NON-PERMANENCE RISK REPORT RESEX RIO PRETO JACUNDÁ REDD+ PROJECT

Document Prepared by Biofílica Ambipar Environmental Investments S/A

Project Title	Projeto REDD+ RESEX Rio Preto-Jacundá
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1 INTERNAL RISK

Project Management		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located. **Not applicable**	0
b)	Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued. **There is an effort on the part of the project proponents to get more and more support from SEDAM to improve the efficiency of patrolling in the RESEX Rio Preto Jacundá. Within the monitored period, several contacts were made with public agencies to provide the necessary support for these activities. In this sense, it is important to mention that SEDAM was already carrying out patrols in the region and in other UCs in an unsystematic and sporadic way, to avoid invasion throughout the project area and the leakage belt.**	2
c)	Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area). **Not applicable. The management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities. Description of team members' experience below in item 1.1. ASMOREX's Team were trained between the Project Activities, as described in "RESEX Rio Preto-Jacundá Monitoring Report", Section 2.2.13 and 4.3.1.**	0
d)	Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area. **Not applicable. ASMOREX maintain a physical presence in the project site, and the entire team is located less than a day of travel from the project site. Location of management team below.**	0
e)	**Mitigation:** Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects	-2

	through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs. **Management team includes individuals with significant experience in AFOLU project design and implementation, and in carbon accounting, under approved GHG programs. Description of team members' experience below in item 1.1.**	
f)	**Mitigation**: Adaptive management plan in place Risks, and mitigation activities below. **1. Lack of participation of residents (High)** – All the activities carried out in the monitored period were previously designed in the Life Plan, in which the perspectives and demands of each community were considered for its construction. – Based on what was established in the Life Plan, the investments made followed the guidelines of the Jacundá REDD+ Financial Mechanism where the Executive Secretariat of the REDD+ Financial Mechanism (composed by Biofílica, ASMOREX and CES Rioterra) is responsible for preparing the Annual Work Plan, where the priorities, actions, investment composition and activities are defined, related to the subsequent 12 (twelve) month period ("Cycle") of the Jacundá REDD+ Financial Mechanism always based on the Investment Policy. This plan goes through the approval of the community through a General Meeting, and, after 6 (six) months of its approval, the Annual Work Plan can be evaluated and revised, being possible to adjust, if necessary, the revision is submitted to the deliberation of the Community, via the General Meeting. The full description of the mechanism is in section 4.3.1 of the MR. – Os Proponentes do projeto (ASMOREX e Biofílica) e parceiros (mais precisamente a CES Rioterra) realizam reuniões internas para acompanhamento e planejamento de atividades e ações relacionadas ao Projeto. Além disso, a ASMOREX, em conformidade com sua missão e seguindo os atributos dispostos em seu Estatuto, informa e conscientiza seus associados {comunitários residentes da RESEX) e público em geral sobre toda articulação interna e repasse de informações relevantes às partes interessadas pela realização de assembleias gerais ordinárias e extraordinárias. – The Project Proponents (ASMOREX and Biofílica) and partners (more precisely CES Rioterra) hold internal meetings for monitoring and planning activities and actions related to the Project. In addition, ASMOREX, in accordance with its mission and following the attributes set out in its Statute, informs, and makes its members (community residents of RESEX) aware of all internal articulation and passing on of relevant information to interested parties by	-2

	holding ordinary and extraordinary general meetings. See “RESEX Rio Preto-Jacundá REDD+ Monitoring Report”, Section 2.3 and 4.3.1. – ASMOREX functions as a central pivot in the dialogue between the parties, being a physical and accessible support to collect feedbacks and suggestions, measure dissatisfactions and manage any discontent and displeasures related to personal issues of the parties involved and/or to project activities. See “RESEX Rio Preto-Jacundá REDD+ Monitoring Report”, Section 2.3. and 4.3.1. **2. Lack of qualified human capital to continue managing the project over time (Medium)** – During the monitored period, activities were prioritized in the "Social Organization" axis, which have as principles to ensure the improvement of the managed resources, to increase the abilities and capabilities of residents benefiting the community, to progressively decrease the dependence on external agents, to reduce social conflicts, and to provide a better management over them. – Additionally, the project carried out several training activities aimed at RESEX community members, with the objective of disseminating skills and knowledge in management and finance and promoting the organization and strengthening of the communities. – All activities carried out in this theme can be consulted in the "RESEX Rio Preto-Jacundá REDD+ Monitoring Report", Section 2.3 and 4.	
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		**-2**

1.1 Team members’ experience in AFOLU project design and implementation, carbon accounting and reporting:

Proponente: Plínio Ribeiro – Biofílica (Executive Director)
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

leaded Project, Operations and Business Management. Currently, he is the Executive Director and shareholder of the company.

