

Manoa REDD+ Project Monitoring Report



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Document Prepared by Biofílica Ambipar Environmental Investments S.A.

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Project proponent(s)	<p>Biofílica Ambipar Environment Investments S.A. Contact: Plínio Ribeiro Address: Av. Angélica, 2330 – Higienópolis, São Paulo (SP), Brazil Phone: +55 11 3073-0430 e-mail: verra.ambiparenvironment@ambipar.com</p> <p>Manoa Sustentável, Exploração e Serviços Florestais Ltda Contact: Murilo Granemann de Souza Address: 653 Cujubim Avenue, Sector 06 Cujubim, RO Brazil Phone: +55 69 3582-2012 e-mail: murilo@triangulo.com.br</p>
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History of CCB Status	First Validation started on August 30, 2016, and ended on November 28, 2017. After 5 years without verifications the revalidation processes started on 2023
Gold Level criteria	<p>Climate Change Adaptation Benefits: because of its significant support to help communities and biodiversity adapt to the impacts of climate change through strategies aligned with the Project's planned activities.</p> <p>Exceptional Biodiversity Benefits: because the Project Zone includes a high priority area for biodiversity conservation that meets the criteria of vulnerability or uniqueness, identifying “trigger” species.</p>
Prepared by	Biofílica Ambipar Environment Investments S.A.

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1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
<p>1) Expected Benefits for the Climate: The REDD+ Manoa Project is expected to avoid approximately 31.696.185 tCO₂eq of emissions throughout the Project's life cycle. Deforestation avoided in the scenario with the Project is estimated at around 349.767 hectares and an average of 1.056,539 tCO₂eq of reduced emissions, contributing to the maintenance of the regional climate.</p>	<p>During the monitored period, the project prevented the emission of 3,902,120 tCO₂eq and avoided the deforestation of 3.569 hectares.</p>	<p>3</p>	<p>During the life cycle of the project, 4,474,273 tCO₂eq of emissions were avoided</p>
<p>2) Expected benefits for stakeholders: The benefits for local stakeholders and other stakeholders will be focused on the aspects of providing technical training in low-impact forest management, increasing employment through the movement of the local timber industry, and improving the municipality's infrastructure through donations and construction. In addition, it is expected that the participation of students and teachers in environmental education programs will increase awareness of the importance of forest conservation, and that support for academic studies throughout the project will generate new knowledge about the region's biodiversity and promote the training of new scientists.</p>	<p>Under development</p>	<p>4</p>	<p>Under development</p>
<p>3) Expected benefits for Biodiversity: the Manoa REDD+ Project promotes the conservation of critical habitats for endangered species, according to the IUCN, through the maintenance and monitoring of forest cover in the Project area. In addition, the Project area plays the role of an "ecological corridor", connecting two Conservation Units, which are essential for the gene flow of large species, and helps generate knowledge through the development of scientific research related to the topic.</p>	<p>The following number of species with some degree of threat were monitored in the project area:</p> <p>Flora: 06 species Avifauna: 06 species Fauna: 08 species</p>	<p>5</p>	<p>Under development</p>

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
	Net estimated emission reductions in the project area, measured against the without-project scenario	3,902,120 tCO ₂ eq	3	4,474,273 tCO ₂ eq
Forest ¹ cover	For REDD ² projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	7,663.25 ha	3	13,046 ha ha
	For ARR ³ projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
Improved land management	Number of hectares of existing production forest land in which IFM ⁴ practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
Training	Total number of community members who have improved skills and/or knowledge	Under development	2.3.15 and 4.1.1	Under development

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

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

³ 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*)

	resulting from training provided as part of project activities			
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	Not applicable.	Not applicable.	Not applicable.
Employment	Total number of people employed in of project activities, ⁵ expressed as number of full-time employees ⁶	Not applicable.	Not applicable.	Not applicable.
	Number of women employed in project activities, expressed as number of full-time employees	Not applicable.	Not applicable.	Not applicable.
Livelihoods	Total number of people with improved livelihoods ⁷ or income generated as a result of project activities	Under development	4	Under development
	Number of women with improved livelihoods or income generated as a result of project activities	Not applicable.	Not applicable.	Not applicable.
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Under development	4.1.1	Under development
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities,	Not applicable.	Not applicable.	Not applicable.

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.

	measured against the without-project scenario			
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable.	Not applicable.	Not applicable.
Well-being	Total number of community members whose well-being ⁸ was improved as a result of project activities	Under development	4	Under development
	Number of women whose well-being was improved as a result of project activities	Not applicable.	Not applicable.	Not applicable.
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation, ⁹ measured against the without-project scenario	74,230.32 (Project area)	5	74,230.32 (Project area)
	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	Flora: 06 espécies Bird: 06 espécies Fauna: 08 espécies	5	Under development

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.

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 PROJECT DETAILS

2.1 Summary Description of the Implementation Status of the Project

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

The Manoa REDD+ project is a partnership between Biofílica Ambipar Environment Investments S.A. and Manoa Sustentável, Exploração e Serviços Florestais Ltda, located in Manoa Farm, municipality of Cujubim, state of Rondônia. Throughout its almost 30 years of history, Manoa has improved its management techniques, becoming a world benchmark model of forest exploitation allied to nature conservation.

The project activities, which began in 2013, are under the responsibility of Biofílica Ambipar and Manoa. Biofílica works in all stages of the project, from preparation, implementation, monitoring and co-management, and is responsible for the development of all technical documents, for the relationship with the partner, and for conducting and carrying out the validation and verification audits. Manoa owns the land where the project is deployed and is responsible for the co-management of the project, for monitoring and supervising the activities, for the land security and property surveillance as well as for the low impact forest management with certification.

The activities under the Project are characterized by their continuous implementation, focusing on the generation of climate, community and biodiversity benefits, given the great deforestation pressure that has been occurring in the project region. Among the main activities implemented during the monitoring period the ones highlighted are: 1. Deforestation monitoring by means of satellite images; 2. Property surveillance carried out by the security team to prevent deforestation and intrusions in the area; 3. The low impact forest management (FSC and PEFC certified); 4. Training in low impact forest management techniques; 5. The promotion of socio-environmental education activities in the municipality of Cujubim, 6. Activities related to Biodiversity and 7. Activities to improve Cujubim infrastructure. For more details about the implementation status of each project activity, see section 2.2.

Section 0 details how the social activities of the project contribute to a good governance of Manoa Farm, ensuring a broad and transparent management of the territory and consequently helping contain deforestation in the project area, preventing encroachment, disputes and illegal practices, and reducing social tensions. All the activities described herein comprise the current monitoring period (between January 1, 2023 and September 30, 2024). In addition to the actions already mentioned, Section 2.2.5.2 details Manoa's communication channels and procedures with stakeholders, and 2.2.7 the project's risks and risk mitigations.

Activities related to biodiversity are detailed in section 0. In addition to forest conservation in the project area, which is important for maintaining the habitat and local biodiversity, in 2023 and 2024 there

were also monitoring activities through environmental diagnosis and partnerships with the Federal University of Rondônia (UNIR).

The Manoa REDD+ Project works with the purpose of promoting the development of activities aimed at mitigating climate change, reducing GHG emissions caused by deforestation and forest degradation, promoting social welfare and conserving biodiversity in the municipality of Cujubim. With this, the total GHG emissions reductions for this monitoring period (01/01/2023 to 09/30/2024) were 3,902,120 tCO_{2e}. The project did not undergo any methodological change, or deviations of the PDD.

2.1.2 Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Validation	01-January-2013	VCS and CCB	Rainforest Alliance	-
Verification	01-January-2013-31-December-2016	VCS	Rainforest Alliance	4
Verification	01-January-2017-07-August-2020	VCS	Earthood Services Private Limited (ESPL)	4
Verification	08-August-2020-31-December-2022	VCS	Earthood Services Private Limited (ESPL)	2
Validation				
Verification				
Validation	01-January-2023	VCS and CCB		-
Verification	01-January-2023--30-September-2024	VCS and CCB		1
Total	01-January-2013--30-September-2024	-	-	11

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Reducing Emission from Deforestation and Degradation

Project Activity Type	Unplanned Avoided Deforestation (AUD)
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2.1.4 Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	Bioflica Ambipar Environmental Investments S/A
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Organization name	Manoa Sustentável, Exploração e Serviços Florestais Ltda
Contact person	Murilo Granemann de Souza
Title	Chief Executive Officer (CEO)
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Telephone	+55 69 3582-2012
Email	murilo@triangulo.com.br

2.1.5 Other Entities Involved in the Project

Organization name	UNIR – Federal University of Rondônia Foundation
Role in the project	An important partnership initiated during this period was the agreement with researchers Fernando Henrique Ribas Motta and Dr. Mariluce Rezende Messias, linked to the Federal University of Rondônia Foundation (UNIR) for biodiversity monitoring.
Contact person	Mariluce Rezende Messias
Title	Coordinator of the Laboratory of Mastozoology and Terrestrial Vertebrates, and advisor of the research project entitled "Assessment of the regeneration phase of an area under low impact forest management in two focal groups of

	vertebrates through the photographic trapping method at Fazenda Manoa, Cujubim (RO)".
Address	Av. Presidente Dutra, 2965 - Centro, Porto Velho (RO) - Brazil
Telephone	+55 69 2182-2000
Email	messias.malu@unir.br

Organization name	Associação Ecológica Guaporé - Ecoporé
Role in the project	Socio-economic and Environmental Diagnosis of the Manoa REDD+ Project region.
Contact person	Marcelo Lucian Ferronato
Title	President
Address	Av. Rafael Vaz e Silva 3335 - Porto Velho (RO) - Brazil
Telephone	+55 69 3213-2627
Email	ecopore@ecopore.org.br

Organization name	Casa da Floresta Assessoria Ambiental LTDA.
Role in the project	Socio-economic and Environmental Diagnosis, Flora, Fauna and Physical Environment modules and Geographic Information Systems, of the Manoa REDD+ Project region
Contact person	Mônica Cabello de Brito
Title	Director
Address	Av. Joaquina Morgante, 289 - Piracicaba (SP) - Brasil
Telephone	+ 55 19 3433-7422
Email	casadafloresta@casadafloresta.com.br

2.1.6 Project Start Date (VCS, 3.8)

Project start date	01-January-2013
Justification	This date represents a milestone in Biofílica's first studies that took place to assess the structuring of the REDD+ project. More information about the start date can be found in the project description document.

2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	01-January-2013 to 31-December-2052
Start Date of First or Fixed Crediting Period	01-January-2013
Total Number of Years of Crediting Period	40
CCB Benefits Assessment Period	01-January-2023 to 30-September-2024

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

The Manoa REDD+ Project is in Brazil, State of Rondônia, municipalities of Cujubim, Itapoã do Oeste and Porto Velho (Figure 1). Access to the area is via Highway BR-364, Porto Velho-Ariquemes, traveling about 140 km up to Highway RO-205, which connects to the municipality of Cujubim via 50 km of dirt road.

The surrounding area is characterized by the presence of several Conservation Units, as well as Land Reform Settlements by the National Institute for Settlement and Land Reform (INCRA). More recently, the region where the project is located has been undergoing extensive change as a result of the advance of soybean farming.

The Project Area (74,230.3 hectares) is located within the Manoa Farm property, which totals an area of 75,554.1847 hectares (data from the most recent Rural Property Registration Certificate – CCIR). The kml format file of the project boundaries has been provided and is available on Verra's platform. The Manoa REDD+ project zone includes the municipality of Cujubim, where most of the project's social activities are carried out and, therefore, where most of the stakeholders that will be impacted are located, and the project area. Figure 1 demonstrates the boundaries of the project, the impacted stakeholders (the close neighbors of the Manoa farm and the municipality of Cujubim) and the HCVAs found within the project area, the salt shaker and the Rio Preto waterfall. The employees of the Manoa farm are not represented on the map directly because they are mostly part of the group of residents of Cujubim.

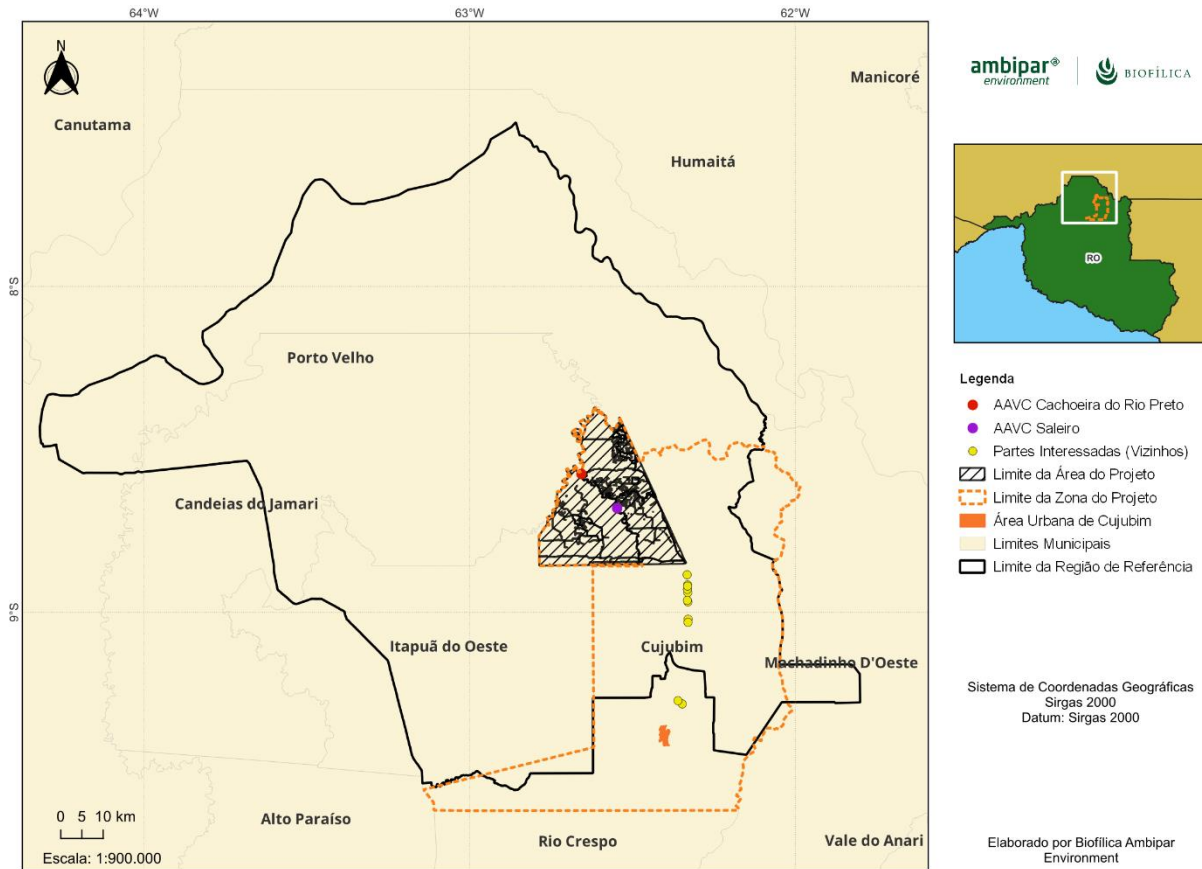


Figure 1. Geographical boundaries of the project area and zone, with an indication of the affected stakeholders (neighbours of the farm and the municipality of Cujubim), as well as an indication of the location of the HCVAs

2.1.9 Title and Reference of Methodology (VCS, 3.1)

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0015	Avoided Unplanned Deforestation	1.2
Tool	VT0001	Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities	3.0
Tool		AFOLU Non-Permanence Risk Tool	4.2
Ferramenta	-	AFOLU Non-Permanence Risk Report Excel Calculation Tool	4.2
...

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

2.1.10.1 No Double Issuance

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

Yes No

2.1.10.2 Registration in Other GHG Programs

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

Yes No

2.1.10.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

Yes No

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

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

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

Yes No

2.1.11.2 No Double Claiming with Other Forms of Environmental Credit

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

Yes No

2.1.11.3 Supply Chain (Scope 3) Emissions

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

Yes No

2.1.12 Sustainable Development Contributions (VCS, 3.17)

The Manoa REDD+ Project, despite being in a region where deforestation and degradation pressure have been increasing at a rapid pace in recent years, managed to contain virtually all unplanned deforestation in the Project Area during the monitored period. A deforested area of only 2.02 hectares was identified and the justification for its occurrence is explained in section 3. The results were ensured mainly due to the good governance applied on the area and the property surveillance activities. Consequently, the project was able to maintain the ecosystem services generated by the permanence of forest vegetation, as well as the aspects associated with biodiversity.

The contribution of the permanence of the benefits linked to forest conservation also occurs thanks to the low impact forest management carried out by Manoa Sustentável, Exploração e Serviços Florestais. Sustainable forest management uses a set of techniques to harvest part of the large commercial trees in the forest, in a system of area rotation, in order to avoid damaging the species that should be preserved and not harm the smaller trees, so that they can grow, ensuring the forest conservation and production sustainability. In addition, there is a special care with PPA (Permanent Preservation Areas) areas, such as riparian forests, water springs, stream banks, areas with a declivity greater than 45°, ensuring the protection of water-related ecosystems. Due to the positive results, the sustainable management model proposed by the company has already been disseminated in 2010 as an example to be followed worldwide by the UN in the publication "Exemplary Cases of Sustainable Management".

In addition to the operational work, Manoa Sustentável, Exploração e Serviços Florestais, through its training activities, ensures the generation of complementary benefits. The development of these activities has allowed the dissemination of knowledge about the importance of sustainable management practices and forest conservation, consequently causing the consolidation of the sustainable development culture. The detailed activities that have brought about positive social results are better described in the following section 0.

The work carried out by Manoa in the Cujubim region takes into account the support to the local economy, culture and education, demonstrating to the population and local authorities the importance of maintaining Manoa's activities for the region keeping, thereby, the good relationship with the surroundings and receiving the support by the community to maintain its operations and the forest. So, with this, the project is - in a global context - mainly aligned with five UN Sustainable Development Goals (SDGs), as described below. The conclusion about this alignment was made by analyzing the targets set for each goal, in relation to the project activities performed in the monitored period and the impacts generated. The supporting evidence of the project contribution to those SDG that were not considered sensible information (due to commercially sensible data or personal data of the people involved).

Table 1. Sustainable Development Contributions.

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1)	4.4	4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill, focused on low impact management technical capacities.	Activities implemented to increase	Under development	Under development
2)	4.7	4.7.1 Integration between local school education and education for sustainable development for forest conservation	Activities implemented to increase	Under development	Under development
3)	6.6	6.6.1 Change in the extent of water-related ecosystems over time, through the estimation of PPA (Permanent Preservation Areas), prior to the forest exploitation activities, so that no exploitation can occur in the PPA areas.	Activities implemented to reduce	Under development	Under development

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
5)	12.8	12.8.1 Support to research projects of local educational institutions, with a focus on education for sustainable development integrated to the education of teachers and students	Activities implemented to increase	Under development	Under development
6)	13.0	Tons of greenhouse gases emissions prevented or removed	Activities implemented to increase	Under development	Under development
7)	15.1	15.1.1 Number of hectares of reduced forest loss in the project area measured against the without-project scenario.	Activities implemented to increase	Under development	Under development
8)	15.2	15.2.1 Progress towards sustainable forest management	Activities implemented to increase	Under development	Under development
9)	15.5	15.5.1 Red List Index	Activities implemented to increase	Under development	Under development

2.2 Project Implementation Status

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

During the monitoring period, a new activity was initiated, and an existing activity was enhanced. The new activity, described in detail in Section 2.2.5, relates to infrastructure improvements in the municipality of Cujubim. This activity involved the purchase of land where a new daycare center will be built, funded by the Manoa REDD+ Project. The construction phases of the daycare center will be monitored in the upcoming monitoring reports.

The enhanced activity focused on ensuring compliance with labor rights requirements for the employees involved in low-impact forest management. Starting in 2023, in addition to providing labor rights information during the hiring process, workshops on this topic were also held. This activity is further detailed in Section 2.3.15, 2.3.16 and 2.3.17 and will continue throughout the project's duration.

Several activities outlined in Item 2.1.8 of the PD CCB are still in the development phase. These include:

- 1) Conducting training on monitoring techniques in line with project principles;
- 2) Training employees to carry out monitoring through visual observations;
- 3) Holding capacity-building workshops for local teachers on forest conservation topics; and
- 4) Developing internal communication campaigns to promote the importance of education and encourage the enrollment of employees' children and family members in school.

Other activities are already in progress but are being enhanced to improve their effectiveness and/or to better structure evidence management:

- 1) Maintaining access to strategic points at risk of fire;
- 2) Blocking access to strategic areas of the farm after forest management activities; and
- 3) Running fire prevention and respiratory illness awareness campaigns with local neighbors.

The remaining activities, which were previously implemented, continue to be monitored and are described throughout this document.

2.2.2 Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring period?

- Yes No

The updated VM0015 V1.2 methodology was used to recalculate the baseline. Recent data was incorporated, especially regarding changes in land use and land cover in the reference region, based on

analysis of PRODES images and field monitoring data, which identified the main agents, vectors and causes of deforestation.

Several sections of the project, including 1.14, 1.15, 1.16, 3.1, 3.2, 3.4, 4.1-4.4 and 5.12, have been revised to reflect the new baseline scenario. These updates were made to meet the baseline reassessment requirements established by the VCS Standard and to incorporate the changes in the baseline emission quantifications.

The assessment concluded that the previous scenario is no longer fully valid, especially due to the growth in deforestation pressures related to the expansion of cattle ranching and soy monocultures. Therefore, a new baseline was established, taking into account the new land use dynamics in the region.

Changes in national land use policies were analyzed, but did not identify any direct changes that would invalidate the baseline scenario. However, the regional policy of encouraging intensive agriculture and cattle ranching increased the relevance of these sectors in the deforestation projection.

The reassessment of the baseline scenario resulted in a percentage change in baseline emissions, as quantified in the new annual deforestation estimates. This comparison showed an increase in projected deforestation emissions for the current period.

2.2.3 Methodology Deviations (VCS, 3.20)

This section does not apply because, considering the monitored period, there was no occurrence of any methodological deviation in the project.

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

This section does not apply because, considering the monitored period, there was no occurrence of any minor changes to Project Description.

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

2.2.5.1 Deviations referring to the period 2017 to 2020

Project proponent - Change of land ownership

In 2019, the Manoa Farm was incorporated into the corporate capital of company Manoa Sustentável Extração e Serviços Florestais Ltda, in order to facilitate the bureaucratic procedures with the public agencies that carry out the release and inspection of the Forest Management Plan. Before, the owner was Triângulo Pisos e Painéis Ltda, project proponent indicated in the project PDD. This was a necessary action because those responsible for the public agencies have always had difficulties in understanding why the

area's owner was not company Manoa Sustentável Extração e Serviços Florestais Ltda, since it is responsible for the exploitation of the forest management plan.

The change in the land titling merely facilitated the bureaucracy of the responsible public agencies, and the capitalization of the Manoa Farm did not cause costs, only the documentary legalization of property. All the information regarding this process (clarification by the Triângulo Group) and the farm's updated land documents were made available to VVB on a confidential basis.

Since Manoa is a company that is part of the "Triângulo Group", as well as Triângulo Pisos e Painéis Ltda, the Triângulo Group, together with Biofílica, have defined as a result of the real estate payment and property transfer that Manoa will become the Project proponent together with Biofílica and, therefore, the owner of the carbon credit rights, in place of Triângulo Pisos e Painéis Ltda. Thus, Triângulo Pisos e Painéis Ltda (Released Representative), formerly a project proponent, together with Biofílica Ambipar Environmental Investments S.A., has chosen not to be a proponent anymore, giving way to Manoa Sustentável Extração e Serviços Florestais Ltda (Adherent Representative). This change refers to sections 1.4 (G4), 2.2 (G3), 2.6.2, 3.2 (G5), 8.1 (CL3, CM3 & B3) of the PDD.

This change does not interfere in any way with the Project management and governance process, and it only aims to reflect and formalize the process that has already been actually implemented, as Manoa has already been assuming more responsibilities in recent years since and, besides carrying out the low impact forest management in the project area, has also been taking responsibility for providing infrastructure support to the project activities, as responsible for the land security and property surveillance and, finally, as the land owner.

The change in the project proponents, with the withdrawal of Triângulo and the rise of Manoa, did not affect the project additionality or applicability, mainly because the companies belong to the same group (Triângulo Group) and, thus, the previously established guidelines and responsibilities remain the same. This change was only aimed at improving the management and governance procedures, i.e., this change did not impact any of the definitions established in the PD regarding the governance responsibilities of Triângulo Group or Biofílica.

The formalization of the process for change of Proponents before the Registry will be completed upon completion of the verification analysis by the VVB, so that the ascension and release documents will be sent together with the monitoring and verification report to Verra, since it is only a registration process. Anyway, in the course of the MR, the role of the above-mentioned Proponents becomes clear. The previously established contract was updated by drafting an addendum, which was signed by the legal representative of the institutions and was made available to VVB on a confidential basis.

Project Proponent - New Investing Partner

In July 2021, Ambipar Participações e Empreendimentos S.A. concluded the acquisition of 53.6% of the corporate capital of Biofílica Investimentos Ambientais S.A. The main purpose of this transaction was to

speed up the company's growth, potentiated by the Ambipar Group and, as a result, to expand its portfolio of environmental services provided.

As a result of this acquisition, the company underwent a nominal change, approved in a special general meeting, and is now called Biofíllica Ambipar Environment Investments S.A. The entry of a partner (Ambipar) in Biofíllica did not change the company's corporate purpose, which is still strongly related to the promotion and financing of activities related to the environment and environmental conservation. Its detailed description can be found in Article 3 of the company's updated Bylaws, made available to VVB. The entry of a new partner will have a positive effect in that the contribution of resources, expertise and economies of scale will allow Biofíllica to progress more consistently and quickly in its activities related to the environment and environmental conservation.

In addition, there are no contractual or other legal implications to the Manoa REDD+ Project contract, or any other project implemented by Biofíllica prior to this transaction, as a result of a new partner joining Biofíllica. The main investment objectives of this transaction are the development of technology and expertise regarding Nature Based Solutions techniques.

Monitoring indicators

Considering the monitoring period, there were deviations from two proposed indicators: "Assessment of harvest damages" and "Frequency of surveillance and patrol operations". However, the deviations that occurred did not compromise the project monitoring as can be analyzed in the descriptions below.

The indicator "Assessment of harvest damages" was proposed to assess the damages that occurred in the management operations by comparing the previous and subsequent situation of the individuals present in the installed plots. The indicator was designed to be monitored with the unit m^3/ha , however, the process of recording post-exploitation damage raises the number of damaged and dead individuals in an area analyzed, without considering the volume of each individual. Thus, the indicator was analyzed and reported in the unit of individual/ha.

The indicator "Frequency of surveillance and patrol operations" was initially proposed to assess the operation of the surveillance of property. This activity aims to promote mitigation actions against intrusion in the Project Area and, consequently, to act against illegal and unplanned deforestation and forest degradation. The surveillance actions have occurred continuously throughout the project since 1997, with specific tactics. From the costs associated with the maintenance of the surveillance infrastructure (Casa do Curica and Casa Rio Preto) it is possible to prove their use and, consequently, the continuity of surveillance operations, as we can note in the recent reports on patrols and in the expenditure reports of Manoa Farm, made available to VVB. However, the registration of activities was only started in 2020. Thus, the monitoring of actions as well as the completion of such indicator was compromised due to the lack of records that could quantitatively prove the actions. Despite this gap, it was possible to indirectly identify

the effect of surveillance actions in the Project Area because there was no unplanned illegal deforestation in the area during the verified period. Thus, evidencing that property surveillance actions were taken.

2.2.5.2 Deviations referring to the period 2020 to 2022

Monitoring deforestation through satellite images (Landsat and Resourcesat) and generation of annual bulletins – Manoa remote monitoring

Initially, in item 2.2 of the PDD, specifically within the activity “Monitoring deforestation through satellite images (Landsat and Resourcesat) and generation of annual bulletins” it was intended that the annual deforestation bulletins prepared by Biofílica Ambipar would help guide Manoa's patrimonial surveillance activities. The bulletins, which began to be prepared in 2014, use satellite images to understand the context of deforestation and encroachment and should, consequently, improve the agility and assertiveness of field patrols for maintaining the forest cover. However, the bulletins depend on the periodicity of the PRODES data that takes about a year to be published for the retroactive year. Therefore, the 2021 and 2022 monitoring bulletins, for example, were produced in 2022 and 2023, respectively.

Surveillance activities, carried out by the Manoa team, began in 1997 and from 2014, the beginning of the REDD+ Manoa crediting period, began to occur monthly. During the monitoring of the project, the registration of each of the surveillance activities was improved for better monitoring of the activity and better archiving of evidence. According with the PDD, the patrolling activity should be combined with the remote monitoring by satellite images (the bulletins) to develop unified strategies that provide greater efficiency in surveillance and strengthening security in the project area limits.

However, since the project validation, the annual periodicity of the bulletins didn't fully meet the proposal, as surveillance activities took place monthly and required monitoring of areas at risk of deforestation with an interval of less than one year for action. In order to meet the satellite monitoring frequency required by the inspection team, the team responsible for managing Manoa's Farm started a new monthly monitoring activity, during the dry season, to identify occurrences of deforestation and fires around the farm. This monitoring has two stages (1) monitoring of deforestation and (2) monitoring of fires, both carried out by the Manoa team and covering a buffer of 10km from the limits of Fazenda Manoa.

Deforestation monitoring is done during the dry season (generally between May and August) using data from the Planet satellite and/or the Sentinel satellite and analyzed with QGIS or ARCGIS software to identify deforestation around the farm. In cases of loss of vegetation cover within or very close to the limits of the farm a map is made so the area can be checked in the field by the surveillance team and remotely by the team responsible for the remote monitoring. In the field, the team tries to contact those responsible for deforestation to reinforce Manoa's presence and property boundaries and thus avoid damage within the project area.

The monitoring of fire outbreaks is done through registration on the NASA¹² website. Whenever there is a heat source within the buffer registered on the site, the Manoa employee responsible for monitoring is alerted by email (generally received within 24 hours after the heat source is detected) and receives information about time, date, satellite that recorded the heat source and location coordinates. After that, the points are checked in the BDQueimadas¹³ website to confirm the information, since the focus of heat doesn't always correspond to a forest fire. In addition, by observing graphs of heat sources available in BDQueimadas, which indicates the temperature of the heat source, it is possible to identify the moment of the fire (whether it is going out, it's at the point of most intensity or if it's starting). With this information, a map is generated with the hot spots and the inspection team is called to verify it in the field, generally, because it is information that needs to be verified as soon as possible, the inspection team receives the raw data of the occurrence, and the report is generated later.

There is no periodicity in the elaboration of reports, as they only occur in case of deforestation and/or fires close to the limits of the farm. Monitoring, on the other hand, takes place constantly for the heat sources (possible fires) and at least once a month, during the dry season, for the deforestation of the surroundings. All monitoring steps carried out by Manoa remotely and in the field can be seen in the flowchart in Figure 2 and the results of the monitored period are available in section 3.

The changes done in this activity don't affect the additionality or applicability of the project. Such changes were made with the sole objective of improving the synergy between the activities proposed by the REDD+ project and the field actions carried out by the surveillance team at Fazenda Manoa, focusing mainly on adapting an existing tool used by the project.

¹² Fire Information for Resource Management System (FIRMS). Available at: <https://firms.modaps.eosdis.nasa.gov/map/#d:24hrs;@-56.8,-11.5,6z>. Access on: July 06, 2023.

¹³ Projeto Platform of Monitoring and Warning of Forest Fires in the Cerrado. Available at: <https://queimadas.dgi.inpe.br/queimadas/bdqueimadas#mapa>. Access on: July 06, 2023.

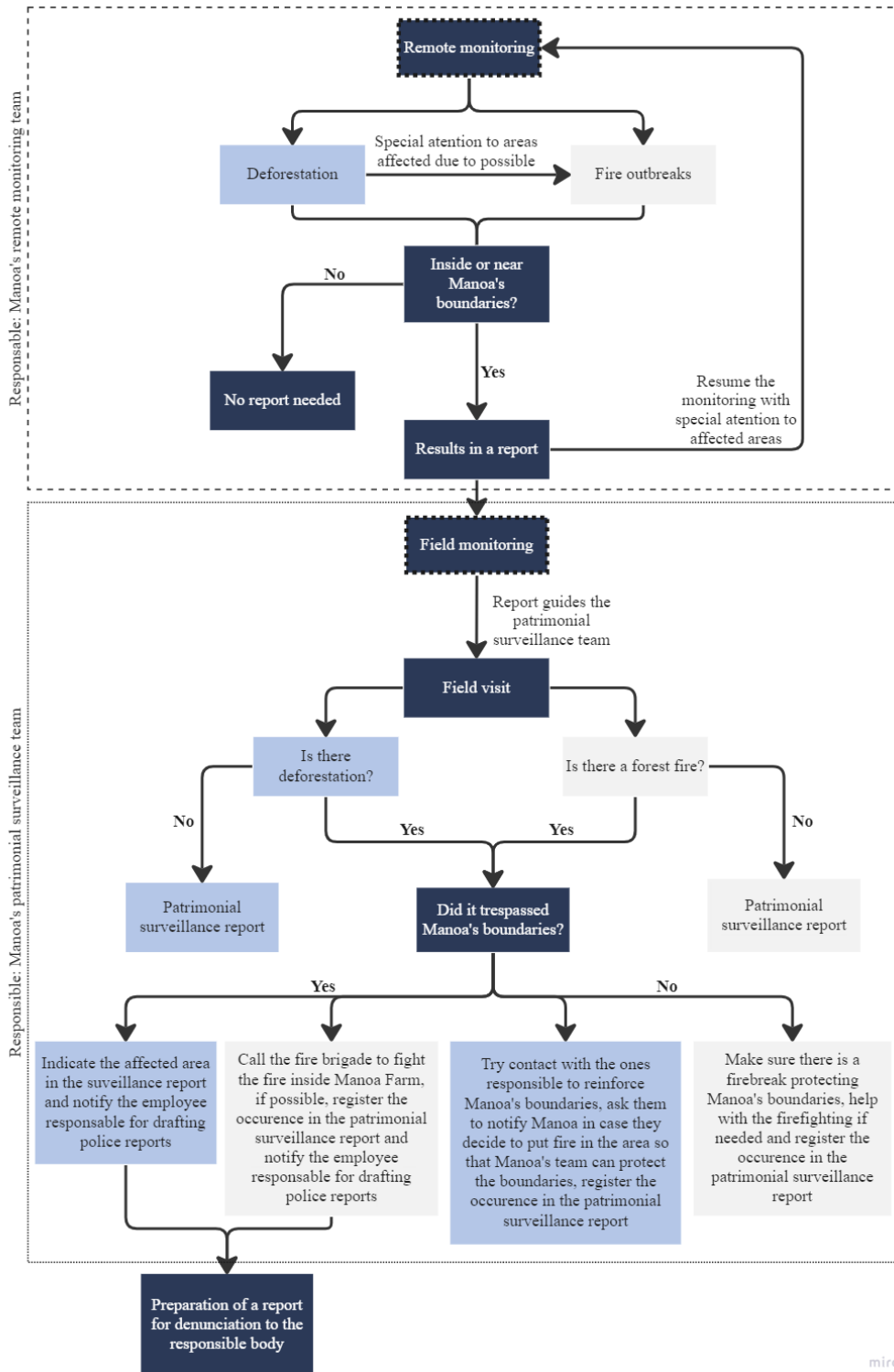


Figure 2. Flowchart detailing the remote and field monitoring of deforestation and fire incidents done by Manoa's team.

