The Valparaiso Project

A Tropical Forest Conservation Project in Acre, Brazil



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COVER PAGE

I. Project Name: The Valparaiso Project

II. Project Location: Near city of Cruzeiro do Sul, State of Acre, Brazil

III. Project Proponent: The three main Project Proponents are CarbonCo, LLC ("CarbonCo"), Freitas International Group, LLC ("Freitas International Group or Carbon Securities"), and Sustentabilidade Juruá LTDA (formerly Manoel Batista Lopes, ME). CarbonCo's contact and address is:

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V. Project State Date, GHG Accounting Period, and Project Lifetime: The Valparaiso Project's Start Date is March 19, 2011. The initial GHG Accounting Period is 10 years and the Project Lifetime is 60 years.

VI. Project Implementation Period Covered by the PIR: January 1, 2018 to December 31, 2020.

VII. History of CCB Status: The Valparaiso Project's CCBS Project Design Document was validated in June 2014. The first verification of the March 19, 2011 to December 31, 2013 implementation period was achieved December 2014. The second verification, which covered January 1, 2014 to December 31, 2016, was achieved in November 2017. The third verification, which covered January 1, 2017 to December 31, 2017, was achieved in March 2019. This fourth VCS CCBS Monitoring & Implementation Report covers the monitoring and reporting period of January 1, 2018 to December 31, 2020.

VIII. Edition of CCB Standard Being Used for Verification: Second Edition.

IX. Brief Summary of Climate, Community and Biodiversity Benefits Generated by the Project Since the Start Date and During Current Implementation Period Covered by the PIR: Net climate, community and biodiversity benefits between March 19, 2011 and December

31, 2013 include, but are not limited to: a reduction in the Project Area's deforestation; preservation of biologically diverse habitats; community engagement; local hires and transfer of technical knowledge; offering agricultural extension courses to 101 community members; starting informal patrols for deforestation; and the overall development of the third-ever, VCS-CCBS validated REDD+ project in the State of Acre, Brazil.

The net climate, community and biodiversity benefits between January 1, 2014 to December 31, 2016 included, but were not limited to: a reduction in the Project Area's deforestation; preservation of biologically diverse habitats; initiation and completion of a biodiversity study utilizing 10 motion-sensitive wildlife cameras; continuing community engagement and awareness of the need to preserve the forests for future generations; and generating carbon finance. In addition, dozens of mosquito nets were distributed, hundreds of community members received attention from medical personnel (including 400 people being taught by the local nurse Sebastião Melo de Carvalho), the health clinic's renovation began, and dozens of children received dental kits. Furthermore, Ilderlei hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses.

The net climate, community and biodiversity benefits between January 1, 2017 to December 31, 2017 included, but were not limited to: a reduction in the Project Area's deforestation; preservation of biologically diverse habitats; continuing community engagement and awareness of the need to preserve the forests for future generations; generating carbon finance; providing assistance to the municipality which installed water pumps and wells for the school; installation of community bathrooms; helped approximately 1,000 children get access to dental care and taught how to brush their teeth (i.e., the Brazilian Navy did this in partnership with the Project which provided the food and fuel for the families; and the kits with toothbrushes, toothpaste, and floss); reformed (i.e., purchase of supplies, while labor supplied by the Department of Education) of the Foz do Valparaiso school near the Russas Project's headquarters; reformed (i.e., purchase of all supplies and all labor costs) of the health post in Foz do Valparaiso near the headquarters of the Project Russas; continued to provide courses to support agricultural production; and beginning of the CAR and titling work for the local communities.

The net climate, community and biodiversity benefits between January 1, 2018 to December 31, 2020 included, but were not limited to: a reduction in the Project Area's deforestation; preservation of biologically diverse habitats; continued community engagement and awareness of the need to preserve the forests for future generations; generating carbon finance; initiated and completed the second round of monitoring medium-to-large mammals using motion sensitive wildlife cameras; a health clinic was built in the Três Bocas community and another health clinic was built in the Tartaruga community; two transport boats with a capacity of seven tonnes were delivered to the communities of Três Bocas and Queimadas in November 2018; fuel and food were given to the residents of the Russas and Valparaiso Projects, along with residents of the Leakage Belt, in March 2018 and February 2019 in order for the communities to access the hospital ferry that visited the region; the Valparaiso River was cleaned out in 2019 to help

improve navigation; and in response to the COVID-19 pandemic, COVID-19 prevention guidelines were shared throughout 2020, and 60 sacks of food and 1,000 masks were distributed.

X. Gold Level Criteria Being Used and Brief Summary of Exceptional Benefits: The Valparaiso Project was validated and verified to the Gold Level for exceptional community benefits. The Project Proponents will assist all communities in and around the Valparaiso Project, and specifically the most vulnerable communities within the Project. This includes providing free agricultural extension courses and health care, along with free transportation assistance to encourage their participation.

XI. Date of Completion of this Version and Version Number: This version 1.0 was completed on September 1, 2021.

SUMMARY

The Valparaiso Project ("Project") is a payment for ecosystem services forest conservation project, otherwise known as a Reduced Emissions from Deforestation and Degradation (REDD+) project, on 28,096 hectares or approximately 69,397.1 acres (total property is 29,033.1 hectares but Project will focus on the 28,096 hectares of forest) of privately-owned land in Acre, Brazil.[1]

The Valparaiso Project was successfully validated by Environmental Services, Inc. in July 2014 to the Verified Carbon Standard (VCS, Version 3.3) and to the Climate, Community and Biodiversity Standard (CCBS, Second Edition) with Gold Distinction. The Project was then successfully verified in December 2014. The second verification, which covered January 1, 2014 to December 31, 2016, was achieved in November 2017. The third verification, which covered January 1, 2017 to December 31, 2017, was achieved in March 2019. This fourth VCS CCBS Monitoring & Implementation Report covers the monitoring and reporting period of January 1, 2018 to December 31, 2020.

All of the CCBS and VCS documents, along with their supporting documentation, can be publicly accessed here:

https://registry.verra.org/app/projectDetail/VCS/1113

The three main Project Proponents are CarbonCo, LLC ("CarbonCo"), Freitas International Group, LLC ("Freitas International Group or Carbon Securities"), and Sustentabilidade Juruá LTDA (formerly Manoel Batista Lopes, ME). CarbonCo, the wholly-owned subsidiary of Carbonfund.org, is responsible for getting the Project certified and for early-stage Project finance. Carbon Securities acts as a liaison between CarbonCo and Sustentabilidade Juruá LTDA, along with acting as a translator and assisting with logistics for site visits. Sustentabilidade Juruá LTDA is an Acre, Brazil-based organization created by the landowner and is primarily responsible for day-to-day management of the Project and the implementation of activities to mitigate deforestation.