Proponente: Cláudio Pádua – Biofílica (Scientific Director)
Location: Brasília, Distrito federal – Brazil.
Cláudio Pádua has a degree in both Business Administration and Biology, a master's degree in Latin American Studies and a PhD in Ecology from the University of Florida in Gainsville (USA). A retired professor from the University of Brasilia, Pádua is currently the dean of the Escola Superior de Conservação e Sustentabilidade and the vice-president of the Instituto de Pesquisas Ecológicas (IPÊ). He is also a Senior Associate Researcher at the Center for Environment and Conservation Studies at Columbia University (USA) and an International Conservation Director at the Wildlife Trust Alliance, as well as an advisor to the Brazilian Biodiversity Fund (FUNBIO) and WWF Brazil. Pádua represents Brazil before the International Advisory Group (IAG) of the G7 Pilot Program. In 2003, together with his wife, Suzana Pádua, he was appointed by Time Magazine a "Hero of the Planet" for his activities on behalf of biodiversity conservation. Between 1997 and 2007, he won six conservation awards, and three national and three international ones. Pádua has published two books and over 30 papers in scientific journals, both national and international. Since 2008 directs the involvement and scientific production of Biofílica as Scientific-Director and advisor.

Paula Conde - Biofílica (Financial and 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 Managment 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.

Caio Gallego - Biofílica (Operations 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.

Luana Cordeiro - Biofílica (Project Coordinator)
Location: São Paulo, São Paulo – Brazil.
Luana Cordeiro is a Forestry Engineer graduated from USP – ESALQ and Technical in the Environment formed by the State Technical School of São Paulo. During the graduation was coordinator of the environmental suitability group of Campus Piracicaba in the planning, implementation and monitoring of restored areas, and coordinator of the social entrepreneurship group Enactus, developing social projects

in Piracicaba (SP). Developed in her project a Model of Solid Waste Management Plan for Sawmills of Native Species, focusing on the sustainable production of the timber sector in the Amazon.

Susane Rasera - Biofílica (Projects Analyst)
Location: São Paulo, São Paulo – Brazil.
Forest Engineer with a master's degree in Forest Resources, both from the University of São Paulo (ESALQ Campus). She has experience in Forest Ecosystem Conservation, mainly on Forest Restoration and forest biomass and carbon allocation. She is currently a REDD+ Project Analyst and takes a specialization course in Ecological Restoration.

Aline Ribeiro - Biofílica (Projects Analyst)
Location: São Paulo, São Paulo – Brazil.
Aline Ribeiro é Engenheira Ambiental, graduada pela Universidade de São Paulo (Poli-USP). Possui experiência na área de Conservação, com ênfase em Valoração Econômica de Serviços Ecossistêmicos, de Sensoriamento Remoto e Geoprocessamento. Também desenvolveu projetos de pesquisa na área de emissão de gases de efeito estufa e controle de erosão. Na Biofílica atua como Analista de Projetos.

Shaxamary de M. C. dos Santos – Biofílica (Projects Analyst)
Location: São Paulo, São Paulo – Brazil.
Forestry Engineer, graduated from the University of São Paulo (USP/ESALQ). In her last professional experiences and, during her graduation, she worked with themes of natural resource conservation, climate change, payments for environmental services, geoprocessing, restoration and forest hydrology. Currently, she works as a Project Analyst at Biofílica and specializes in Project Management.

Camilla Paulino - Biofílica (Projects Analyst)
Location: São Paulo, São Paulo – Brazil.
Graduated in Forestry Engineering from UFG (Campus Samambaia). She is studying for an MBA in Forest Management at UFPR (PECCA) and carries out research focused on REDD+, its challenges and opportunities. During graduation, she worked with edge effect analysis in forest fragments and forest restoration. She has experience in planning forest routes and roads, environmental education, and environmental projects for the implementation of wind and solar parks.