Baseline fixed period

During this monitored period (08-August-2020 to 31-December-2022) an error in the fixed baseline period cited in the PDD was found. In section 4.4 “Project boundaries” page 76 of Manoa REDD+ Project PDD the first baseline period is said to end on 31-December-2023. However, the period from 01-January-2013 to 31-December-2023 accounts for 11 years and not 10 as demanded by the VCS Standard v4.4 (for projects registered before 19 January 2022, as is the case for Manoa). Therefore, all documents related from this verification onwards will refer to the first baseline fixed period as 01-January-2013 to 31-December-2022.

Communication procedure, complaints and dispute resolution

Initially, section 2.7.2 of the project's PDD described that conflict identification of conflicts and preventive measures to this theme were available in Manoa's manual of procedures. During the monitoring period, the proponents assessed that the procedures described in this manual were not aligned with what was being carried out by the project in terms of conflict resolution and communication with stakeholders. As a result, the project's processes for receiving, listening to, responding to, and trying to resolve complaints within a reasonable timeframe were redesigned by the proponents, so that their current implementation is culturally aligned with the farm's activities. In this way, the communication procedure describes the day-to-day actions that have been improved by the REDD+ project in terms of registering and following up on complaints. The Manoa Project's updated communication procedure that has been applied is described below and the results obtained during the monitoring period are detailed in section 2.3.

The consultation and communication with the stakeholders, which enables the discussion about the progress of activities carried out at the property, both in the form of complaints and suggestions, occurs via three methods: application of a questionnaire to survey the positive and negative impacts (Figure 3), availability of the ombudsman channel and development of the suggestion box (Figure 5).

1. Application of a questionnaire to survey the positive and negative impacts:

The application of a questionnaire to survey the positive and negative impacts is in line with the monitoring measures established for the social aspects that could be impacted by the forest management and the REDD+ Project activities and, when appropriate, Manoa performs the compensation of impacts.

There are two models of questionnaire (Figure 3), one for the farmers and one for the institutes, that are applied to neighbors present in a 15km line from Manoa entrance gate. Both include one question about the positive and negative impacts of Forest Management, besides that, the questionnaire for the institutions includes an additional question about the biggest challenges faced.

The questionnaire is applied in one day between the months of July and October, to the neighbors present at the moment of Manoa visit. The number of questionnaires answered varies between the years, because not always the owners or employees are present at the time, and because the property can be bought or sold from one year to the other. For example, in one of Juraci Paiva's properties, it was not possible to apply the questionnaire in 2022 because after the construction of the farm's headquarters in one of the properties, the other one no longer had residents. Another property without data was Sitio dos Paraenses,

where it was not possible to collect information in either of the two years monitored, because the residents live in the city and were not in the homestead on the days the questionnaire was applied.

FICHA DE MAPEAMENTO SOCIAL – PRODUTORES RURAIS

Nome da Propriedade: _____

Endereço: _____

Coordenadas UTM: _____ m(E); _____ m(N)

Atividade exercida: _____

Dados de contato:

- Nome do Proprietário: _____
- Nome do funcionário: _____
- Fone fixo: _____ Email: _____
- Celular do Representante: _____

1. Quais os impactos causados pelo PMF:

- Positivos: _____

- Negativos: _____

Responsável pela coleta dos dados: _____

Responsável pela informação dos dados: _____

- Assinatura: _____

Local de data: _____ / _____ / 201|

FICHA DE MONITORAMENTO SOCIAL

Nome da Instituição: _____

Endereço: _____

Coordenadas UTM: _____ m (E) ; _____ m (N)

Atividade exercida: _____

Dados de contato:

- Nome do representante legal: _____
- Função: _____
- Fone fixo: _____ Email: _____
- Celular do Representante: _____

a) escolas Rurais:

1. Qual o grau de escolaridade fornecido: _____
2. N° de alunos por escolaridade: _____
3. Faixa etária dos alunos por escolaridade: _____
4. Principais dificuldades: _____

b) Associações de Produtores:

5. Atividade principal da associação: _____
6. N° de associados: _____
7. Principais dificuldades: _____

1. Quais os impactos causados pelo PMF:

- Positivos: _____

- Negativos: _____

Responsável pela coleta dos dados: _____

Responsável pela informação dos dados: _____

- Assinatura: _____

Local de data: _____ / _____ / _____

Figure 3. Models of questionnaires applied for monitoring the impacts. Farmers on the left and institutions on the right.

Along with the questionnaire, Manoa also provides a copy of the public summary of the management plan, that includes information about the REDD+ Project, about the fauna protected in Manoa Farm and about the social impact of Manoa’s activities, as well as a contact phone number and digital address of the company’s ombudsman channel. In the future the project intends to improve the questionnaire to better understand if the stakeholders know how to contact the farm if needed and to better communicate the REDD+ Project results in the documents distributed during said questionnaires.

2. Availability of the ombudsman channel

To promote effective communication with the stakeholders in the surrounding area, in cases of repair of possible damage or negative impacts resulting from the activities, the company makes a public ombudsman channel available. Through the ombudsman's office it is possible to report any origin such as

complaints, dissatisfactions or even suggestions. The ombudsman channel is available at the entrance of the farm, for the neighbors easy access, and at Triângulo website¹⁴ (Figure 4).



Figure 4. Triângulo website on the left with the ombudsman channel at the bottom of the page and the sign at Manoa's entrance with phone number and e-mail address to contact Triângulo, if necessary, on the right. The Financial manager is responsible for registering, analyzing and forwarding the significant requests to the appropriate sector.

3. Development of the suggestion box

The third consultation and communication front consist of the suggestion box Figure 5, which was created as one of the project improvements regarding the communication channels, with the aim of dealing with possible suggestions, demands or complaints from Manoa Farm's employees.

The box must be opened by the technicians responsible (either the Forestry engineer or the field coordinator) in front of all the farm's employees, and the records assessed one by one to take the necessary actions considering each demand.

¹⁴ Triangulo website. Available at: <https://www.triangulo.com.br/sustentabilidade/>. Access on: July 11, 2023.



Figure 5. Suggestion box located in the cafeteria of Manoa Farm.

4. Other communication channels

Besides the three main consultation and communication fronts set up by Manoa, dialog is also established by other means, such as e-mail exchanges, meetings, and informal chats. During the harvest period the activities are initiated by speeches and trainings about low impact forest management and the correct procedures (for more details see section 2.3) and, then according with the team availability, meetings led by the forestry engineer occur, to reinforce the safety procedures, to hear employees doubts, suggestions and requests. From 2022 onwards those meetings started being documented in reports, shared with the VVB.

At Manoa's office, the communication with external stakeholder, such as schools and environmental institutions is ministered as follows: Manoa receives the institution request for environmental education, technical training or other by email or phone, evaluates which request will be attended and then proceeds with the activity (see flowchart in Figure 6). The criteria used to define with request will be attended varies with the priority established by Manoa, activities with potential to involve a large sector of the low impact forest management, for example, takes high priority. Activities that result in significant benefit for the community are also prioritized. After the activity, when Manoa receives the thanking notes and or feedback concerning the activity the process is considered concluded. The criteria used to define if the request will be attended will be better described below.

5. Analysis and forwarding of requests

The process of how the requests received by each channel are analyzed and dealt with are presented in a flowchart in Figure 6. The significance of each request is evaluated according with the following criteria: According with the type of request, which can be complaint, doubt, suggestion, compliment, etc.

Regardless of the type of demand, those that (1) are related to the company's activities, (2) involve impacts caused by the company, (3) that have the potential to cause environmental, social or economic impact are considered significant.

Donation-type requests that do not have the potential to bring community return are automatically considered non-significant, as this type of activity is not part of the company's policy. Manoa prioritizes actions that positively and significantly impact as many people as possible in the community.

Manoa tries to answer the request as soon as possible and the way the result of the analysis of the request is reported to the stakeholders varies according with the communication channel used and with the stakeholder characteristics, for example, internal requests made by employees through the suggestion box can be answered through the notice board, e-mail and/or WhatsApp. However, requests made by the neighbors are usually answered personally. Other requests answers will vary according to the most appropriated method (by e-mail, phone, in person, letter etc.). The feedback to the stakeholders is always responsibility of the Forestry Manager and/or Forestry Engineer.

Additionally, whenever a Manoa employee identifies an emergency situation (e.g. forest fire, actions that go against the company policy) in Manoa Farm, regardless of the type of situation, the field coordinator must be informed immediately.

Manoa's Human Resources and the Financial Manager are the ones responsible for accompanying and negotiating with unions, the Ministry of Labor and other institutions related to workers' rights/duties. Contact with the environmental bodies, whether for interpellations, assessments, requests for information or any matter related to the environment, is carried out by the Forestry Management and the Forestry Engineer. Cases involving legal matters are forwarded to the company's legal department.

Demands related to land issues, with the potential for conciliation, are handled by the Forestry Manager. Claims that need to be discussed in court are forwarded to the legal area. Requests or contacts involving the press are made by the Marketing department, which uses its own tools or the specialized work of a press relations agency.

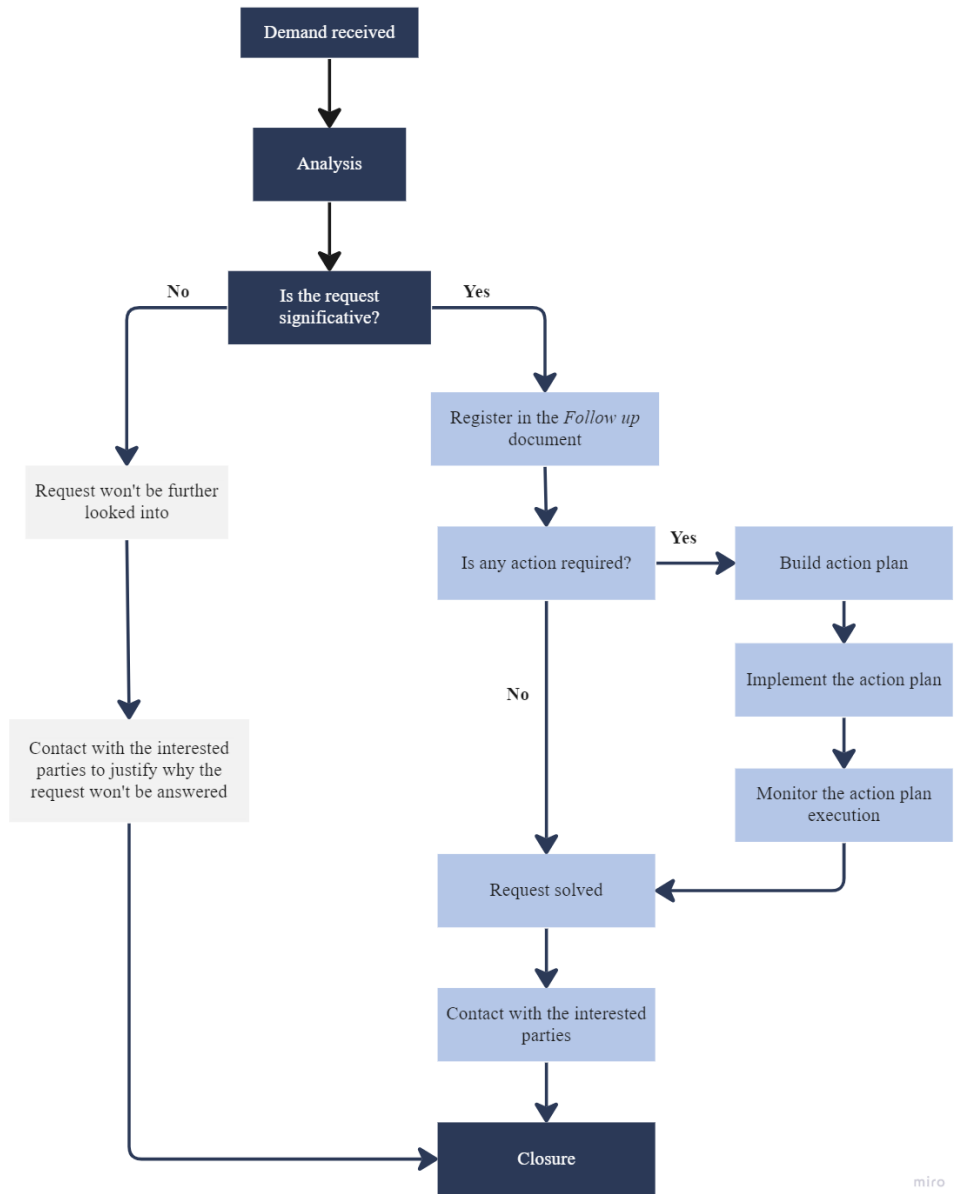


Figure 6. Flowchart of how each request received by the project communication channels is handled.

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

Not applicable as this is not a grouped project.

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

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
-----------------	---	--

Illegal activities, such as trespassing and timber theft	Degradation and loss of forest cover, affecting the project's climate and biodiversity benefits	Involvement of project proponents to monitor and contain deforestation, preparation of annual bulletins and analysis of deforestation in the dry season using satellite images; continuous surveillance at Fazenda Manoa and community engagement in environmental education activities.
Fire induced by human activities impacting the project area	Direct damage to the forest and consequent loss of climate benefits and biodiversity	Fire brigade training, fire prevention campaigns with neighbors and constant monitoring of hotspots in or near the project area
Risks of occupational accidents during forest management	Potential impact on the safety of project workers, harming the well-being of the community	Implementation of occupational safety programs (PCMSO and PGR), monitoring of risks and use of PPE for workers involved in handling operations

2.2.8 Benefit Permanence (CCB, G1.11)

The Manoa REDD+ Project, validated by the CCB in 2017, lost its certification in the following five years due to a lack of verification, planning for social adjustments and the interruption of activities due to the COVID-19 pandemic. During this period, the collection of evidence and the recording of activities were improved, with emphasis on the creation of a structured communication channel and the "Annual evaluation of social activities". After the pandemic, activities resumed and the project maintained its positive impact on the Cujubim community. A new certification cycle began in 2023 and will run until 2052.

Since the last validation in 2017, the REDD+ Manoa project has planned and begun implementing strategic measures to ensure the continuity of climate, community and biodiversity benefits, with the aim of strengthening and expanding these impacts beyond the project period. These measures include:

Improvement of Property Surveillance Procedures:

Security and continuous monitoring of the property are strengthened with the use of additional tools, such as high-resolution satellite images and specialized training of the surveillance team. This enhancement

seeks to reduce costs and increase the efficiency of territorial surveillance, strengthening the project's ability to respond to deforestation threats and thus preserving carbon stocks in the long term.

Educational and Environmental Awareness Activities:

Environmental education actions address the fundamental causes of deforestation, promoting a culture of valuing the standing forest and sustainability. By raising awareness and sharing sustainable strategies with the community, the project invests in the formation of a more conscious society capable of perpetuating practices that favor forest conservation.

Environmental Monitoring with Incentives for Scientific Research:

In partnership with universities and researchers, the project encourages long-term studies on biodiversity and areas of high conservation value. This approach makes it possible to monitor impacts, implement mitigating actions and expand regional scientific knowledge, which can continue after the end of the project. By focusing on the local context, the research promotes lasting scientific and conservation benefits.

Annual Stakeholder Consultation:

The project holds regular consultations with local workers and residents to align its activities with the interests and needs of the community. These questionnaires and other communication channels allow the community to contribute to improving the project, helping to mitigate negative impacts and enhance positive benefits on an ongoing basis.

2.3 Stakeholder Engagement & Safeguards

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

Not applicable, as there were no changes to the stakeholders described in the 2024 VCS PD and CCB PD. Information regarding stakeholder identification and description can be found in Sections 2.1.1 of the VCS PD and Sections 2.1.6 and 2.1.7 of the CCB PD.

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

To comply with the reference in section 4.5 of the VCS Registration and Issuance document, the documents related to the validation and first, second and third VCS verification of the Manoa REDD+ Project were

made available by virtual means on the Verra¹⁵ registration platform for stakeholder consultation. The link to Manoa REDD+ Project in the Verra Registry is available at Biofilica Ambipar website¹⁶, where details of the project results are also described.

Upon completion of the current verification (January 2023 to September 2024), the corresponding documents will, as soon as possible, be made available in line with Section 4.5 of the VCS Registration and Issuance.

News and updates about the project have been published in the Biofilica Newsletter via blog¹⁷ and social media (Instagram¹⁸ and LinkedIn¹⁹). The results obtained for the monitored period were disseminated on these platforms to stakeholders and the audit results will be added after its completion. In addition, a Manoa profile was created on Instagram²⁰ (Figure 7) to disseminate information about the REDD+ project, sustainable management, biodiversity, and carbon credits.

The reach of each of these media was measured and, on LinkedIn of Biofilica Ambipar, three posts related to the Manoa REDD+ Project received more than 6.8k views, in 33 regions, including Porto Velho - RO. On Instagram, Biofilica Ambipar has over 4,380 followers, from at least 12 different locations, the Manoa REDD+ Project posts reached 49k accounts.

The Instagram of Floresta Manoa, managed by Grupo Triângulo, focuses mainly on reaching the public in the project region, has 195 followers and reached more than 290 accounts, 5.6% from Cujubim, 5.6% from Rio Crespo and 6.2% from Porto Velho, the remaining percentage is distributed between São Paulo and Curitiba.

¹⁵ Manoa REDD+ Project at Verra registry. Available at: <https://registry.verra.org/app/projectDetail/VCS/1571>. Access on: July 11, 2023.

¹⁶ Biofilica Ambipar website. Available at: <https://www.biofilica.com.br/projeto-redd-manoa/>. Access on: July 12, 2023.

¹⁷ Biofilica Ambipar blog. Available at: <https://www.biofilica.com.br/blog/>. Access on: July 12, 2023.

¹⁸ Biofilica Ambipar Instagram. Available at: https://www.instagram.com/biofilica_br/. Access on: July 12, 2023.

¹⁹ Biofilica Ambipar LinkedIn. Available at: <https://www.linkedin.com/company/biofilicabr>. Access on: July 12, 2023.

²⁰ Manoa Instagram. Available at: <https://www.instagram.com/manoaeco/?igshid=MT1ZDU5ODQ3Yw%3D%3D>. Access on: July 12, 2023.

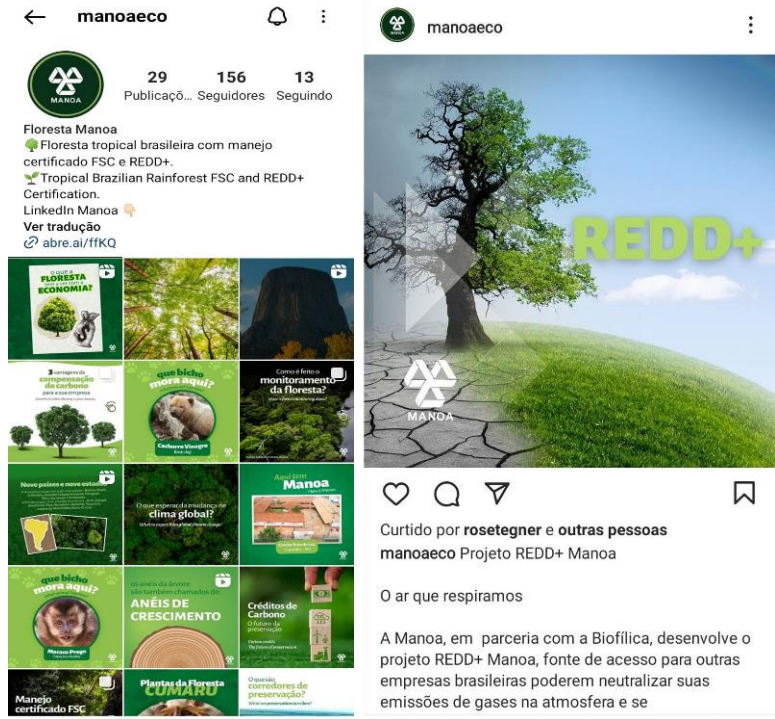


Figure 7. Manoa's Instagram focused on sustainable management, biodiversity and carbon credits, with emphasis on the direct posting about the Manoa REDD+ Project.

Another example of dissemination related to the Manoa REDD+ Project was the distribution of a folder with information about the project (Figure 8) to neighbors informed about the project's activities.



Figure 8. Cover of the folder with information about the REDD+ Manoa Project.

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

The active dissemination of summary project documentation and monitoring information from the Manoa REDD+ Project has been designed to ensure direct community access to key project data and results. Summaries of the PDD and other relevant documents are available to the public on the official website of Biofilica Ambipar Environment Investments (<https://www.biofilica.com.br/projeto-redd-manoa/>) and on the social networks of Manoa and Biofilica, as detailed in section 2.3.2.

In addition to online availability, the proponents have planned to send regular communications to community leaders and local representatives, ensuring that the community receives frequent updates on the project's actions and progress. Physical copies of the project summaries and their results will be made available at key points, such as the education center (CEFLM) at Fazenda Manoa, at the forest management employees' accommodation, and at Manoa's office in Cujubim.

To make it easier for the community to understand, the monitoring results will be shared in accessible language during annual meetings and through information materials distributed in easily accessible places. Public meetings will also be held, as described in sections 2.3.4, 2.3.9 and 2.3.10, allowing the community to interact directly with the project team, clarifying doubts and discussing the results presented. This approach promotes transparent and participatory communication, strengthening the project's bond with the local community.

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

Meetings with local stakeholders take place during visits to CEFLM, during employee training, during visits to neighbors, and at events organized by Manoa or to which Manoa is invited.

On October 26 and 27, 2023, for example, the 6th Municipal Education Conference took place, to which Manoa was invited by the Municipal Department of Education to present its contributions to the municipality on the topic of education committed to social justice, the protection of biodiversity, sustainable socio-environmental development to guarantee quality of life on the planet, and the fight against inequalities and poverty. The REDD+ Manoa Project, its activities, and results were presented at the event. Figure 9 shows the event's promotional folder shared by the organizers.



Figure 9. On the left, advertising for the 6th Municipal Education Conference to which Manoa was invited as a speaker. On the right, a photo of Manoa's presentation at the event.

An example of informal communication organized by Manoa are the meetings held to publicize the project's actions and audit dates. Between April 8 and 11, 2024, for example, Manoa employees, Cujubim institutions and the farm's neighbors received a brief explanation of what REDD+ and the carbon market are and their importance; a description of the REDD+ Manoa project and its activities, including the roles of Manoa and Biofilica; the results and "big numbers" achieved by the project in its 10 years of existence; a notice about the validation and verification audits planned for 2024, as well as a presentation of the communication channels currently available. More details about this event can be found in section 2.3.7.

Before the meeting took place, in order to ensure wide dissemination and participation, all the interested parties were informed in advance, in an appropriate manner, according to the needs of each group. For example, some institutions in Cujubim were notified in advance through representatives of Manoa, who are closer to this group. Manoa's employees, who had already gathered for an annual training session before the harvest (an essential factor in choosing the date), were informed on this occasion that they would be receiving a visit from Biofilica Ambipar. The residents of Cujubim, who live in the vicinity of the farm and are mainly rural producers, were notified by WhatsApp, which is currently the most effective tool for the majority of this group. Institutions in the state of Rondônia were informed by letter.

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

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Natural and human induced risks to stakeholders' wellbeing	No risk identified.	No risk identified.	The project activities are aimed at reducing CO2 emissions resulting from deforestation, promoting environmental conservation, and improving social conditions in the municipality of Cujubim. None of the proposed activities pose any harm to the well-being of stakeholders. However, the project has established various communication channels (Section 2.3.9, 2.3.10, 2.3.11) to allow stakeholders to raise concerns in the event of any negative impacts.
Risks to stakeholder participation	Lack of stakeholder engagement.	There has been a lack of contribution from stakeholders to the Manoa REDD+ Project, as well as underutilization of the project's communication channels to express concerns or dissatisfaction.	The project offers various communication channels for stakeholders. In addition, some stakeholders are visited in person periodically to share audit information, provide updates on project activities, and collect feedback/complaints. More details on the communication channels and in-person consultations can be found in Items 2.2.5.2, 2.3.9, 2.3.10, 2.3.11.
Working conditions	Safety of low-impact forest management workers.	Workplace accidents.	Annually, the Occupational Health and Medical Control Program (PCMSO) and the Risk Management Program (PGR) are updated. Additionally, safety training sessions are held during the harvest period to reinforce safety measures. These training programs are detailed in Item 2.3.17.

Safety of women and girls	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1). Furthermore, they adhere to the consultation codes of the companies involved in the project (Manoa and Biofílica Ambipar), which ensure the rights and safety of women (see Section 2.4.5).
Safety of minority and marginalized groups, including children	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1). Furthermore, they align with the consultation codes of the companies involved in the project (Manoa and Biofílica Ambipar), which ensure the rights and safety of minority and marginalized groups (see Section 2.4.5).
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	No risk identified.	No risk identified.	The project activities aim to reduce CO2 emissions resulting from deforestation, promote environmental conservation, and improve social conditions in the municipality of Cujubim. None of the proposed activities introduce additional pollutants. However, the Manoa General Procedures Manual addresses the disposal of organic and inorganic waste generated on the farm, as well as the proper storage of fuel within the property.
Discrimination	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1). Furthermore, they are in accordance with the consultation codes of the companies involved in the project (Manoa and Biofílica Ambipar), which reject any form of discrimination (see Section 2.4.5).
Sexual harassment	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1). Furthermore, they align with the consultation codes of the companies involved in the project (Manoa and Biofílica Ambipar), which reject any criminal activity (see Section 2.4.5).

Equal pay for equal work	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1) as well as labor laws that prohibit the payment of different wages to employees performing the same role (see Section 2.5.2).
Gender equity in labor and work	No risk identified.	No risk identified.	All project activities comply with national and local laws (see Section 2.5.1) as well as labor laws (see Section 2.5.2).
Forced labor²¹	No risk identified.	No risk identified.	All project activities comply with national and local laws that prohibit forced labor or conditions analogous to slavery (see Section 2.5.1). Furthermore, they align with the consultation codes of the companies involved in the project (Manoa and Bioflica Ambipar), which reject criminal activities (see Section 2.4.5).

²¹ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

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

Stakeholders are periodically updated on the project's activities, its impacts, and the occurrence of audits. During these updates, stakeholders are also asked if they have any feedback, complaints, or suggestions regarding the project's activities. Details about the visits conducted during the monitoring period covered in this report can be found in Section 2.3.8. Project communications regarding activities and their impacts are always tailored to the characteristics of the target stakeholder to ensure full understanding, as described in Section 2.3.8.

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

Between April 8 and 11, 2024, for example, Manoa employees, institutions in Cujubim, and the farm's neighbors received a brief explanation of what REDD+ and the carbon market are and their importance; a description of the Manoa REDD+ project and its activities, including the roles of Manoa and Biofilica; the results and "big numbers" achieved by the project in its 10 years of existence; a notice about the validation and verification audits scheduled for 2024, in addition to the presentation of the communication channels currently available. After this information was presented, an attendance list and a questionnaire about impressions of the project were handed out. The questionnaire included 5 closed-ended questions and 3 open-ended questions.

Participants were asked whether the impacts and benefits that the activities of the Manoa REDD+ project could provide were presented. All interviewees answered "yes." This result demonstrates that information about the impacts and benefits of the project was clearly communicated to all involved.

The participants were then asked to evaluate the communication channels presented. The response options ranged from "good" to "bad." All classified the communication channels as "good." This positive feedback suggests that the means of communication used by the project are effective and well received by the public.

The level of awareness of the participants regarding the occurrence of an audit that they would receive in 2024 and the possibility that an auditor would need to speak to them was also assessed. The majority answered "yes," indicating that they were aware of this information. However, three Manoa employees answered "no." To ensure that everyone was properly informed, this question was reinforced later, ensuring that everyone was aware.

The questionnaire also included a question about the positive and negative aspects of the project. At this point, it is clear that some stakeholders had difficulty answering the questionnaire, indicating that this data should be collected in another way at a later date. Some responses included negative points that were completely opposite to the positive points, which suggests that the question was difficult to interpret. Finally, participants were asked whether they were opposed to the existence of the Manoa project. All of

them answered “no”. Those who answered “yes” did so incorrectly, confusing the meaning of the word “oppose”, as indicated by the positive answers to the other questions related to the project. For this reason, the word will be replaced in the next questionnaires to avoid misunderstandings. These results demonstrate a clear and positive understanding by the participants of the essential information about the Manoa REDD+ project, as well as the effectiveness of the communication channels used. It is important to clarify that none of the participants were forced to answer the questionnaire. Therefore, some people chose to answer in groups (one questionnaire for more than one participant), while others chose to answer only a few questions.



Questionário de Comunicação às Partes Interessadas do Projeto REDD+ Manoa

Data: ____/____/____

Nome: _____

Parte Interessada: _____

1. Foram apresentados os impactos e benefícios que as atividades do Projeto REDD+ Manoa poderão trazer?

Não () Sim ()

2. Quais os impactos causados pelo Projeto REDD+ Manoa?

Positivos: _____

Negativos: _____

3. Você tem alguma sugestão de melhoria ou mudança para o Projeto?

4. Como você avalia os canais de comunicação apresentados?

Bons () Ruins ()

5. Entre os canais de comunicação apresentados, quais você acha que funcionaria para você/sua comunidade?

Rádio () Pessoalmente () WhatsApp () Caixa de sugestões () E-mail ()

Contato: _____

6. Você foi informado de que nesse ano o Projeto receberá uma auditoria e que um auditor pode precisar conversar com você?

Não () Sim ()

7. Você se opõe à existência do Projeto REDD+ Manoa?

Não () Sim () Sou indiferente () Se a resposta for sim, por quê?

8. Gostaria de fazer mais sugestões / críticas / elogios ou deixar dúvidas?

Eu, _____, confirmo que fui informado(a) e consultado(a) a respeito do Projeto REDD+ Manoa. Confirmando também que todas as informações foram apresentadas de forma clara e objetiva, não sobrando dúvidas de minha parte. Afirmando estar ciente sobre os meios de comunicação disponibilizados para quaisquer assuntos relacionados ao Projeto, como dúvidas, reclamações e sugestões.

Responsável pela coleta das informações: _____

Av. Angelica, 2330 tel. New England, 07 andar - São Paulo - SP
CEP 01228-000 | contato@biofilica.com.br

Figure 10. Questionnaire applied to stakeholders during the April 2024 communication.

To increase public engagement and encourage participation, some stakeholders participated in dynamics before the presentation of the content. These activities consisted of making the audience reflect on the main words associated with REDD+. The result of the dynamics carried out with the employees can be verified by the VVB.

Before holding this meeting, to ensure broad dissemination and participation, all stakeholders were informed in advance, in an appropriate manner, according to the needs of each group. For example, some institutions in Cujubim were notified in advance through representatives of Manoa, who are closer to this group. Manoa employees, who were already gathered due to an annual training before the harvest (a key factor in choosing the date), were informed on this occasion that they would receive a visit from Biofilica

Ambipar. The residents of Cujubim, who live near the farm and are mainly rural producers, were notified via WhatsApp, which is currently the most effective tool for most of this group. Institutions in the state of Rondônia were informed by official letters.

During the process, all approaches were adapted so that each audience could be communicated with in the most appropriate way. PowerPoint presentations were made for employees and institutions. For neighbors and the selective collection association, an oral approach was used, with illustrative folders and conversations (Figure 11). The PowerPoint presentation was slightly adapted according to the target audience, as were the expressions and words used.



Figure 11. Photos with project stakeholders during the April 2024 communications; a) conversation with neighbors of the Manoa farm; b) employees of the Manoa farm; c) Cujubim recycling cooperative and d) representatives of institutions in Cujubim.

The need to adapt the language proved crucial, as throughout the process it was discovered that some of the recipients, especially some employees and neighbors, were illiterate and/or had little education. Therefore, the presentation of the content (avoiding only written information) and the way of obtaining the responses to the questionnaires had to be customized to the context, using additional visual materials,

such as illustrations in folders and visual demonstrations. This facilitated the understanding of the REDD+ project and monitoring activities and contributed to effective communication. Some groups answered their own questionnaires, while for others the questions were asked orally and written by the Biofilica team. Throughout the Project, the strategies will be refined to make communication even more effective.

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

As described in Section 2.3.7, stakeholders in the municipality of Cujubim were informed in person in April 2024. Other stakeholders were notified via email at the beginning of the public consultation process.

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

The following tables explain the three main types of consultations that took place during the monitoring period: socioeconomic diagnosis, communication channels (in-person visits, suggestion boxes, email, and phone), and feedback (which occurred in 2024 but also addressed issues related to 2023 and 2024).