The ultimate project activities are to undertake a forest carbon inventory, model regional deforestation and land-use patterns, and mitigate deforestation pressures by utilizing payments for the Project's ecosystem services, along with ongoing monitoring of the climate, community and biodiversity impacts of the Project. Social projects and activities to mitigate deforestation pressures range from partnering with Ilderlei Souza Rodrigues Cordeiro from the adjacent Russas Project, engaging consultants and the Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul for agricultural extension training, to beginning patrols of potential deforestation sites in the early stages of the Project, to eventually establishing an association to assist with the local production of açaí and manioc flour.

This Valparaiso Project Summary Document is a summary of the Valparaiso Project's CCBS Project Design Document (PDD), the VCS Project Description (PD), the CCBS Full Monitoring

[1] The Term REDD and REDD+ will be used interchangeably. REDD+ includes REDD along with forest conservation, sustainable forest management and the enhancement of carbon stocks. Thus, the Valparaiso Project includes elements of forest conservation, sustainable forest management and reforestation.

Plans, along with the CCB Project Implementation Report and the VCS Monitoring Report which cover the initial monitoring and reporting period from March 19, 2011 to December 31, 2013, along with the second monitoring and reporting period from January 1, 2014 to December 31, 2016, the third monitoring and reporting period from January 1, 2017 to December 31, 2017 and the fourth monitoring and reporting period from January 1, 2018 to December 31, 2020.

Please contact Brian McFarland of CarbonCo, LLC with any questions, comments or concerns regarding the Valparaiso Project at 1-240-247-0630 or via email at BMcFarland@CarbonCoLLC.com.

OVERVIEW OF PROJECT DESIGN DOCUMENT

The Climate, Community and Biodiversity Standard (CCBS) Project Design Document (PDD) with supporting documentation and the Verified Carbon Standard (VCS) Project Description (PD) with supporting documentation can be accessed here:

https://registry.verra.org/app/projectDetail/VCS/1113

Below is a shortened overview of both the CCBS PDD and the VCS PD.

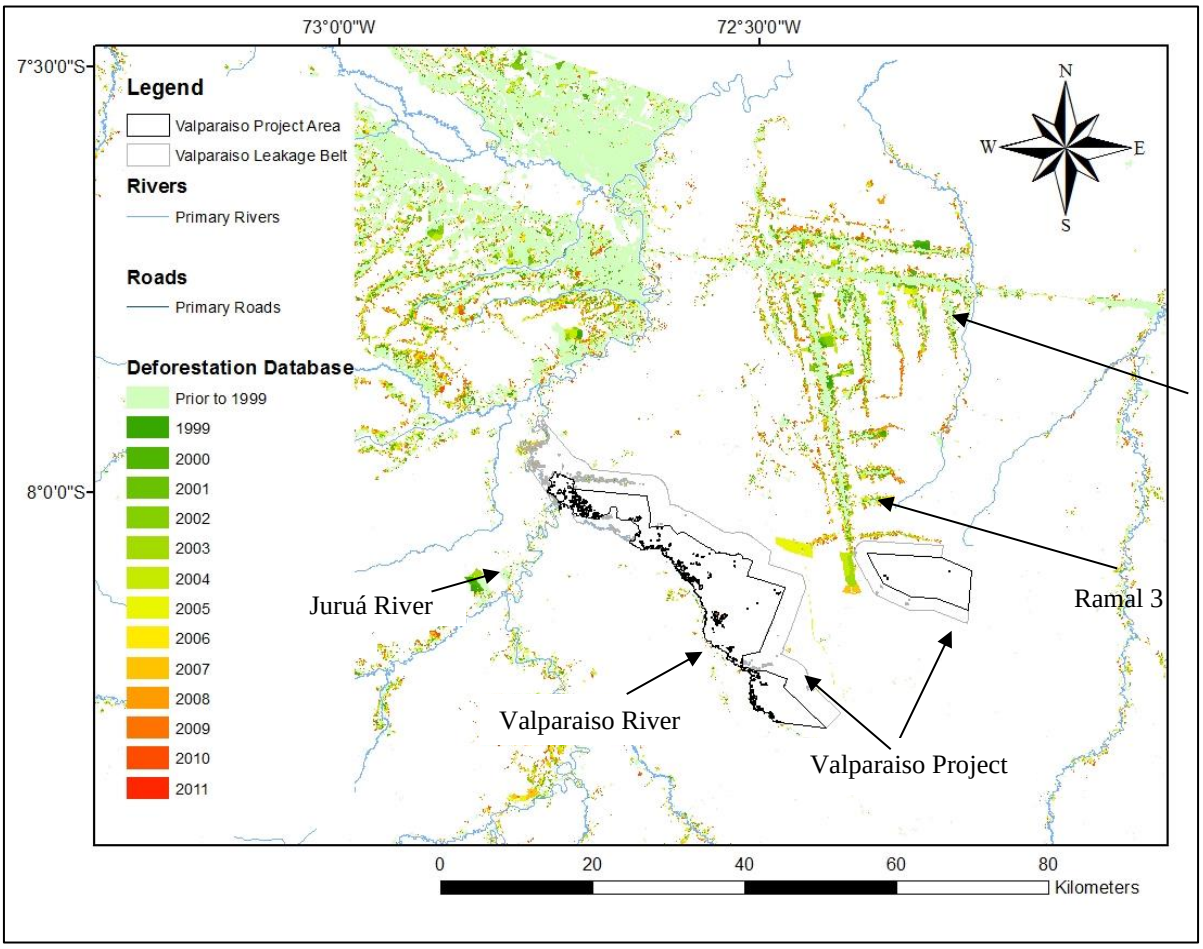
The Valparaiso Project is located in the State of Acre, Brazil alongside the Valparaiso River and the Juruá River. The Valparaiso Project is approximately 40 kilometers (i.e., approximately 25 miles) south from the city of Cruzeiro do Sul and north from the city of Porto Walter.

The following political map is the State of Acre which borders the Brazilian state of Amazonas along with the countries of Peru and Bolivia.[2]



[2] V-Brazil.com, "Map of Acre, Brazil," Available: http://www.v-brazil.com/tourism/acre/map-acre.html

The following map depicts the Valparaiso Project vis-à-vis the Jurua and Valparaiso Rivers.