Denise Vieira Borges – ASMOREX (Diretora)
Location: Machadinho D'Oeste, Rondônia – Brazil.
Denise is a geographer, graduated in geography from the University of Northern Paraná (UNOPAR). In her last professional experiences and during her graduation, she worked with themes of environmental education, sustainability, climate change and also as a school transport monitor. She currently represents the families of the communities of RESEX Rio Preto Jacundá (president of ASMOREX) and acts as a professor of the computer course in the community complex of the conservation unit. She has worked in the organization's management support area (ASMOREX) since 2019, has experience in basic computer education and forestry inventory. She is currently a director and associate of ASMOREX.

José Pinheiro Borges – ASMOREX (Technical and Financial Assistant)
Location: Machadinho D'Oeste, Rondônia – Brazil.
Self-employed, with experience in social organization and working in associativism since 2005 in the same sector (extractivism). Currently, he is responsible for the forest inventories of the RESEX Rio Preto Jacundá (forest technician). He was president of the association of residents of the RESEX Rio Preto Jacundá for three mandates, comprising the managements: 2008-2011; 2014-2018; 2018-2021. He has a curriculum with various courses such as: forest inventory, biodiversity monitoring, productive chains of açaí, Brazil nut and cassava, social organization, among others. He is also active as technical and financial assistant to ASMOREX for the REDD+ Project RESEX Rio Preto Jacundá.

Alexis Bastos – CES Rioterra (Project Coordinator)
Location: Porto Velho, Rondônia – Brazil.
PhD in Geography from the Federal University of Paraná-UFPR. Post Doctorate in carbon dynamics in tropical soils carried out through the Agrarian Sciences Sector together with the Graduate Program in Forest Engineering/UFPR. Member of the Geosciences/UNIR research group. Program coordinator at the Amazon Center for the Study of Culture and Environment – RIOTERRA. Bachelor's and Master's Degree in Geography from the Federal University of Rondônia-UNIR. Research regional dynamics of anthropization, relating its effects to the stability of environmental systems in the Amazon. He worked for more than 20 years on issues related to social and environmental development and territorial management in the Amazon. He coordinated several projects for the elaboration of instruments of territorial management and social organization with family farmers and traditional populations. Extensively experienced in drafting, project management and fundraising in the country and abroad. Journalist (cinematographic reporter) working in communication processes for grassroots associations and production of documentaries about the Amazon.

Telva Barbosa Gomes Maltezo – CES Rioterra (Administrative Coordinator)
Location: Porto Velho, Rondônia – Brazil.
Bachelor's Degree in Economics from the Federal University of Rondônia (2003), Specialization in Higher Education Methodology, Curriculum Innovations and Specialization in People Management, currently President of the Rioterra Studies Center, developing political/institutional role and administrative project manager of the Studies Center Rioterra. She started her career working as a manager and university professor and consultant in the field of management. Over the past 12 years, she has worked in the development and implementation of projects and actions for the promotion and social, economic and environmental strengthening in the State of Rondônia, always with pillars of cooperation, involving social players such as traditional populations, indigenous peoples, family farmers, entities governmental and non-governmental, contributing to social, environmental and human transformations in the southwest of the Brazilian Amazon.

Financial Viability		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	Project cash flow breakeven point is greater than 10 years from the current risk assessment **Not applicable**	0
b)	Project cash flow breakeven point is between 7 and up to less than 10 years from the current risk assessment **Not applicable**	0
c)	Project cash flow breakeven point between 4 and up to less than 7 years from the current risk assessment **Project cash flow breakeven point is 4 years (between 4 and up to 7) from the current risk assessment. According to the Financial Analysis prepared for the Project Validation (Projeto Jacunda_Financeiro_v2), the project cash flow breakeven point is 3 years. So considering that the project started in 2013, the breakeven point falls in 2016.**	1
d)	Project cash flow breakeven point is less than 4 years from the current risk assessment **Not applicable**	0
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven **Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven.**	3
f)	Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven **Not applicable**	0
g)	Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven **Not applicable**	0
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven **Not applicable**	0
i)	**Mitigation:** Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven	0