Ongoing consultation	The entire process of continuous communication with stakeholders is described in Section 2.2.5.2 of this document.
Date(s) of stakeholder consultation	<p>In-person visits:</p> <ul style="list-style-type: none"> • Communication with the neighbors of the farm: 09-01-23, 16-01-23, and 02-02-23 • ASPROJ: 09-01-23 • 23 de Março School: 12-01-23 <p>As described in Section 2.2.5, the other communication channels (suggestion box, emails, and phone lines) were available continuously, meaning that throughout 2023, any communication could be received through these channels.</p>
Communication of monitored results	All communication of the monitoring results was made in 2024 during the feedback process, which is covered in the final table of Section 2.3.9 of this document.
Consultation records	During the year 2023 and 2024, most donation requests were attended, with the exception of one made by Federal University of Rondônia in 2023, and, in 2024 the request made by the Recyclable Materials Collectors Cooperative

	<p>and another made by the Okinawa Karate and Sports Association (see section 2.3.10). Apart from donation requests, no complaints, suggestions, or compliments were received via the suggestion box, phone, or email.</p>
Stakeholder input	<p>Based on the analysis of the requests received during the monitoring period, it can be concluded that the project is adequately meeting the expectations of those involved, as no additional requests were made via the suggestion box, phone, or email. The only request received, which was properly recorded and responded to, could not be fulfilled due to specific circumstances (short notice and ongoing forest management operations), and not due to any shortcomings in the project. Therefore, there is no evidence of dissatisfaction or the need for changes to the project.</p>
Ongoing consultation	<p>To conduct the socioeconomic diagnosis, the research team from Ecoporé needed to identify the project stakeholders (and confirm their involvement) and carry out interviews with them in order to gather various information, including their perceptions of the Manoa REDD+ project.</p> <p>The research involved 67 interviews with local actors, using a semi-structured questionnaire and informed consent. A total of 12 interviews were conducted in rural areas, 55 in urban areas, and 23 with workers from the Manoa farm. Due to the specific characteristics and risks of the region, participants were selected intentionally, including schools, employees, surrounding residents, and public and private institutions.</p> <p>To map social and institutional networks, the "snowball" methodology was used, which involves the following steps:</p> <ol style="list-style-type: none"> 1. Initial Participant Selection: Choosing an initial group of informed or central participants within the social network of actors. 2. Initial Interviews or Observations: Gathering valuable information from the initial participants. 3. Sample Expansion Through Referrals: Participants refer other relevant individuals or entities. 4. Iteration of the Process: New participants are interviewed, expanding the network of contacts.

	<p>5. Data Analysis: Identifying patterns, connections, and emerging themes.</p> <p>6. Ethical Considerations: Ensuring confidentiality and informed consent.</p> <p>7. Study Conclusion: Data collection continues until saturation is reached, when new interviews no longer provide significant information.</p> <p>This methodology is effective for reaching hard-to-access populations and understanding complex interaction networks, and is widely used in social sciences.</p>
Date(s) of stakeholder consultation	<p>September-2023</p>
Communication of monitored results	<p>All communication of the monitoring results was carried out in 2024 during the feedback process, which is addressed in in the final table of Section 2.3.9.</p>
Consultation records	<p>For the diagnostic assessment, various raw data were collected, which can be shared with the VVB.</p> <p>Based on the analysis of this raw data, a report titled "Diagnóstico Socioeconômico e Ambiental da Região do Projeto REDD+ Fazenda Manoa – Cujubim" was produced.</p>
Stakeholder input	<p>The diagnostic revealed that approximately 40% of the interviewees were unfamiliar with the concepts of carbon credits and REDD+. However, they recognize the importance of forest preservation, carbon capture compensation, and engagement in social and environmental activities. Additionally, many interviewees were familiar with Manoa but were unable to distinguish between the company Manoa and the Manoa REDD+ Project. This finding was one of the reasons that led to the implementation of the feedback process which aimed to inform stakeholders about the project and provide more information about REDD+, among other objectives.</p>
Ongoing consultation	<p>The feedback process consisted of the presentation of five main topics: a brief explanation of what REDD+ is, the carbon market, and its importance; a description of the Manoa REDD+ Project and its activities, including those carried out in 2023 and 2024, as well as the roles of Manoa and Biofílica; the results and "key figures" achieved by the</p>

	<p>project over its 10 years of existence; a notice regarding the validation and verification audits scheduled for 2024; and an overview of the currently available communication channels. After the presentation of this information, an attendance list and a questionnaire on participants' impressions of the project were provided (for more details, see the "consultation records" section below).</p>
Date(s) of stakeholder consultation	08-April-2024 to 11-April-2024
Communication of monitored results	<p>As mentioned in Sections 2.3.7 and 2.3.8, all stakeholders were notified in advance about the feedback process, and communication was tailored appropriately for each group. Similarly, the presentation of the information, including the monitoring results, was adapted to the target audience, always respecting the context, reality, and educational level of each participant.</p>
Consultation records	<p>The main way to document the feedback process is through the responses obtained from the questionnaires applied at the end of the communication process.</p> <p>In addition to the physical and digitized records of the questionnaires, attendance lists are also available, confirming the names of all individuals who received the information.</p> <p>Furthermore, the entire process was documented through photographs.</p> <p>As already mentioned, is important to clarify that none of the participants in these conversations were obliged to respond to the questionnaire. Therefore, some people chose to answer in a group (a questionnaire for more than one participant), while others chose to answer just a few questions. Therefore, the numbers presented in each question do not reflect the total number of people consulted.</p>
Stakeholder input	<p>As described, some suggestions were identified as unnecessary for the objectives of the project, while others were considered and will serve as the basis for improvements.</p> <p>None of the requests will result in a significant modification to the current project design.</p>

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

The continuous communication procedure is described in Section 2.2.5.2 of this document and in Section 2.3.8 of the CCB PD.

During the monitoring period (from January 1st to September 30st, 2024), no requests were received through the suggestion box or phone, only via email. In 2023, there was one request denied made by the Federal University of Rondônia, and in 2024 two requests were denied, one made by the Recyclable Materials Collectors Cooperative and another made by the Okinawa Karate and Sports Association, all described in the table below:

Summary of comments received	Actions taken
May 18, 2023 The Federal University of Rondônia requests a visit to the Manoa Farm facilities.	June 6, 2023 The requestor is informed that it would not be possible to fulfill the request within the requested timeframe due to other pre-scheduled commitments, the short notice for logistics, and the commencement of forest management operations, which affected the availability of the technical team. Given the nature of the request and the specific reasons for its inability to be fulfilled, it is understood that there is no need for changes to the project or the implementation of specific actions.
June 11, 2024 Recyclable Materials Collectors Cooperative requests donation to renovate the cooperative space	June 18, 2024 Request denied, as at the moment all of Manoa's resources are focused on the construction of the "Creche Manoa", in the municipality of Cujubim.
September 23, 2024 Okinawa Karate and Sports Association requests financial assistance to participate in the Brazilian Karate Championship.	Request denied, as at the moment all of Manoa's resources are focused on the construction of the "Creche Manoa", in the municipality of Cujubim.

2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

The employees and neighbors of the Manoa Farm were consulted in person, as described in Section 2.3.7. Since it was not possible to do the same for the entire municipality of Cujubim, these stakeholders were represented by institutions such as the City Hall, the Department of Environment, the Department of

Education, and NGOs like APAE. On all occasions, the project's activities, its impacts, communication channels, and the scheduled audits were shared, as detailed in Sections 2.3.4 and 2.3.7.

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

As described in section 2.3.10 the PD CCB, the processes related to decision-making and implementation, as well as the various activities related to the Project, are open to community participation. Furthermore, the project and the proponent follow measures and policies (sections 2.3.8, 2.3.9, 2.3.11 and 2.3.13 of the PD CCB) to make sure all interested stakeholders have access to communication channels regardless of age, culture, or gender.

Specific measures have been designed to enable effective participation of all communities. These include providing clear, culturally appropriate explanations of project activities and ensuring flexible meeting times to accommodate diverse schedules and responsibilities, particularly those of women of the community. Additionally, project materials are adapted to local languages and literacy levels to ensure full comprehension by all participants.

Involvement in the design, implementation, monitoring, and evaluation of the Manoa REDD+ Project takes place through the available communication channels (section 2.3.8 of the PD CCB) and informational meetings, in which all interested communities have the opportunity to participate.

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

The Project follows the measures aligned with its proponents regarding guaranteeing anti-discriminatory measures, described for each part below.

Biofílica Ambipar Environment follows the principles of the Ambipar Group's "Code of Conduct and compliance"²² and "Diversity and Inclusion Policy"²³, which emphasize respect for individuals regardless of their hierarchical position, origin, color, ethnicity, culture, age, social status, physical ability, religion, or sexual orientation, and does not accept any practice of discrimination. Among its commitments are encouraging an attitude of respect for people, their traditions and values, as well as guiding relationships by respect for the laws and conventions that deal with fundamental human rights.

²² [Codigo-de-Conduita-e-Compliance-2023-Ingles.pdf \(ambipar.com\)](#)

²³ Disponível em <https://ambipar.com/site2020/wp-content/uploads/2023/09/Politica-de-Diversidade-e-Inclusao-portugues.pdf>. Acessado em 26 de outubro, 2023.

Additionally, the Ambipar Group has a specific policy governing supplier relationship²⁴ and states in its code of conduct that certain actions may result in termination of contracts or partnerships. Actions that may lead to termination include: (1) engaging in discriminatory acts based on gender, ethnicity, race, religion, social class, age, sexual orientation, or physical or mobility limitations; (2) engaging in threats, coercion, false testimony, moral harassment, sexual harassment, or any other action contrary to the principles of this code; and (3) exposing colleagues to humiliating or constraining situations, undermining the work environment and the organization's values.

Ambipar's Diversity and Inclusion Policy actively supports compliance with SDGs (Sustainable Development Goals) 5 – Gender Equality and 10 – Reduced Inequalities and promotes best practices in human development. To monitor compliance, Ambipar provides an anonymous ombudsman channel for reporting complaints on topics including interpersonal relationships, physical aggression, moral and sexual harassment, discrimination, conflicts of interest, and violations of laws or policies. All policies are publicly available on the Ambipar website at <https://ambipar.com/politicas-estatuto/>.

Manoa has an internal policy that prohibits any form of discrimination based on gender, race, religion, sexual orientation or any other characteristic, and defines that any form of discrimination, harassment or unfair treatment is strictly forbidden. The document also states that "All employment decisions, promotion, salary, training and other opportunities will be based exclusively on the merit and skills of the employees". To ensure effective implementation, all new employees receive training on the company's anti-discrimination and anti-harassment policies during orientation. Refresher training sessions are conducted periodically to reinforce these principles, and to educate employees on recognizing and reporting discriminatory behaviors.

The policy is displayed on company walls in common areas, accessible to all employees and visitors. In addition, during training and activities carried out with employees, whenever appropriate, information about this document is passed on to employees. Furthermore, any Manoa employee who feels discriminated against or is a victim of harassment is encouraged to report it or use anonymous channels, such as the suggestion box set up by Manoa. Many employees confirm that they feel safe raising these issues directly to those responsible to take action, should the need arise.

In addition, the REDD+ project utilizes open communication channels (see section 2.2.5.20) to mitigate possible negative impacts related to this issue.

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

²⁴ Política de Relacionamento com fornecedores, disponível em <https://ambipar.com/site2020/wp-content/uploads/2023/09/Politica-de-Relacionamento-com-Fornecedores.pdf>. Acessado em 26 de outubro, 2023.

Not applicable as there were no complaints in the monitored period. The project has different communication channels, as described in section 0 of this document and 2.3.8 of the CCB PD, to serve all stakeholders in their particularities.

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

The continuity and viability of the REDD+ Manoa project depends on the execution of several activities, including property surveillance, which will ensure the integrity of the area against deforestation by external agents, forest management, which promotes the use of forest resources while protecting it, and several others, often adjacent to these. These activities, however, require training, both to improve technical skills and to ensure safety, since they also pose risks.

All activities carried out by Manoa's own or outsourced employees are included in a training program that takes place annually before the start of the harvest. The training includes safety training and guidelines (prevention and mitigation), and are aimed at all employees, without distinction. The training applied follows all the relevant labor legislation (see section 2.5.2), such as ordinances and regulatory standards, and are supported by specific internal procedures that describe the processes for the correct execution of the assigned functions.

The training sessions are designed not only to ensure safety and compliance with labor regulations but also to foster skills and knowledge that can increase local involvement in project activities. This approach ensures that local employees gain knowledge directly applicable to the REDD+ Manoa project and to similar opportunities in the community.

The field studies carried out for the purposes of social diagnosis²⁵ mentions that another important aspect of the trainings is that after the time spent working at Fazenda Manoa, if the worker goes on to work at another forest management company, they have already experienced working within the standards required by labor laws and certified management, which strengthens their ability to claim previously unknown rights. It is worth noting that more than 80% of the employees come from the municipality of Cujubim, so these actions also promote the development of local skills and participation by the population. Besides the forest management training, Manoa also carryout fire combat training to it's fire brigade and first aid training, every year, to guarantee all the employes know how to act in case of accidents.

In addition to internal training, Manoa also promotes training in low-impact forest management for external parties, focusing mainly on stakeholders in the region, such as environmental agencies, schools, institutions, etc. Additional information is presented in section 4.3.1.

²⁵ Ecoporé socio-economic report 2015

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

In accordance with the proponents' policies indicated in section 2.3.13, it is understood that the project has as a premise that all stakeholders directly involved in the project activities will have equal opportunities for hiring and promotion within the existing functions, provided that the job specifications are met.

Reinforcing this point, more than 80% of employees come from the municipality of Cujubim, demonstrating the applicability of measures to include the local population, who are often part of marginalized and/or vulnerable groups. In addition, due to cultural aspects, the number of positions occupied by women is more representative in administrative positions at the Cujubim office and in areas such as food, cleaning, etc.

The REDD+ project reinforces the procedure of including and promoting local participation, thus generating direct jobs and providing the opportunity to include local stakeholders in the project's actions and, consequently, in understanding the benefits of conserving forest areas. Local jobs are also generated indirectly, through the supply of raw materials for the operation of various sawmills, as well as prioritizing the hiring of local companies for activities that rely on outsourced employees. According to the survey carried out in 2023, two outsourced companies operating in Manoa come from the region.

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

Among the actions implemented by the Manoa REDD+ Project, low-impact forest management is the activity most likely to generate risks for local stakeholders, in this case management employees. Considering the risks, Manoa Sustentável, Exploração e Serviços Florestais Ltda addresses health and safety at work as a fundamental aspect of the company's day-to-day activities, thus complying with the Occupational Health Medical Control Program (PCMSO) and the Risk Management Program (PGR).

The PCMSO is aimed at prevention, screening and early diagnosis of work-related health problems. In line with the program, the company carries out medical assessments of each employee on admission, annually, on the employee's return to work, on leave of more than 30 days, and on dismissal. The PGR works to preserve the health and integrity of all the company's employees by anticipating, recognizing, evaluating and controlling environmental risks that exist or may exist in the workplace. By applying the PGR, the company monitors and proposes measures to reduce the risks arising from each work activity.

Through lectures and training, activities are carried out on occupational preventive actions related to the PCMSO and PGR, such as the forest fire brigade (Figure 12), chainsaw training, regulatory standard 06 (personal protective equipment), regulatory standard 12 (machine and equipment safety), the importance of teamwork and forms of communication for interpersonal relationships, the basics of recognizing the most common venomous animals in accidents, quality of life in the workplace, with emphasis on the organization of the site, conduct with company property, equipment and accommodation, the adult vaccination schedule and the importance of keeping it up to date, the basics of pre-hospital care, the most

common verminoses in adults, basic hand washing and personal hygiene, and sexually transmitted infections (HIV, syphilis and hepatitis B and C).

These activities were recorded in reports, attendance lists, photos and more, all of which were made available to the VVB.



Figure 12. Forest fire brigade training with firefighters in 2023.

Furthermore, in order to guarantee the health and safety of workers in management activities, the company has a general procedures manual for forest management, updated in 2024, which must be followed by all employees. The manual was made available to the VVB team.

The manual describes the safety equipment that must be used for each job, procedures for carrying out each activity properly and safely, instructions on the proper disposal of organic and inorganic waste, hygiene measures, and more. The manual also describes the occupational health and safety monitoring plan, which consists of a biannual internal audit of the working conditions of the company's own and outsourced teams and the conditions of use of PPE for contracted activities. The monitoring report lists all the non-conformities along with the respective deadlines for compliance with corrective actions. Secondly, the status of the corrective actions and whether or not they have been completed is checked in the field. Among the items audited are food, water quality, living conditions in the camps, occupational health programs, ergonomic conditions of activities, existence of an environmental risk prevention program, training, transport of workers, transport of fuel, risk areas, communication system, condition of machinery and equipment, rest period between working hours and use and state of repair of PPE. In addition, in order to keep track of the use and removal of PPE by each employee, Manoa has a control form (Figure 13).

FICHA DE MONITORAMENTO DE SAUDE E SEGURANÇÁ NO TRABALHO - USO E ESTADO DE CONSERVAÇÁO DE EPI's					
EMPRESA:					
DATA:		RESPONSÁVEL PELA AVALIAÇÁO:			
EPI	NÁO APLICA	USO	ESTADO DE CONSERVAÇÁO	AÇÁO CORRETIVA	PRAZO
NOME:					
FUNÇÁO:					
Camisa de manga longa					
Calça de nylon almofadada					
Bota com bico de aço					
Capacete					
Viseira					
Protetor auricular					
Luva					
Bota					
Caneleira					
Camisa de cor clara					
ONDE:					
USO = SIM OU NÁO					
ESTADO DE CONSERVAÇÁO: BOM, REGULAR OU RUIM. EM CASO DE RUIM DESCREVER A SITUAÇÁO DO EPI.					

Figure 13. Form for monitoring the use and state of conservation of PPE.

All documents relating to impact mitigation activities were made available to the VVB team.

2.4 Management Capacity

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

The main technical skills needed for the implementation of the Manoa REDD+ Project are knowledge about the development and management of forest conservation projects in the Amazon biome, experience in implementing, developing and assisting programs for communities, implementing effective land security and asset surveillance, and experience with low-impact forest management.

Manoa is responsible for security and surveillance on the property through surveillance patrols, training and action by the farm's own fire brigade (see section 2.3.15) and remote monitoring of hotspots and deforestation near the property boundaries (see section 2.5.9 for details).

Activities related to social activities and biodiversity monitoring are carried out by competent partners with experience in the area and in the Amazon biome, such as Ecoporé, UNIR and Casa da Floresta (for more details on each partner's expertise, see section 2.4.3).

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

Biofílica Ambipar Environment Investments is a Brazilian company that promotes the management of forest areas in the Amazon and Atlantic Forest biomes. The company has a specialized team and is a reference in the development of forest conservation projects, guaranteeing the quality and effectiveness of the REDD+ activities carried out, especially those associated with project management and carbon measurements, the following is a brief summary of the team's technical competence:

Plínio Ribeiro (CEO)

Location: São Paulo, São Paulo – Brazil.

Plínio Ribeiro has a degree in Business Administration from Instituto de Ensino e Pesquisa INSPER and a master's degree in public Administration and Environment from Columbia University and the Earth Institute (USA). He participated in several conservation projects on the lower Rio Negro, through the Instituto de Pesquisas Ecológicas – IPÊ since 2005, and was one of the producers of Jean Michel Cousteau's documentary "Return to the Amazon". He works for Biofílica since 2008, where he has already led Project, Operations and Business Management. Currently, he is the Executive Director and shareholder of the company.

Paula Conde (Administrative Manager)

Location: São Paulo, São Paulo – Brazil.

Paula Conde has a degree in Business Administration from São Luís - PUC and post graduate degree in Accounting and Financial Management from FAAP. She has large experience, most of it in one of the largest media and educational group in Latin America – Editora Abril, where she worked with Finance Control and Reporting, Treasury, Accounting and Financial Reconciliation, Accounts Payable & Receivable and Royalties. At Biofílica, she is responsible for administrative and financial activities, logistical support to the team and to projects.

Soraya Dias Pires (Operations Director)

Location: Piracicaba, São Paulo – Brazil

Soraya Dias has a degree in agronomy from University of São Paulo (USP), two MBAs from USP, one in agrobusiness and another in strategic management and an MBA from Fundação Getulio Vargas (FGV) in business administration. She has 15 years of experience in management and development of agro-industry businesses, with a career developed in large multinational companies in the sugar-energy sector: Adecoagro, BP Biocombustíveis and BP Bunge Bioenergia. Experience in agroindustries in activities associated with agroindustrial planning and control, agricultural operation and negotiations. At Biofílica she works as Operations Director.

Caio Gallego (Intelligence Manager)

Location: São Paulo, São Paulo – Brazil.

Caio Gallego is a Forest Engineer graduated from ESALQ-USP. Specialist in geoprocessing and remote sensing aimed at environmental conservation area, mapping and analysis of changes in land use. Has knowledge facing the Sustainable Forest Management, environmental modeling and the use of alternative GIS for forestry and agribusiness. Has advanced knowledge in the use of GIS softwares and analysis of

change on the land use and land cover as ArcGIS, QuantumGIS and DinâmicaEGO. Currently, at Bioflica, he works as an intelligence manager.

Luana Cordeiro (Carbon Project Coordinator)

Location: São Paulo, São Paulo - Brazil

Forest engineer graduated from Universidade de São Paulo, post-graduate student in Project Management (PMI) from SENAC, and environmental technician graduated from the State Technical School of São Paulo. She has been working for more than 5 years at Bioflica Ambipar where he acquired experience in the development, monitoring, and management of projects, preparing documentation that is audited, budget management, co-management with partners ranging from the private initiative to the third sector, conducting the hiring and management of suppliers, and participating in processes of consolidation of methodological intelligence and carbon standards.

Nayra Nicolau (Carbon Project Coordinator)

Location: Rio de Janeiro, Rio de Janeiro - Brazil

Forestry Engineer graduated from the Federal Rural University of Rio de Janeiro (UFRRJ), with a postgraduate degree in Forestry Management from the Federal University of Paraná (UFPR). She is currently a student in the Professional Master's Degree course in Environmental Engineering at the Polytechnic School of the Federal University of Rio de Janeiro (Poli / UFRJ). She has extensive experience in designing, managing and executing projects and environmental studies, technical coordination of environmental programs, as well as in institutional management with federal and state environmental agencies in the process of prior licensing and installation of projects related to the infrastructure sector. She has been with Bioflica since November 2022, working on the development and detailed planning of carbon projects, from initial conception to full implementation, including the auditing stages for project certification and credit issuance, as well as ongoing monitoring to ensure compliance with established targets.

Maria Elisa Russo Mafra Machado (Carbon Project Analyst)

Location: Campinas, São Paulo - Brazil

Maria Elisa Mafra has a bachelor's degree in Biological Sciences from USP/ESALQ, completed in 2016, and a master's degree in Forest Resources, with an emphasis on Conservation of Forest Ecosystems, from the same institution, completed in 2020. During her master's degree, she developed research in the area of Sustainable Forest Management, focusing on the socioeconomic analysis of non-timber forest production. Between 2017 and 2018, she was part of the technical team to develop a methodology for the formation of a microclimate favorable to the establishment of biodiversity around hydroelectric reservoirs – AES-ANEEL R&D. From 2020 to 2023, worked as an auditor in FSC and PEFC Forest Management, also serving

as a lead auditor in the FSC and PEFC chain of custody. Currently, she works as a project analyst at Biofílica Ambipar, supporting the development, monitoring and management of projects.

Priscila Coutinho R. Ferreira (Carbon Project Analyst)

Location: São Paulo, São Paulo - Brazil

Priscila Coutinho is a Biologist since 2010, MSc in Genetics, Biodiversity and Conservation (UESB, 2014) and MSc in Biodiversity Conservation and Sustainable Development (IPÊ, 2022). She worked mainly in primatology and fauna conservation, in research projects and environmental licensing. Her experience with carbon stock monitoring and the carbon market began around 2019 and expanded during her master's degree in 2020-2022. At Biofílica, she works as Project Analyst supporting project development, monitoring, and management processes.

Franciane Almeida (Geoprocessing Analyst)

Location: São Paulo, São Paulo – Brazil

Franciane Almeida is a Forest Engineer, graduated at the Federal University of Lavras (UFLA). She has experience in geoprocessing and remote sensing applied to the areas of forest planning, silviculture and harvesting, recovery of degraded areas and land tenure regularization. At Biofílica, she works as a Geoprocessing Analyst, supporting the elaboration and organization of the geographic bases of the Carbon Projects.

Project proponent: Manoa Sustentável, Exploração e Serviços Florestais Ltda

Manoa is a company that has been a pioneer in low-impact forest management since 1997, recognized by the FAO (Food and Agriculture Organization of the United Nations) an "Exemplary Case of Forest Management in Latin America and the Caribbean" in 2010. In addition, the low-impact forest management carried out at Manoa has two certifications (FSC and PEFC), guaranteeing management excellence at all times. Below is a brief summary of the team's technical expertise:

Murilo Granemann (CEO)

Location: Curitiba, Paraná – Brazil

Murilo has a degree in Economics and International Trade from FAE. Murilo also has extensive experience in construction, forestry business, and ocean freight logistics in North America. He has several courses in sales and corporate governance. At the REDD+ Project, he is responsible for marketing and selling Carbon Credits and for overseeing and directing REDD+ project expenses.

Hermínio Fernandes Silva Neto (Forest Manager)

Location: Cujubim, Rondônia – Brazil

Graduated as an Agricultural Technician from the Instituto Estadual de Florestas in Rondônia. He worked in the State Secretariat of Environmental Development of Rondônia [Secretaria de Desenvolvimento Ambiental de Rondônia – SEDAM] as an Agriculture and Livestock Technician. He is currently Forest Manager at Manoa Farm, where he is responsible for planning and decision-making with the Board of Directors in the activities to be carried out on the farm, both in the forest management and in the REDD+ projects, management of all field operations, monitoring of activities related to forest management and REDD+, coordination and execution of the farm monitoring plan, monitoring of infrastructure recovery during and after exploration, monitoring of visitors in the management area, coordination of activities carried out on the farm by employees responsible for monitoring the perimeter of the area, support to research teams, among others.

Hemerson de Sousa Pereira (Forest Engineer)

Location: Cujubim, Rondônia – Brazil

Has a degree in Forest Engineering from Faculdade de Rondônia (FARO) and post graduate degree in Occupational Safety Engineering from Faculdade Santo André. Has been working in the forestry area for 4 years, with experience in the Coordination of Conservation Units at the State Secretariat for Environmental Development of Rondônia (SEDAM) and as an Environmental Agent at the Chico Mendes Institute for Biodiversity Conservation (ICMbio), in which he worked mainly in process analysis, consent analysis, inspection and monitoring of biodiversity and analysis and vectorization of maps. In Manoa he works as a Forestry Executor Engineer and in the REDD+ Project he works in the remote monitoring of deforested areas and forest fires, reception of visitors to the Forestry Education Center (CEFLM), development of educational activities with schools and in the supervision of university researchers in areas of the interior of the Farm.

Hélcio Edson Pereira (Financial Manager)

Location: Cujubim, Rondônia – Brazil

Has a degree in Economic Sciences from PUC-Paraná, has worked at Grupo Triângulo since 1995 and at Manoa since 2001. In the REDD+ Project, he is responsible for the human resources area, ombudsman channel, monitoring of social actions, hiring and dismissal of employees and supervision of the hiring of companies responsible for the employees training.

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

As described in section 2.4.2 of the CCB PD and 2.1.5 of this document, the project has partnered with institutions to carry out social and biodiversity monitoring activities, such as socio-environmental diagnosis

involving questionnaires with stakeholders, identification of communities in the region, fauna and flora surveys, among others. To guarantee the quality of the data collected and activities carried out, the proponents always seek out companies specialized in the area of interest, such as Casa da Floresta, mentioned above, which specializes in fauna surveys, for example.

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

Biofílica Ambipar Environmental Investments is a Brazilian company with 15 years of experience in the environmental services market in Brazil, through the generation and commercialization of carbon credits from nature-based solutions (NBS), having a diversified line of business and investors that support the company's business. In addition, Biofílica Ambipar Environment undergoes annual financial audits to ensure that its funds are used responsibly and free from corruption.

Manoia Sustentável, Exploração e Serviços Florestais Ltda is part of the company Triângulo Pisos e Painéis, which has been selling wood products since 1972, with the Manoia farm operating in low-impact forest management since 1997. The company has a solid industrial and administrative structure and heritage, recognized worldwide for its sustainability and its production guidelines

Documents proving the financial health of both institutions are classified as commercially sensitive information and were shared with the audit team on a confidential basis.

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

Biofílica Ambipar Environment has a legal team responsible for implementing and monitoring the good practices set out in the "Ambipar Group Code of Conduct and Compliance", especially the "Anti-Money Laundering Policy", which is perfectly in line with the Brazilian Anti-Corruption Law (Law no. 12. 846/13), Law no. 9613/98 (Money Laundering Act) and the International Anti-Corruption Conventions (UN, OECD, Transnational Anti-money Laundering Act). 846/13), with Law No. 9613/98 (Money Laundering Law) as well as with the International Anti-Corruption Conventions (UN, OECD, Transnational Convention to Combat Money Laundering in the International Public Service, Merida Convention, Palermo Convention, Convention against Organized Crime); as well as observing the precepts contained in the FCPA (Foreign Corrupt Practices Act) and the UK Bribery Act.

As such, Biofílica Ambipar Environment clearly expresses its position against the practice of acts of corruption and/or conduct aimed at personal gain to the detriment of the company, society or the government, strictly complying with national and international anti-corruption precepts, as well as the Ambipar Group's main guidelines and positions on combating money laundering, terrorist financing and all forms of corrupt conduct, such as bribery (Active and Passive Corruption), embezzlement and granting undue advantages (administrative improbity), and curbing acts of its employees that impede investigation and inspection activities. It should also be noted that Biofílica Ambipar Environment undergoes annual financial audits to ensure that its funds are used responsibly and free from corruption.

Another important pillar for the Project is the Ambipar Group's Sustainability Policy, which aims to establish principles, guidelines and responsibilities to be observed in the Group's processes. Together with other corporate documents, it provides transparency and reinforces commitments to sustainable development and the Group's Mission and Corporate Guidelines. The Sustainability Policy is based on Ambipar's alignment with the 2030 Agenda, engagement with stakeholders and commitment to a circular and low-carbon economy. For more details on Biofílica Ambipar Environment's policies and conduct, see section 2.3.13.

Manoa Sustentável, Exploração e Serviços Florestais Ltda, has an internal policy to ensure that all its activities and business are carried out ethically, transparently and in compliance with applicable laws and regulations, establishing guidelines to prevent corruption and combat unethical behavior. Details of this policy are available on Manoa's bulletin boards at the Cujubim office and at the farm.

Manoa's internal policy covers actions related to corruption and bribery, relationships with customers, suppliers and partners, conflicts of interest, whistleblowing and whistleblower protection and the consequences if the policy is not respected, for more details see section 2.3.13.

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

Some information required by the VCS and/or CCB standards is considered confidential or commercially sensitive and cannot be publicly disclosed by the Project proponents. This information was fully provided to the audit team during the validation process attached to this document, but was not included in the public version. Below is a list of information that has been made available:

- Land Documents and Legal Situation;
- Financial Statements of Manoa Sustentável, Exploração e Serviços Florestais Ltda;
- Financial Statements of Biofílica Ambipar;
- Project Financial Performance Spreadsheet (budget) and other related documents;
- Agreements and contracts signed between the parties involved.

2.5 Legal Status and Property Rights

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

The objective of the REDD+ Manoa Project is in line with Brazil Federal Constitution, as well as current legislation protecting the native forest and the climate change regime established in international regulations (UNFCCC) and in the National Policy on Climate Change (Law 12.187). In addition, Brazil recently (August 9, 2023) adopted the Belém Declaration, drawn up by the Amazon Cooperation Treaty Organization (ACTO), which has as its main objective sustainable development, conservation and sustainable use of biodiversity, forests and water, to avoid the point of no return in the Amazon, the fight

against deforestation and illegal activities in the region, economic development with social inclusion and the generation of income and employment, based on mechanisms for social participation, especially of indigenous peoples and local and traditional communities, and the strengthening of ACTO.

The project complies with all current national, state and international legislation. As the project takes place in a private area and involves forest management, it responds mainly to legislation related to land issues and the Brazilian Forest Code. The main laws and decrees that regulate the project's activities are listed and detailed below.

Legislation: Brazilian Federal Constitution of 1988: Defines and regulates how laws should be created in the country, how the 3 powers (Executive, Legislative and Judiciary) should work and the bodies that act in conjunction with them. The Constitution's fundamental principles are:

- I - the sovereignty;
- II - the citizenship;
- III - the dignity of the human person;
- IV - the social values of work and free enterprise;
- V - the political pluralism;

Applicability to the project: Regulates and directs all national legislation that influences the project.

Theme: Land regulation

Related legislation:

Law 601/1850 – Lands Tenure Law: Provides for vacant lands in the Empire, and about those that are owned by title of allotment without fulfilling the legal conditions, as well as by simple title of quiet and peaceful possession; and determines that, having measured and demarcated the former, they should be ceded for a valuable consideration, both to private companies and for the establishment of colonies of nationals and foreigners, the government being authorized to promote foreign colonization in the manner stated.

Law 4.504/1964 - Land Statute: Provides for the land statute and other measures. This law regulates the rights and obligations concerning rural real estate, for the purposes of implementing Agrarian Reform and promoting Agricultural Policy.

Law 9.393/1996 - ITR Law - Tax on Rural Territorial Property: Provides for the ITR Tax, payment of the debt represented by Agrarian Debt Bonds and other provisions.

Law 10.406/2002 - Brazilian Civil Code - About rights and duties in private life, people, property and legal facts. Divided into two parts, (1) General Part, referring to people, property and legal facts and (2) Special Part, referring to the law of obligations, companies, things, family and successions.

Applicability to the project: The project complies with the laws listed, which guarantees the right to the property that includes the Project Area and regularity with taxes related to rural properties.

Theme: EnvironmentRelated legislation:

Law 12.651/2012 - Brazilian Forest Code: Establishes general rules on the protection of vegetation, Permanent Preservation Areas and Legal Reserve areas; forest exploitation, the supply of forest raw materials, the control of the origin of forest products, the control and prevention of forest fires and provides for economic and financial instruments to achieve its objectives.

Law 9.605/1998 - Federal Law on Environmental Crimes: Provides for criminal and administrative sanctions arising from conduct and activities harmful to the environment and makes other provisions.

MMA Ordinance No. 148, of June 7, 2022 - Recognizes the following official lists: "Official National List of Endangered Flora Species", "Official List of Endangered Brazilian Fauna Species" and "Official List of Extinct Brazilian Fauna Species".

Law 7.347/1985 - Law on Public Civil Action: Regulates public civil action for liability for damage caused to the environment, the consumer, goods and rights of artistic, aesthetic, historical, touristic value and makes other provisions.

Applicability to the project: The project area includes Permanent Preservation Areas, Legal Reserve areas, and endangered species of Brazilian fauna and flora, which leaves the owners of the area susceptible to the consequences of the law if they fail to fulfill their responsibilities. Throughout its duration, the project has always complied with the law, without receiving any penalties or fines.