Map 1: Location of Valparaiso Project (Credit: TerraCarbon)

Document that Project Benefits would not have Occurred in the Absence of the Project
As previously mentioned the predominant land-use among medium-to-large landowners along the BR-364 and BR-317 highways and the Ramal 3 road is the conversion of primary forests to cattle pastures. The pressure on the Valparaiso Project is increasing with each passing year as BR-364 and Ramal 3 are now paved. Upon being fully paved, BR-364 and Ramal 3 now allow for year-round transportation and will most likely increase property values and market access for landowners' cattle. Although this is a possible land-use scenario in the 'without project' scenario, this is not the most likely scenario for the Valparaiso Project.

Manoel Batista Lopes ("Manoel") bought the larger parcel of the Valparaiso Project (the parcel which is adjacent to the Valparaiso River and on the opposite bank of the Russas Project) in 1985. Manoel then bought the other, smaller parcel of the Valparaiso Project in 1986. Manoel always worked in rubber tapping, but historically leased the land until he purchased the two parcels of the Valparaiso Project as the sole owner for the purpose of rubber tapping.

From 1985 to 2005, Manoel lived on the property where he raised lamb, had approximately 30 head of cattle, and grew crops such as rice, manioc and corn. Manoel also had a little market, which still exists today, that sold goods to local families.

In 1988, Manoel received a large loan from the Bank of Amazonia to finance rubber plantations on the property. With such financing, Manoel planted approximately 18,000 rubber trees in 1988. These rubber trees were an experiment by EMBRAPA and INCRA (Instituto Nacional de Colonização e Reforma Agrária or National Institute of Colonization and Agrarian Reform), but the trees never produced rubber. The Bank of Amazonia forgave the loan and shortly thereafter, the price of rubber crashed.

There was a wood management study conducted from 2002-2003 and this study was taken to the Brazilian Institute of Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis or IBAMA in Portuguese) for approval. Manoel then moved to Cruzeiro do Sul in 2005, where he currently resides now that he is retired.

Without a payment for ecosystem services forest conservation project, Manoel would continue to pay taxes on his property without generating any economic returns unless planned forest conversion took place or if he sold the property. If forest conversion took place, the Valparaiso Project's biodiversity would surely be reduced and the communities' might be forced to relocate.

Even if planned forest conversion by the Landowner did not take place, there would still be increasing pressure on the Valparaiso Project's forests via unplanned, frontier deforestation from the community and neighboring landowners. This is the most likely 'without-project' scenario. Thus, the communities within the Project Area would continue unsustainable subsistence agriculture, while surrounding communities encroached on the Project Area and in-migration continued.

Another possible, but unlikely, 'without project' land-use scenario would be for the Landowner to provide project activities to the communities without developing and registering the Project as a validated and verified REDD+ Project. The lack of economic returns in the 'without project' scenario would result in the Landowner's inability to provide a range of social projects (e.g., establish health clinic) for the communities along with an inability to research the Valparaiso Project's biodiversity. This is because there are significant financial and institutional resources required to develop a validated and verified REDD+ project.

Furthermore without a REDD+ project, the communities would not receive agricultural extension trainings (i.e., which shall assist with increasing and diversifying incomes) nor a share of the Project's carbon offset revenue.

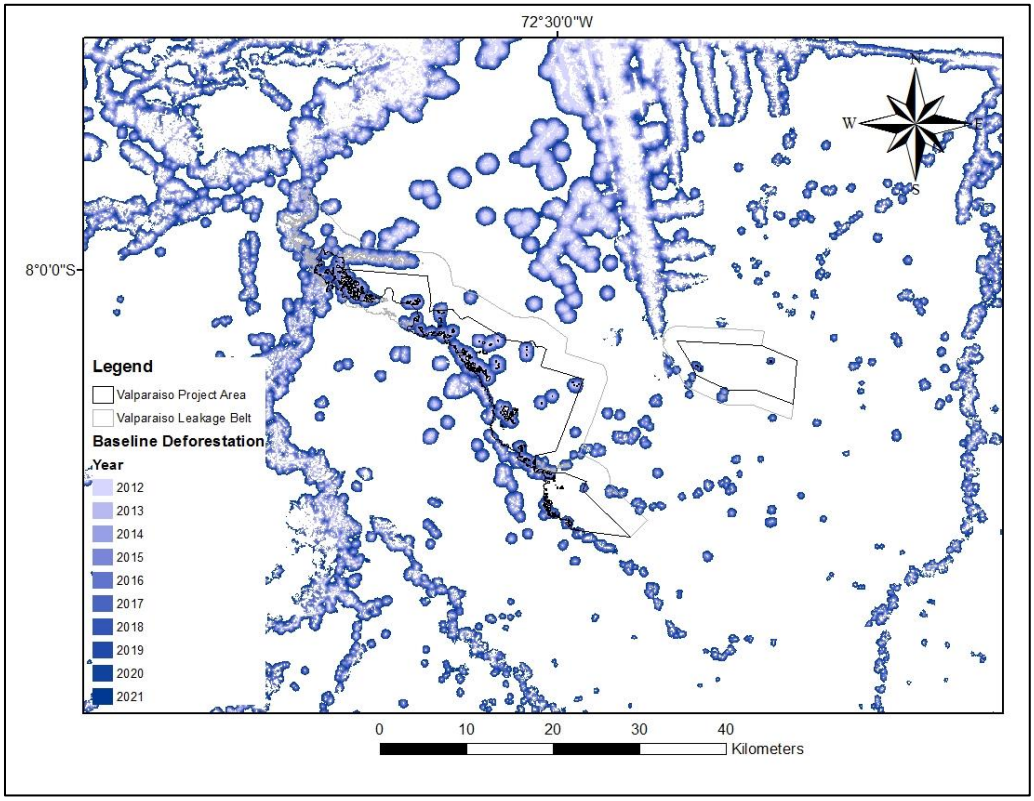
Carbon Stock Exchanges without Project

Calculate the Estimated Carbon Stock Changes Associated with the 'Without Project' Reference Scenario

For the estimated carbon stock changes associated with the 'without project' reference scenario and specifically the estimation of carbon stocks and the specific carbon pools included in the forest carbon inventory, please see the VCS Project Description. A discussion of the net change in the emissions of non-CO_2 GHG emissions is also included. In addition, the VCS Project

Description will also include an analysis of the relevant drivers and rates of deforestation and justification of the approaches, assumptions, and data used to perform this carbon stock analysis.