	Not applicable	
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero.		**4**

Opportunity Cost		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated **Not applicable.** **The majority of baseline activities over the length of the project crediting period are subsistence-driven, as set out by the document Project Description. Net positive community impacts are demonstrated in the document Monitoring Report Section 4.1.**	0
b)	NPV from the most profitable alternative land use activity is expected to be between 50% and up to100% more than from project activities **Not applicable.**	0
c)	NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities **Not applicable.**	0
d)	NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated **The majority of baseline activities over the length of the project crediting period are subsistence-driven (87% of Squatters and small farmers), as set out by the document Monitoring Report Section 2.2 Baseline Scenario. Net positive community impacts are demonstrated in the document Monitoring Report Section 4.1.**	0
e)	NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity. **Not applicable.**	0

f)	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity **Not applicable.**	0
g)	**Mitigation:** Project proponent is a non-profit organization **ASMOREX (project proponent) is a non-profit organization.**	-2
h)	**Mitigation:** Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity) **Not applicable.**	0
i)	**Mitigation:** Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years (see project longevity). **The entire Project Area is legally protected by Decree Nº 7.336 of 1996/01/19, as a Protected Area (Extractive Reserve) with the Rondonia state competence for environmental protection.**	-8
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)] Total may be less than 0.		**-10**

Project Longevity		
a)	Without legal agreement or requirement to continue the management practice	0
b)	With legal agreement or requirement to continue the management practice **The entire Project Area is legally protected by Decree Nº 7.336 of 1996/01/19, as an Extractive Reserve with the Rondônia state competence to environmental protection.**	15
Total Project Longevity (PL) May not be less than zero		**0**

Internal Risk	
Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero.	**0**

2 EXTERNAL RISKS

Land Tenure and Resource Access/Impacts		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	Ownership and resource access/use rights are held by same entity(s) **Not applicable.**	0
b)	Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession) **RESEX's lands is owned by Rondonia State government and the project proponent (ASMOREX) holds a right of use, as set out by the document Monitoring Report, Section 2.5.3 and in the Nº 7.336 of 1996/01/19.**	2
c)	In more than 5% of the project area, there exist disputes over land tenure or ownership **Not applicable. There exist no disputes over land tenure or ownership, as set out by the document Monitoring Report, Section 2.5.5 in more than 5% of the RESEX.**	10
d)	There exist disputes over access/use rights (or overlapping rights) **Not applicable.**	0
e)	WRC projects unable to demonstrate that potential upstream and sea impacts that could undermine issued credits in the next 10 years are irrelevant or expected to be insignificant, or that there is a plan in place for effectively mitigating such impacts **Not applicable.**	0
f)	**Mitigation:** Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period **The entire Project Area is legally protected by Decree Nº 7.336 of 1996/01/19, as an Extractive Reserve with the Rondônia state competence to environmental protection and against the pressures exercised by the predatory activities.**	-2
g)	**Mitigation:** Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have	0

	implemented activities to resolve the disputes or clarify overlapping claims **Not applicable.**	
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)] Total may not be less than zero.		**10**

Community Engagement		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted **100 percent of communities and 100 percent of households living within the project area who are reliant on the project area were consulted. The evidence from the consultation was presented to the VVB and are demonstrated in the document Monitoring Report Section 2.3**	0
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted **Just the communities inside the Extractive Reserve boundaries were consulted, as demonstrated in the document Monitoring Report Section 2.3.**	5
c)	**Mitigation:** The project generates net positive impacts on the social and economic well- being of the local communities who derive livelihoods from the project area **Net positive community impacts are demonstrated in the document Monitoring Report Section 4.1. and 4.2.**	-5
Total Community Engagement (CE) [where applicable, (a + b + c)] Total may be less than zero.		**0**

Political Risk		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	Governance score of less than -0.79	0

b)	Governance score of -0.79 to less than -0.32	0
c)	Governance score of -0.32 to less than 0.19	2
d)	Governance score of 0.19 to less than 0.82	0
e)	Governance score of 0.82 or higher	0
f)	"Mitigation: Country implementing REDD+ Readiness or other activities such as: a) The country is receiving REDD+ Readiness funding from the FCPF, UN-REDD or other bilateral or multilateral donors b) The country is participating in the CCBA/CARE REDD+ Social and Environmental Standards Initiative c) The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce d) The country has an established national FSC or PEFC standards body e) The country has an established DNA under the CDM and has at least one registered CDM A/R project – **Brazil is participating in the CCBA/CARE REDD+ Social and Environmental Standards initiative 2 (http://www.redd-standards.org/);** – **Rondônia State is participating in the Governors' Climate and Forest Taskforce – GCF (http://www.gcftaskforce.org/);** – **Brazil has established Designated National Authority under the CDM and has two registered CDM Afforestation/Reforestation projects (http://cdm.unfccc.int/).**	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		0