Theme: Forest ManagementRelated legislation:

Conama Resolution 406/2009 - Establishes technical parameters to be adopted in the preparation, presentation, technical evaluation and execution of a Sustainable Forest Management Plan (in Portuguese PMFS) for timber purposes, for native forests and their succession forms in the Amazon biome.

Federal Decree 5.975 and related laws - Regulates articles 12, final part, 15, 16, 19, 20 and 21 of Law 4.771, of September 15, 1965, article 4, item III, of Law 6.938, of August 31, 1981, article 2 of Law 10.650, of April 16, 2003, amends and adds provisions to Decrees 6.514/08 and 3.420/00, and makes other provisions. It regulates issues related to the Sustainable Forest Management Plan, suppression and clear-cutting of forests and successor formations, use of forest raw materials, licenses for transporting native forest products and subproducts, among others.

Ordinance GAB/SEDAM No. 039/2010 - Establishes the procedures and criteria, within the scope of the Secretary of Environmental Development - SEDAM, necessary for the technical analysis of requests for services available in the DOF System, carried out at the Environmental Protection Coordination Office - COPAM, to regulate the procedure that guarantees the order of control over operations of products and subproducts originating from forest management within and outside the State, as well as to curb the

commercialization of products and subproducts of illegal origin, which shall come into force with the following wording.

Applicability to the project: As sustainable forest management activities happen inside the project area, the project must comply with the laws relating to this practice (in addition to those already listed under "environment"). The management carried out at Manoa has always complied with the legislation and is FSC and PEFC certified.

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

The relevant laws and regulations that protect workers' rights in Brazil, as well as the international agreements ratified by Brazil on labor issues, are listed below.

Federal legislation and regulations

Decree-Law No. 5,452, of May 1, 1943: Approves the Consolidation of Labor Laws.

Law 6.514, of December 22, 1977: Amends Chapter V of Title II of the Consolidation of Labor Laws, relating to occupational safety and medicine, and makes other provisions.

With regard to labor rights, the organization complies with the following international agreements:

International Labor Organization Convention No. 29 of 1930, ratified by Brazil on April 25, 1957: Provides for the abolition of forced labor.

International Labor Organization Convention No. 87 of 1940: Provides for freedom of association.

International Labor Organization Convention No. 97 of 1949, ratified by Brazil on June 18, 1965: Provides for migrant workers.

International Labor Organization Convention No. 98 of 1949, ratified by Brazil on 18/11/1952: provides for the right to unionization and collective negotiation.

International Labor Organization Convention No. 100 of 1951, ratified by Brazil on April 25, 1957: Provides for equal pay for men and women.

International Labor Organization Convention No. 105, ratified by Brazil on June 18, 1965: Provides for the abolition of forced labor.

International Labor Organization Convention No. 111 of 1958, ratified by Brazil on March 1, 1965: Provides for discrimination in respect of employment and occupation.

International Labor Organization Convention No. 131 of 1970, ratified by Brazil on May 4, 1983: Provides for the fixation of minimum wages, especially in developing countries.

International Labor Organization Convention No. 138 of 1973, ratified by Brazil on 28/06/2001: Provides for the minimum age for admission.

International Labor Organization Convention No. 142 of 1975, ratified by Brazil on 24/11/1981: Provides for the development of human resources.

International Labor Organization Convention No. 143 of 1975: Provides for immigration under abusive conditions and the promotion of equal opportunities for migrant workers.

International Labor Organization Convention No. 155 of 1981, ratified by Brazil on May 18, 1992: Provides for the safety and health of workers.

International Labor Organization Convention No. 169 of 1989, ratified by Brazil on July 25, 2002: Provides for indigenous and tribal rights.

International Labor Organization Convention No. 182, ratified by Brazil on 02/02/2000: Provides for the prohibition of the worst forms of child labor and immediate action for their elimination.

In addition, all national labor legislation is duly complied with. Manoa also has FSC and PEFC forestry certifications, which undergo annual third-party audits to ensure compliance with all legal requirements relating to labor aspects.

In the area where the project is located, an internal procedure (General Procedures Manual) is applied, which, among other things, deals with labor procedures and the hiring of third parties.

As far as labor procedures are concerned, this document establishes that the company must keep digital and analog files in its office containing proof of the legality of its own and outsourced workers. These files must include the registration book, payslips, occupational health certificates (ASO), proof of payment of fees, taxes and charges, as well as records of labor agreements between own and/or outsourced employees, and proof of delivery of Personal Protective Equipment (PPE) and periodic examinations, among others.

As far as the procedure for hiring third parties is concerned, at the time of hiring, at least one certified copy of the articles of incorporation and any amendments thereto are required, proof of employee registration, proof of tax compliance (CNPJ, federal tax clearance certificate, federal and municipal tax clearance certificate, etc.) and mandatory medical examinations, as well as other information with the same requirements as for own employees.

During the training sessions held every year, before the harvest period, the company disseminates knowledge about labor rules and rights to its own employees and third parties, making workers aware of their rights.

2.5.3 Human Rights (VCS, 3.19)

The area of Fazenda Manoa does not have traditional communities residing, as it is a private property, whose owner signed a long-term agreement with Biofílica Ambipar for the conservation of vegetation areas within the property. Thus, it is understood that the applicable international legislation on human rights and the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention No. 169 on Indigenous and Tribal Peoples do not apply in the context of the Project.

However, regardless of this fact, the Manoa REDD+ Project is guided by the Ambipar Group's Code of Conduct, as described in the sections 2.3.13 e 2.4.5, and is committed to the stakeholders located in its surroundings, acting on the following premises:

- To stimulate an attitude of respect for people, their traditions and values;

- Adopt and maintain a transparent process for defining social actions;
- Respect the interests and needs of the communities in which it operates;
- Collaborate with knowledge and technical information that can bring public benefits;
- Preserve and guarantee the political freedom and expression of employees;
- To guide the relationship with authorities, politicians and public agents by transparent, professional and correct attitudes, and any form of pressure or request by public agents, which does not correspond to this definition, must be immediately rejected and communicated to the management of Biofílica Ambipar Environment Investments;
- To guide the relationship by respect for laws and conventions that deal with fundamental human rights and the protection of sustainability. In all their relationships, representatives of the Project must observe ethical, health, safety standards and respect for human rights and socio-environmental responsibility.

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	Regarding human rights risks, as previously mentioned in section 2.3.1, respect is ensured through the Ambipar Group's Code of Conduct and Compliance (2023) and Diversity and Inclusion Policy (2023), in addition to Manoa's internal policies. Additionally, section 2.5.1 e 2.5.2 demonstrates that the organization is in compliance with all treaties and national legislation that concern the rights of traditional populations. It is important to note that there are no traditional populations living in the project area or that depend on its resources.

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

With respect to Indigenous Peoples and preservation of Cultural Heritage, as mentioned earlier in the sections 2.3.13 e 2.4.5, respect is guaranteed through the Ambipar Group's Code of Conduct and Compliance (2023) and Diversity and Inclusion Policy (2023), in addition to Manoa's internal policies. In addition, sections 4.1.4 and 5.1.4 of this document and sections 4.2.4 and 5.2.4 of the PD CCB demonstrate that the project monitors the HCVA of Cachoeira do Rio Preto, considered HCVA due to the cultural significance of the landscape due to its scenic beauty.

In addition, sections 2.5.1 and 2.5.2 demonstrate that the organization complies with all treaties and national legislation that concern the rights of traditional populations.

It is important to note that there are no traditional populations living in the project area or depending on its resources.

Identified risk	Mitigation or prevention measure(s) adopted
No risks identified	<p>No risks related to indigenous populations, traditional communities or cultural heritage were identified in the project area, since there is no presence of such populations or cultural assets in the area. Therefore, the project's activities do not interfere with cultural rights or practices.</p> <p>Respect for human rights and diversity is ensured by the Ambipar Group's Code of Conduct and Compliance (2023) and Diversity and Inclusion Policy (2023), in addition to Manoa's internal policies, as previously mentioned in sections 2.3.13 and 2.4.5. In addition, the project complies with all national standards and international treaties pertinent to the rights of traditional populations, as presented in sections 2.5.1 and 2.5.2.</p>

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

Disputes over rights to territories and resources	N/A
Respect for property rights	<p>The project area is characterized as private property belonging to Manoa Sustentável Exploração e Serviços Florestais Ltda. The rights of possession and use are demonstrated through documents shared with the VVB. There are no title or rights disputes within the project area, and no external stakeholder has access or use rights that interfere with the project's operational zone. Access is restricted to authorized personnel, ensuring that forest conservation and management activities are carried out under controlled conditions. Socio-environmental assessments and local consultations confirmed the absence of competing or collective rights over the territory. Minor technical overlaps with conservation units and environmental</p>

records of neighboring properties have been identified and corrected in collaboration with competent agencies (SEDAM and ICMBio), and public data are periodically reviewed to ensure transparency and accuracy on tenure and access rights. The analysis and SIGEF data were included as an additional reference for greater reliability. Section 1.8 of the PD VCS provides more details on this subject.

2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

As described in the section 2.5.5, the project does not cause any impact on property rights, so this section does not apply.

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

There are no traditional peoples and communities, as defined by Decree No. 6.040 of February 7, 2007, which instituted the National Policy for the Sustainable Development of Traditional Peoples and Communities, in the project area. Nearby there are only rubber tapper remnants located around the Jamari FLONA, in Itapuã do Oeste, as well as large river communities along the Madeira and Machado rivers. These communities, although near the project area, have no link with it and don't rely in the project area in any way or form. Therefore, there are no measures or compensations necessary^{26,27}.

The project area belongs to one of the proponents, Manoa Sustentável, Exploração e Serviços Florestais Ltda, and all the corresponding documentation will be shared with the VVB. The project has not affected and will not affect the property rights of any of those involved or interested, so this section does not apply.

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

The proponent Manoa Sustentável, Exploração e Serviços Florestais Ltda holds the right to the property and it's use, since it is a private property, and holds all the documentation proving its ownership. As identified in the socio-economic diagnosis, there is no population that inhabits or depends on the Manoa REDD+ project area for their subsistence, culture, or livelihoods (see section 2.5.7). There has been no removal or relocation of property rights holders, making this section inapplicable.

²⁶ Ecoporé Socioeconomic report, 2015

²⁷ Ecoporé Socioeconomic report, 2024

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

In addition to illegal activities related to corruption and discrimination, which are avoided in accordance with what is described in sections (2.3.13, 2.4.5), the only illegal activity that could affect the project's impact is deforestation. In order to curb illegal deforestation in the project area, surveillance patrols are carried out and satellite images are analyzed to monitor deforestation around the project area, one analysis is carried out frequently during the hole year and another monthly during the dry season. The monthly monitoring activity started to improve the synergy between the remote deforestation monitoring and the field actions carried out by Manoa's surveillance team. This monitoring has two stages (1) monitoring of deforestation and (2) monitoring forest fires, both carried out by the Manoa team and covering a buffer of 10km from the limits of Fazenda Manoa.

Deforestation monitoring is done during the dry season (generally between May and August) using data from the Planet satellite and/or the Sentinel satellite and analyzed with QGIS or ARCGIS software to identify deforestation around the farm. In cases of loss of vegetation cover within or very close to the limits of the farm a map is made so the area can be checked in the field by the surveillance team and remotely by the team responsible for the remote monitoring. In the field, the team tries to contact those responsible for deforestation to reinforce Manoa's presence and property boundaries and thus avoid damage within the project area.

The monitoring of fire outbreaks is done through registration on NASA²⁸ website. Whenever there is a heat source within the buffer registered on the site, the Manoa employee responsible for monitoring is alerted by email (generally received within 24 hours after the heat source is detected) and receives information about time, date, satellite that recorded the heat source and location coordinates. After that, the points are checked in the BDQueimadas²⁹ website to confirm the information, since the focus of heat doesn't always correspond to a forest fire. In addition, by observing graphs of heat sources available in BDQueimadas, which indicates the temperature of the heat source, it is possible to identify the moment of the fire (whether it is going out, it's at the point of most intensity or if it's starting). With this information, a map is generated with the hot spots and the inspection team is called to verify it in the field, generally, because it is information that needs to be verified as soon as possible, the inspection team receives the raw data of the occurrence, and the report is generated later.

²⁸ Fire Information for Resource Management System (FIRMS). Available at: <https://firms.modaps.eosdis.nasa.gov/map/#d:24hrs:@-56.8,-11.5,6z>. Access on: July 06, 2023.

²⁹ Projeto Platform of Monitoring and Warning of Forest Fires in the Cerrado. Available at: <https://queimadas.dqi.inpe.br/queimadas/bdqueimadas#mapa>. Access on: July 06, 2023.

The monitoring happens constantly for the heat sources (possible fires) and at least once a month, during the dry season, for the deforestation of the surroundings. All monitoring steps carried out by Manoa remotely and in the field can be seen in the flowchart in Figure 14Figure 2.

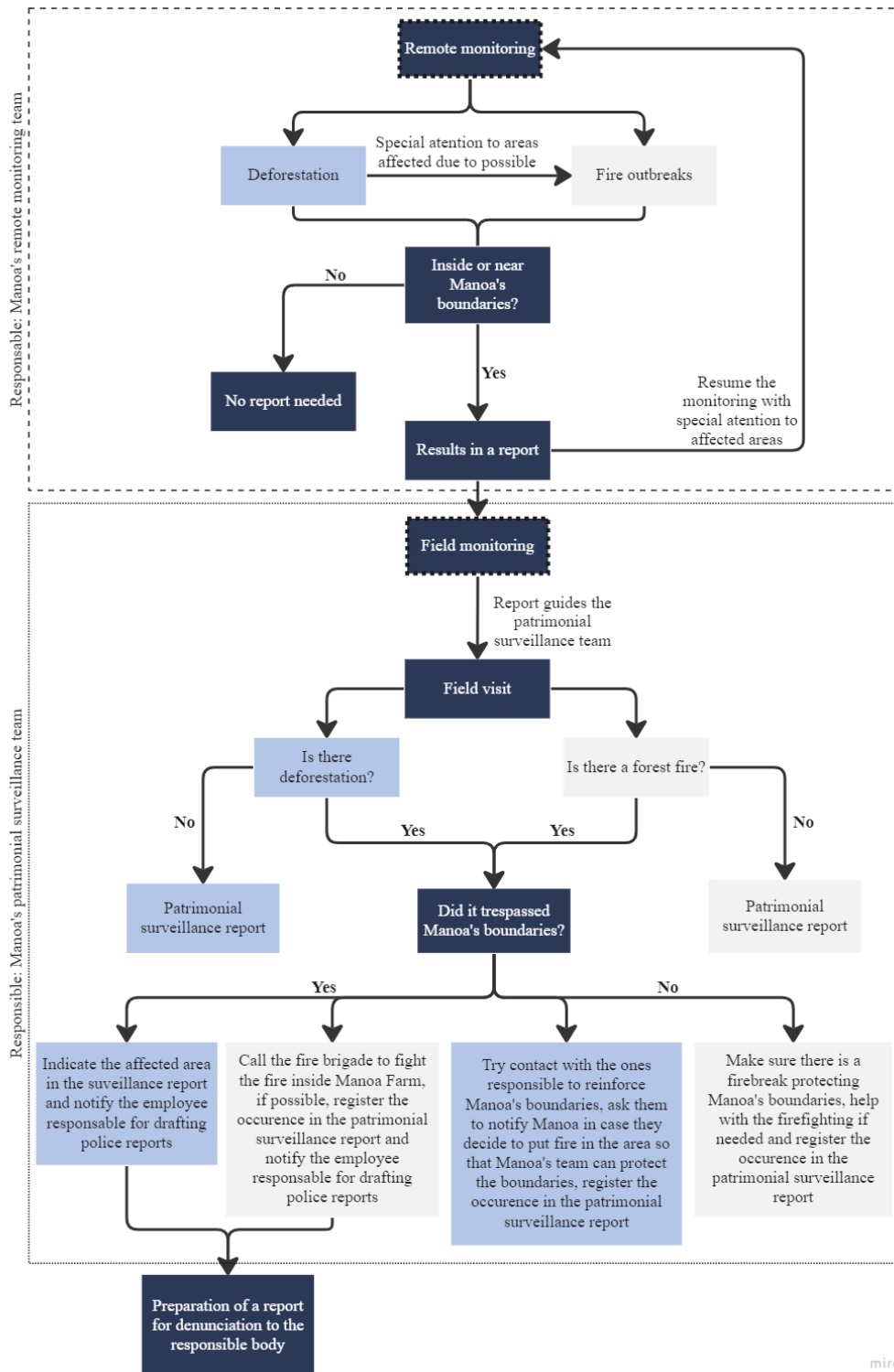


Figure 14. Flowchart detailing the remote and field monitoring of deforestation and fire incidents done by Manoa's team.

Property surveillance is directly linked to the monitoring of unplanned deforestation. It aims to maintain the integrity of the Project Area, keeping potential deforestation agents away, avoiding the entry of encroachers and contacting law enforcement when necessary. The activity is carried out by the Manoa Farm's employees adopting a strategy to have the "surprise effect", that is, there is not a defined frequency and time of patrols so that the encroachers do not identify a pattern in the inspection action. In case wood theft or invasion is detected, the employees are trained to immediately report the occurrence to the forest manager, who will call the responsible public agencies so that legal measures can be taken.

As a process of improvement and control arising from REDD+ activities in the project, as of July 2020 the patrols started to be recorded by means of standardized forms. Thus, surveillance patrols take place with a team of 2 to 3 people (ideally 3) and priority is given to areas with the highest deforestation pressure. At the field, the team registers the activity with photos, GPS points (tracking) and all possible information about any illegal activities, always adopting the "good neighbor policy".

Manoa's good relationship with the surroundings and the constant presence of the surveillance team in the areas of greatest pressure helps contain the entry of encroachers in the area. In some cases, the intruders themselves act in the "maintenance" of the property, when they identify and stop, among themselves, the action of other potential agents of deforestation, in such a way to maintain the good relationship with Manoa Farm. Once the field activity is concluded, the forest manager writes the form with the description of what was done and, afterwards, the form is signed by the team who performed the activity, confirming the information, finally, the data is sent to Bioflica Ambipar (in São Paulo) to consolidate and organize in the project database.

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

The company has not been involved in any disputes over land rights or the use of its resources in the last 20 years. Additionally, the overlap analysis conducted with public and private areas surrounding the project area, described in Section 2.5.1 in the CCB PDD, which included georeferenced data on conservation units, settlements, indigenous land, quilombola lands, CAR declarations, and private lands, evidences that there are no areas claimed by third parties within the project boundaries. This analysis confirms that no activity is undertaken by the project that could prejudice the outcome of an unresolved dispute relevant to the project.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

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

Data / parameter	Deforestation
Data unit	Hectare (ha)
Description	Maps of areas of forest cover converted into areas of non-forest cover
Source of data	Measured using data from the PRODES/INPE project
Value applied	0.79%/year on average (2000-2012)
Justification for the choice of data or description of the measurement methods and procedures applied	To map deforestation and produce the Forest Cover Excellence Mark Map, data from the PRODES Digital program (official deforestation mapping satellite for the Brazilian Amazon) was used. A total of 48 Landsat images were used during the period analyzed. The ISOSEG unsupervised classification method was used to classify the images in order to map the forest, non-forest vegetation, hydrography and deforestation classes.
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	See documents: <ul style="list-style-type: none"> • Câmara et al. 2006. Methodology for calculating the annual rate of deforestation in the Legal Amazon • Determining the Baseline and Deforestation Dynamics for the Manoa Project • http://www.obt.inpe.br/
Data / parameter	Ctot
Data unit	tCO ₂ e ha ⁻¹
Description	Average carbon stock per hectare in all carbon pools in the forest class used in the baseline scenario

Source of data	Calculated by allometric equations and data measured in the field
Value applied	513 tCO ₂ e ha ⁻¹
Justification for the choice of data or description of the measurement methods and procedures applied	Estimates of above- and below-ground biomass were made using forest inventory data and allometric equations developed in areas similar to the project area (SILVA, 2007). The dead wood reservoir was estimated based on data from the forest inventory and equations from Silva (2007).
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	See documents: <ul style="list-style-type: none"> • Forest Carbon Stock Estimate for the REDD+ Manoa project • Section 5.3 of the “Project Description – Baseline Issue de Base

Data / parameter	DBH
Data unit	cm
Description	Diameter at Breast Height (130 cm) for each tree with a DBH equal to or greater than 10 cm in each forest inventory plot.
Source of data	Measured in the field by Florestal Paisagismo
Value applied	View spreadsheet with field data
Justification for the choice of data or description of the measurement methods and procedures applied	Requirement of VCS Methodology VM0015. Forest inventory data collected less than 10 years ago on multiple plots located over a wide spatial distribution.
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	Main variable for estimating carbon stock

Data / parameter	$BGBfw = 0,0469 \times DAP^{2,4754} \times c1$ $AGBfw = EXP(-1,716 + 2,413 \times \ln(DAP))$
Data unit	Kg (fresh weight of biomass)
Description	Equation for converting DBH into fresh biomass
Source of data	1. SILVA, 2007 2. NOGUEIRA, 2008
Value applied	1. $BGBfw = 0,0469 \times DAP^{2,4754} \times c1$ 2. $AGBfw = EXP(-1,716 + 2,413 \times \ln(DAP))$
Justification for the choice of data or description of the measurement methods and procedures applied	Equation developed for forests with similar characteristics to those in the reference region
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	-

Data / parameter	CF
Data unit	t
Description	Carbon content in dry biomass
Source of data	Nogueira, E.; Fearnside, P.; Nelson, B., et al., 2008. Estimativas de biomassa florestal na Amazônia Brasileira: Novas equações alométricas e ajustes da biomassa dos inventários de volume de madeira. Forest Ecology and Management, 256 (11), pp.1853-1867
Value applied	0.485
Justification for the choice of data or description of the measurement methods and procedures applied	Value found in scientific literature

Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	-

Data / parameter	44/12
Data unit	tCO2e
Description	Carbon mass to CO2e mass conversion factor
Source of data	Scientific literature: 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4 AFOLU
Value applied	44/12
Justification for the choice of data or description of the measurement methods and procedures applied	IPCC default value
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	-

Data / parameter	Opening up an area for management infrastructure
Data unit	Percentage
Description	Open area for the construction of infrastructure necessary for sustainable forest management activities, such as patios, primary and secondary roads
Source of data	Post-exploration report and expert opinion
Value applied	1.6%

Justification for the choice of data or description of the measurement methods and procedures applied	Data is collected in the field after the harvesting activity. Post-exploration reports
Purpose of the data	<ul style="list-style-type: none"> • Determining the baseline scenario • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Comments	-

3.1.2 Data and Parameters Monitored (VCS, 3.16)

Parameters for monitoring deforestation, emissions and credit generation:

Data / parameter	$ABSLPA_{icl, t}$
Data unit	Hectare (ha)
Description	Baseline annual deforestation area in the Project Area in the year t
Source of data	Calculated using remote sensing and data available from reliable sources
Description of measurement methods and procedures to be applied	Monitoring of the forest component through remote sensing using satellite imagery and data from reliable sources
Frequency of monitoring/recording	Annual
Value applied	Table 10 of VM0015 v1.2
Monitoring equipment	Geotechnologies: remote sensing and geographic information systems
QA/QC procedures to be applied	In mapping changes in forest cover and defining land use classes, data obtained at medium spatial resolution (between 10m and 100m) will be used. Subsequently, for validation and refinement of the described mapping, data obtained by high resolution sensors (up to 5m pixels) will be used. The minimum accuracy of the land use and land cover classification map is 80%

Purpose of data	Calculation of project emissions
Calculation method	-
Comments	-
Data / parameter	ΔCUDdPA_t
Data unit	tCO _{2e}
Description	Total change in actual carbon stock due to unplanned and unavoided deforestation in year t in the Project Area
Source of data	Calculated from the detected areas of forest loss due to unplanned deforestation in the Project Area and the estimated average carbon stock for the initial forest class
Description of measurement methods and procedures to be applied	Monitoring the ABSLPAt indicator for later calculation of the change in carbon stock from unplanned and unavoided deforestation
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of ABSLPAt
Purpose of data	<ul style="list-style-type: none"> Calculation of project emissions
Calculation method	The parameter is estimated from the multiplication of unplanned deforestation areas by the estimated average carbon stock value for the initial forest class. The sum of carbon stock residual emissions under the soil and in dead timber is also considered, as such pools have 1/10 annual decay, causing emissions along the years. Finally, the estimated carbon stock value for the Reference Region in a post-deforestation scenario is subtracted

	from this result, obtaining the net value of carbon stock that was reduced by unplanned and unavoidable deforestation
Comments	-

Date / Parameter	ΔCPDdPA_t
Data unit	tCO ₂ e
Description	Total decrease in carbon stock due to planned deforestation at year t in the Project Area of the Tueré REDD+ Project
Source of data	Calculated through the detected areas of forest loss due to planned deforestation in the Project Area and the average carbon stock
Description of measurement methods and procedures to be applied	Monitoring of the indicator $\text{APDPA}_{\text{icl},t}$ for later calculation of the change in carbon stock from planned deforestation
Frequency of monitoring/recording	Annual
Value applied	Table 43 of VM0015 v1.2
Monitoring equipment	Emissions Spreadsheets
QA/QC procedures to be applied	Good practices applied in the calculation of $\text{APDPA}_{\text{icl},t}$
Purpose of date	<ul style="list-style-type: none"> • Calculation of emissions in the Project Area
Calculation method	The variation of the carbon stock is estimated by multiplying the detected area of forest loss in the Project Area and the average carbon stock per unit area
Comments	-

Data / parameter	$\text{AUFPA}_{\text{icl},t}$
-------------------------	-------------------------------

Data unit	Hectare (ha)
Description	Areas affected by forest fires in the icl class where carbon stock recovery occurs in the year t
Source of data	Calculated using remote sensing and data available from reliable sources
Description of measurement methods and procedures to be applied	Identification of affected areas from reliable sources with data from hot spots and fire scars. Photointerpretation technique with high resolution images for validating the data obtained, identifying and quantifying the affected areas.
Frequency of monitoring/recording	Whenever the occurrence of forest fires is identified
Value applied	Under development
Monitoring equipment	Geotechnologies: remote sensing and geographic information systems
QA/QC procedures to be applied	In validating and refining the mapping of areas affected by fires, data or images obtained from high-resolution sensors (up to 5m pixels) will be used. Minimum mapping accuracy is 80%
Purpose of data	<ul style="list-style-type: none"> • Calculation of project emissions
Calculation method	-
Comments	-

Data / parameter	ΔCUFdPA_t
Data unit	tCO ₂ -e
Description	Total decrease in carbon stock due to unplanned (and planned - when applicable) forest fires in year t in the Project Area
Source of data	Calculated through the areas affected by forest fires in the Project Area and the estimated average carbon stock for the initial forest class

Description of measurement methods and procedures to be applied	Parameter monitoring $AUFPA_{icl,t}$ for later calculation of the change in carbon stock from areas affected by forest fires.
Frequency of monitoring/recording	Every occurrence of forest fires
Value applied	Under development
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of $AUFPA_{icl,t}$
Purpose of data	<ul style="list-style-type: none"> Calculation of project emissions
Calculation method	The carbon stock variation is estimated by multiplying the area affected by catastrophic events and the estimated average carbon stock for the initial forest class
Comments	-

Data / parameter	$ACPA_{icl,t}$
Data unit	Hectare (ha)
Description	Area affected by catastrophic events in class icl in year t within the Project Area
Source of data	High-resolution satellite imagery
Description of measurement methods and procedures to be applied	Identification of affected areas from reliable data sources. Photointerpretation technique with high resolution images for validating the data obtained, identifying and quantifying the affected areas.
Frequency of monitoring/recording	0ha there was no catastrophic event during the monitoring period
Value applied	No catastrophic events

Monitoring equipment	Geotechnologies: remote sensing and geographic information systems
QA/QC procedures to be applied	In validating and refining the mapping of areas affected by catastrophic events, data or images obtained from high-resolution sensors (up to 5m pixels) will be used. Minimum mapping accuracy is 80%
Purpose of data	<ul style="list-style-type: none"> • Calculation of project emissions
Calculation method	-
Comments	-

Data / parameter	ΔCUCdPA_t
Data unit	tCO ₂ -e
Description	Total carbon stock decrease due to catastrophic events in year t in the Project Area
Source of data	Calculated through the areas affected by forest fires in the Project Area and the estimated average carbon stock for the initial forest class
Description of measurement methods and procedures to be applied	Parameter monitoring $\text{ACPA}_{\text{icl},t}$ for later calculation of the change in carbon stock from areas affected by catastrophic events
Frequency of monitoring/recording	Every occurrence of a catastrophic event
Value applied	0 there was no catastrophic event during the monitoring period
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of $\text{ACPA}_{\text{icl},t}$
Purpose of data	<ul style="list-style-type: none"> • Calculation of project emissions

Calculation method	The carbon stock variation is estimated by multiplying the area affected by catastrophic events and the estimated average carbon stock for the initial forest class
Comments	-

Data / parameter	ABSLLK _t
Data unit	Hectare (ha)
Description	Baseline annual deforestation area in the Leakage Belt in the year t
Source of data	Calculated using remote sensing and data available from reliable sources
Description of measurement methods and procedures to be applied	Monitoring of the forest component through remote sensing using satellite imagery and data from reliable sources
Frequency of monitoring/recording	Annual
Value applied	Table 11 of VM0015 v1.2
Monitoring equipment	Geotechnologies: remote sensing and geographic information systems
QA/QC procedures to be applied	In mapping changes in forest cover and defining land use classes, data obtained at medium spatial resolution (between 10m and 100m) will be used. Subsequently, for validation and refinement of the described mapping, data obtained by high resolution sensors (up to 5m pixels) will be used. The minimum accuracy of the land use and land cover classification map is 80%
Purpose of data	<ul style="list-style-type: none"> Leakage Calculation
Calculation method	-

Comments	-
Data / parameter	$\Delta CADLK_t$
Data unit	tCO ₂ -e
Description	Total decrease in carbon stocks due to year-displaced deforestation t
Source of data	Calculated from the detected areas of forest loss in the Leakage Belt, the average carbon stock and the estimated loss in carbon stock projected by the baseline
Description of measurement methods and procedures to be applied	Indicator follow-up $\Delta BSLLK_{icl,t}$ for later calculation of the change in carbon stock from deforestation shifted to the Leakage Belt
Frequency of monitoring/recording	Annual
Value applied	Table 61 of VM0015 v1.2
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of $\Delta BSLLK_{icl,t}$
Purpose of data	<ul style="list-style-type: none"> Leakage Calculation
Calculation method	The parameter is estimated from the multiplication of areas of forest loss by the average carbon stock value estimated for the initial forest class. The sum of carbon stock residual emissions under the soil and in dead timber is also considered, as such pools have 1/10 annual decay, causing emissions along the years. Then, the value of the estimated carbon stock for the Reference Region in a post-deforestation scenario is subtracted from this result, obtaining the net value of the carbon stock that was reduced by displaced deforestation. Finally, the estimated loss of

	carbon stock in the Leakage Belt projected by the baseline is subtracted from this value.
Comments	-

Data / parameter	EgLK _t
Data unit	tCO ₂ -e
Description	Emissions from animals on pastures in the leakage management areas in year t
Source of data	Existing records on the practice of grazing
Description of measurement methods and procedures to be applied	Monitoring of the $\Delta\text{BSLLK}_{\text{icl},t}$ indicator for subsequent calculation of the change in carbon stock from deforestation displaced to the Leakage Belt
Frequency of monitoring/recording	Only when applicable
Value applied	Table 62 of VM0015 v1.2
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	To be defined when the parameter is applicable
Purpose of data	<ul style="list-style-type: none"> Leakage Calculation
Calculation method	The parameter is estimated by multiplying the areas of forest loss by the average carbon stock value estimated for the initial forest class. The sum of the residual emissions from the carbon stock below ground and in dead wood is also taken into account, as these reservoirs have an annual decay rate of 1/10, causing emissions over the years. Next, the value of the carbon stock estimated for the Reference Region in a post-deforestation scenario is subtracted from this result, giving the net value of the carbon stock that was reduced by the displaced deforestation.