The following is a map of the predicted deforestation in the Baseline Period, 2012-2021, for the Valparaiso Project:



The following chart is the amount of predicted Baseline Deforestation in the Project Area from 2012 to 2021 according to the different vegetation strata:

Year	Amount of deforestation in the open forest with bamboo and palm strata (FAB + FAP) (ha)	Amount of deforestation in the open plan forest strata (FAP) (ha)	Amount of deforestation in open alluvial forest with palm strata (FAP-alluvial) (ha)	Amount of deforestation in open forest with bamboo and palm and dense forest strata (FAP + FAB + FD or FAP + FD + FAB) (ha)	Amount of deforestation in dense forest and open palm forest strata (FAP + FD or FD + FAP) (ha)	Total (ha)
2012	1.0	32.3	0.5	153.9	13.3	201.0
2013	47.7	476.0	178.0	256.5	78.0	1,036.2
2014	60.1	410.8	267.3	213.8	53.7	1,005.7
2015	86.5	378.7	247.3	229.0	37.6	979.1
2016	45.6	296.7	216.8	235.5	34.1	828.7
2017	29.4	247.9	207.8	227.1	25.7	737.9
2018	20.9	242.3	211.5	262.2	37.8	774.7
2019	19.8	208.3	200.7	261.4	30.7	720.9

2020	19.7	166.0	165.0	255.1	28.7	634.5
2021	22.9	162.5	160.9	313.7	44.5	704.5
Total	353.5	2,621.4	1,855.7	2,408.2	384.1	7,622.9

The following chart is the amount of predicted Baseline Deforestation in the Leakage Belt from 2012 to 2021 according to the different vegetation strata:

Year	Amount of deforestation in open forest with bamboo and palm strata (FAB + FAP) (ha)	Amount of deforestation in open palm forest strata (FAP) (ha)	Amount of deforestation in open alluvial forest with palm strata (FAP-alluvial) (ha)	Amount of deforestation in open forest with bamboo and palm and dense forest strata (FAP + FAB + FD or FAP + FD + FAB) (ha)	Amount of deforestation in dense forest and open palm forest strata (FAP + FD or FD + FAP) (ha)	Amount of deforestation in the bamboo dominated open forest strata FABD (ha)	Total (ha)
2012	66.3	2.9	11.3	0.0	0.1	0.0	80.6
2013	411.4	32.1	225.0	11.8	10.1	32.4	722.8
2014	279.2	52.1	264.7	60.7	3.3	42.3	702.3
2015	263.8	57.8	265.8	97.2	1.7	43.9	730.2
2016	224.8	48.9	218.3	112.5	1.9	38.1	644.5
2017	215.5	57.1	161.7	125.1	0.2	23.9	583.5
2018	230.3	53.9	174.4	173.0	1.8	17.1	650.5
2019	187.3	57.1	134.9	176.7	1.0	15.5	572.5
2020	174.4	54.1	117.4	175.3	0.8	21.1	543.1
2021	175.8	65.1	108.8	197.0	1.5	18.0	566.2
Total	2,228.8	481.2	1,682.4	1,129.3	22.2	252.3	5,796.2

The estimate of greenhouse gas emission (GHG) credits eligible for issuance as Verified Carbon Units (VCUs) were calculated in the Verified Carbon Standard Project Description as follows:

Estimated GHG emission reduction credits =

Baseline emissions, fixed for 10 years at validation *minus*
Project emissions *minus*
Leakage *minus*
Non-permanence Risk Buffer withholding (calculated as a percent of net change in carbon stocks prior to deduction of leakage)

Years	Estimated baseline emissions or removals (tCO_{2e})	Estimated project emissions or removals (tCO_{2e})	Estimated leakage emissions (tCO_{2e})	Risk buffer (%)	Deductions for AFOLU pooled buffer account (tCO2e)	GHG credits eligible for issuance as VCUs (tCO_{2e})
2012	71,396	17,828	9,430	10%	5,357	38,780
2013	345,663	91,871	44,953	10%	25,379	183,460
2014	337,529	89,158	43,965	10%	24,837	179,569
2015	338,960	86,796	44,499	10%	25,216	182,449
2016	298,566	73,462	39,575	10%	22,510	163,018

2017	275,482	65,417	36,816	10%	21,007	152,243
2018	294,167	68,684	39,461	10%	22,548	163,474
2019	283,327	63,912	38,291	10%	21,942	159,182
2020	262,204	56,242	35,805	10%	20,596	149,560
2021	292,151	62,465	39,920	10%	22,969	166,798

Over the first 10 year baseline period, the project area is expected to result in 2,123,610 tons tCO_2e reductions with a buffer pool contribution of 212,361 tCO_2e and a total expected emission reduction of 1,538,533 tCO_2e after account for leakage (372,716 tCO_2e).

During the March 19, 2011 to December 31, 2013 implementation period, a total of 306,774 tCO_2e were reduced. During the January 1, 2014 to December 31, 2016 implementation period, a total of 590,954 tCO_2e were reduced. During the January 1, 2017 to December 31, 2017 implementation period, an estimated total of 181,536 tCO_2e were reduced. During the January 1, 2018 to December 31, 2020 implementation period, it was estimated that a total of 601,099 tCO_2e were reduced.

Local Communities without Project

Describe how the 'Without Project' Reference Scenario would affect Communities in the Project Zone

As documented in section *G1. Original Conditions in the Project Area*, the local communities obtain a variety of benefits from the Valparaiso Project and as explained in section *G3. Project Design and Goals*, subsection *2. Major Activities*, there are numerous social projects being planned as result of payments for ecosystem services.

The 'without project' scenario would be the continued unplanned, frontier deforestation activities of subsistence agriculture and cattle pastures by the local communities. The communities undoubtedly receive benefits from these activities such as locally-produced food and income generation through the sale of their crops and cattle to Cruzeiro do Sul.

However in the 'without project' scenario the communities, without a secure and legal title to land, are marginalized and vulnerable. Thus, the communities could legally be removed from the Valparaiso Project and the communities would either need to relocate to a new patch of forest (i.e., most likely alongside the Juruá River or Valparaiso River) or move to a city such as Cruzeiro do Sul or possibly Porto Walter.