Governance Indicator	Year	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)	Mean of Governance Scores across years
Control of Corruption	2016	42,79	-0,38	-0,41
	2017	36,06	-0,53	
	2018	40,38	-0,40	
	2019	42,31	-0,33	
	2016	46,63	-0,17	-0,27

Government Effectiveness	2017	41,83	-0,29	
	2018	36,06	-0,45	
	2019	43,75	-0,19	
Political Stability No Violence	2016	31,90	-0,38	-0,43
	2017	30,48	-0,42	
	2018	32,38	-0,39	
	2019	24,76	-0,55	
Regulatory Quality	2016	46,63	-0,21	-0,21
	2017	51,44	-0,11	
	2018	39,90	-0,32	
	2019	48,08	-0,18	
Rule of Law	2016	49,04	-0,16	-0,22
	2017	43,27	-0,28	
	2018	44,71	-0,25	
	2019	47,60	-0,18	
Voice and Accountability	2016	62,07	0,45	-0,41
	2017	61,58	0,45	
	2018	60,59	0,40	
	2019	58,62	0,34	
Mean of Governance Scores across indicators				**-0,19**

Reference: KAUFMANN, D.; KRAAY, A., The Worldwide Governance Indicators (WGI). [1]Available on: <http://www.govindicators.org>. Access in: September 13, 2021.

External Risk	
Total External Risk (LT + CE + PC) Total may not be less than zero.	10

3 NATURAL RISKS

Natural Risk - Fire	
Significance	**Insignificant.**

[1] Until the completion of this risk report, the data available for the calculation of the Governance score were published up to 2019. Therefore, this report does not include indicators for 2020.

	No occurrence of natural fire (i.e., caused by lightening) was registered in the project area. Scientific research suggests that the occurrence of natural fires is rare in the Amazon, what happens is the predominance oh anthropogenic fires, related to the human occupation of the area (SCHROEDER et al, 2009). And even considering human caused fires, fire focuses hardly affect more than a couple hectares due to tropical forest humidity. In the project area, human activities are associated with the use of fire to open up areas after deforestation and are also associated with community farming practices, using fire to preparation of their crops, that when poorly managed may cause fire focus. Though, due to natural characterizes of the Amazon Forest and the preventions and mitigation measures that are in place this type of loss could damage less than 5% of the carbon stock. Additionally, due the forest characteristics any eventual loss would very likely be recovered within less than 10 years.
Likelihood	Less than every 10 years. No occurrence of natural fire (i.e., caused by lightening) was registered in the project area. Scientific research suggests that the occurrence of natural fires is rare in the Amazon, what happens is the predominance oh anthropogenic fires, related to the human occupation of the area (SCHROEDER et al, 2009). Regarding fires derivate from human action the likelihood is less than every 10 years
Score (LS)	2
Mitigation	Biofílica Ambipar Environmental Investments, juntamente com a ASMOREX e CES Rioterra, busca mitigar as ações de fogo natural ou antrópico. A mitigação ocorre pelo monitoramento via imagens de satélite e, além disso, há na área do projeto fiscalização de desmatamento e incêndios. Essas fiscalizações são realizadas pelos próprios moradores, que recebem treinamentos para monitoramento, além de efetuar denúncias aos órgãos ambientais locais.