	Finally, the estimated loss of carbon stock in the Leakage Belt projected by the baseline is subtracted from this value.
Comments	-
Data / parameter	EADLK _t
Data unit	tCO ₂ -e
Description	Ex-ante total increase in GHG emissions due to forest fires displaced in the year t
Source of data	Calculated using the areas affected by forest fires in the Leakage Belt and estimated average carbon stock for the initial land use class
Description of measurement methods and procedures to be applied	Identification of affected areas from reliable sources with data from hot spots and fire scars. Photointerpretation technique with high resolution images for validating the data obtained, identifying and quantifying the affected areas.
Frequency of monitoring/recording	Whenever the occurrence of forest fires is identified
Value applied	Table 62 of VM0015 v1.2
Monitoring equipment	Geotechnologies: remote sensing and geographic information systems
QA/QC procedures to be applied	In validating and refining the mapping of areas affected by fires, data or images obtained from high-resolution sensors (up to 5m pixels) will be used. Minimum mapping accuracy is 80%
Purpose of data	<ul style="list-style-type: none"> Leakage Calculation
Calculation method	The carbon stock variation is estimated by multiplying the area affected by the forest fire and the estimated average carbon stock for the initial land use class
Comments	-

Data / parameter	ΔREDD_t
Data unit	tCO ₂ -e
Description	Net reduction in anthropogenic greenhouse gas emissions attributable to the AUD Project activity in the year t
Source of data	Parameter is calculated by subtracting baseline carbon stock rates from changes in carbon stock over the Project
Description of measurement methods and procedures to be applied	The calculation of net reductions in anthropogenic GHG emissions attributable to Project activities will be calculated using Equation 19 and Table 64 of Methodology VM0015 v1.2.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of the base parameters for calculating the emissions of the Project that were previously described
Purpose of data	<ul style="list-style-type: none"> • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Calculation method	Emissions will be calculated using the guidelines in section 8.4.1.2 of the VM0015 v1.2 methodology
Comments	-

Data / parameter	VCU _t
Data unit	tCO ₂ -e

Description	Number of Verified Carbon Units (VCU) to be made available for sale in the year t
Source of data	Value resulting from subtracting/discounting the risk factor (buffer) of net reductions in anthropogenic GHG emissions (ΔREDDt)
Description of measurement methods and procedures to be applied	The VCUs will be calculated using Equations 20, 21 and 22 and Table 64 of Methodology VM0015 v1.2.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Emissions spreadsheet
QA/QC procedures to be applied	Good practices applied to the calculation of the base parameters for calculating the emissions of the Project that were previously described
Purpose of data	<ul style="list-style-type: none"> • Calculation of baseline emissions • Calculation of project emissions • Leakage calculation
Calculation method	Emissions will be calculated using the guidelines in section 8.4.1.3 of the VM0015 v1.2 methodology.
Comments	-

Data / parameter	Deforestation in the project area and leakage belt
Data unit	Hectare (ha)
Description	Forest cover areas converted to non-forest cover areas within the project area and leakage belt of the Manoa REDD+ project
Source of data	Calculated using remote sensing images together with GPS data collected in the field.
Description of measurement methods	Forest cover monitoring in the project area and leakage belt will be done through satellite image analysis. When data from the PRODES system are not available, forest cover monitoring will be

and procedures to be applied	done by automatic classification and visual interpretation of images from other optical sensors or SAR data.
Frequency of monitoring/recording	Annual
Value applied	N/D
Monitoring equipment	Remote sensing images from digital processing program, geographic information systems and navigational GPS.
QA/QC procedures to be applied	Special resolution images of 30m or higher will be used for mapping. The minimum mapping unit is 1ha. Assessment of classifications will be done through data collected in the field using GPS navigation. The minimum accuracy of the land use and land cover classification map is 80%.
Purpose of data	Calculation of project emissions
Calculation method	In case unplanned deforestation areas are detected, the Forest Coverage Mark of Excellence Map will be updated by map algebra.
Comments	<p>PRODES Digital Project: http://www.dpi.inpe.br/prodesdigital/prodes.php</p> <p>More information on quality control and assurance is available at:</p> <ul style="list-style-type: none"> • (CÂMARA et al., 2006). Methodology for calculating the annual deforestation rate in the Legal Amazon

Data / parameter	DBH
Data unit	cm
Description	Diameter at Breast Height (130 cm) for each tree with DBH equal to or greater than 15 cm in each forest inventory plot
Source of data	Calculated from the circumference at chest height measured in the field by Hdom

Description of measurement methods and procedures to be applied	DBH is calculated from circumference at breast height (CAP) data of each monitored tree measured in the field.
Frequency of monitoring/recording	Forest inventory data collected over periods of up to 10 years in multiple plots.
Value applied	Under development
Monitoring equipment	Calculated from the circumference at chest height from data measured in the field using a tape measure.
QA/QC procedures to be applied	Mandatory monitoring in accordance with Methodology VM0015. Forest inventory data collected over periods of up to 10 years in multiple plots.
Purpose of data	Indicate one of the following: <ul style="list-style-type: none"> • Calculation of baseline emissions • Calculation of project emissions • Calculation of leakage
Calculation method	DBH is calculated from circumference at breast height (CAP) data of each monitored tree measured in the field.
Comments	

Data / parameter	Planned deforestation for forest management infrastructure
Data unit	Hectare (ha)
Description	Map of forest cover areas converted to non-forest cover areas due to the construction of roads, trails and forest yards necessary for forest management
Source of data	Remote sensing images, technical maps, and specific field maps to monitor the construction of roads, trails, and forestry yards in forest management
Description of measurement methods	Forest cover areas will be monitored by analyzing satellite images, maps of road construction, trails and forest management yards, and field verifications. If planned deforestation occurs, the Forest Cover Benchmark Map will be

and procedures to be applied	updated using the algebraic map. The reduction in carbon stock in the project area will be reported during the verification processes.
Frequency of monitoring/recording	During the year of management of each UPA.
Value applied	Under development
Monitoring equipment	Field records and geographic information system.
QA/QC procedures to be applied	The mapping of areas of planned deforestation for the implementation of Forest Management infrastructures will be carried out using high-resolution images and field checks.
Purpose of data	<p>Indicate one of the following:</p> <ul style="list-style-type: none"> • Calculation of baseline emissions • Calculation of project emissions • Calculation of leakage
Calculation method	If areas of planned deforestation are identified, the Forest Cover Benchmark Map will be updated using the algebraic map.
Comments	

Monitoring parameters of Climate Scope activities:

Data / parameter	Avoided deforestation area (Project area and Leakage belt)
Data unit	Hectares (ha)
Description	<p>Accounting of avoided deforestation areas in the project area and leakage belt.</p> <p>The analysis is done by identifying areas that were not deforested in comparison with the baseline scenarios.</p>
Source of data	Geospatial Analysis

Description of measurement methods and procedures to be applied	Remote sensing images from the LANDSAT8 satellite used by the PRODES project corresponding to orbit/point 231/66 and 232/6 complemented by data from the Deforestation Alert System (SAD), produced by Imazon
Frequency of monitoring/recording	For each verification period
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	Use of images with spatial resolution of 30 meters or more in mapping and minimum mapping unit of 1 ha. Use of methodology to assess data accuracy.
Purpose of data	Identification in hectares of areas protected by the project
Calculation method	Not applicable
Comments	-

Data / parameter	Percentage of monthly bulletins generated by Biofíllica
Data unit	Percentage (%)
Description	Measurement of the percentage of deforestation and forest fire bulletins produced for the Project Area and Leakage Belt
Source of data	Bulletins generated monthly (internal database)
Description of measurement methods and procedures to be applied	All documents produced by the Project will be stored in digital files throughout the Project's crediting period. In this way, the number of bulletins produced will be monitored and recorded
Frequency of monitoring/recording	Monthly
Value applied	Under development

Monitoring equipment	Not applicable
QA/QC procedures to be applied	The bulletins will be generated based on geospatial data and field information, resulting from joint actions between the proponents. The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the appropriate adjustments will be made
Purpose of data	<ul style="list-style-type: none"> • Monthly calculations of project emissions • Monthly calculation of leakage
Calculation method	Not applicable
Comments	-

Data / parameter	Number of deforestation alerts detected
Data unit	Number
Description	Use of a system that alerts about possible deforestation in the project area for monthly monitoring of these occurrences
Source of data	Deforestation Alert System (SAD)
Description of measurement methods and procedures to be applied	Immediate identification of changes in forest cover, deforestation, fire, etc.
Frequency of monitoring/recording	Monthly
Value applied	In total, 37 deforestation points close to the project area were identified.
Monitoring equipment	<ul style="list-style-type: none"> • 36 between September 2022 and May 2023. Of these, 2 were close to the Manoa farm border, which mobilized the surveillance team

	<ul style="list-style-type: none"> • 1 between 05/15/2023 and 06/29/2023, far from the Manoa border
QA/QC procedures to be applied	Not applicable
Purpose of data	Each alert received will be duly recorded and identified in the field. An analysis of the accuracy of the data issued by the SAD system will subsequently be carried out to assess its effectiveness. <ul style="list-style-type: none"> • Have immediate control of possible changes in forest cover
Calculation method	<ul style="list-style-type: none"> • Have immediate control of possible changes in forest cover • Create a database to better understand the periods in which there are greater occurrences and thus improve mitigation actions
Comments	-

Data / parameter	Percentage of monthly bulletins generated by Manoa during the dry season
Data unit	Percentage (%)
Description	Measurement of the percentage of deforestation and forest fire bulletins produced for the Project Area and Leakage Belt during the dry season
Source of data	Bulletins generated monthly (internal database)
Description of measurement methods and procedures to be applied	All documents produced by the Project will be stored in digital files throughout the Project's crediting period. In this way, the number of bulletins produced will be monitored and counted.
Frequency of monitoring/recording	Dry months
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The bulletins will be generated based on geospatial data and field information, resulting from joint actions between the proponents. The Project will undergo continuous evaluation of the information

	generated, through the identification of improvements in the collection and recording processes and, when applicable, the appropriate adjustments will be made
Purpose of data	<ul style="list-style-type: none"> • Calculation of project emissions with a focus on dry periods • Calculation of leakage with a focus on dry periods • Establishment of a specific monitoring calendar for the dry season.
Calculation method	Not applicable
Comments	-

Data / parameter	Number of incidents detected and controlled during the dry season
Data unit	Number
Description	Number of fires detected and controlled during the dry season, using satellite images, field activities or alerts and field actions for mitigation.
Source of data	<ul style="list-style-type: none"> • Satellite images • On-site/field visualization • Alerts (system and/or warnings made by neighbors) • Effective actions in the field
Description of measurement methods and procedures to be applied	All incidents will be recorded through images/photographs and reports, as well as mitigation actions, and will be stored in digital files
Frequency of monitoring/recording	Dry months/whenever an incident occurs
Value applied	<p>Fires were recorded near the Manoa farm border in the months of August, September and October. In September, the fire invaded the project area, but the fire brigade was not called because when they arrived at the site, the fire had already been extinguished. Only monitoring was carried out in the following days to ensure that the fire would not restart.</p> <p>A police report was filed regarding the incident. Not applicable</p>

Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the necessary adjustments will be made
Purpose of data	Creation of a database with detailed information on occurrences and images/photographs to assist in monitoring and mitigating incidents. Establishment of a specific monitoring calendar for the dry season.
Calculation method	Not applicable
Comments	-

Data / parameter	Frequency of patrols carried out
Data unit	Number of operations per year
Description	Number of surveillance patrols carried out during the monitoring period to prevent third parties from entering
Source of data	Asset Surveillance Reports
Description of measurement methods and procedures to be applied	Surveillance actions are monitored by recording the patrols carried out in a report
Frequency of monitoring/recording	Monthly
Value applied	14 asset surveillance patrols took place during the monitoring period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The activity is carried out by Manoa farm employees adopting a strategy to have the “surprise effect”. In the event of detection of timber theft or invasion, employees are trained to immediately report the occurrence to the forestry manager

Purpose of data	Evaluation of asset surveillance actions and identify whether the frequency carried out is adequate
Calculation method	Not applicable
Comments	-

Data / parameter	Number of incidents identified
Data unit	Number
Description	Collect the number of invasions identified monthly
Source of data	Asset Surveillance Reports
Description of measurement methods and procedures to be applied	The monitoring of identified incidents occurs through the recording of the patrols carried out in a report
Frequency of monitoring/recording	Monthly
Value applied	0, no incidents of invasion of the project area were identified
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The activity is carried out by Manoa farm employees adopting a strategy to have the “surprise effect”. In case of detection of wood theft or invasion, employees are trained to immediately report the occurrence to the forestry manager
Purpose of data	Evaluation of asset surveillance actions and identification of means to improve them, in order to avoid future invasions
Calculation method	Not applicable
Comments	-

Data / parameter	Percentage of investment in surveillance actions
Data unit	Percentage (%)
Description	Analyze the proportion of the total investment that is directed to asset surveillance actions.
Source of data	Financial reports
Description of measurement methods and procedures to be applied	The project's financial reports will be analyzed to identify the amount allocated to surveillance and monitoring actions. Of the total allocated to the project, the specific amount directed to these actions will be accounted for.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	Annual analysis of the financial report. If the need to increase or reduce investments is identified based on the results of other indicators, the proportion will be adjusted to better align with reality.
Purpose of data	Provide feasibility for actions that prevent invasions by third parties, ensuring the maintenance of forest cover
Calculation method	Not applicable
Comments	-

Data / parameter	Number of blocked accesses
Data unit	Number
Description	Obstruct strategic accesses to the farm after forest management activities

Source of data	Photographic records and field evidence/maps indicating the implementation of these obstructions
Description of measurement methods and procedures to be applied	Implementation of physical barriers in strategic accesses to limit unauthorized access
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	Implementation of physical barriers in strategic accesses to limit unauthorized access
Purpose of data	Identify the effectiveness of obstructions (analyze whether their existence prevents new invasions), ensuring the maintenance of forest cover
Calculation method	Not applicable
Comments	-

Data / parameter	Number of trained collaborators
Data unit	Number
Description	Conduct training in deforestation monitoring techniques following the project's premises
Source of data	Report (e.g. summary of the subject matter), attendance list, photos, certificates (when available)
Description of measurement methods and procedures to be applied	All documents produced will be stored in digital files throughout the Project's crediting period. In this way, information about the people benefiting from the Project's activities will be monitored and recorded

Frequency of monitoring/recording	Annual
Value applied	Activity not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematized information of the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater reliability and quality of the data. Furthermore, the Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Training of those responsible in advanced monitoring techniques.
Calculation method	Not applicable
Comments	-

Data / parameter	Number of training hours completed
Data unit	Number (hours)
Description	Quantification of training time in deforestation monitoring techniques following the project's premises
Source of data	Report with hours dedicated
Description of measurement methods and procedures to be applied	All documents produced will be stored in digital files throughout the Project's crediting period. In this way, information about the people benefiting from the Project's activities will be monitored and recorded
Frequency of monitoring/recording	Annual

Value applied	Activity not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematized information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater reliability and quality of the data. Furthermore, the Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Knowledge of the hours dedicated to training those responsible in advanced monitoring techniques.
Calculation method	Not applicable
Comments	-

Data / parameter	Number of monitoring actions carried out after training
Data unit	Number
Description	Quantify the monitoring actions implemented after training
Source of data	Report with information on monitored data
Description of measurement methods and procedures to be applied	All deforestation monitoring data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	Activity not initiated during the monitored period
Monitoring equipment	Not applicable

QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Implementation of the techniques learned
Calculation method	Increased effectiveness in monitoring and incident response.
Comments	-

Data / parameter	Average response time to fire incidents
Data unit	Time (hours)
Description	Quantify the time required to contain incidents caused by fire.
Source of data	Report with information on monitored data
Description of measurement methods and procedures to be applied	All fire containment data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning

Purpose of data	Reduction in response time and in the extent of damage caused by forest fires, due to the effective intervention of trained employees.
Calculation method	Not applicable
Comments	-

Data / parameter	Frequency of controlled forest fire incidents
Data unit	Number
Description	Quantify the number of controlled forest fires
Source of data	Report with information on monitored data
Description of measurement methods and procedures to be applied	All fire containment data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	0 There were no fires fought during the monitored period. In the only incident in which the fire invaded the project area, when the Manoa team arrived at the site the fire had already been extinguished.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Verify whether there is a reduction in the frequency of forest fires as a result of the project's actions or identify which actions can be taken/improved to reduce this frequency.

Calculation method	Not applicable
Comments	-
Data / parameter	Percentage of unobstructed and maintained accesses
Data unit	Percentage (%)
Description	Proportion of unobstructed accesses to strategic points with fire risk
Source of data	Report with information on monitored data (photographs, maps, descriptions, etc.)
Description of measurement methods and procedures to be applied	All fire containment data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Identification and regular maintenance of strategic accesses, ensuring that they are in good condition for rapid use in the event of a fire.
Calculation method	Not applicable
Comments	-

Data / parameter	Frequency of incidents successfully controlled through the use of maintained accesses
Data unit	Number
Description	Number of incidents controlled based on the use of accesses
Source of data	Report with information on monitored data
Description of measurement methods and procedures to be applied	All fire containment data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	0 There were no actions to combat forest fires during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when applicable, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Identification and regular maintenance of strategic accesses, ensuring that they are in good condition for rapid use in the event of a fire.
Calculation method	Check the functionality of the accesses and, subsequently, assess the need for improvements.
Comments	-

Data / parameter	Regular maintenance rate of accesses
Data unit	Number

Description	Number of accesses to strategic points with fire risk that have undergone maintenance
Source of data	Report with information on monitored data (photos, records, etc.)
Description of measurement methods and procedures to be applied	All fire containment data will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Identification and regular maintenance of strategic accesses, ensuring that they are in good condition for rapid use in the event of a fire.
Calculation method	Improvement in fire response capacity, with well-maintained accesses allowing rapid and effective interventions at high-risk points.
Comments	-

Data / parameter	Percentage of certifications renewed on time
Data unit	Percentage (%)
Description	Proportion of forest certifications renewed
Source of data	Updated certificates

Description of measurement methods and procedures to be applied	All certificates will be stored in digital files throughout the Project's crediting period.
Frequency of monitoring/recording	Annual
Value applied	100%. During the monitored period, the two low-impact forest management certifications (FSC and PFSC) were renewed
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Maintain certifications related to forest conservation (e.g. forest management)
Calculation method	Not applicable
Comments	-

Data / parameter	Frequency of audits and inspections carried out in the management area
Data unit	Number
Description	Quantification of audits and inspections carried out with a focus on forest management actions
Source of data	Audits carried out (report, photographs, etc.)
Description of measurement methods and procedures to be applied	All records will be stored in digital files throughout the Project's crediting period.

Frequency of monitoring/recording	Annual
Value applied	During the monitored period, there were two audit to update the FSC and PFSC certifications
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Maintain certifications related to forest conservation (e.g. forest management) Ensure compliance with high standards of forest management and conservation.
Calculation method	Not applicable
Comments	-

Data / parameter	Progress in sustainable forest management
Data unit	Number of successful audits for forest certifications.
Description	Analysis of progress in sustainable forest management based on successful audit results
Source of data	Updated certificates
Description of measurement methods and procedures to be applied	All certificates will be stored in digital files throughout the Project's accreditation period.
Frequency of monitoring/recording	Annual
Value applied	During the monitored period, there was a successful audit to update both certifications (FSC and PFSC)
Monitoring equipment	Not applicable

QA/QC procedures to be applied	The Project will undergo continuous evaluation of the information generated, through the identification of improvements in the collection and recording processes and, when relevant, the incorporation of adjustments in the Project's strategic planning
Purpose of data	Maintain certifications related to forest conservation (e.g. forest management) Ensure compliance with high standards of forest management and conservation.
Calculation method	Not applicable
Comments	-

3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

3.1.3.1 Organizational structure, responsibilities and competencies

The monitoring plan for the Manoa REDD+ Project is a combination of three components: climate, socioeconomic and biodiversity. The following sections demonstrate only the results regarding the climate component of the project. The competencies and responsibilities of the proponents are described below.

Biofílica Ambipar Environment: is a Brazilian company with 14-year experience in the voluntary carbon market, focused on forest management and conservation in the Amazon biome. In Manoa REDD+ Project, Biofílica acts as co-manager, supporting in the coordination of the monitoring processes during the project's life cycle. In addition, it was also responsible for monitoring the climate aspects, with the support of Manoa, and is a party responsible for marketing the carbon credits.

Biofílica's work is guided by the Operating team (works in all stages of the project, from preparation, implementation, monitoring and management), Commercial team (works mainly in the raising of financial resources to the Project, from the sale of the carbon credits generated in the verifications), and Marketing team (that is present throughout the consumer journey of the carbon credits from REDD projects and provides technical support for creation of materials).

Manoa Sustentável, Exploração e Serviços Florestais: Is the owner of the property where the Manoa REDD+ Project is located, representing the Triângulo Group; it is responsible for carrying out the low impact forest management, for providing infrastructure and logistics support to Biofílica and other professionals involved in the project; and is responsible for the social monitoring and for the land security and property surveillance.

Among the activities performed by Manoa are the monitoring of socioeconomic attributes and indicators related to Sustainable Forest Management, monitoring of forest cover and high conservation value

attributes. In addition, it encourages and provides support for the biodiversity monitoring that has been implemented in the area by UNIR, by the creation of a partnership with the Laboratory of Mastozoology and Terrestrial Vertebrates (LABMASTO).

3.1.3.2 Internal audit performed

The Manoa REDD+ Project don't undergo any official internal audit, except for the one applied in the VCU verification processes. However, the proponents follow the development of the project through alignments and information exchange about the activities carried out and apply the monitoring processes for the activities and indicators, as described in the project design document and based on the annual planning of activities.

Biofíllica is responsible for preparing the project documentation, therefore, it is also responsible for receiving, organizing and reviewing all the information generated by the activities carried out by Manoa in the field. All this information serves as a basis for the preparation of follow-up reports that are verified throughout the life cycle of the project.

The information is shared via Sharepoint by Manoa and the Biofíllica team evaluates the data and identifies which activities and indicators the information refers to. In case of doubt about the data, Biofíllica performs an alignment with the Manoa team and, if the activity is not in line with the points indicated in the PDD (for example, outside the established frequency), Biofíllica seeks to understand with Manoa the reason for that. If an unplanned change is identified, the proponents talk about the processes of improvement and adequacy of information for the project, seeking to understand its applicability in the context of the activities proposed in the PDD.

It is important to highlight that this process is not registered as an internal audit, but it is up to Biofíllica, together with Manoa, to ensure that the activities and indicators that must be monitored by the project are carried out in accordance with the planning outlined in the PDD. If this does not happen, the changes are recorded in a change tool, where the entire Project history is described and followed up, later, these changes might be recorded as deviations. All changes identified and recorded in this tool in the current monitoring period were shared with the VVB.

These procedures aim for the constant improvement of the project, focusing on maintaining the good practices planned at the beginning of the project and, if necessary, making changes and/or adaptations to the local reality.

3.1.3.3 Climate Impact Monitoring Plan

This section is under development.

The Climate Impact Monitoring Plan contains the essential aspects for demonstrating the reduction of emissions from deforestation and degradation due to avoided unplanned deforestation (according to the

applied methodology VM0015 v.1.2). Thus, it allows monitoring changes in the carbon stock over the lifetime of the project due to changes in land use within the project area and in the leak belt.

Given that the project is going through a CCB seal revalidation process, some activities planned in the PDD that have not yet been executed, as well as some monitoring indicators that currently have no documented evidence, will be monitored after the completion of this revalidation. Monitoring of these items in the respective RMs will be incorporated into the next audit events.

The Project's Climate Impact Monitoring Plan covers two tasks: (1) Monitoring changes in carbon stock and GHG emissions for periodic checks; and (2) Revisit baseline projections related to fixed baseline future periods. During this monitoring period, both tasks were carried out and are detailed below.

The field check of the deforestation polygons detected by the satellite image analysis was carried out by Manoa's heritage surveillance team. In addition, Manoa conducts deforestation analyses during the dry season, the period of greatest deforestation in the region, to better target the surveillance team.

Parameter	Description	Unit	Source	Frequency
$C_{tot_{icl}}$	Average carbon stock for all carbon reservoirs in forest class <i>icl</i>	Ton of carbon dioxide equivalent ($tCO_{2e}.ha^{-1}$)	Calculated by allometric equations and field-measured data	Collected over periods of up to 10 years
$APDPA_{icl,t}$	Areas of planned deforestation in forest class <i>icl</i> in year <i>t</i> in the Project Area	Hectare (ha)	Calculated using remote sensing images, technical maps and data, field and post-exploratory management information	Annually
$\Delta CPLdPA_t$	Total decrease in carbon stock due to planned logging activities in year <i>t</i> in the Project Area	Ton of carbon dioxide equivalent (tCO_{2e})	Calculated	Annually
$ACPA_{icl,t}$	Annual area within the Project Area affected by catastrophic events in forest class <i>icl</i> in year <i>t</i>	Hectare (ha)	Calculated using remote sensing images	Each time a catastrophic event occurs

ΔCUCdPA_t	Total carbon stock decrease due to catastrophic events in year t in the Project Area	Ton of carbon dioxide equivalent (tCO ₂ e)	Calculated	Each time a catastrophic event occurs
ΔCUFdPA_t	Total decrease in carbon stock due to unplanned forest fires in year t in the Project Area	Ton of carbon dioxide equivalent (tCO ₂ e)	Calculated	Each time a forest fire event occurs
ΔCUDdPA_t	Total current change in carbon stock due to unplanned, unavoided deforestation in year t in the Project area	Ton of carbon dioxide equivalent (tCO ₂ e)	Calculated	Annually
ΔCPSPA_t	Total change in carbon stock in the Project area in year t	Ton of carbon dioxide equivalent (tCO ₂ e)	Calculated	Annually

Brief description of data collection procedures

Monitoring land use and land cover changes

The monitoring of unplanned deforestation in the Project Area was based on the data processed by the PRODES project, identifying the areas of land use conversion and complemented by the SAD for the period when PRODES was not available. The procedures carried out for data collection and processing were described in section 3.1 of this document.

The monitoring of planned deforestation caused by forest management activities used information contained in maps and shapefiles of road and branch planning, post-exploratory monitoring reports of managed areas, as well as planning information on yards (quantity and average size) installed by UPA, of the respective monitored years.

Monitoring of carbon stocks and non-CO₂ emissions

According to VM0015, in forest management areas, the monitoring of carbon stocks is mandatory if the areas are subject to a significant reduction in carbon stock in the project scenario, in relation to the ex ante assessment.

The monitoring of the carbon stock is carried out through forest inventory, measurement of diameter and breast height (DBH = 130 cm), for each tree with DBH greater than or equal to 10 centimeters within the forest inventory plots. DAP is the main variable used to estimate the carbon stock and changes in the carbon stock in the Manoa REDD+ project.

As the management carried out is of low impact, not causing the opening of the forest canopy, the impact caused by logging was not relevant, because of this, this monitoring was not renewed, maintaining the value used at the beginning of the project and in the previous verifications.

The monitoring of non-CO₂ emissions from forest fires is carried out through satellite image mapping, identifying the affected area, and calculations described in VM0015 (Section 6.2 – Baseline non-CO₂ emissions from forest fires), below is described in detail the methods applied in this monitored period, as well as the results obtained.

Quality control and assurance procedures

Monitoring land use and land cover change

In order to validate the information obtained from the PRODES and SAD mapping, the mapped information on deforestation occurrence was checked through high-resolution images from Planet's Dove satellite with 4.77m of spatial resolution, and data collected in the field with a navigation GPS, in order to corroborate the information obtained by the satellite images (see section 3.1.1). Thus, field checks and surveillance reports were considered tools for validating the deforestation areas identified by PRODES.

Another methodology used in validation is the performance of accuracy. The minimum accuracy in the classification of land use and land cover is 80%. The analysis was performed using the Planet satellite image, the description of the accuracy method is contained in item 3.1.1 of this document.

Monitoring carbon stocks and non-CO₂ emissions

The forest management quality control and assurance procedure is carried out by Manoa in the pre-harvest, during and post-harvest inventory phases. In the pre-harvest inventory, the entire UPA to be logged is covered in parallel strips duly identified in the field, 50 metres apart, and 100% of the individuals are inventoried, as described in the general procedures manual. All marketable trees with a DBH greater than or equal to 50cm and all trees destined for future felling with a DBH between 35cm and 50cm are measured. In addition, the efficiency of individuals for future felling is characterised, taking into account the presence or absence of pests and diseases, good crown conformation, etc. After harvesting, the impacts are assessed in detail, as described in Appendix 2 of this report.

The original reports and field sheets are accessible to Biofílica, which endeavours to keep a copy of these documents throughout the project's life cycle. Spreadsheets and inventory and monitoring reports for the permanent plots are made available to the verification body at each verification event.

Data archiving

Biofílica Ambipar Environment stores all the data and reports from the Manoa REDD+ Project in digital files for the duration of the project. The original reports and collected field sheets produced by the asset security activity are stored by Manoa. All documents related to the monitoring of the Manoa REDD+ Project are compiled in paper and/or digital files and made available to verifiers at each verification event.

Monitoring Project Implementation

The main actions included in the "climate" component of the Manoa REDD+ Project are monitoring deforestation using satellite images and generating annual bulletins and image charts, property surveillance and low-impact forest management.

The first three are essential for maintaining and increasing carbon stocks by reducing emissions from deforestation and forest degradation. Low-impact forest management, on the other hand, aims to ensure that there is a source of income from logging using sustainable practices, thereby helping to reduce impacts and maintain forest cover and high-value conservation attributes.

The implementation of the project's activities is monitored through physical and financial schedules, performance and quality monitoring reports, such as the post-exploration reports for each UPA and the monitoring reports for the forest management area, forest cover maps, meeting reports, surveillance round reports, as well as other possible relevant documents.

Monitoring changes in land use and cover within the Project Area

The monitoring of unplanned deforestation was carried out by mapping the forest cover of the Project Area, using data provided annually by PRODES and SAD. The mapping was subsequently validated by assessing its accuracy using Planet satellite images, as described in section 3.1.1.

The monitoring of changes in land use and cover within the Project Area was also supported by the activities carried out by the patrimonial surveillance team, as indicated in section 3.1.2.

The low-impact forest management activity is carried out by Manoa Sustentável, Exploração e Serviços Florestais following strictly monitored standards, laws and operating procedures, in order to cause the least possible impact during logging activities on social and environmental well-being. In order to monitor the activity and the related indicators "Deforestation planned for forest management infrastructure" and "Harvest damage assessment", the annual operational plans of each UPA logged during the period in question, the post-exploration reports and the forest management area monitoring reports, maps and satellite images containing information on the areas of forest cover converted to the non-forest class were analysed.

The data on deforestation events was compared to the baseline scenario, and the emission reduction values for the monitored period were based on the comparison between predicted and actual deforestation.

Monitoramento das mudanças no estoque de carbono

Within the Project Area

Although the ex-ante estimate of carbon stock by forest class was not expected to change during the baseline period, the VCS VM0015 Methodology calls for monitoring the carbon stock in the Project Area when it is subject to a significant reduction in carbon stock in the project scenario - with reference to the ex-ante assessment. This reduction can occur in areas subject to planned deforestation, resulting from planned forest management activities, or in areas subject to an unplanned decrease in carbon stock, such as in cases of catastrophic events or forest fires.

The total change in carbon stock due to unplanned, unavoided deforestation within the project area is calculated as follows:

$$\Delta \text{CUDdPA}_t = \sum_{y=1}^t \left(\sum_{icl=1}^{icl} \text{AUDPA}_{icl,y} * \Delta \text{Ctot}_{icl,t-y} - \sum_{fcl=1}^{fcl} \text{AUDPA}_{fcl,y} * \Delta \text{Ctot}_{fcl,t-y} \right) \quad (1)$$

Where:

ΔCUDdPA_t : Total decrease in carbon stock due to unplanned and unavoided deforestation within the Project Area in year t.

$\text{AUDPA}_{icl,y}$: Unplanned deforested area in the initial forest class icl in year t within the Project Area in the scenario with the project.

$\Delta \text{Ctot}_{icl,Ac}$: Loss of carbon stock in the initial forest class icl at the time of change A_c (number of years after the change in land use and cover (LU/LC)).

$\text{AUDPA}_{fcl,y}$: Area of final non-forest class fcl at time t within the Project Area after unplanned deforestation in the scenario with the project.

$\Delta \text{Ctot}_{fcl,Ac}$: Carbon stock gain in the final non-forest class fcl at the time of the change A_c (number of years after the change in land use and land cover (LU/LC)).

If there is a significant reduction in carbon stock due to sustainable forest management activities, this reduction will be reported in the verification processes using table 49 of VCS Methodology VM0015 version 1.2.

Within the Leakage Management Areas

In the Project scenario, no areas are subject to the planned decrease in carbon stock within the Leakage Management Areas.

Monitoring the impacts of natural disturbances and other catastrophic events

Losses in carbon stock and increases in GHG emissions due to natural disturbances or catastrophic events, if any, would be controlled by monitoring forest cover by satellite using the same methods applied to monitoring forest cover in the Project Area.

The main activities to be carried out for data collection and processing are:

- Selection of optical satellite images with less cloud cover, taken at times close to the Amazon dry season and with adequate radiometric quality;
- Georeferencing the satellite images with topographic graphics on a scale of 1:100,000 or NASA images in MrSID in orthorectified format;
- Mapping the areas of forest cover affected.

During this monitoring period, no significant reduction in carbon stock was identified due to natural disturbances or catastrophic events. If there were, emissions from natural disturbances or catastrophic events were estimated by multiplying the area of forest loss mapped by the average forest carbon stock.

Leakage Monitoring

Technical description of the monitoring tasks

The REDD+ Manoa Project involves two leakage source monitoring activities:

- Monitoring the reduction in carbon stocks and/or increase in GHG emissions correlated with leakage prevention measures if the Project proponents implement activities such as tree planting, agricultural intensification, fertilization, fodder production and/or other improvement measures in agricultural areas and pastures.

In the event that these activities imply a reduction in carbon stocks and/or an increase in GHG emissions in the leakage management areas, these changes in carbon stocks and/or GHG emissions will be calculated by Biofíllica Ambipar Environment's technical team.

During the monitoring period, the project proponents did not carry out any of the aforementioned interventions. Therefore, the changes in carbon stock and GHG emissions associated with prevention and leakage activities were not accounted for.

- Monitoring of forest cover in the Leakage Belt using satellite images, carried out by Biofíllica Ambipar Environmental Investments. The forest cover in the Leakage Belt was monitored using satellite images from the PRODES program in order to account for the reduction in carbon stock and the increase in GHG emissions due to the displacement of leaks.

Data to be collected

Table 2. Data collected for monitoring the Manoa REDD+ Project leakage.

Data/ Parameter	Description	Unit	Source	Frequency	MR Section
$\Delta CabBSLLK_t$	Total carbon stock changes in the leakage belt area	Ton of carbon dioxide equivalent (tCO ₂ -e)	Calculated	Annual	

Brief description of the data collection procedures

Monitoring changes in carbon stocks and GHG emissions associated with leak prevention activities

There was no reduction in carbon stocks due to activities in the leakage management area, since no activities to improve agricultural techniques, or the management of pasture areas, which could alter carbon stocks and increase GHG emissions compared to the baseline scenario, were implemented during this monitoring period.

However, if it is decided that these activities are necessary, the ex-ante changes in carbon stocks and GHG emissions associated with these activities would be estimated through Step 8 of the VM0015 methodology, and if significant, would be monitored and the data provided to the verifiers at each verification event through tables 56, 57, 58, 59 and 60 of the VM0015 methodology, version 1.2.

In the event that leak prevention activities are implemented at the AMV, some key activities will be carried out to collect and process data to monitor changes in the carbon stock:

- Leak prevention activities will be listed;
- A map showing the areas and the type of intervention will be prepared;
- The areas where leakage prevention activities impact the carbon stock will be identified;
- Non-forest classes existing within these areas in the baseline case will be identified;
- Carbon stocks will be measured in the identified classes or conservative literature estimates will be used;
- Changes in carbon stock in the leakage management areas under the project scenario will be reported using table 56 of VM0015 v1.2;
- Changes in the net carbon stock that leakage prevention measures cause over the fixed baseline period and optionally the project crediting period will be calculated;
- The results of the calculations will be reported in table 56 of VM0015 v1.2.

Monitoring the decrease in carbon stock and increase in GHG emissions due to leakage displacement

Activity data for the Leakage Belt area was determined using the same methods applied to monitoring deforestation in the Project Area.