Water and Soil

If the Landowner, instead of undertaking a forest conservation project, allowed unplanned deforestation to continue from communities, there would be significant impacts on the local water cycle and soil quality – both of which would have negative impacts on the community. Such impacts include, but are not limited to:

- Less trees to store water, resulting in potential localized flooding;
- Without water absorption by trees, pools of water left behind in open pastures could increase mosquito population and insect-borne diseases such as yellow fever and malaria;
- Increased water runoff, due to less roots, could increase topsoil runoff and contribute to the further erosion of river banks;
- Increased runoff could damage local fishing grounds (i.e., soil settles on eggs, disrupts photosynthesis process of water plants and algae which are sources of fish food);

- Additional debris from clear-cut could be swept into the river causing increased challenges of boat transportation; and
- Less agriculturally productive soils due to the loss of nutrients embedded in the tropical rainforest ecosystem along with the loss of soil microbes.

Other Locally Important Ecosystem Services
In addition to an impact on water and soil, other locally important ecosystem services that could be impacted without the Valparaiso Project include a loss of wildlife habitat. This wildlife habitat loss, which would also reduce the availability of game for the local community, will be discussed in greater detail in the next section.

Biodiversity without Project
Describe how the 'Without Project' Reference Scenario would affect Biodiversity in the Project Zone
As documented in section *G1. Original Conditions in the Project Area*, there is a high-level of biodiversity in and around the Valparaiso Project. If unplanned deforestation by the communities was allowed to continue, there would be reduced availability of habitat, a fragmented landscape, and potentially more threatened species.

Habitat Availability
If the Landowner allowed for the continuation of unplanned, frontier deforestation, the resulting open cattle pastures and cropland would provide a poor habitat for the region's biodiversity except for domesticated animals and wild species that exist in transitional forests and open grasslands. Thus, forest dependent species and especially flora would have less available habitat.

Landscape Connectivity
If the 'without project," unplanned frontier deforestation scenario continued, there would be a negative impact on landscape connectivity due to increased pressure on surrounding intact forests of the Valparaiso Project.

Threatened Species
There potentially are several threatened flora and fauna species in the Project Area. If the Valparaiso Project were converted to cattle pasture and cropland via unplanned frontier deforestation, these particular threatened species would likely disappear from the Valparaiso Project due to a reduction in habitat. These threatened species could move to a higher level of extinction risk according to the International Union for Conservation of Nature (IUCN). In addition, species currently considered to be at a low level of risk could move into a threatened category if the additional deforestation pressures were placed on the surrounding landscape.

PROJECT ACTIVITIES AND PROJECT GOALS

The Valparaiso Project will be described in sufficient detail for independent validation and ongoing verification to the CCBS and VCS, as well as for all stakeholders to adequately evaluate and participate in the Valparaiso Project. The Valparaiso Project has been designed to minimize risks, engage local participation, and promote the highest level of transparency.

Summary of the Project's Major Climate, Community and Biodiversity Objectives
The overarching objective of the Valparaiso Project is to generate sustainable economic opportunities for the local communities and to implement social projects, while mitigating deforestation (i.e., which results in less greenhouse gas emissions) and preserving the Project's rich biodiversity.

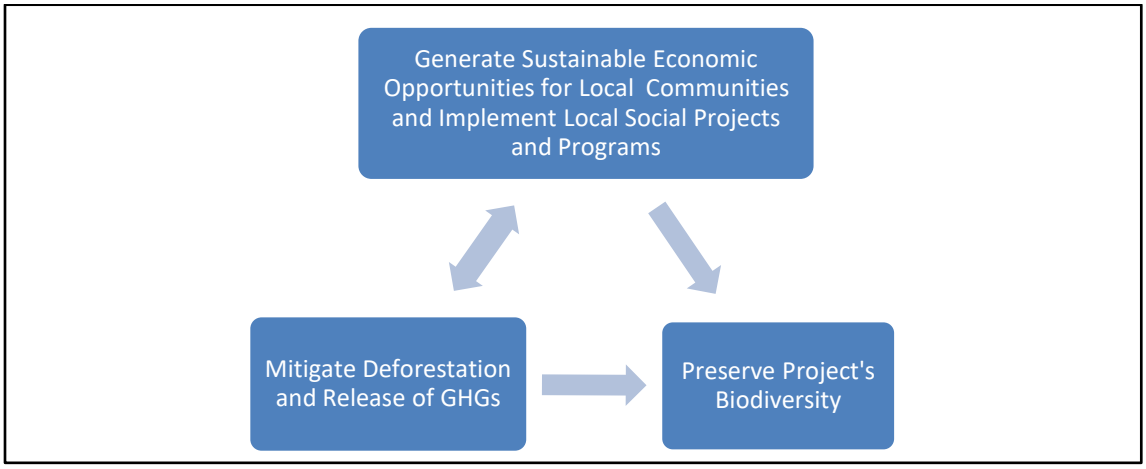


Figure 1: Model of Relationships between Major Climate, Community and Biodiversity Objectives

By mitigating deforestation, payments for ecosystem services will be generated which will enable the implementation of local social projects and the creation of economic opportunities for the communities. Similarly by improving local livelihoods and creating alternative economic opportunities, there will be less pressure on the forests and a reduction in deforestation. Improving local livelihoods and reducing deforestation are key mechanisms to preserve the Project's biodiversity.

To achieve these overarching objectives, the following climate, community and biodiversity project activities have been identified by the Project Proponents.

Major Climate Objective
To mitigate deforestation and reduce the amount of greenhouse gas (GHG) emissions, the Project Proponents have undertaken, or will undertake in the future, the following project activities:

- Forest Carbon Inventory;
- Regional Land-use and Deforestation Modeling;
- Address Underlying Deforestation Drivers to Mitigate Release of GHGs;
- Develop Climate Monitoring Plan; and
- Monitor Deforestation.

Major Community Objective
To generate sustainable economic opportunities for the local communities living in and around the Valparaiso Project and to implement local social projects, the Project Proponents have undertaken, or began to plan for, the following project activities:

- Project Awareness, Meet Community, and Discuss Project;
- Design Social Projects and Programs for Community;
- Implement Social Projects and Programs for Community;

- Develop Community Monitoring Plan;
- Monitor Community Impacts;

Major Biodiversity Objective
To preserve the Valparaiso Project's rich biodiversity, the Project Proponents will generate sustainable economic opportunities for the local communities, implement social projects, and mitigate the release of GHGs from deforestation. Furthermore, to achieve this biodiversity objective, the Project Proponents have undertaken, or will undertake in the future, the following project activities:

- Rapidly Assess Biodiversity on Project;
- Develop Biodiversity Monitoring Plan; and
- Monitor Biodiversity Impacts.