Natural Risk - Pest and Disease outbreaks	
Significance	**Not applicable.** No occurrence of pest and disease outbreaks was registered in the project area for the native forest. The Amazon Biome is an extremely old ecosystem, thus very well adapted and ecologically balanced. Pest and disease outbreaks normally occur in artificial ecosystems, such as forest plantations, or low diverse forests. (NAIR, 2001) According to the Food and Agriculture Organization of the United Nations (FAO, 2001) “a fundamental concept of ecosystem dynamics is that as diversity increases, so does stability”. It states that the greater the number of species within an ecosystem the greater are the checks and balances that prevent

	disturbances from one species, as pest and disease, to the point where other ecosystem components are threatened. As an example, it mentions that in a tropical rainforest, as a complex ecosystem with a thousand of plants occupying a single unit of area, the population of a host specific will find only a limited amount of suitable host material and its number will remain stable. The same thing doesn't occur in forest plantation or even many natural forests in the northern hemisphere boreal and temperate zones, due to their diversity and stability, tend to perform as a much simpler ecosystem when compared to tropical forests, and therefore more susceptible to outbreaks of insects. In that sense Grupo Jari has procedures to deal with pest and outbreak diseases regarding its planted eucalyptus forests, those most usual in the region that attacks forest plantation: ants, caterpillars and weeds
Likelihood	**Not applicable.** No occurrence of pest and disease outbreaks was registered in the project area for the native forest. The Amazon Biome is an extremely old ecosystem, thus very well adapted and ecologically balanced. Pest and disease outbreaks normally occur in artificial ecosystems, such as forest plantations, or low diverse forests. (NAIR, 2001).
Score (LS)	0
Mitigation	**None.**

Natural Risk - Extreme Weather	
Significance	**Insignificant.** The largest drought of the last 100 years in the Amazon was registered in 2010. According to Lewis et al. (2011), this drought can cause the release of 5 billion tons of CO2 (less than 1% of carbon stocked in the Amazon) into the atmosphere, in 2010 and following years, since biomass decomposition is a gradual and slow process.
Likelihood	**Not applicable.** The climatic conditions necessary for the formation of hurricanes, cyclone, tornadoes and floods are not present in the northern region of Brazil; therefore such events have low possibility to occur in the Project Area. As per CEPED (2013) such types of events are characteristic of southern Brazil. Using data collected during 20 years CEPED (2013) found several occurrences of floods in the state of Rondônia, most in the mesoregion east (CEPED, 2013, ATLAS BRASILEIRO DE DESASTRES NATURAIS, page 25), in which the Project Reference Region is not part. Zero occurrences of such events were registered in the Project Reference Region. There

	were registered 4 events of strong winds over the 20 years, however no event was registered in the Project Reference Region. According to CEPED (2013) (Table on page 51), no occurrence of tornados was registered in Rondônia during 20 years. For extrapolation, the likelihood for tornado occurrence in the Project Area in 100 years is zero. Considering the large scale of the 2010 drought, the likelihood of occurring other extreme droughts in the Amazon, with implications in the carbon stock, is once every 100 years.
Score (LS)	0
Mitigation	**None**

Natural Risk – Geological Risk	
Significance	**No loss.**
Likelihood	**Not applicable.** No occurrence of geological events related to earth internal (tectonic movements such as as earthquakes and volcanoes eruptions) or external dynamic (such as landslides) was registered in the project area or in literature sources (TOMINAGA et al, 2009)
Score (LS)	0
Mitigation	**None**

Natural Risk – Forest Blowdowns	
Significance	**No loss.** As per peer-reviewed scientific paper of Espirito-Santo et al. (2009), across the Amazon basin (from the 2°13′S and 51°51′W to 6°29′S and 66°49′W), blowdown disturbance events do not make an important direct contribution to carbon stock decrease in the Amazon
Likelihood	Once every 100 years or more. Espirito-Santo et al. (2009) estimated to be 90,000 years for the eastern Amazon (51°51′22″W to 57°25′18″W) and 27,000 years for the western Amazon (57°25′18″W to 66°49′04″W.) the recurrence intervals of blowdown
Score (LS)	0

Mitigation	**None**

Score for each natural risk applicable to the project (Determined by (LS × M)	
Fire (F)	1
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	0
Geological Risk (G)	0
Other natural risk (ON)	0
Total Natural Risk (as applicable, F + PD + W + G + ON)	0

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
Internal Risk	0
External Risk	10
Natural Risk	1
Overall Risk Rating (a + b + c)	**11**

4.2 Calculation of Total VCUs

Project Year	Net anthropogenic GHG emission reductions	Buffer credits	VCUs
2016	98.390	10.823	87.567
2017	-31.484	-3.463	-28.021
2018	333.124	36.644	296.481
2019	-438.760	-48.264	-390.496
2020	209.292	23.022	186.270

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