If during the monitoring process a deforestation event greater than that expected for the baseline scenario is identified in the leakage belt (this was not the case during this monitoring period) and such deforestation is attributed to the Project Area's deforestation agents, the losses in the carbon stock will be accounted for and reported using Tables 40 and 37 of the approved methodology VM0015, version 1.2.

Quality control and assurance procedures

Monitoring changes in carbon stocks and GHG emissions associated with leak prevention activities

It would be determined according to the activity if implemented, however no leak prevention activities were implemented during this monitoring period.

Monitoring the decrease in carbon stock and increase in GHG emissions due to leakage displacement

The quality control and assurance procedures were the same as those applied to monitoring deforestation in the Project Area.

Data archiving

Biofílica Ambipar Environment stores all the data and reports from the Manoa REDD+ Project in digital files for the duration of the project. The original reports and collected field records produced by the asset security activity are stored by Manoa. All documents related to the monitoring of the Manoa REDD+ Project are compiled in paper and/or digital files and made available to verifiers at each verification event.

Monitoring changes in carbon stock and GHG emissions associated with leak prevention activities

There was no decrease in the carbon stock associated with activities carried out in the Leakage Management Areas, since no activities to improve agricultural techniques, or the management of pasture areas, which could alter carbon stocks and increase GHG emissions compared to the baseline scenario, were implemented during this monitoring period.

However, if it was decided that these activities were necessary, the ex ante changes in carbon stocks and GHG emissions associated with these activities would be estimated through Step 8 of the VM0015 methodology. If significant, the activities and associated emissions will be monitored and the data will be made available to verifiers through tables 56, 57, 58, 59 e 60 of VM0015, version 1.2.

The following activities that could cause a reduction in the carbon stock or an increase in GHG emissions in Leakage Management Areas are:

- Changes in the carbon stock due to activities implemented in the Leakage Management Areas;
- Methane (CH₄) and nitrous oxide (N₂O) emissions derived from herd intensification (involving changes in the animal's diet and/or number of animals).

Nitrous oxide (N₂O) emissions from nitrogen fertilization are always considered insignificant, according to the most recent version of the VCS -VM0015 standard. The consumption of fossil fuels is always considered insignificant in the AUD of project activities and should not be taken into account.

In addition, as noted above, no activities were carried out that would cause a significant increase in CH₄ and N₂O emissions. Therefore, Tables 58 and 59 of VM0015 were not applied.

2.2 Monitoring the decrease in carbon stock and increase in GHG emissions due to leakage displacement

Activity data for the Leakage Belt area was determined using the same methods applied to monitoring deforestation in the Project Area. No deforestation events greater than those expected for the baseline scenario were identified within the Leakage Belt. However, if during the monitoring process a deforestation event greater than that expected in the baseline scenario is identified in the Leakage Belt, and such deforestation is attributed to deforestation agents in the project area, the losses in the carbon stock will be accounted for and reported using Tables 40 and 37 of the approved Methodology VM0015. Such a situation was not identified in the Leakage Belt during the monitored period. The total change in carbon stock due to unplanned and unavoided deforestation within the Leakage Belt area was calculated as follows:

$$\Delta\text{CBSLLK}_t = \sum_{y=1}^t \left(\sum_{icl=1}^{icl} \text{AUDLK}_{icl,y} * \Delta\text{Ctot}_{icl,t-y} - \sum_{fcl=1}^{fcl} \text{AUDLK}_{fcl,y} * \Delta\text{Ctot}_{fcl,t-y} \right) \quad (7)$$

Where:

ΔCBSLLK_t Total change in carbon stock due to unplanned and unavoided deforestation within the Leakage Belt area in year t.

$\text{AUDLK}_{icl,y}$ Area of unplanned deforestation in the forest class icl in year t within the Leakage Belt area in the scenario with the project.

$\Delta\text{Ctot}_{icl,Ac}$ Loss in carbon stock in the initial forest class icl at the time of change Ac (number of years after the change in land use and cover (LU/LC)).

$\text{AUDLK}_{fcl,y}$ Non-forest class area fcl at time t within the unplanned post-deforestation Leakage Management Belt area in the project scenario.

$\Delta\text{Ctot}_{fcl,Ac}$ Gain in carbon stock in the final non-forest class fcl after deforestation in the period of change Ac (number of years after the change in land use and cover (LU/LC)).

Total leakage estimated ex post

The results were presented to the verification body in Table 62 of Methodology VM0015, version 1.2.

Net ex-post GHG reductions

Technical description of monitoring tasks

In the verification processes, the results were presented using Table 64 of the approved Methodology VM0015 version 1.1, together with the spatial data (deforestation maps).

Data collected

Table 3. Data collected to monitor net ex-post GHG reductions for the Manoa REDD+ Project.

Parameter	Description	Unit	Source	Frequency	MR Section
$\Delta\text{REDD}_{,t}$	Net reduction in anthropogenic GHG emissions attributable to AUD activities in the project in year t	Ton of carbon dioxide equivalent (tCO ₂ -e)	Calculated	Annual	
VCU _{,t}	Quantity of Verified Carbon Units (VCUs) to be made available for sale in the year t	Ton of carbon dioxide equivalent (tCO ₂ -e)	Calculated	Annual	

Quality control and assurance procedures

All the tasks and tools indicated in part 2 of the approved Methodology VM0015 were used to ensure that the data is suitable for the verification process and the number of Verified Carbon Units is reliable.

Data archiving

All data and reports from the Manoa REDD+ Project are stored by Biofíllica in digital archives throughout the project. All documents relating to the monitoring of the project are compiled and made available to the verification body at each verification event.

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

The Climate Monitoring Plan and all its results will be publicly disclosed on the VERRA registry page and on the Biofílica Ambipar Environment website.

For stakeholders without internet access, a printed copy will be available at Manoa's office in Cujubim and at Manoa's farm headquarters. Information about the Project will also be disseminated via email and WhatsApp (using a pre-established contact list of stakeholders), and on social media platforms such as Instagram and LinkedIn (see section 2.3.2 and 2.3.10 for communication channels), of the project proponents.

In this way, it is expected that all necessary efforts to provide full transparency and distribute key information and documents of the Project will be achieved.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions (VCS, 3.15)

The estimation of unplanned deforestation in the project area in the without project scenario was implemented by applying the following steps:

- Analysis of historical land use and land cover change between 2013 and 2022 in the Reference Region of the Manoa REDD+ Project area;
- Analysis of agents, drivers and underlying causes of deforestation and future development for the Manoa REDD+ Project Reference Region;
- Annual baseline estimation of the areas of unplanned deforestation in the Reference Region (RR), Project Area (PA) and the Leakage Belt (LB).

All detailed process is described in REDD+ Project Description Document in its latest version, where the baseline was reassessed. To determine reduced emissions, the stock estimated in the primary forest inventory, carried out in 2023 and previously described in project description document, was multiplied by 3.6667 (44/12), as 1 kg of C is equivalent to 3.66667 kg of CO₂eq (CO₂ mass = 44 and C mass = 12; 44/12 = 3.66667).

Thus, the carbon estimate calculated for the above below ground and dead wood stocks considering the averages of the values calculated for managed forest and primary forest was 20,41 tC/ha, for the above ground reservoir, 13,03 tC/ha, for the below ground reservoir and 13,03 tC/ha for dead wood. Further information can be obtained in the document Final Carbon Stock Report (Florestal-Planejamento, Paisagismo e Consultoria Ltda, 2023). Table 4 presents average carbon values per hectare for each initial class of land use and land cover considered for the baseline scenario present in the project area and leakage belt.

Table 4. Carbon stock per hectare for the initial class icl existing in the Project Area and in the Leakage Belt.

Initial forest class icl						$C_{tot_{icl}}$	
Name:		Forest					
ID_{icl}		1					
Average carbon stock per hectare + 90% CI							
$C_{ab_{icl}}$		$C_{bb_{icl}}$		$C_{dw_{icl}}$			
C stock	$\pm 95\% CI$	C stock	$\pm 95\% CI$	C stock	$\pm 95\% CI$	C stock	$\pm 95\% CI$
$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$	$tCO_2e\ ha^{-1}$
427,34	6,84	74,82	1,24	47,79	3,92	549,95	12,0

$C_{ab_{icl}}$ = Average carbon stock per hectare in the above-ground biomass carbon pool of class icl (tCO_2e/ha);

$C_{bb_{icl}}$ = Average carbon stock per hectare in the below-ground biomass carbon pool of class icl (tCO_2e/ha);

$C_{dw_{icl}}$ = Average carbon stock per hectare in the dead wood biomass carbon pool of class icl (tCO_2e/ha);

$C_{tot_{icl}}$ = Average equivalent carbon stock per hectare for total biomass pool for initial forest class (tCO_2e/ha).

To calculate baseline, number of hectares of each forest class that could be deforested in case of project absence were extracted from the land use and land cover maps.

Baseline projection results show a deforestation in monitoring period of 7,663 hectares in the Project Area (Table 5) and 19.133,25 hectares in Leakage Belt (Table 6).

Table 5. Annual baseline unplanned deforestation areas in the Project Area for the monitored period 2023-2024.

Area established after deforestation per zone within the Project Area		Total baseline deforestation in the project area	
ID_z	1	$ABSLPA_t$	$ABSLPA$
Name:	Zone 1	ha	ha
Project Year t	ha	ha	ha

2023	0,30	3.569,00	3.569,00
2024	0,00	4.094,25	4.094,25

Table 6. Annual unplanned deforestation areas of baseline in the Leakage Belt for the monitored period 2023-2024.

Area established after deforestation per zone within the leakage belt		Total baseline deforestation in the Leakage Belt	
IDz>	1	ABSLK _t	ABSLK
Name:	Zone 1	ha	ha
Project Year t	ha	ha	ha
2023	3.825,70	10.326,00	10.326,00
2024	892,58	8.807,25	8.807,25

To calculate carbon stock changes in Project Area and Leakage Belt Area baseline for year t, the method 1 of VM0015, version 1.2, was used, by means of the equation shown below:

$$\Delta CBSLPA_t = \sum_{p=1}^P \left(\sum_{icl=1}^{icl} ABSLPA_{icl,t} * \Delta Cp_{icl,t=t^*} - \sum_{z=1}^Z ABSLPA_{z,t} * \Delta Cp_{z,t=t^*} + \sum_{icl=1}^{icl} ABSLPA_{icl,t-1} * \Delta Cp_{icl,t=t^*+1} - \sum_{z=1}^Z ABSLPA_{z,t-1} * \Delta Cp_{z,t=t^*+1} + \sum_{icl=1}^{icl} ABSLPA_{icl,t-2} * \Delta Cp_{icl,t=t^*+2} - \sum_{z=1}^Z ABSLPA_{z,t-2} * \Delta Cp_{z,t=t^*+2} + \dots + \sum_{icl=1}^{icl} ABSLPA_{icl,t-19} * \Delta Cp_{icl,t=t^*+19} - \sum_{z=1}^Z ABSLPA_{z,t-19} * \Delta Cp_{z,t=t^*+19} \right)$$

$\Delta CBSLPA_t$: Total baseline carbon stock change within the project area at year (tCO₂e)

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

$ABSLPA_{icl,t-1}$: Area of initial forest class icl deforested at time t-1 within the project area in the baseline case (ha);

$ABSLPA_{icl,t-19}$: Area of initial forest class icl deforested at time t-19 within the project area in the baseline case (ha);

$\Delta Cp_{icl,t=t^*}$: Average carbon stock change factor for carbon pool p in the initial forest class icl applicable at time t (as per Table 20.a) (tCO₂-e.ha-1);

$\Delta Cp_{icl,t=t^*+19}$: Average carbon stock change factor for carbon pool p in the initial forest class icl applicable at time t=t*+19 (20th year after deforestation, as per Table 20.a) (tCO₂-e.ha-1);

ABSLPA_{z,t}: Area of the zone z “deforested” at time t within the project area in the baseline case (ha);

ABSLPA_{z,t-1}: Area of the zone z “deforested” at time t-1 within the project area in the baseline case (ha);

ABSLPA_{z,t-19}: Area of the zone z “deforested” at time t-19 within the project area in the baseline case (ha);

$\Delta C_{p,z,t=t^*}$: Average carbon stock change factor for carbon pool p in zone z applicable at time $t=t^*$ (according to Table 20.b) (tCO₂ e.ha⁻¹);

$\Delta C_{p,z,t=t^*+1}$: Average carbon stock change factor for carbon pool p in zone z applicable at time $t=t^*+1$ (2nd year after deforestation, according to Table 20.b) (tCO₂ e.ha⁻¹);

$\Delta C_{p,z,t=t^*+19}$: Average carbon stock change factor for carbon pool p in zone z applicable at time $t=t^*+19$ (20th year after deforestation, according to Table 20.b) (tCO₂ e.ha⁻¹).

The total emissions in the Project Area baseline scenario are shown in Table 7 and the Leakage Belt in Table 8.

Table 7. Total changes in the carbon stock of the Project Area baseline scenario (Table 36 VM0015 v1.2).

Carbon stock changes by initial forest class icl		Total change in the carbon stock of the initial forest class of the Project Area		Changes in post-deforestation carbon stock per zone		Total changes in post-deforestation carbon stock per zone in the Project Area		Total changes in carbon stock in the Project Area	
iclID >	1	$\Delta CBSPLA_{icl,t}$	$\Delta CBSPA_{icl}$	ID _{says} >	1	$\Delta CBSPA_{z,t}$	$\Delta CBELPA_z$	$\Delta CBSLPA_t$	$\Delta CBSLPA$
Name:	Forest	annual	cumulative	Name:	Zone 1	annual	cumulative	annual	cumulative
Project Year t	tCO ₂ e	tCO ₂ e	tCO ₂ e	Project Year t	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	131,88	131,88	131,88	2023	0,0	0,0	0,0	131,88	131,88
2024	3,68	3.38	135,56	2024	1,04	1,04	1,04	2,64	134,52

Table 8. Total changes in the carbon stock of the Leakage Belt baseline scenario (Table 37 VM0015 v1.2).

Changes in carbon stock by initial forest class icl		Total change in carbon stock of initial forest class in the Leakage belt		Changes in post-deforestation carbon stock per zone		Total post-deforestation carbon stock changes per zone in the Leakage Belt		Total Carbon Stock Changes in the Leakage Belt	
iclID >	1	$\Delta CBSLK_{icl,t}$	$\Delta CBSLK_{icl}$	ID _{says} >	1	$\Delta CBSLK_{z,t}$	$\Delta CBSLK_z$	$\Delta CBSLK_t$	$\Delta CBSLK$
Name:	Forest	annual	cumulative	Name:	Zone 1	annual	accumulated	annual	accumulated
Project Year t	tCO ₂ e	tCO ₂ e	tCO ₂ e	Project Year t	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	1.681.770,58	1.681.770,58	1.681.770,58	2023	0	0	0	1.681.770,58	1.681.770,58

2024	439.284,68	439.284,68	2.121.055,26	2024	13.211,86	12,211.86	13.211,86	426.072,82	2.107.843,40
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After this analysis, the ex-post assessment of the monitored period (2023-2024) was performed, and the results of the monitoring period are presented in the tables on the following pages.

3.2.2 Project Emissions (VCS, 3.15)

3.2.2.1 Emissions due to planned deforestation

Section under development.

Table 9. Carbon stock decrease due to planned deforestation in the Project Area (table 43 VM0015).

Project Year <i>t</i>	Areas of planned deforestation x Carbon stock change (decrease) in the project area		Total carbon stock decrease due to planned deforestation	
	IDcl =	1	annual	cumulative
	APDPAicl,t	Ctoticl,t	ΔCPDdPA _t	ΔCPDdPA
	ha	tCO ₂ e ha ⁻¹	tCO ₂ e	tCO ₂ e
2023	37,13	549,95	20.421	20.421
2024	37	549,95	20.348	20.348

3.2.2.2 Emissions due to planned logging activities

Section under development.

Table under development

Table 10. Areas explored in each UPA during the monitored period with details of every type of exploration in the areas.

UPA (year)	Total area (ha)	Permanent protection area (APP) (ha)	Effective exploration area (ha)	Included in the planned deforestation calculation			Temporary opening areas	
				Principal access road (ha)	Secondary road	Esplanades (ha)	Skid trails	Clearings
2023
2024

Table under development

Table 11. Total carbon stock decrease calculated from the temporary opening areas.

Year	UPA	Temporary opening areas (ha)	Total carbon stock decrease due to planned deforestation (tCO ₂ e)
2023
2024

Table under development

Table 12. Total carbon stock decrease calculated from the field spreadsheet data of felled trees.

Year	UPA	Extracted carbon (tC)	Total carbon stock decrease due to planned deforestation (tCO ₂ e)
2023
2024

Table under development

Table 13. Carbon stock regeneration per year in the temporary opening areas.

Year	UPA	Temporary opening areas (ha)	Carbon stock regeneration (tCO ₂ e/ano)
2023
2024

Table under development

Table 14. Carbon stock regeneration per year in the effective management area.

Year	UPA	Effective management area (ha)	Carbon stock regeneration (tCO ₂ e/ano)
2023
2024

Table under development

Table 15. Significance of the low impact management considering only the areas of temporary opening.

Year	UPA	Carbon stock regeneration (tCO ₂ e in 11 years)	Total carbon stock change in the project case (tCO ₂ e)	Ex post net anthropogenic GHG emission reductions	Significance
2023
2024
				Average	%

Table under development

Table 16. Significance of the low impact management considering the effective management area.

Year	UPA	Carbon stock regeneration (tCO ₂ e in 11 years)	Total carbon stock change in the project case (tCO ₂ e)	Ex post net anthropogenic GHG emission reductions	Significance
2023
2024
				Average	

Table under development

Table 17. Carbon stock decrease due to planned logging activities in the project area (Table 44 VM0015).

Project Year t	Areas of planned logging activities x Carbon stock change (decrease) in the project area		Total carbon stock decrease due to planned logging activities	
	IDcl =	1	annual	cumulative
	APLPAicl,t	Ctoticl,t	ΔCPLdPA _t	ΔCPLdPA
	ha	tCO ₂ e ha ⁻¹	tCO ₂ e	tCO ₂ e
2023	2.196	24,35	53.469	53.469
2024	2.196	24,35	53.467	106.935

3.2.2.3 Emissions due to fuel-wood and charcoal activities

There were no emissions associated with planned firewood collection and charcoal production activities in the Project Area.

Table 18. Carbon stock decrease due to planned fuel-wood collection and charcoal production in the Project Area (table 25.c.VM0015).

Project Year t	Areas of planned fuel-wood & charcoal activities x Carbon stock change (decrease) in the project area		Total carbon stock decrease due to planned fuel-wood and charcoal activities	
	IDcl =	1	annual	cumulative
	APFPAicl,t	Ctoticl,t	ΔCPFdPA _t	ΔCPFdPA
	ha	tCO ₂ e ha ⁻¹	tCO ₂ e	tCO ₂ e
2023	0	549,95	0,0	0,0
2024	0	549,95	0,0	0,0

3.2.2.4 Removal due to carbon increase of planned activities

Section under development.

Table 19. Total ex post carbon stock decreases due to planned activities in the Project Area (table 46 VM0015).

Project Year t	Total carbon stock decrease due to planned deforestation		Total carbon stock decrease due to planned logging activities		Total carbon stock decrease due to planned fuel-wood and charcoal activities		Total carbon stock decrease due to planned activities	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	ΔCPDdPA _t	ΔCPDdPA	ΔCPLdPA _t	ΔCPLdPA	ΔCPFdPA _t	ΔCPFdPA	ΔCPAdPA _t	ΔCPAdPA
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	20.420,67	20.420,67	53.468,62	53.468,62	0,00	0,00	73.889,29	73.889,29
2024	20.348,15	20.348,15	53.466,67	53.466,67	0,00	0,00	73.814,82	73.814,82

3.2.2.5 Total ex post carbon stock decrease in the Project Area

Section under development.

Table 20. Total Ex post estimated net carbon stock decrease in the Project Area (table 27 of VM0015).

Project Year t	Total carbon stock decrease due to planned activities		Total carbon stock increase due to planned activities		Total carbon stock decrease due to unavoided unplanned deforestation		Total carbon stock change in the project case	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	ΔCPAdPA_t	ΔCPAdPA	ΔCPAiPA_t	ΔCPAiPA	ΔCUDdPA_t	ΔCUDdPA	ΔCPSPAt	ΔCPSPA
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
2023	73.889,29	73.889,29	0	0	131,88	131,88	74.021,17	74.021,17
2024	73.814,82	147.704,11	0	0	2,64	134,52	73.817,47	147.838,63

3.2.2.6 Emissions due to unavoided unplanned deforestation in the Project Area

Section under development.

Table 21. Annual areas deforested in each zone within the Project Area (Table 18 VM0015).

Area established after deforestation per zone within the project area		Total monitored deforestation in the Project Area		Baseline
IDz>	1	Annual ha	Cumulative ha	Annual ha
Name:	Zone 1			
Project Year t	ha			
2023	0,30	0,30	0,30	3.569
2024	0,00	0,00	0,30	7.663,25

3.2.2.7 Emissions due to forest fires and catastrophic events

Section under development.

Table 22. Ex post actual carbon stock decrease due to forest fires in the project area (Table 51 VM0015).

Project Year t	Areas affected by forest fires x Carbon stock change (decrease)		Total carbon stock decrease due to forest fires	
	IDcl =	1	annual	cumulative
	AUFPAicl,t	Ctoticl,t	ΔCUFdPA_t	ΔCUFdPA
	ha	tCO ₂ e ha ⁻¹	tCO ₂ e	tCO ₂ e
2023	1,49	81,25	121,06	121,06
2024	3,38	81,25	274,61	395,67

Table 23. Ex post carbon stock decrease due to catastrophic events in the project area (Table 52 VM0015).

Project Year t	Areas affected by catastrophic events x Carbon stock change (decrease)		Total carbon stock decrease due to catastrophic events	
	IDcl =	1	annual	cumulative
	ACPAicl,t	Ctoticl,t	ΔCUCdPA_t	ΔCUCdPA
	ha	tCO ₂ e ha ⁻¹	tCO ₂ e	tCO ₂ e
2023	0,00	475,13	0,00	0,00
2024	0,00	475,13	0,00	0,00

3.2.2.8 Total ex post carbon stock decrease in the Project Area

Section under development.

Table 24. Change in ex-post carbon stock in the Project Area (table of 36 VM0015).

Carbon stock changes per initial forest class icl		Total carbon stock change of initial forest class in the project area		Carbon stock changes per post-deforestation zone z		Total carbon stock change of post-deforestation zones in the project area		Total net carbon stock change of the project area	
IDicl>	1	$\Delta\text{CBSLPA}_{icl,t}$	$\Delta\text{CBSLPA}_{icl}$	IDiz>	1	$\Delta\text{CBSLPA}_{z,t}$	ΔCBSLPA_z	ΔCBSLPA_t	ΔCBSLPA
Name:	Forest	annual	cumulative	Name:	Zone 1	annual	cumulative	annual	cumulative

Project Year t	tCO2-e	tCO2-e	tCO2-e	Project Year t	tCO2-e	tCO2-e	tCO2-e	tCO2-e	tCO2-e
2023	131,88	131,88	131,88	2023	0	0,00	0,00	131,88	131,88
2024	3,68	3,68	135,56	2024	1,04	1,04	1,04	2,64	134,52

3.2.2.9 Non-CO2 emissions due to forest fires

Section under development.

Table 25. Total (ex-post) carbon stock changes and non-CO2 emissions in the Project Area (Table 49 VM0015).

Project Year t	Total ex post carbon stock decrease due to planned activities		Total ex post carbon stock increase due to planned activities		Total ex post carbon stock decrease due to unavoided unplanned deforestation		Total ex post net carbon stock change		Total ex ante estimated actual non-CO2 emissions from forest fires in the project area	
	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative	annual	cumulative
	ΔCPAdPA_t	ΔCPAdPA	ΔCPAiPA_t	ΔCPAiPA	ΔCUDdPA_t	ΔCUDdPA	ΔCPSPAt	ΔCPSPA	EBBBSLPAt	EBBPSPA
	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2-e	tCO2-e
2023	73.889,29	73.889,29	131,88	131,88	0,00	0,00	74.021,17	74.021,17	0,00	0,00
2024	73.814,82	147.704,11	2,64	134,52	0,00	0,00	73.817,47	147.838,63	0,00	0,00

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

3.2.3.1 Total decrease in carbon stock (ex post) in the Leakage Belt

Section under development

Table 26. Areas deforested annually in each zone within the monitored Leakage Belt.

Area established after deforestation per zone within the leakage belt		Total monitored deforestation in the Leakage Belt		Baseline
IDz>	1	Annual	Cumulative	Annual
Name:	Zone 1			
Project Year t	ha	ha	ha	ha
2023	3.825,70	3.825,70	3.825,70	10.326,00

2024	892,58	892,58	4.718,28	8.807,25

Table 27. Change in ex-post carbon stock in the Leakage Belt area.

Carbon stock changes per initial forest class icl		Total carbon stock change of initial forest class in the leakage belt area		Carbon stock changes per post-deforestation zone z	Total carbon stock change of post-deforestation zones in leakage belt area		Total net carbon stock change of the leakage belt area	
IDic>	1	Δ CBSLLKic,t	Δ CBSLLKicl	1	Δ CBSLLKz,t	Δ CBSLLKz	Δ CBSLLKt	Δ CBSLLK
Name:	Forest	annual	cumulative	Zone 1	annual	cumulative	annual	cumulative
Project Year t	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e
2023	1.681.770,58	1.681.770,58	1.681.770,58	0	0	0	1.681.770,58	1.681.770,58
2024	439.284,68	439.284,68	2.121.055,26	13211,86	13.211,86	13.211,86	5.288.807,80	9.828.096,40

3.2.3.2 Estimated total ex post leakage

Section under development
 Table under development

Table 28. Total ex-ante and ex-post carbon stock changes from baseline in the Leakage Belt.

Total ex ante net carbon stock change of the leakage belt area			Total ex post net carbon stock change of the leakage belt area		Total ex-post leakage	
IDiz>	Δ CBSLLKt	Δ CBSLLK	Δ CBSLLKt	Δ CBSLLK	Δ CBSLLKt	Δ CBSLLK
Name:	annual	cumulative	annual	cumulative	annual	cumulative
Project Year t	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e
2023	188.271	188.271	0	0	0	0
2024	0	0	0	0

3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

Section under development.

State the non-permanence risk rating (%)	
Has the non-permanence risk report been attached as either an appendix or a separate document?	<input type="checkbox"/> Yes <input type="checkbox"/> No
For ARR and IFM projects with harvesting, state, in tCO₂e, the Long-term Average (LTA).	
Has the LTA been updated based on monitored data, if applicable?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If no, provide justification.</i>
State, in tCO₂e, the expected total GHG benefit to date.	
If a loss occurred (including a loss event or reversal), state the amount of tCO₂e lost:	

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Buffer pool allocation (tCO ₂ e)	Reductions VCUs (tCO ₂ e)
01/Jan/2023 - 31/Dez/2023	1,568,925	74,021	0	181,168	1,328,564
01/Jan/2024 - 30/09/2024	2.443.525	73.817	0	287.087	2.105.301
Total	4.012.450	147.839	0	468.254	3.433.865

Table under development.

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference

3.3 Optional Criterion: Climate Change Adaptation Benefits

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

Project Activitie	Climate change risks and concerns addressed	Project achievements during the monitoring period	Adaptation activities
Activities to prevent deforestation within the project area	Unstructured land use conversion; deforestation; loss of habitat and biodiversity; forest fire prevention	Under development	Under development
Offer technical training related to low-impact forest management in the region	Lack of labor in the timber sector; increase in economic activities that contribute to deforestation	Under development	Under development
Contribute with information on the local flora and fauna, with research on biodiversity in the project area and with environmental education	Habitat fragmentation; species population decline; species extinction	Under development	Under development

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CCB, CM2.1)

This section will only describe the impacts on the employees of the Manoa farm; the impacts on other stakeholders will be described in section 4.2. Manoa's employees derive their income from the management activities carried out within the project area, so they are considered stakeholders directly dependent on the permanence of the forest and directly impacted by the activities carried out within the project area. As the majority of the farm's employees live in Cujubim, they are also directly impacted by the project activities carried out in the municipality; however, the impacts caused by these activities will be measured in item 4.2 in the "Cujubim residents" group. For more details on the relationship between the project's stakeholders and how a group of people can fall into two different categories of stakeholders, see section 4.1.2 of the CCB PD.

The Social and Biodiversity Impact Assessment (SBIA) methodology from the Manual for REDD+ Projects^{30,31} was used to assess the positive and negative impacts of the project on stakeholders through interviews with semi-structured questionnaires, as detailed in item 4.1.1 of the CCB PD, 23 interviews were carried out with workers at the Manoa farm, so these stakeholders were able to give their opinion on the impacts of the REDD+ Project's activities.

With regard to the availability of labour and the qualifications needed to meet the economic activities of the municipality of Cujubim, 40% of all interviewees answered in the affirmative, indicating the presence of available labour. However, 60% reported a shortage not only of labour, but also of qualified workers to

³⁰ RICHARDS, M.; PANFIL, S.N. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 1 – Core Guidance for Project Proponents. Washington, DC: Climate, Community & Biodiversity Alliance, Forest Trends, Fauna & Flora International, and Rainforest Alliance, 2011. Disponível em: <https://verra.org/wp-content/uploads/social-and-biodiversity-impact-assessment-sbia-manual-for-redd-projects-part-1.pdf>. Acesso em: 12 set. 2023.

³¹ RICHARDS, M. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 2 – Social Impact Assessment Toolbox. Washington, DC: Climate, Community & Biodiversity Alliance and Forest Trends with Rainforest Alliance and Fauna & Flora International, 2011. Disponível em: <https://verra.org/wp-content/uploads/social-and-biodiversity-impact-assessment-sbia-manual-for-redd-projects-part-1.pdf>. Acesso em: 12 set. 2023.

meet the new demands in agriculture and the timber sector, which are becoming increasingly technological³².

Regarding the courses available in the municipality of Cujubim, the REDD+ Manoa Project, through CEFLOM, establishes partnerships to provide teaching and extension spaces aimed at environmental education and professional qualification. In this way, the forest management carried out in the area not only serves to produce certified timber, but also as a teaching and research laboratory, with the aim of strengthening the qualifications of the professionals involved, especially on issues relating to Sustainable Forest Management, as shown in the 2017 Activities Report of the Manoa Forestry Education Centre (CEFLOM)³³, which details various activities carried out throughout the year with the aim of promoting environmental education, courses, lectures and training³⁴.

The project's activities therefore have a direct positive impact on job creation and labour qualification, contributing to the training of its employees, increasing safety at work and promoting the health and well-being of workers, and an indirect positive impact on the municipality of Cujubim, by reducing the shortage of qualified labour.

In addition, forest management in the project area has emerged as a highly relevant practice in terms of the environmental dimension, which has been internalised by the community, as evidenced by comments such as *"if there was management in the forests here, the wood would never run out"* and *"look at Manoa, how long they've been taking wood from there and there's still wood"*, which reflects the awareness of local actors about the sustainability and longevity of forest resources when they are well managed³⁵.

Community Group	Manoa Farm employees
Impact	<p>Manoa employees trained in low-impact forest management techniques</p> <p>Health and safety training for Manoa employees</p> <p>Training for Manoa employees in preventing and containing forest fires</p>

32 Diagnóstico Socioeconômico e Ambiental da região do Projeto REDD+ Fazenda Manoa – Cujubim (versão relatório)

33 CEFLOM – CENTRO DE EDUCAÇÃO FLORESTAL MANOA. Relatório de Atividades 2017. Cujubim - RO, dezembro de 2017.

34 Diagnóstico Socioeconômico e Ambiental da região do Projeto REDD+ Fazenda Manoa – Cujubim (versão relatório)

35 Diagnóstico Socioeconômico e Ambiental da região do Projeto REDD+ Fazenda Manoa – Cujubim (versão relatório)

Type of Benefit/Cost/Risk	Direct impact benefits
Change in Well-being	Through training, the project has improved employees' professional skills, increased safety at work and promoted workers' health and well-being. Details of each of the activities carried out can be found in section 4.3.1.

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

There have been no negative impacts on stakeholders caused by the project's activities, yet the communication channels described in section 2.3.9 of the CCB PD and section 2.2.5.2 of this document, the anti-corruption and anti-discrimination structures described in sections 2.3.13 and 2.4.5, respectively, and the training and care of management staff detailed in sections 2.3.15 and 2.3.17, guarantee the safety of the activities. In addition, the project also has a "Feedback and Grievance Redress Procedure" to guide how possible conflicts should be dealt with and, as described in section 2.3.14, there were no complaints received during the monitoring period.

There is only one community-related HCVA in the project area, the Rio Preto waterfall. The security of this HCVA was guaranteed through surveillance patrols and the monitoring of satellite images, preventing access by unauthorized people (for more details see section 4.3.1).

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

The positive impacts for each stakeholder are described in sections 4.1.1 and 4.2.2 and detailed in section 4.3.1. During the period monitored, the project ensured the maintenance 3,568.70ha of forest in the project area. In addition, the project's activities promoted improvements in the infrastructure of the municipality of Cujubim, environmental education activities and contributed to the high quality of low-impact forest management and the dissemination of the techniques used, with the execution of the activities described in section 4.3.1.

Activities involving training employees and raising awareness among neighbors about forest fires and encouraging low-impact forest management practices have also helped the community adapt to the possible impacts of climate change. With climate change it is possible that the frequency of forest fires in the region will increase (see section 3.5.1 of the CCB PD), so having the right tools and training to contain these fires is important for the safety of the population.

Practicing and encouraging low-impact forest management helps to provide sustainable economic activities in the region, stimulating ways to avoid intensifying the climate crisis without detriment to economic returns. In addition, an economy that values keeping the forest standing, with a decent economic return for the

population, is an important option for adapting to climate change and is in line with the mitigation measures provided for in State Law No. 4,437/2018, detailed below.

All the adaptation measures mentioned above are in line with State Law No. 4,437/2018³⁶, which establishes the State Policy on Climate Governance and Environmental Services - PGSA and makes other provisions. The project's own deforestation reduction measures are in line with the assumption for the concept of adaptation developed by the legislator, as they result in the power to "reduce the vulnerability of natural and human systems to the current and expected effects of climate change" (Item I, art. 2).

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

Within the project area there is only one HCVA related to community well-being, the Rio Preto Waterfall, due to its scenic beauty. During the monitoring period, deforestation and hotspots were monitored in and around the project area, but none of the results indicated any change in the waterfall.