Major Activities
Describe Each Project Activity and its Relevance to Achieving the Project's Objectives
The following section will further describe each major climate, community and biodiversity project activity and how it is relevant to achieving the overarching climate, community and biodiversity objectives.

Forest Carbon Inventory
A forest carbon inventory was an important project activity to undertake because it is difficult to manage an objective that is not measured. The forest carbon inventory generated a scientifically robust and statistically accurate representation of the carbon stocks at the Valparaiso Project.

The forest carbon inventory was conducted by the renowned local forestry company TECMAN and was overseen by both CarbonCo and the international experts at TerraCarbon. TECMAN was contracted by CarbonCo in January 2013, participated in a web-based training from TerraCarbon in January 2013, and then TECMAN conducted the Russas Project's forest carbon inventory from February to March 2013. TECMAN was later contracted by CarbonCo in April 2014, participated in a classroom and field-based training from TerraCarbon in May 2014, and then TECMAN conducted the forest carbon inventory at another CarbonCo Project from May to July 2014. Conversations with TECMAN took place throughout 2019 and 2020, which culminated in March 2021 when TECMAN was contracted by CarbonCo to remeasure select forest carbon inventory plots as part of the baseline revision work.

TECMAN is an example of a local hire; TECMAN received a transfer of technical knowledge and know-how from TerraCarbon and TECMAN received certificates of completion to demonstrate their knowledge of conducting a forest carbon inventory.

For a more detailed discussion, please see the validated VCS Project Description's Appendix B entitled, Forest Carbon Inventory Standard Operating Procedures.

Regional Land-use and Deforestation Modeling
Similar to the need for a measurement of carbon stocks, there was a need to develop a regional land-use and deforestation model to determine a performance baseline for the Project Proponents. Such models now allow the Project Proponents to predict where (i.e., location),

when, from what (i.e., drivers and agents) and how much deforestation is expected, along with where to assist with leakage mitigation and primarily where to monitor.

The Valparaiso Project's regional land-use and deforestation modeling was conducted by TerraCarbon and reviewed by Professor Antonio Flores from the Federal University of Acre. Professor Flores was contracted by CarbonCo in April 2013 and assisted with the review of the Russas Project's modeling from approximately March to July 2013. Professor Flores was also contracted by CarbonCo in February 2014, March 2015, March 2016, and February 2017 to assist with data acquisition and to provide an expert opinion.

Professor Flores is another example of a local hire; Professor Flores received a transfer of technical knowledge and know-how from TerraCarbon.

In 2018 and 2021, TerraCarbon was contracted to assist with the data acquisition and satellite imagery analysis for the 2018-2020 monitoring period, while Ostrya Conservation was contracted in February 2021 to assist with the baseline revision work.

For a more detailed discussion, please see the validated VCS Project Description section 2 *Application of Methodology* and section 3 *Quantification of GHG Emission Reductions and Removals*.

Address Underlying Deforestation Drivers to Mitigate Release of GHGs
While understanding the Valparaiso Project's carbon stocks and deforestation scenario, the Project Proponents began to address the underlying deforestation drivers to mitigate the release of GHGs (See Social Projects and Programs within this section).

Addressing the underlying deforestation drivers - for example, providing agricultural extension trainings – is relevant to achieving the climate objective of reducing net GHG reductions by reducing the communities' dependence on forest resources through intensification of agricultural and livestock practices, by providing alternative income, along with providing education about the effects of deforestation and benefits of protecting forest resources.

Develop Climate Monitoring Plan and Monitor Deforestation
The Project Proponents are constantly monitoring deforestation by boat as well as from the State of Acre's satellite imagery (See Social Projects and Programs within this section). This climate monitoring plan was devised between March 19, 2011 and December 31, 2013.

The climate monitoring plan and constant monitoring of deforestation is assisting the Project Proponents with achieving the climate objective. Thus, the climate monitoring plan and monitoring of deforestation result in net GHG emission reductions because such activities provide an early detection of deforestation, while enabling the Project Proponents to identify the specific drivers and agents of deforestation and to implement the appropriate actions to mitigate such deforestation and subsequent release of GHG emissions.

Major Community Objective
To generate sustainable economic opportunities and to implement local social projects for communities living in and around the Valparaiso Project, the Project Proponents have undertaken, or began to plan for, the following project activities: Project Awareness, Meet Community, and Discuss Project; Design Social Projects and Programs for Community; Implement Social Projects and Programs for Community; Develop Community Monitoring Plan and Monitor Community Impacts.

Project Awareness, Meet Community and Discuss Project
The Project Proponents visited the Valparaiso Project together and met with the local communities in June 2012, March-April 2013, June 2013, August 2013, May 2014, August 2014, May 2017, July 2017, May 2018, April-May 2019, and July 2019.

Ilderlei Cordeiro also visited the communities in January 2014, July 2014, and March 2016. Ilderlei visited the Project throughout 2015, but was unable to recall the exact months he visited. Furthermore, Ilderlei visited the Project in March 2017, June 2017, and July 2017, along with in March 2018, twice in May 2018 and November 2018. In 2019, Ilderlei visited in February, April, May, June, and July. Gleidson, sometimes accompanied by Manoel Lopes Filho and/or Willyan, visited in February, July, August and September 2018, along with in April, July, September, November, and December 2019.

Although Ilderlei visited the Projects in January 2020, unfortunately, due to the COVID-19 pandemic, the Project Proponents were unable to collectively visit the Projects in 2020. Nevertheless, Gleidson made approximately 23 visits to the Valparaiso Project throughout 2020. The communities are an essential component of the Valparaiso Project and likewise, it has been absolutely necessary to openly and frequently discuss the Project with the communities.

Through meeting with the communities, the Project Proponents have been able to gain the communities' insights about project design and to better incorporate the communities into the Project. As a result, the community objective of generating sustainable economic opportunities and implementing social projects and programs will be best achieved with active, on-going participation and input from the local communities.

Throughout 2011 - 2019, the Valparaiso Project was discussed in greater detail with the communities to ensure the communities were fully aware of the Valparaiso Project, were able to contribute to the Project design, able to openly express desired outcomes and concerns, understood the third-party grievance procedure, and were able to voluntarily give free, prior and informed consent.



