforts were made that the logarithmic trends calculated in each of the curves have a confidence range above 95% to present them. The logarithmic trend for the non-parametric estimators that take into account the abundance of the recorded species (Chao 1 and 2) seems to reach an asymptote much earlier (below 100 species) than the parametric estimator (above 100 species). Likewise, the R2 factor reaches between 95%-99% effectiveness in Chao 1 and 2, while it only reaches 30% in ICE, which indicates that under the same sampling conditions and with the same effort, it is probable that, making the sampling as effective as possible, we could have found close to 100 species between amphibians and reptiles. The ICE estimator seems to indicate that during this sampling we were far from reaching a high effectiveness and that numbers above 100 species could be more equivalent to a highly effective sampling effort. Future samplings, both in the rainy season and in the dry season, will be able to elucidate these results, but at the moment it is not possible to assume any of these results as determinative.

5.3.2 Biodiversity Monitoring Plan Dissemination (B4.3)

The results of the monitoring and corresponding reports will be shared and informed to the key communities around the project area, in the spaces for community relations and respecting their communication procedures, with which Bosques Amazónicos is holding dialogue meetings with in order to reach agreements so that these communities can share the benefits of biodiversity management as a result of project activities. Likewise, it will be accessible to interested parties, through the Bosques Amazónicos y Verra website, through the PD and Monitoring Reports, adding images of the main species of flora and fauna registered and that are of local and regional importance.

5.4 Optional Criterion: Exceptional Biodiversity Benefits

To date, through biological evaluations, the following species have been registered in some category in a threatened situation according to the IUCN criteria and others as endemic:

- Mammals**:** (VU*) Tapirus terrestris, Tayassu pecari, Myrmecophaga tridactyla*
- Birds: (VU) *Myrmoborus melanurus, Tinamus tao***.** Endemics EBA-66**:** *Myrmoborus melanurus, Talaphorus chlorocercus*
- Amphibians: Endemics *Dendropsophus* sp, *Scinax* sp.
- Flora: (EN) *Handroanthus serratifloius*

5.4.1 Trigger Species Population Trends (GL3.3)

Trigger Species	*Mauritia flexuosa* “Aguaje”
With-project Scenario	As described in section 5.1.2, actions have been carried out to reduce pressure and threats to the project area, through the implementation of a territorial supervision and surveillance system, in order to maintain and conserve natural ecosystems. within the project area (as is the case of the 3,481 ha that the “aguajales” area covers) and avoiding deforestation due to land use change. Likewise, complementary activities such as the process of dialogue and agreements that are being carried out with the surrounding local communities, reduce the need for interest groups to access illegally to occupy farmland within the project area, to extract wood and take advantage of the fruit of the "aguaje" palm tree by knocking down individuals in fruiting. On the other hand, something very important for the objectives of biodiversity conservation and that makes it a milestone of the project, is that the property corresponding to "JCC Nuestro Señor Jesucristo" has been recognized by the Ministry of the Environment as a Conservation Area Private "ACP Campo Verde" (8,049.70 ha) according to Ministerial Resolution No. 193-2022-MINAM of 09.27.2022, for a period of 40 years, whose objective will be to conserve a representative sample of the mature rainforest of the Amazon plain, in good state of conservation and with support capacity for the wild fauna associated with it; likewise, to preserve the aguajales ecosystems due to the high concentration of carbon stored in the form of peat within the scope of the ACP Campo Verde. In this sense, within the Technical Sheet, which describes the commitments assumed, the actions to be implemented in order to maintain, improve and conserve the ecosystem of the "aguajales" are detailed.

APPENDIXES

Appendix 1: Code of Ethics and Conduct

Appendix 2: Corporate Sustainability Policy

Appendix 3: Occupational Health and Safety Regulation

Appendix 4: Terms of Reference for jobs positions

Appendix 5: Rating Report

Appendix 6: Curriculum vitae

Appendix 7: Memorandum of understanding (PREVENIR Project – USAID)

Appendix 8: Internal Rules of Conduct

Appendix 9: Corporate Governance Policy

Appendix 10: Risk Management System document

Appendix 11: Purchase and Sale Contract

Appendix 12: Procedure request of ACP

Appendix 13: Geographic coordinates of Selva Maestra

Appendix 14: Technical Economic Feasibility Study Agro-industrial Exploitation

Appendix 15: "File 7698 of the Special Project for Land Titling and Rural Cadaster

Appendix 16: Participatory Rural Appraisal (September 2021)

Appendix 17: Report of field evaluation on degradation

Appendix 18: Non-Permanence Risk Tool

Appendix 19: Biodiversity field evaluation report

Appendix 20: Importance Value Index (IVI)

Appendix 21: Census of mammals

Appendix 22: Occurrence Index

Appendix 23: List of bird species

Appendix 24: List of amphibians and reptile's species