4.2 Other Stakeholder Impacts

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

No negative impacts on stakeholders caused by the project's activities are expected. Even so, the communication channels, described in section 2.2.5.2, the anti-corruption and anti-discrimination structures described in sections 2.3.13 and 2.4.5 respectively, and the "Feedback and Grievance Redress Procedure" to guide how possible conflicts should be dealt with (see section 2.3.14) function as mitigation measures. If any stakeholder is negatively impacted by the project's activities, they can use the communication channels to express their annoyance and the complaint will be dealt with in accordance with the Feedback and Grievance Redress Procedure.

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

The impacts on Manoa farm employees were described in section 4.2.1. of the CCB PD and 4.1.2 of this report. The project's other stakeholders include the population of the municipality of Cujubim, environmental institutions in the municipality of Cujubim and the state of Rondônia and other institutions in the municipality of Cujubim (such as NGOs, educational institutions, etc.).

Stakeholder
Population of the municipality of Cujubim.

³⁶ <https://sapl.al.ro.leg.br/media/sapl/public/normajuridica/2018/8761/l4437.pdf>

Impact(s)	<p>Increased employment through the movement of the local timber industry</p> <p>Improvements to the municipality's infrastructure through donations and constructions</p> <p>Maintenance of the native forest in the project area</p>
Type of Benefit/Cost/Risk	Direct and indirect impact benefits
Change in Well-being	Through its activities, the project has increased employment opportunities in the region, mainly in the timber industry, and has promoted improvements in the quality of life of the town's population. In addition, maintaining the forest in the project area has contributed to mitigating the climate crisis and maintaining HCVAs.

Stakeholder	Environmental Institutions
Impact(s)	<p>Technical training related to low-impact forest management (e.g. management techniques, wood identification, etc.)</p> <p>Maintenance of the native forest and all its biodiversity within the project area</p>
Type of Benefit/Cost/Risk	Direct and indirect impact benefit
Change in Well-being	The project improved the professional skills of employees from ICMBio's local environmental agencies and contributed to the maintenance of the forest in the project area, which acts as an ecological corridor for two conservation units.

Stakeholder	Institutions in the municipality of Cujubim
Impact(s)	Donations and improvements to the infrastructure of institutions in the municipality
Type of Benefit/Cost/Risk	Direct impact benefit
Change in Well-being	Institutions in the municipality of Cujubim benefited from donations and infrastructure improvements. As a result, the population of Cujubim has also benefited through the

	improvement and/or availability of services that would not have been possible without the existence of the project.
Stakeholder	University and researchers from the state of Rondônia
Impact(s)	Financial and logistical support for carrying out scientific research within the project area
Type of Benefit/Cost/Risk	Direct impact benefit
Change in Well-being	The project provided logistical and financial support for two master's degree programmes that collected data in the project area, facilitating the work of universities and researchers in the state.

4.3 Community Impact Monitoring

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

The monitoring data for 2024 is in the final process of being organized according to the selected indicators.

Data / Parameter	Number of lectures offered
Data unit	Number of lectures
Description	This parameter will measure the number of lectures on labour law given to Manoa employees.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity initiated in 2024, with 1 lecture given on April 09, with 39 participants
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people benefiting from the activities will be validated among the proponents, allowing for greater data reliability and

	quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Implementation of decent work in the forest management sector for Manoa farm employees, with an organisational culture based on valuing and respecting labour rights, with a positive impact on the company's reputation.
Calculation method	Counting the number of talks given
Comments	This indicator is intended to measure the impact on the group of employees at the Manoa farm

Data / Parameter	Number of labour complaints resolved
Data unit	Number
Description	This parameter will measure the number of resolved labour complaints
Data source	To be defined
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Under development
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.

Purpose of the data	Execution of decent work in the forest management sector for Manoa farm employees, with an organisational culture based on valuing and respecting labour rights, with a positive impact on the company's reputation.
Calculation method	Counting the number of resolved labour complaints
Comments	This indicator is intended to measure the impact on the Manoa farm's employee group

Data / Parameter	Employee satisfaction index
Data unit	Number
Description	This parameter will measure the satisfaction rate of Manoa farm employees
Data source	To be defined
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people benefiting from the activities will be validated among the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Implementation of decent work in the forest management sector for Manoa farm employees, with an organisational culture based on valuing and respecting labour rights, with a positive impact on the company's reputation.
Calculation method	To be defined

Comments	This indicator is intended to measure the impact on the Manoa farm employee group
Data / Parameter	Seasonal Employee Return Rate
Data unit	Percentage
Description	This parameter will measure the Seasonal Employee Return rate
Data source	List of management employees
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the Project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	To be accounted for after Project registration
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Execution of decent work in the forest management sector for Manoa farm employees, with an organisational culture based on valuing and respecting labour rights, with a positive impact on the company's reputation.
Calculation method	Rate of Return=(Number of seasonal employees hired in the previous year/number of total seasonal employees)x100
Comments	This indicator is intended to measure the impact on the Manoa farm's employee group

Data / Parameter	Number of technical training courses on forest management issues offered to Manoa employees
Data unit	Number
Description	This parameter will measure the number of trainings on forest management issues offered to Manoa employees.
Data source	Report (e.g. summary of the subject), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	<p>5 trainings related to low-impact forest management were carried out:</p> <ul style="list-style-type: none"> - Use of PPE for safety - Unsafe acts and conditions - Reduced impact training - Chainsaw use - Training on the felling procedures manual
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people benefiting from the activities will be validated among the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Perpetuating the culture of sustainable management within the company, with low-impact practices being applied consistently. Contribute to increasing the number of professionals in the timber sector with the appropriate technical training to ensure sustainable forest management.
Calculation method	Count the number of training courses offered

Comments	This indicator is intended to measure the impact on the group of employees at the Manoa farm
Data / Parameter	Percentage of employees trained in forest management issues
Data unit	Percentage
Description	This parameter will measure the percentage of employees trained in forest management topics offered to Manoa employees.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	To be accounted for after project registration
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people who benefited from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Perpetuating the culture of sustainable management within the company, with low-impact practices being applied consistently. Contribute to the increase in the number of professionals in the timber sector with adequate technical training to guarantee sustainable forest management
Calculation method	Percentage of employees trained in forest management issues offered to Manoa employees, taking into account the total number of employees at the Manoa farm.

Comments	This indicator is intended to measure the impact on the group of employees at the Manoa farm
Data / Parameter	Number of training hours completed
Data unit	Number of hours
Description	This parameter will measure the number of hours of training in deforestation monitoring techniques following the project's premises.
Data source	Report (e.g. summary of subject matter), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people who benefited from the activities will be validated among the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>Training of managers in advanced monitoring techniques.</p> <p>Implementation of the techniques learnt</p> <p>Establishment of a robust monitoring system that becomes an integral part of project operations.</p> <p>Continuous integration of monitoring techniques into area management, with the training of new leaders.</p>
Calculation method	Counting the number of hours of training offered
Comments	This indicator is intended to measure the impact on the Manoa farm employee group

Data / Parameter	Number of employees trained in monitoring techniques following the project's premises
Data unit	Number
Description	This parameter will measure the average number of people receiving training in techniques for monitoring avoided deforestation and reducing emissions.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>Training of managers in advanced monitoring techniques.</p> <p>Implementation of the techniques learnt</p> <p>Establishment of a robust monitoring system that becomes an integral part of project operations.</p> <p>Continuous integration of monitoring techniques into the management of the area, with the training of new leaders.</p>
Calculation method	Counting the average number of participants
Comments	This indicator is intended to measure the impact on the group of Manoa farm employees

Data / Parameter	Number of campaigns promoted
Data unit	Number of campaigns
Description	This parameter will measure the number of internal communication campaigns to encourage the importance of education and keeping employees' children and families in school.
Data source	Report (e.g. summary of the subject), attendance list, photos
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>A stronger organisational culture around valuing education.</p> <p>Contribute to reducing school drop-outs in the municipality of Cujubim.</p> <p>Training a more educated and skilled generation, reflecting positively on the community and the labour market.</p>
Calculation method	Counting the number of campaigns carried out

Comments	This indicator is intended to measure the direct impact on the group of Manoa farm employees and the indirect impact on the residents of Cujubim.
Data / Parameter	Percentage of employees taking part in educational workshops
Data unit	Percentage
Description	This parameter will measure the percentage of employees participating in education incentive workshops.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (where available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>A stronger organisational culture around valuing education.</p> <p>Contribute to reducing school drop-outs in the municipality of Cujubim.</p> <p>Training a more educated and skilled generation, reflecting positively on the community and the labour market.</p>

Calculation method	Percentage of the number of Manoa employees taking part in the campaigns, considering the total number of employees on the Manoa farm
Comments	This indicator is intended to measure the direct impact on the group of employees at the Manoa farm and the indirect impact on the residents of Cujubim.

Data / Parameter	Rate of children of employees enrolled and regularly attending school
Data unit	
Description	This parameter will measure the rate of children of employees enrolled and regularly attending school
Data source	
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>A stronger organisational culture around valuing education.</p> <p>Contribute to reducing school drop-outs in the municipality of Cujubim.</p> <p>Training a more educated and skilled generation, reflecting positively on the community and the labour market.</p>

Calculation method	Rate of employees' children enrolled and regularly attending school
Comments	This indicator is intended to measure the direct impact on the group of Manoa farm employees and the indirect impact on the residents of Cujubim.

Data / Parameter	Number of actions that promote knowledge about low-impact forest management to interested institutions
Data unit	Number of actions
Description	This parameter will measure the number of actions that promote knowledge about low-impact forest management offered to interested institutions.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annual
Monitored value	1 wood identification training course was held with the participation of ICMBio staff on 27/07/2023
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.

Data / Parameter	Average number of participants
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Data unit	Number of participants
Description	This parameter will measure the average number of participants in actions that promote knowledge about low-impact forest management offered to interested institutions.
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	The activity was attended by 16 people
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a network of institutions that have knowledge about good practices related to forest management, promoting forest conservation on a broad scale
Calculation method	Counting the average number of participants
Comments	This indicator is intended to measure the impact on environmental institutions
Data / Parameter	Number of institutions involved
Data unit	Number of institutions

Description	This parameter will measure the number of institutions involved in actions that promote knowledge about low-impact forest management offered to interested institutions.
Data source	Report (e.g. summary of the subject), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	1 institution was involved in the activity, ICMBio
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a network of institutions that have knowledge about good practices related to forest management, promoting forest conservation on a broad scale
Calculation method	Counting the number of institutions
Comments	This indicator is intended to measure the impact on environmental institutions
Data / Parameter	Evaluation of the level of knowledge about the topics covered before and after the actions that promote knowledge about low-impact forest management for interested institutions
Data unit	

Description	This parameter will assess the level of knowledge on the topics covered before and after the actions
Data source	Questionnaire applied before and after the action
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a network of institutions that have knowledge about good practices related to forest management, promoting forest conservation on a broad scale
Calculation method	Not applicable
Comments	This indicator is intended to measure the impact on environmental institutions

Data / Parameter	Number of collaborations and partnerships formed
Data unit	Number
Description	This parameter will measure the number of collaborations and partnerships formed with institutions interested in actions that promote knowledge about low-impact forest management for interested institutions.

Data source	Documentation of partnership formalisation, exchange of emails communicating informal partnership and/or collaboration, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annual
Monitored value	0, no partnerships were established during the monitored period.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a network of institutions that have knowledge about good practices related to forest management, promoting forest conservation on a broad scale
Calculation method	Counting the number of partnerships and collaborations
Comments	This indicator is intended to measure the impact on environmental institutions

Data / Parameter	Number of training workshops
Data unit	Number of workshops
Description	This parameter will measure the number of ongoing training workshops for workers on forest conservation (e.g. REDD+) and health and safety.
Data source	Reports (e.g. summarising the topic covered), attendance lists, photos, communications between Manoa and the school

Description of the measurement methods and procedures to be applied	<p>All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people benefiting from the project's activities will be monitored and accounted for</p>
Monitoring frequency	<p>Annually</p>
Monitored value	<p>1 training course on forest conservation (REDD+) was offered to Manoa farm employees, a week of health and safety training (PCMSO and PGR) and 2 additional health and safety training courses:</p> <ul style="list-style-type: none"> - REDD+ training on 07/08/2023 - Cleaning and organisation training on 23/08/2023 (additional training) - Ergonomics training on 03/10/2023 (additional training) - Training on sexually transmitted diseases, alcoholism, smoking, diabetes and hypertension on 11/04/2023 (PCMSO and PGR) - Training on 1st aid techniques: choking, cardiorespiratory arrest on 12/04/2023 (PCMSO and PGR) - Training on health prevention, men's health, prostate cancer, influenza vaccination for all employees on 13/04/2023 (PCMSO and PGR)
Monitoring equipment	<p>Not applicable</p>
QA/QC procedures to be applied	<p>The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.</p>

Purpose of the data	Integration of conservation and safety practices into workers' daily lives, with a positive impact on sustainability and employee well-being.
Calculation method	Counting the number of training workshops
Comments	This indicator is intended to measure the impact on the group of employees at the Manoa farm

Data / Parameter	Percentage of employees participating in training workshops
Data unit	Percentage
Description	This parameter will measure the percentage of employees participating in ongoing training workshops for workers on forest conservation (e.g. REDD+) and health and safety.
Data source	Attendance list
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	To be accounted for after project registration
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.

Purpose of the data	Integration of conservation and safety practices into workers' daily lives, with a positive impact on sustainability and employee well-being
Calculation method	Percentage of Manoa employees who took part in the workshops considering the total number of employees at the Manoa farm
Comments	This indicator is intended to measure the impact on the group of employees at the Manoa farm

Data / Parameter	Average number of employees
Data unit	Number
Description	This parameter will measure the average number of Manoa employees trained in fighting forest fires
Data source	Report (e.g. summarising the topic covered), attendance list, photos, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	36 employees took part in the training
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Establishing a culture of fire prevention and firefighting within the company, with continuous training that will be improved over the years.

Calculation method	Maintaining the integrity of the Manoa farm's forest cover
Comments	Counting the average number of Manoa employees who have taken part in training
Data / Parameter	Number of prevention campaigns
Data unit	Number of campaigns
Description	This parameter will measure the number of fire and respiratory disease prevention campaigns carried out with Manoa farm neighbours
Data source	Reports (e.g. summarising the subject), attendance lists, photos, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annualised
Monitored value	To be accounted for after project registration
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Development of a more resilient and prepared community, with fire prevention and health care practices. Reduction in forest fires around the project area.
Calculation method	Percentage of participants
Comments	This indicator is intended to measure the impact on the group of neighbours of the Manoa farm

Data / Parameter	Percentage of participants in prevention campaigns
Data unit	Percentage
Description	This parameter will measure the percentage of Manoa's neighbours participating in forest fire and respiratory disease prevention campaigns.
Data source	Report (e.g. summarising the topic covered), attendance list, photos, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	Monitoring activity was not started in the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Development of a more resilient and prepared community, with fire prevention and health care practices. Reduction in forest fires around the project area.
Calculation method	Percentage of participants considering the total number of Manoa neighbours
Comments	This indicator is intended to measure the impact on the Manoa farm's group of neighbours

Data / Parameter	Number of environmental education actions
Data unit	Number of activities

Description	This parameter will measure the number of environmental education activities offered to Cujubim schools by the REDD+ Manoa project.
Data source	Reports (e.g. summarising the topic covered), attendance lists, photos, communications between Manoa and the school
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	2 environmental education actions involving schools in the municipality of Cujubim took place during the monitored period: <ul style="list-style-type: none"> - Action with the Antônio Francisco Lisboa State School on 29/06/2023 - Action with the Teotônio Brandão Villella Municipal School on 07/06/2023
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on

	regional development. An increase in the number of students pursuing careers in science and technology.
Calculation method	Counting the number of environmental education activities offered to schools in Cujubim
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.

Data / Parameter	Number of environmental education initiatives offered to Cujubim schools with the participation of universities
Data unit	Number of activities
Description	This parameter will measure the number of environmental education activities offered by the REDD+ Manoa project with the participation of universities.
Data source	Reports (e.g. summarising the subject), attendance lists, photos, communications between Manoa and the school, communications between Manoa and universities.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people who have benefited from the Project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	2 environmental education actions involving schools in the municipality of Cujubim were attended by UNIR students: <ul style="list-style-type: none"> - Action with the Antônio Francisco Lisboa State School on 29/06/2023 - Action with the Teotônio Brandão Villella Municipal School on 07/06/2023
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proposers, allowing for greater

	reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development. An increase in the number of students pursuing careers in science and technology.
Calculation method	Counting the number of environmental education activities offered with the participation of universities
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.

Data / Parameter	Number of students involved
Data unit	Number of students
Description	This parameter will measure the number of students involved in the environmental education activities offered to Cujubim schools
Data source	Reports (e.g. summarising the topic covered), attendance lists, photos, communications between Manoa and the school
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Every year
Monitored value	An average of 24 students took part

Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development. An increase in the number of students pursuing careers in science and technology.
Calculation method	Counting the number of students involved in environmental education activities
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.

Data / Parameter	Percentage of Cujubim schools involved in the environmental education activities offered
Data unit	Percentage
Description	This parameter will measure the percentage of schools in the municipality of Cujubim involved in the environmental education activities offered by the REDD+ Manoa project.
Data source	List of schools involved in the activities in the year being monitored and list of all schools in the municipality of Cujubim

Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the Project's activities will be monitored and accounted for
Monitoring frequency	Annualised
Monitored value	$(2 * 100) / 8 = 25\%$
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development. An increase in the number of students pursuing careers in science and technology.
Calculation method	Number of schools that took part in environmental education activities * 100 / total number of schools in the municipality of Cujubim
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.
Data / Parameter	Assessment of students' level of environmental knowledge before and after educational activities in Cujubim schools
Data unit	To be defined

Description	This parameter will assess the level of environmental knowledge of students before and after educational activities with schools in Cujubim.
Data source	To be defined
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people who benefited from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	Monitoring of this indicator has not yet begun
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	<p>Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development.</p> <p>An increase in the number of students pursuing careers in science and technology.</p>
Calculation method	Not applicable
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.
Data / Parameter	Number of workshops held

Data unit	Number of workshops
Description	This parameter will measure the number of training workshops for local teachers on topics related to forest conservation that have been held.
Data source	Report (e.g. summarising the topic covered), attendance list, photos, communications between Manoa and the school
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development. An increase in the number of students pursuing careers in science and technology.
Calculation method	Counting the number of workshops held

Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.
Data / Parameter	Number of teachers trained
Data unit	Number of teachers trained
Description	This parameter will measure the number of teachers trained in workshops for local teachers on topics related to forest conservation.
Data source	Reports (e.g. summarising the topic covered), attendance lists, photos, communications between Manoa and the school
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation. Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development.

	An increase in the number of students pursuing careers in science and technology.
Calculation method	Counting the number of trained teachers
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change.

Data / Parameter	Assessment of teachers' level of environmental knowledge before and after training workshops
Data unit	
Description	This parameter will assess the level of environmental knowledge of students before and after the educational activities with Cujubim schools.
Data source	To be defined
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contributing to changes in the local population's attitude towards the environment, such as adopting sustainable practices, reducing the occurrence of hunting and predatory fishing and supporting forest conservation.

	<p>Creating a culture of valuing science and environmental education in the community, with a positive impact on regional development.</p> <p>An increase in the number of students pursuing careers in science and technology.</p>
Calculation method	Not applicable
Comments	This indicator is intended to measure the impact on the residents of Cujubim and contribute to adaptation to climate change

Dado / Parâmetro	Average number of participants
Unidade do dado	Number of participants
Descrição	This parameter will measure the average number of participants in training Manoa employees to carry out biodiversity monitoring by sighting.
Fonte do dado	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Descrição dos métodos e procedimentos de medição a serem aplicados	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Frequência do monitoramento	Yearly
Valor monitorado	Activity was not started during the monitored period
Equipamento de monitoramento	Not applicable
Procedimentos de QA/QC a serem aplicados	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Finalidade dos dados	Establishment of a highly trained environmental monitoring team. Continued contribution to

	environmental conservation and protection through qualified monitoring. Greater employee involvement and awareness of the importance of conservation.
Método de cálculo	Counting the average number of participants
Comentários	This indicator is intended to measure the impact on the group of Manoa farm employees

Data / Parameter	Number of training sessions held
Data unit	Number of trainings
Description	This parameter will measure the number of trainings given to Manoa employees on monitoring biodiversity by sighting
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (where available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Establishment of a highly qualified environmental monitoring team. Continued contribution to environmental conservation and protection through qualified monitoring. Greater employee involvement and awareness of the importance of conservation.
Calculation method	Counting the number of training courses

Comments	This indicator is intended to measure the impact on the Manoa farm's employee group
Data / Parameter	Evaluation of the level of knowledge on the topics covered before and after the training sessions
Data unit	Number of trainings
Description	This parameter will measure the number of Manoa employees trained in biodiversity monitoring by sighting
Data source	Report (e.g. summary of the topic covered), attendance list, photos, certificates (when available)
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Establishment of a highly qualified environmental monitoring team. Continued contribution to environmental conservation and protection through qualified monitoring. Greater employee involvement and awareness of the importance of conservation.
Calculation method	Not applicable
Comments	This indicator is intended to measure the impact on the Manoa farm's employee group
Data / Parameter	Biodiversity data collected by employees

Data unit	Number of animals sighted
Description	This parameter will monitor biodiversity data collected by employees (e.g. popular name/species name, photo, day and place of sighting).
Data source	Field data with popular name/species name, photo (where possible), day and location of sighting
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Yearly
Monitored value	Activity did not start during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Establishment of a highly qualified environmental monitoring team. Continued contribution to environmental conservation and protection through qualified monitoring. Greater employee involvement and awareness of the importance of conservation.
Calculation method	Counting sightings
Comments	This indicator is intended to measure the impact on the Manoa farm's employee group

Data / Parameter	Number of partnerships
Data unit	Number of partnerships
Description	This parameter will measure the number of partnerships with universities, research centres and scientific institutions

Data source	Documents formalising partnerships, exchange of e-mails to communicate informal partnerships, etc.
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	During the monitored period, there was a partnership with Unir to carry out 2 master's degree studies with data collection in the project area. The project provided logistical support.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater reliability and quality of the data. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Positive impact on the innovation and development of Manoa and the project. Recognition as a reliable and influential partner in the scientific and academic community.
Calculation method	Counting the number of partnerships
Comments	This indicator is intended to measure the impact on universities and researchers in Rondônia.

Data / Parameter	Number of research projects incentivised by the REDD+ Manoa project
Data unit	Number
Description	This parameter will measure the number of research projects that have been carried out with incentives from the REDD+ Manoa project, whether logistical and/or financial.

Data source	Communications between Manoa and the researchers, photos of data collection, partial reports, articles and other academic documents produced with the research data
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	<p>During the monitoring period, two UNIR projects were being carried out in the project area:</p> <ul style="list-style-type: none"> - Knowing the Patterns of Use by Terrestrial Vertebrates of a reservoir in the Amazon: unravelling the mystery of High Conservation Value Attributes - master's work by Ana Paula Silva do Nascimento, completed in November 2023. - Estimating the Population Density and Activity Patterns of Jaguars (<i>Panthera Onca</i>) and Pumas (<i>Puma Concolor</i>) in the North-Central Region of Rondônia through the Use of Camera Traps - master's thesis by Lorrán Samaritano Lopes, in progress during the monitoring period.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Increasing the number of technical and scientific materials on the project region. Strengthening the project's position as an active promoter of science and technology.

Calculation method	Contribution to scientific progress in strategic areas. Maintaining Manoa's good relationship with the local population.
Comments	Counting the number of research projects benefiting from the Manoa REDD+ Project's incentives

Data / Parameter	Number of researchers working in the project area
Data unit	Number of researchers
Description	This parameter will measure the number of researchers incentivised by the REDD+ Manoa project.
Data source	Partial research reports, completed articles, field research reports, logistical data during field research, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	2 researchers worked in the project area during the monitoring period: - Ana Paula Silva do Nascimento - Lorrán Samaritano Lopes
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Increasing the number of technical and scientific materials on the project region. Strengthening the project's position as an active promoter of science and technology.

Calculation method	Contribution to scientific progress in strategic areas. Maintaining Manoa's good relationship with the local population.
Comments	Counting the number of researchers supported by the Manoa REDD+ project

Data / Parameter	Percentage of investment in scientific research
Data unit	Percentage
Description	This parameter will measure the percentage of the REDD+ Manoa project's investments in scientific research
Data source	Logistical data during field research, REDD+ Manoa project cost data, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the Project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	Monitoring of this indicator was not started during the period monitored
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Increase in the number of technical and scientific materials on the project region. Strengthening the project's position as an active promoter of science and technology.

Calculation method	Contribution to scientific progress in strategic areas. Maintaining Manoa's good relationship with the local population
Comments	Percentage of investment in research, considering total investment

Data / Parameter	Participation rate in scientific conferences, seminars and congresses
Data unit	Number
Description	This parameter will measure the participation rate in conferences, seminars and scientific congresses.
Data source	Registration and participation documents for conferences, seminars and scientific congresses
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	Monitoring of the indicator was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Strengthening the project's presence and influence in the scientific community. Expanding the impact of the research carried out by disseminating knowledge about the region
Calculation method	Counting the number of participations in conferences, seminars and scientific congresses

Comments	This indicator is intended to measure the impact on universities and researchers in Rondônia.
Data / Parameter	Number of contributions to infrastructure improvements in the municipality of Cujubim
Data unit	Number
Description	This parameter will measure the number of improvements made by the REDD+ Manoa project in the municipality of Cujubim.
Data source	Communications between Manoa and beneficiaries, before and after photos, reports describing what was done, purchase invoices for donations and other documents that can prove donations, construction and other actions.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people who have benefited from the project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	There was 1 infrastructure improvement in the municipality of Cujubim during the period monitored: - Recovery of the bridge on line 106, started on 08/08/2023 and completed on 16/10/2023.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.

Purpose of the data	Improving the quality of life of the residents of the municipality of Cujubim. Encouraging sustainable development in the municipality.
Calculation method	Counting the number of contributions to infrastructure improvements in the municipality of Cujubim
Comments	This indicator is intended to measure the impact on the residents of Cujubim

Data / Parameter	Number of partnerships established
Data unit	Number
Description	This parameter will measure the number of institutional partnerships with public bodies and private entities established formally and informally
Data source	Communications between Manoa and partners, documents formalising partnerships
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people benefiting from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	0, no partnership with an institution was established during the monitored period.
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated between the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a solid network of institutional connections. Increased reach of initiatives developed with partners.
Calculation method	Counting the number of formal and informal partnerships

Comments	This indicator is intended to measure the impact on the residents and institutions of Cujubim
Data / Parameter	Quality and quantity of collaborative projects
Data unit	Number of projects
Description	This parameter will measure the quality and quantity of projects carried out in institutional partnerships with public bodies and private organisations in Cujubim.
Data source	Result of the projects carried out,
Description of the measurement methods and procedures to be applied	All documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	Monitoring of this indicator was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Creation of a solid network of institutional connections. Increasing the reach of initiatives developed with partners.
Calculation method	Counting the number of projects and assessing their quality
Comments	This indicator is intended to measure the impact on the residents and institutions of Cujubim
Data / Parameter	Community assessment of the improvements made
Data unit	Qualitative indicator

Description	This parameter will gather the community's assessment of the infrastructure improvements carried out in the municipality of Cujubim.
Data source	Results of the projects carried out,
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital files throughout the project's accreditation period. In this way, information on the people who benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	Monitoring of this indicator was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Improving the quality of life of the residents of the municipality of Cujubim. Encouraging sustainable development in the municipality.
Calculation method	Not applicable
Comments	This indicator is intended to measure the impact on the residents and institutions of Cujubim

Data / Parameter	Number and type of donations made to Cujubim institutions
Data unit	Number and category
Description	This parameter will measure the number and type of donations made to Cujubim institutions by the REDD+ Manoa project

Data source	Communications between Manoa and institutions, documents on the purchase and delivery of donations, photos, thank you letters, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the Project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	<p>6 donations were made by the REDD+ Manoa project to institutions in Cujubim during the monitoring period:</p> <ul style="list-style-type: none"> - Donation of equipment to SAMU - March 2023 - Donation of chocolates to the raio de luz daycare centre for Easter - March 2023 - Donation to St John the Baptist Church for the feast of the patron saint St John the Baptist - June 2023 - Donation of materials to refurbish the headquarters of the waste pickers' cooperative - August 2023 - Donation to the Ray of Light Nursery for Children's Day - October 2023 - Donation to APAE for Children's Day - October 2023
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contribution to the maintenance of institutions in Cujubim, strengthening their positive social impact on the community. Establishing a long-term relationship with local institutions and the community that support forest conservation.

Calculation method	Counting the number of donations
Comments	In addition to counting the number of donations, the type of donation will be indicated, e.g. donation of medical equipment, donation of material for an event (Easter sweets). This indicator is intended to measure the impact on the residents and institutions of Cujubim
Data / Parameter	Number and profile of beneficiary institutions
Data unit	Number and profile
Description	This parameter will measure the number and profile of institutions benefiting from donations from the REDD+ Manoa project
Data source	Communications between Manoa and institutions, documents on the purchase and delivery of donations, photos, thank you letters, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information on the people who have benefited from the Project's activities will be monitored and accounted for
Monitoring frequency	Annually
Monitored value	5 institutions benefited from donations from the REDD+ Manoa project during the monitored period: <ul style="list-style-type: none"> - Samu - Ray of Light Day Care Centre - St John the Baptist Church - Waste pickers' co-operative - APAE
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated, identifying improvements in the collection and recording

	processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contribution to the maintenance of institutions in Cujubim, strengthening their positive social impact on the community. Establishing a long-term relationship with local institutions and the community that support forest conservation.
Calculation method	Counting the number of institutions
Comments	In addition to the number of institutions involved, the profile of the institution will be indicated, e.g. public body, educational institution, NGO, social institution, etc. This indicator is intended to measure the impact on the residents and institutions of Cujubim

Data / Parameter	Institutions' assessment of donations received
Data unit	Not applicable, as this is qualitative data
Description	This parameter will collate the institutions' evaluations of the donations received
Data source	Communications between Manoa and institutions, documents on the purchase and delivery of donations, photos, thank you letters, etc.
Description of the measurement methods and procedures to be applied	All the documents produced will be stored in digital archives throughout the project's accreditation period. In this way, information about the people who have benefited from the project's activities will be monitored and accounted for.
Monitoring frequency	Annually
Monitored value	Monitoring of this indicator was not started during the monitored period
Monitoring equipment	Not applicable
QA/QC procedures to be applied	The systematised information on the people and/or institutions benefiting from the activities will be validated among the proponents, allowing for greater data reliability and quality. In addition, the project will continually evaluate the information generated,

	identifying improvements in the collection and recording processes and, where appropriate, incorporating adjustments into the project's strategic planning.
Purpose of the data	Contribution to the maintenance of institutions in Cujubim, strengthening their positive social impact on the community. Establishing a long-term relationship with local institutions and the community that support forest conservation.
Calculation method	Not applicable
Comments	The evaluations of the institutions received by e-mail and letters of thanks will be recorded. This indicator is intended to measure the impact on the residents and institutions of Cujubim

4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

The Climate Monitoring Plan and all its results will be publicly disclosed on the VERRA registry page and on the Bioflica Ambipar Environment website.

For stakeholders without internet access, a printed copy will be available at Manoa's office in Cujubim and at Manoa's farm headquarters. Information about the Project will also be disseminated via email and WhatsApp (using a pre-established contact list of stakeholders), and on social media platforms such as Instagram and LinkedIn (see section 2.3.2 and 2.3.10 for communication channels), of the project proponents.

In this way, it is expected that all necessary efforts to provide full transparency and distribute key information and documents of the Project will be achieved.

4.4 Optional Criterion: Exceptional Community Benefits

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

Not applicable, as the project does not have a Community Gold Level.

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

Not applicable, as the project does not have a Community Gold Level.

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

Not applicable, as the project does not have a Community Gold Level.

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not applicable, as the project does not have a Community Gold Level.

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

Not applicable, as the project does not have a Community Gold Level.

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

Not applicable, as the project does not have a Community Gold Level.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)⁴

Change in Biodiversity	Fauna and flora
Monitored Change	Reducing deforestation
Justification of Change	The project's activities have contributed to reducing deforestation and forest degradation, based on the practices of low-impact forest management, monitoring deforestation, property surveillance, fire brigade training, environmental education actions and strengthening the good relationship between Manoa and its neighbours.

5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

The only activity carried out in the project area that can cause negative impacts on biodiversity is low-impact forest management. As a mitigation measure, the Manoa REDD+ Project ensures that certifications such as the FSC and PFSC are obtained, which guarantee that management is carried out using sustainable practices and with the least possible impact. In addition, the forest management manual includes specific precautions for HCVA, such as regular monitoring to verify the integrity of these environments and strict care in road and exploration planning, minimising intervention near sensitive areas (see section 5.1.2 of the CCB PD).

To ensure that the measures applied are effective and consistent with the precautionary principle, the project adopts a biodiversity monitoring plan that identifies and reacts quickly to possible negative impacts. The precautionary principle guides these measures, allowing impacts to be anticipated on the basis of best practice, even in the absence of absolute scientific certainty. Thus, any changes in fauna and flora, especially in HCV areas, will be recorded and analysed, allowing for proactive adjustments to management activities. To date, the monitoring campaigns carried out by Casa da Floresta in 2014 and 2023, as well as studies by UNIR students, have not indicated any significant impacts of forest management on biodiversity in the project area, which reinforces the effectiveness of the practices adopted.

5.1.3 Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

During this monitoring period, the project prevented the deforestation of 7,663.25 hectares of forest in the project area, helping to maintain the vegetation cover in good condition and ensuring the connectivity of the project area with neighbouring protected areas. Maintaining this vegetation cover in good condition has ensured the connectivity of the project area with neighbouring protected areas, contributing to the maintenance of habitat, resources and the gene flow of the biodiversity found in the region, which includes 21 that are under some degree of threat according to the IUCN.

This item is under development.

5.1.4 High Conservation Values Protected (CCB, B2.4)

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

Not applicable, because the species used in the low-impact forest management carried out by Manoa are always native species that occur in the project area, which are listed in the pre- and post-exploration reports shared with VVB, and there is no introduction of species.

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

The project does not have any activities involving the introduction of invasive species in the project area, so it will not contribute to the increase of any invasive species in the region. In addition, the biodiversity studies carried out in 2014 and 2023 show that there are no invasive species in the project area.