Community Meetings at the Valparaiso Project (Photo Credit: Ilderlei Cordeiro)

The initial community members who wanted to join the Valparaiso Project signed an "ata" on March 19, 2011 and most community members signed a follow-up "ata" from May 11-15, 2013. As of December 2013, the majority of community members residing within the Valparaiso Project have either signed the "ata" or verbally agreed to join the project, with the first community members signing an initial "ata" on March 19, 2011, the Project Start Date.

In addition, community members joining the Project were given a sign of recognition.

The Project Proponents undertake several actions to ensure that all stakeholders, particularly community members, are informed about the Project's benefits and responsibilities. For instance, the Monitoring Reports and Summary Documents, which outline the Project's benefits, responsibilities, and progress to date, are publicly posted online, hand delivered to communities throughout the Russas and Valparaiso Projects, and distributed to the schools within the Project Areas. One of the reasons the Project Documents are delivered to schools is so that teachers can read their contents to those who are illiterate and so that teachers can help field questions from those who are less knowledgeable about the Projects. Furthermore, the local project manager Willyan Deni Sarah often visits the communities and is able to read the contents of the Project Documents if requested.

Design and Implementation of Social Projects and Programs for Community
Social projects and programs for the local communities, which not only generate sustainable economic opportunities, will also result in: less pressure on the local forests; a reduction in deforestation; mitigation of greenhouse gas emissions; and the preservation of biodiversity.

Over the Project Lifetime, Manoel Batista Lopes, ME would like to further design and implement the following project activities, while some of these activities have already been implemented:

- Hire Project Manager;
- Initiate Patrols of Deforestation by Boat;
- Initiate Training and Agricultural Extension Courses for Communities;
- Create Association to Process Açaí and Manioc Flour;
- Help Communities Obtain Land Tenure;
- Profit-Sharing of Carbon Credits;
- Establish a Headquarters; and
- Improve Health Center and Dental Clinic.

Hire Project Manager
In the earlier stages of the Project, Jose Getulio Silva ("Getulio") was the initial, informal project manager whereas Getulio was responsible for talking to the local communities and informally patrolling for deforestation.

Manoel Batista Lopes, ME then partnered with Ilderlei Souza Rodrigues Cordeiro (i.e., landowner of the Russas Project) in April 2013 to work on the social projects and programs of the Valparaiso Project in conjunction with Ilderlei's Russas Project which is located adjacent to the Valparaiso Project.

Ilderlei received a share of Manoel Batista Lopes, ME's VERs in exchange for assuming the responsibility for all the social projects and programs at the Valparaiso Project. For example, this included facilitating the agricultural extension courses, overseeing the monitoring of deforestation and local project manager (formerly Marmude Dene de Carvalho and now Willyan Deni Sarah) and improving the health center and dental clinic.

Ilderlei Souza Rodrigues Cordeiro worked as a partner in the Project, facilitating communication and transparency in community decisions. Ilderlei Souza Rodrigues Cordeiro lives in nearby Cruzeiro do Sul and is able to visit the Valparaiso Project communities with relative ease. Furthermore, Ilderlei Souza Rodrigues Cordeiro was responsible for ensuring social projects are implemented, assisted with the community and biodiversity monitoring plans, collaborated on the deforestation monitoring, and communicated directly with Manoel Batista Lopes, ME.



Local Project Manager and Patrollers (Photo Credit: Brian McFarland)

Project uniforms for both the Russas and Valparaiso Projects were purchased in July 2013. Also in July 2013, Marmude coordinated the placement of Russas and Valparaiso Project signs throughout the Project Zone.

Sadly, Marmude passed away on September 2, 2014. Prior to Marmude's passing, two volunteer local project coordinators (Maria de Fátima Dene de Carvalho and Nágila Deni Sarah) joined the Project in February 2014. After Marmude's passing, Fátima and Nágila stepped in to help out until a new local project manager, Willyan Deni Sarah, was contracted in May 2017. Fátima and Willyan are both based at the Project, while Nágila is based in Cruzeiro do Sul.

The formal partnership between the Russas and Valparaiso Projects ended on December 31, 2018 and Gleidson Holanda Lopes, the son of the landowner Manoel Batista Lopes, then became responsible for the social, administrative and financial projects of the Valparaiso Project. As of August 2021, Sustentabilidade Juruá LTDA has assumed the social, administrative and financial responsibilities that were previously held by Manoel Batista Lopes, ME.

As of August 2021, Fátima and Nágila are still involved with the Russas Project and provide assistance to the Valparaiso Project, as needed.

Initiate Patrols of Deforestation

The initial patrols of deforestation at the Valparaiso Project started on January 8, 2012 when Manoel Batista Lopes partnered with Jose Getulio Silva ("Getulio") to act as the initial project manager and to initiate patrols of deforestation.

Although Getulio is still the informal project manager and informal patroller of deforestation, Manoel Batista Lopes, ME partnered with Ilderlei Souza Rodrigues Cordeiro in April 2013 to

take over the main responsibility of patrolling for deforestation. Starting in 2017, Willian Deni Sarah began officially monitoring for deforestation and document each monitoring episode.

Manoel Batista Lopes, ME has also partnered with the local community member Francisco dos Santos Silva from the Valparaiso Project to periodically monitor for deforestation in conjunction with Willyan.

If and when deforestation is identified, Ilderlei Souza Rodrigues Cordeiro and/or Sustentabilidade Juruá LTDA ME will immediately document and transfer this information to Carbon Securities and CarbonCo. Collectively, CarbonCo e Sustentabilidade Juruá LTDA will discuss the appropriate actions to undertake to counteract any reported deforestation.

The monitors will write down observations in a notebook, document the community meetings, input this data into the monitoring template, and upload the document onto a shared DropBox account among the Project Proponents. The monitoring template includes:

- Name of Monitor;
- Date of Monitor;
- Communities Visited;
- Meeting Notes with Community;
- Grievances and Concerns of Community;
- Location and Date of Deforestation;
- Responsible Actor for Deforestation;
- Observations Pertaining to Deforestation;
- Biodiversity Observed; and
- Other Notes Related to the Project.