5.1.7 GMO Exclusion (CCB, B2.7)

Manoa carries out low-impact forest management within the project area, with all stages of management documented in management plans and pre- and post-exploration reports shared with VVB. No GMOs are used in any of the stages.

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

Not applicable as there is no use of fertilisers, chemical pesticides or biological control agents in the project area.

5.2 Offsite Biodiversity Impacts

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

The only possible negative impact of the project would be the migration of hunting and fishing activities to neighbouring regions, since the project activities themselves have no potential to cause negative impacts. However, no subsistence hunting communities were found in the region and there is no professional fishing system around the farm, with the majority of fish consumed locally being obtained through farming

(markets)³⁷. The 100.89% increase in water bodies in the region associated with fish farming and dams for irrigation corroborates the fact that the fish consumed in the region originate from farming³⁸. Therefore, if hunting and fishing activities were to be displaced, it would only be recreational activities.

Negative Offsite Impact	Mitigation Measure(s)
Recreational hunting and fishing	Implementation of specific environmental education activities aimed at raising awareness among local residents and visitors about the importance of fauna conservation, as well as community workshops and educational campaigns on sustainable fishing practices and biodiversity conservation. Manoa will regularly monitor the surrounding area to assess the effectiveness of these measures and adjust actions as necessary to reduce possible impacts. Support will also be provided for local studies and research into the region's biodiversity, promoting sustainable recreational alternatives.

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

While the only expected negative impact is the potential displacement of recreational hunting and fishing activities to areas outside the project zone, REDD+ Manoa provides a number of substantial benefits for biodiversity within the project, including:

- Maintenance of approximately 7,663.25 hectares of forest cover in a good state of conservation, which provides habitats and allows ecological connectivity with adjacent protected areas, guaranteeing the gene flow of local species and helping to sustain populations of native fauna and flora, some of which are endemic or threatened.
- Contribution to the preservation of 21 endangered species recorded in the project area, increasing their chances of survival and recovery over time.
- Protection against deforestation and forest degradation, reducing habitat fragmentation and maintaining ecological integrity, which is essential for the stability of local biodiversity.

Considering the limited negative impact and the multiple robust conservation benefits provided by the project, the net effect of the project on biodiversity is clearly positive.

³⁷ Relatório elaborado pela Casa da Floresta, 2024

³⁸ Relatório elaborado pela Ecoporé, 2024

5.3 Biodiversity Impact Monitoring

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

Monitoring Avoided Deforestation and Emissions Reduction and Prevention and Mitigation of Fires and Respiratory Diseases

During the monitored period 7.663,25 hectares of forest were maintained in the project area, due to reduced and/or avoided deforestation thanks to the actions completed and monitored described in section 3.1.3.

Promoting environmental education and encouraging science

During the monitoring period, through the environmental education activities described in section 4.3.1, the project indirectly contributed to the biodiversity of the project area, as it helped to change the local population's attitude towards the environment and to create a culture of valuing science and environmental education in the community, with a positive impact on regional development.

Ensuring the continuity of the high quality standards of forest management

Monitoring impacts on biodiversity and HCVA

1. Flora Monitoring:

- During the monitoring period there was an update of the project's environmental diagnosis, which had been carried out in 2014 and was repeated in 2023, with some collections taking place at the beginning of 2024. The work was carried out by Florestal Planejamento, Paisagismo e Consultoria Ltda. The indicators monitored were as follows:
- Number of permanent plots monitored and frequency of monitoring - 40 conglomerates, arranged as described in item 5.4.2 of the CCB PD, were monitored during the monitoring period. Details of the study are available in the report by the company Florestal Planejamento, Paisagismo e Consultoria Ltda and in the field spreadsheets, both shared with VVB.
- Plant species richness in the permanent plots - 171 species were identified, belonging to 44 botanical families. The full list of species is available in the Casa da Floresta report and in the field spreadsheets from Florestal Planejamento, Paisagismo e Consultoria Ltda.
- Recruitment and mortality of plant species - 21,168 individuals were inventoried in the conglomerates, of which 20,577 were live trees (97.2 per cent) and 591 were standing dead trees (2.8 per cent), as shown in Table 29.

Table 29. Number of individuals per hectare, distributed between living and dead standing trees.

Tree situation	Average number of individuals ha ⁻¹			
	No. ind	%	IC	Sample error

Living Tree	514,4	97,2%	± 18,3	3,55 %
Standing dead tree	14,8	2,8%	± 1,7	11,49 %
Unified average	529,2		± 18,8	3,55 %

- Forest increment rate in permanent plots - the last forest increment study was carried out in 2022, through a growth study of the remaining forest, based on remediations of permanent plots (between 2014 and 2022). The average growth of commercial or potential commercial species with DBH≥50cm was 1.38 m³.ha.year⁻¹. As this indicator is scheduled to be monitored every 3 years, it was not repeated during the monitoring period

2. Fauna Monitoring

Birdlife

During the monitoring period, the birdlife was monitored by the Forest House following the methodology described below:

The work focussed on the early hours of the day, the period when most bird species are most active. The transect method was used, which consists of pre-established walks along routes, taking note of all the species recorded visually and aurally³⁹. This method is best suited to recording the largest number of bird species in a short space of time ⁴⁰.

One transect was established per selected UPA and one transect where there will be no exploitation, the Absolute Reserve (AR), totalling four samplings. The distribution of the transects included all the phytophysiognomies and successional stages present in the sampling units.

In order to obtain abundance data, fixed points were established⁴¹. In this method, the researcher remains stationary at a pre-established point and quantifies the species recorded during this period. From this it is possible to determine an index of species abundance, the Point Index of Abundance (IPA), which is the quotient of the total number of contacts by the number of points sampled⁴². The time spent at each point was 15 minutes and the minimum distance between them was 200 metres, which reduces the chances of counting the same individuals at different points. Species that only flew over the point were not considered in the analyses. Three points were allocated in each of the three selected UPAs and in the RA (Figura 1).

³⁹ BIBBY, C. J.; BURGUESS, N. D.; HILL, D. A. Bird census techniques. Orlando: Academic Press, 1992.

⁴⁰ DEVELEY, P. F. Métodos para estudos de aves. Em: CULLEN JR, L.; RUDRAN, R. e PADUA, C. V. (Ed.). **Métodos de estudos em Biologia da Conservação e Manejo da Vida Silvestre**. Ed. EFPR, São Paulo, p. 19-42, 2003.

⁴¹ VIELLIARD, J.M.E.; SILVA, W.R. Nova metodologia de levantamento quantitativo da avifauna e primeiros resultados do interior de São Paulo, Brasil. Pp 117-151. In S.M. de Azevedo Jr. (Ed.) Anais do IV Encontro Nacional de Anilhadores de Aves, Universidade Federal Rural de Pernambuco, Recife/PE, 1990.

⁴² VIELLIARD, J.M.E.; ALMEIDA, M.E.C.; ANJOS, L. dos; SILVA, W. R. Levantamento quantitativo por pontos de escuta e o Índice Pontual de Abundância (IPA). In: MATTER, S.V. STRAUBE, F.C.; ACCORDI, I. A.; PIACENTINI, V.Q.; CÂNDIDO-JR, J.F. (Org). **Ornitologia e Conservação – Ciência Aplicada, técnicas de pesquisa e levantamento**. 1ª edição. Rio de Janeiro, p. 47-60, 2010.

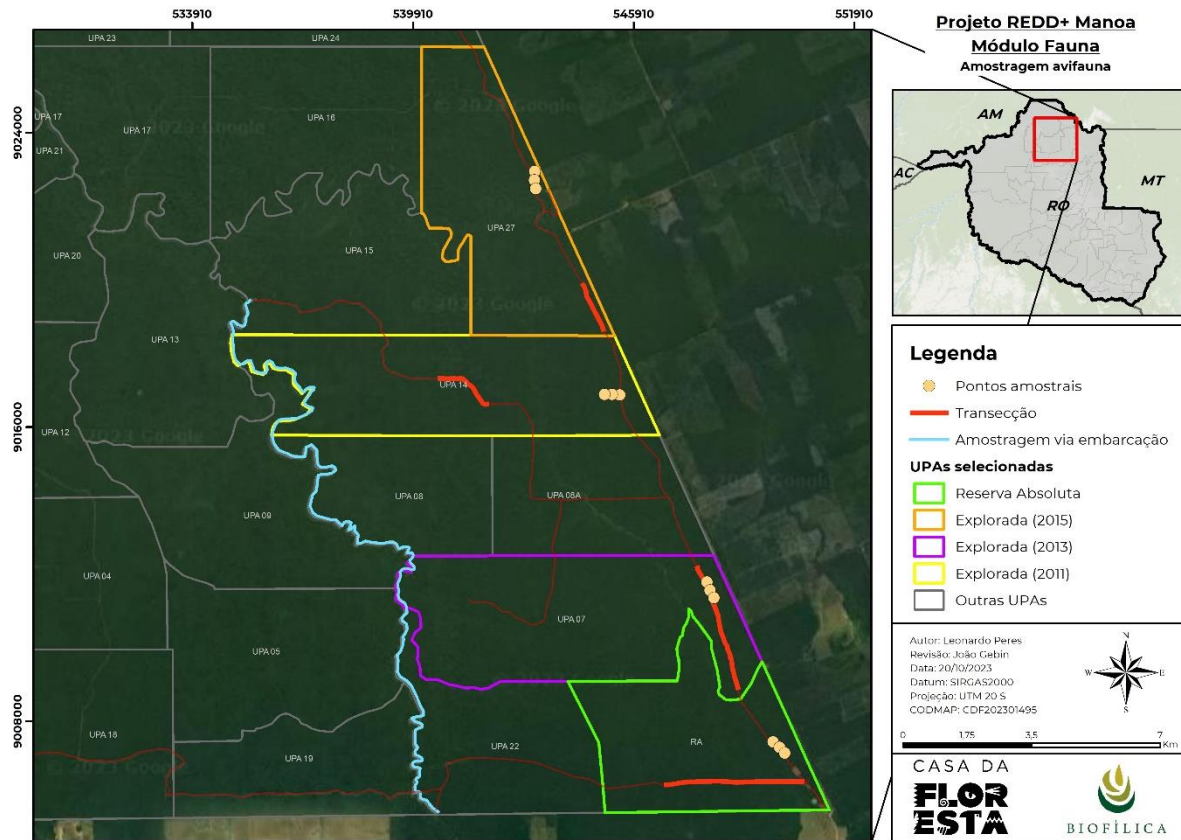


Figura 1. UPAs avaliadas mostrando pontos fixos e transecções realizadas para amostragem avifauna.

In addition, timely records were made at any time and place in order to add species not recorded in both methods. In addition, in order to contemplate nocturnally active birds, three trips were made at night per campaign, where species that occur in the region were sought out by attracting them with pre-stored recordings (playback).

A pair of Bushnell 10x42 mm binoculars was used for visualisation. Visual identification was aided by specific literature^{43,44}. Unknown vocalisations were recorded with a Tascam DR-100 recorder coupled with a Rode NTG-2 unidirectional microphone, which were compared for identification with recordings deposited on specific websites, Xeno Canto (www.xeno-canto.org) and WikiAves (www.wikiaves.com.br).

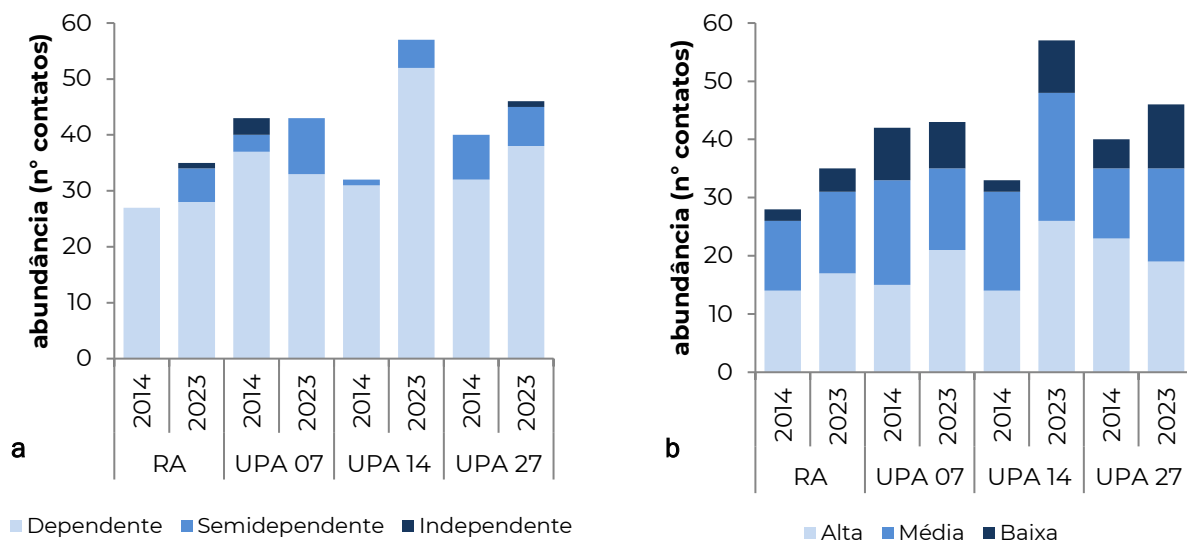
Playback was also used to attract birds whose vocalisations were dubious or where it was necessary to visualise the bird. Taxonomic classifications and species nomenclature followed the resolutions of the

⁴³ SCHULENBERG, T. S.; STOTZ, D. F.; LANE, D. F.; O'NEILL, J. P.; PARKER, T. A., Birds of Peru. Princeton University Press, Princeton, New Jersey, 2007.

⁴⁴ VAN PERLO, B. A field guide to the Birds of Brazil. New York: Oxford University Press. 465p, 2009.

Brazilian Committee for Ornithological Records⁴⁵. The endemics of southern Amazonia were classified according to De Luca et al. (2009)⁴⁶.

- Richness - 249 species were recorded during the monitoring period, including 43 new species not recorded in the environmental diagnosis carried out in 2014. This brings the total number of species recorded in the project area since its inception to 316.
- Species composition - the full list of species is available in the field materials and in the Casa da Floresta report.
- Abundance data - it was not possible to obtain abundance data per species, so the abundance of ecological parameters was considered according to forest dependence, sensitivity to environmental changes (high, medium and low) and feeding guilds (Figura 2).



⁴⁵ PACHECO, J.F.; SILVEIRA, L.F.; ALEIXO, A.; AGNE, C.E.; BENCKE, G.A.; BRAVO, G.A; BRITO, G.R.R.; COHN-HAFT, M.; MAURÍCIO, G.N.; NAKA, L.N.; OLMOS, F.; POSSO, S.; LEES, A.C.; FIGUEIREDO, L.F.A.; CARRANO, E.; GUEDES, R.C.; CESARI, E.; FRANZ, I.; SCHUNCK, F. & PIACENTINI, V.Q. Annotated checklist of the birds of Brazil by the Brazilian Ornithological Records Committee – second edition. Ornithology Research, v. 29, n. 2, p. 94–105, jun. 2021

⁴⁶ DE LUCA, A. C.; DEVELEY, P. F.; BENCKE, G. A.; GOERK, J. M. Áreas importantes para a conservação das aves no Brasil: parte II – Amazônia, Cerrado e Pantanal. São Paulo: SAVE Brasil, 2009.

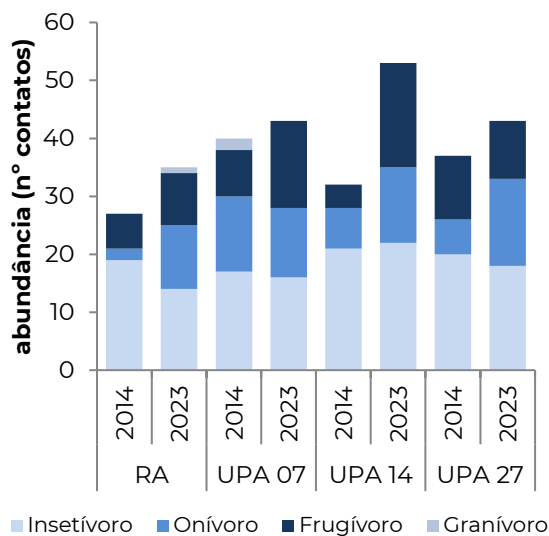


Figura 2. Distribution of birdlife recorded by UPA. Forest dependence parameters: a. abundance (point method). Parameters of sensitivity to anthropogenic disturbances: b. abundance (point method). Most represented diets; c. abundance (point method).

Mastofauna

During the monitoring period, the mastofauna was monitored by the Forest House following the methodology described below:

The diagnosis only covered species with a body weight of more than 1.0kg⁴⁷, primates included. Sampling used complementary methodologies, including camera trapping and trail transects^{48,49}, in four selected areas (Figura 3).

⁴⁷ BECKER, M.; DALPONTE, J. C. Rastro de Mamíferos brasileiros: um guia de campo. 2ª ed. Brasília: Universidade de Brasília, p. 180, 2013.

⁴⁸ NICHOLS, J. D.; CONROY, M. J. Techniques for estimating abundance and species richness. In: WILSON, D. E.; COLE, F. R.; NICHOLS, J. D.; RUDRAN, R.; FOSTER, M. S. Measuring and monitoring biological biodiversity: standard methods for mammals. Smithsonian Inst. Press, 409 p. 1996.

⁴⁹ ROCHA, E. C.; DALPONTE, J. C. Composição e caracterização da fauna de mamíferos de médio e grande porte em uma pequena reserva de cerrado em Mato Grosso, Brasil. Viçosa: Revista Árvore, v. 30, n. 4, p. 669-678. 2006.

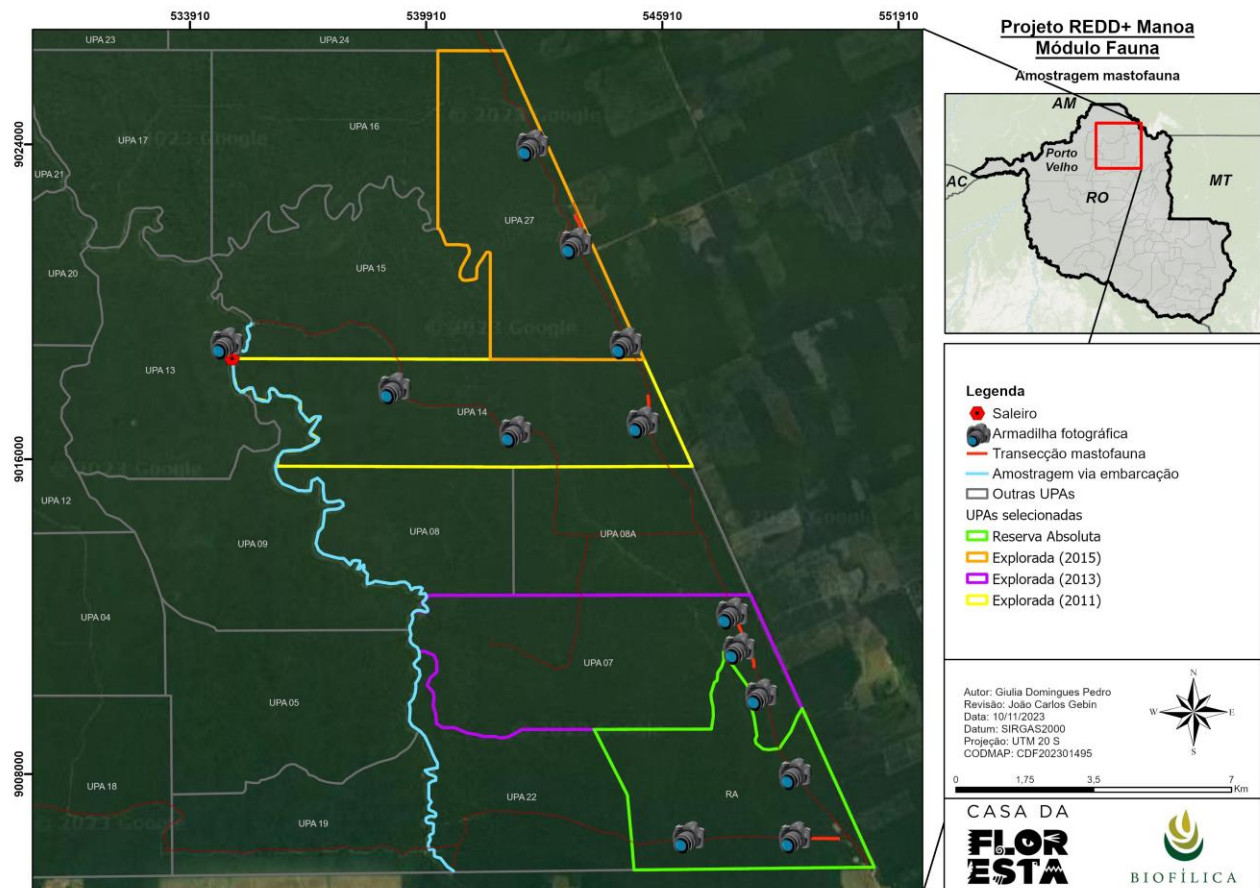


Figura 3. Mastofauna sampling sites during the biodiversity monitoring campaign at Fazenda Manoa (Cujubim, RO).

The camera trapping method used digital Bushnell Trophy Cam camera traps. The equipment has an infrared movement and heat sensor capable of detecting animals that move within its radius of operation. The method is highly efficient and reliable in recording and identifying mammals, and is considered fundamental in sampling the group^{50,51}.

Three camera traps were placed in each of the UPAs and in the RA, keeping a minimum distance of 500 metres between them (Figure 31). All the cameras were fixed to trees at a height of approximately 40 cm from the ground and were programmed to work uninterruptedly for 24 hours a day, taking 3 photos with each shot. Records of the same species were considered independent when the interval between them

⁵⁰ SILVEIRA, L.; JÁCOMO, A. T.; DINIZ-FILHO, J. A. Camera trap, line transect censos and track surveys: a comparative evaluation. *Biological Conservation*, v. 114, p. 351–355, 2003.

⁵¹ LYRA-JORGE, M. C.; CIOCHETI, G.; PIVELLO, V. R.; MEIRELLES, S. T. Comparing menthols for sampling large and medium sized mammals: camera traps and track plots. *Journal of Wildlife Research*, v. 54, p. 739-744, 2008.

was greater than 1 hour⁵², thus avoiding the overestimation of data, which can influence analyses of abundance and frequency⁵³. All the traps in the UPAs and RA were installed on the 14th and removed on the 22nd of September, remaining in the field for 8 nights. Together with the traps installed in the salt pans, the total sampling effort was at least 2,736 camera*hours. No type of bait was used to attract the animals. The track transect method collected data by searching for direct records (sightings, vocalisations and carcasses) and indirect records (tracks, faeces, burrows and scratches) along tracks, branches and roads (main and secondary). This method was applied to the three UPAs and the RA, each of which included a one-kilometre transect, totalling a sampling effort of 4 km. The indirect records obtained were identified on site using field guides^{54,55,56} and the experience of the researcher, being photographed with a scale reference object.

In addition to the two quantitative methods described above, timely records were obtained in a non-systematic way. The records were considered valid, as long as they were properly identified, and were used in the composition of the richness of the units and the farm in general. Active nocturnal searches were carried out (sometimes starting at twilight and sometimes before dawn), travelling along the main roads and some secondary roads of the farm by vehicle. Timely sampling was also carried out by boat on the navigable stretches of the Jacundá and Açú rivers, with the aim of increasing total species richness.

The taxonomic classifications and nomenclature of mammal species were based on the resolution established by the Brazilian Society of Mastozoology⁵⁷, with the exception of Primates, for which the international nomenclature was used⁵⁸. The specific attributes of diet, form of locomotion and endemism were selected according to the Annotated List of Mammals of Brazil 2nd edition⁵⁹. With regard to habitat preference attributes, various references were compiled, including the Ungulate Conservation Status

⁵² KASPER, C. B.; MAZIM, F. D.; SOARES, J. B. G.; OLIVEIRA, T. G.; FABIÁN, M. E. Composição e abundância relativa dos mamíferos de médio e grande porte no Parque Estadual do Turvo, Rio Grande do Sul, Brasil. *Revista Brasileira de Zoologia*, v. 24, n. 4, 2007.

⁵³ SOARES, C. S.; FANECA, L. F.; BARRETO, R. M. F. Levantamento de mamíferos de maior porte em seringais e florestas do sul da Bahia (Brasil) utilizando armadilhas fotográficas. *Revista de Biologia Neotropical*, v. 10, n. 1, p. 36-45, 2013.

⁵⁴ PRIST, P. R.; SILVA, M. X.; PAPI, B. Guia de rastros de mamíferos neotropicais de médio e grande porte. Folio Digital, 2020.

⁵⁵ BORGES, P.; TOMÁS, W. Guia de rastros e outros vestígios de mamíferos do Pantanal. 1ª ed. Corumbá, MS: Embrapa Pantanal, p. 148, 2008.

⁵⁶ BECKER, M.; DALPONTE, J. C. Rastro de Mamíferos brasileiros: um guia de campo. 2ª ed. Brasília: Universidade de Brasília, p. 180, 2013.

⁵⁷ ABREU, E. F.; CASALI, D. M.; GARBINO G. S. T.; LIBARDI, G. S.; LORETTO, D.; LOSS, A. C., MARMONTEL, M.; NASCIMENTO, M. C.; OLIVEIRA, M. L.; PAVAN, S. E.; TIRELLI, F. P. Lista de Mamíferos do Brasil, versão 2022-2. Comitê de Taxonomia da Sociedade Brasileira de Mastozoologia (CT-SBMz), 2022.

⁵⁸ IUCN – INTERNATIONAL UNION FOR CONSERVATION OF NATURE. Dispõe de informações sobre a lista internacional das espécies ameaçadas (**Red List of Threatened Species**). Versão 2023.1. Disponível em: <<http://www.iucnredlist.org>>

⁵⁹ PAGLIA, A. P.; FONSECA, G. A. B. D.; RYLANDS, A. B.; HERRMANN, G.; AGUIAR, L. M. S.; CHIARELLO, A. G.; LEITE, Y. L. R.; COSTA, L. P.; SICILIANO, S.; KIERULFF, M. C. M.; MENDES, S. L.; TAVARES, V. C.; MITTERMEIER, R. A.; PATTON, J. L. Lista anotada dos mamíferos do Brasil/Annotated checklist of Brazilian mammals. 2. ed. Arlington, Conservation International, 2012.

Assessments⁶⁰ and Carnívoros⁶¹. The Red List of the International Union for Conservation of Nature, version 2022.2, was consulted to define the threat categories⁶².

- Richness - 23 species of mammals were recorded during the monitoring carried out in 2023, of which 11 are considered endemic to the Amazon biome. Considering the data collected in 2014, a total of 32 species of the group were recorded in the project area.
- Species composition - the list of species found is available in the Casa da Floresta report and in the field data shared with the VVB.
- Abundance data - it was not possible to obtain abundance data per species due to the low number of records per species.
- Threatened species
- Flora - 2 species of endangered flora (EN) according to the IUCN and 4 species in the vulnerable category (VU) were found, as shown in Table 30.

Table 30. List of threatened species that occur in the Project Area (in relation to the degree of threat of the species listed in the table: VU = Vulnerable; EN = Endangered).

Family	Species	Common Name	Threat Degree IUCN
Bignoniaceae	<i>Handroanthus serratifolius</i>	ipê-amarelo	EN
Fabaceae	<i>Dalbergia spruceana</i>	jacarandá	VU
Fabaceae	<i>Peltogyne paradoxa</i>	roxinho	VU
Lecythidaceae	<i>Bertholletia excelsa</i>	castanheira	VU
Meliaceae	<i>Cedrela odorata</i>	cedro-rosa	VU
Sapotaceae	<i>Manilkara elata</i>	maçaranduba	EN

- Avifauna - 6 species were found in the vulnerable category (VU) in the project area, as shown in Table 31.

Table 31. Endangered bird species recorded at Manoa Farm (Cujubim, RO).

Family/ Species	Common Name	Threat Degree IUCN
<i>Tinamus tao</i>	azulona	VU
<i>Psophia viridis</i>	jacamim-de-costas-verdes	VU
<i>Harpia harpyja</i>	harpia	VU

⁶⁰ ICMBIO – Instituto Chico Mendes de Conservação da Biodiversidade. Avaliação do Estado de Conservação dos Ungulados. Biodiversidade brasileira, n. 1, 2012.

⁶¹ ICMBIO – Instituto Chico Mendes de Conservação da Biodiversidade. Avaliação do Estado de Conservação dos Carnívoros. Biodiversidade brasileira, n. 1, 2013.

⁶² IUCN – INTERNATIONAL UNION FOR CONSERVATION OF NATURE. Dispõe de informações sobre a lista internacional das espécies ameaçadas (**Red List of Threatened Species**). Versão 2023.1. Disponível em: <<http://www.iucnredlist.org>>

Family/ Species	Common Name	Threat Degree IUCN
<i>Pionites leucogaster</i>	marianinha-de-cabeça-amarela	VU
<i>Hypocnemis ochrogyna</i>	cantador-ocráceo	VU
<i>Hylexetastes uniformis</i>	arapaçu-uniforme	VU

- Mastofauna - 2 species were found in the endangered category (EN), according to the IUCN, and 6 species in the vulnerable category (VU), as shown in Table 32. Of these, 4 are endemic to the Amazon biome.

Table 32. List of mammals recorded on the Manoa farm in 2023 with information on Endemism and Degree of Threat: VU - "vulnerable"; EN - "endangered", according to the IUCN list.

ORDER/ Family/ Species	Common Name	Endemic	Threat Degree IUCN
<i>Pteronura brasiliensis</i>	ariranha		EN
<i>Tayassu pecari</i>	queixada		VU
<i>Tapirus terrestris</i>	anta		VU
<i>Myrmecophaga tridactyla</i>	tamanduá-bandeira		VU
<i>Ateles chamek</i>	macaco-aranha-de-cara-preta	x	EN
<i>Mico rondoni</i>	sagui-de-rondônia	x	VU
<i>Pithecia mittermeieri</i>	parauacu	x	VU
<i>Plecturocebus brunneus</i>	zogue-zogue	x	VU

- Monitoramento do saleiro

Area affected by fire and/or deforestation in the salt pan region - as detailed in section 3.1.3, 6 deforestation monitors were carried out during the dry season and 6 hotspot monitors during the same period. There were no records of deforestation and/or hotspots near the salt pan. In addition, there was annual monitoring using remote sensing (see section 3.1.3) and no impact on the forest cover of the AAVC was verified.

Flora and fauna indicators - fauna monitoring in the salt pans was carried out by installing three camera traps, following the same methodologies described above for monitoring mastofauna. The traps were installed on 15 September and removed on 21 September, remaining in the field for 6 nights.

Six species of mammals were recorded. Among them are two primates recorded exclusively in 2014, the capuchin monkey (*Sapajus apela*) and the spider monkey (*Ateles chamek*), three ungulates: peccary (*Tayassu pecari*), deer (Cervidae) and tapir (*Tapirus terrestris*) and one carnivore species, the jaguar (*Panthera onca*) recorded in 2024. Among the species observed, there was a high abundance and predominance of habitat use by ungulates.

Birds were monitored according to the methodologies described above for monitoring avifauna. Among those sighted, two species of endangered psittaciformes stand out: the wood tit (*Pyrrhura pallescens*) and the red-bellied tit (*P. perlata*). These were visualised in the two campaigns carried out with a high concentration in the area and, according to information from the farm's employees, are frequent in the area.

Some bird species were also recorded foraging in the area using the camera traps: the endangered green-backed jacamim (*Psophia viridis*), recorded in 2014, the little peacock (*Eurypyga helias*) and the common puffin (*Leptotila verreauxi*) recorded in 2023 and the curassow (*Pauxi tuberosa*) recorded in 2014 and 2023.

Therefore, a total of 8 species of fauna were recorded on the salt flat in 2023, and 12 in total since the start of the REDD+ Manoa project.

Presence of endangered species - Of the 12 species already recorded in the salt flat, 3 are under some degree of threat according to the IUCN: *Ateles chamek*, EN; *Tapirus terrestres*, VU and *Psophia viridis*, VU. Frequency of visits made for monitoring purposes - During the monitoring period, only visits were made by the Casa da Floresta team to the region of this AAVC between 15 and 21 September.

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

The Monitoring Plan and all its results will be publicly disclosed on the VERRA registry page and on the Biofílica Ambipar Environment website.

For stakeholders without internet access, a printed copy will be available at Manoa's office in Cujubim and at Manoa's farm headquarters. Information about the Project will also be disseminated via email and WhatsApp (using a pre-established contact list of stakeholders), and on social media platforms such as Instagram and LinkedIn (see section 2.3.2 and 2.3.10 for communication channels), of the project proponents.

In this way, it is expected that all necessary efforts to provide full transparency and distribute key information and documents of the Project will be achieved.

5.4 Optional Criterion: Exceptional Biodiversity Benefits

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

Section under development.

Trigger species	<i>Manilkara elata</i> (EN)
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Scenario With Project	Low-impact management measures and continuous monitoring allow the current population of <i>Manilkara elata</i> to be maintained and potentially increased.
Trigger species	<i>Handroanthus serratifolius</i> (EN)
Scenario With Project	<p>In the scenario with the project, low-impact forest management is maintained, which guarantees the presence of the species in the project area. A pre- and post-exploitation forest inventory is carried out in all logged areas, which allows the number of individuals of the species to be monitored frequently.</p> <p>In addition, the project's activities aimed at containing deforestation, timber theft and forest fires (such as property surveillance, fire brigade training, remote monitoring, etc.) ensure that the species remains in the region.</p>
Trigger species	<i>Bertholletia excelsa</i> (VU)
Scenario With Project	<i>Under development</i>
Trigger species	<i>Pteronura brasiliensis</i> (EN)
Scenario With Project	Maintaining the quality of this species' habitat, guaranteed by the existence of the project, makes it possible for the species to perpetuate itself in the region.
Trigger species	<i>Ateles chamek</i> (EN)
Scenario With Project	By maintaining the forest cover in the project area, the habitat of this species is guaranteed. The control of people entering the Manoa farm and the surveillance of the property also reduce the risk of hunting in the region.
Trigger species	<i>Tayassu pecari</i> (VU)
Scenario With Project	By maintaining the forest cover in the project area, the habitat of this species is guaranteed. The control of people entering the Manoa farm and the surveillance of the property also reduce the risk of hunting in the region.