For instance, Willyan completed monitoring templates for: June 8-10, 2017; June 24, 2017; September 16-17, 2017; November 15, 2017; January 6-11, 2018; March 17, 2018; and March 29-30, 2018; January 7, 2019; February 14, 2019; March 27, 2019; April 25, 2019; May 10, 2019; June 13, 2019; July 16, 2019; August 22, 2019; September 8, 2019; October 11, 2019; November 21, 2019; December 10, 2019; January 13, 2020; February 23, 2020; March 20, 2020; April 12, 2020; May 27, 2020; June 12, 2020; July 17, 2020; August 9, 2020; September 23, 2020; October 9, 2020; November 20, 2020; December 8, 2020; and December 10, 2020.

The monitoring of deforestation helps the Project Proponents achieve both the climate and community objective. Thus, monitoring results in net GHG emission reductions because such activities provide an early detection of deforestation, while enabling the Project Proponents to identify the specific drivers and agents of deforestation and to implement the appropriate actions to mitigate such deforestation and the subsequent release of GHG emissions. Furthermore, the reduction in deforestation will provide diversified and alternative incomes to local communities via sharing of carbon credit revenue, and enables Sustentabilidade Juruá LTDA to implement a variety of social projects and programs (i.e., for example, to enhance the local health clinic).

Initiate Training and Agricultural Extension Courses for Communities

The communities in and around the Valparaiso Project were surveyed from March to May, 2013 to better understand which agricultural extension training courses would be of the most interest.

A total of 33 courses, ranging from rotational pasture management to organic coconuts, were offered. The following are the results, which the top ten courses highlighted in yellow:

Overall Rank Order of Agricultural Training Courses for Russas-Valparaiso Projects (March and May 2013)			
	Total of 54 Communities Surveyed (46 Inside Projects and 8 Inside Projects' Leakage Belt)		
	Courses Highlighted in Yellow are the Courses with Overall Top-10 Interest		
	NOME DO CURSO (Name of Course)	Quero este (I Want This)	Total Percentage (Overall)
1	Brigada de Incêndio Florestal - Formação e Treinamento de... (Forest Fire Brigade - Education and Training...)	54	100.00%
2	Educação Ambiental Infantil (Children's Environmental Education)	54	100.00%
3	Mandioca - Cultivo de Mandioca (Cassava - Cultivation of Cassava)	52	96.30%
4	Floresta - Reposição Florestal (Forestry - Forestry Replacement)	52	96.30%
5	Peixes - Processamento Artesanal de Peixes (Fish - Artisanal Processing of Fish)	52	96.30%
6	Graviola - Produção de Graviola (Soursop - Production of Soursop)	51	94.44%
7	Milho - Produção em Pequenas Propriedades (Corn - Production on Small Areas)	51	94.44%
8	Sítio - Como Tornar sua Colônia Lucrativa (Site - How to Make Your Community Profitable)	51	94.44%
9	Banana - Produção de Bananas - Do Plantio a Pós-Venda (Banana - Production of Bananas - From Planting to After Sales)	49	90.74%
10	Frutas - Produção Comercial em Pequenas Áreas (Fruits - Commercial Production in Small Areas)	49	90.74%
11	Horta Caseira - Implantação e Cultivo (Household Garden - Deployment and Cultivation)	48	88.89%
12	Farmácia Viva - Utilização de Plantas Medicinais (Living Pharmacy - Use of Medicinal Plants)	47	87.04%
13	Nascentes - Recuperação e Conservação de Nascentes (Headwaters - Headwaters Conservation and Recovery)	47	87.04%
14	Galinha Caipira - Como Produzir Galinha e Frango Caipira (Redneck Chicken - How to Produce Chicken and Chicken Caipira	46	85.19%
15	Plantas Medicinais - Cultivo Orgânico de Plantas Medicinais (Medicinal Plants - Cultivating Organic Medicinal Plants)	45	83.33%
16	Banana - Receitas com Bananas (Bananas - Recipes with Bananas)	45	83.33%
17	Limão - Produção de Limão Taiti (Production of Limes)	42	77.78%
18	Apiário - Planejamento e Implantação de Apiário (criação de abelhas) (Apiary - Apiary Planning and Implementation (Beekeeping))	41	75.93%
19	Coco - Produção Orgânica de Coco (Coconut - Organic Production of Coconut)	39	72.22%
20	Rapadura, Melado e Açucar Mascavo - Como Produzir... (Brown Sugar and Molasses - How to Produce...)	39	72.22%
21	Manga - Produção de Manga (Mango - Production of Mangoes)	35	64.81%
22	Pimenta do Reino - Produção e Processamento (Pepper - Production and Processing)	35	64.81%
23	Suinos - Criação Orgânica de Suínos (Swine - Creation of Organic Pigs)	30	55.56%
24	Pimenta - Produção e Processamento de Pimenta (malagueta, etc.) (Pepper - Pepper Production and Processing (chili, etc.))	21	38.89%
25	Peixes - Técnicas de Processamento de Peixes (Fish - Fish Processing Techniques)	9	16.67%
26	Mandioca - Como Produzir Polvilho Azedo, Fécula, Farinha e Raspa (Cassava - How to Produce Sour, Starch, Flour and Zest)	8	14.81%
27	Floresta - Restauração Florestal (Forestry - Forestry Restoration)	7	12.96%
28	Pinhão Manso - Como Cultivar Pinhão Manso (biodiesel) (Jatropha - How To Grow Jatropha (biodiesel))	4	7.41%
29	Curso Produção de Palmito de Açaí (Production of Palmito of Açaí)	4	7.41%
30	Produção de Embutidos (Production of Embedded)	4	7.41%
31	Pastejo Rotacionado (Rotational Cattle Pastures)	3	5.56%
32	Produção de Defumados (Smoked / Cured Production)	3	5.56%
33	Serpentes - Criação de Serpentes (Snakes - Creation of Snakes (for venom))	0	0.00%

Ilderlei Souza Rodrigues Cordeiro did, and will continue to, facilitate the teaching of these top-ten courses. I.S.R.C engaged the State of Acre's CEFLORA (Centro de Formação e Tecnologia da Floresta or Center for Training and Forest Technology), the Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul and local consultants to assist with onsite trainings to the communities in and near the Valparaiso Project.

In July 2013, five courses were taught to the families living in the Russas Project and the Valparaiso Project along with families living in the leakage belt. A total of 27 people participated from the Russas Project, 34 people participated from the Valparaiso Project, and 40 people from the leakage belts participated. These five courses were the production of soursop (i.e., also known as graviola), passion fruit, banana, maize, and cassava. The courses also incorporate lessons on the control of pests and diseases through agro-ecological practices, the production of seedlings, and the use of traditional seeds. The courses were taught by the consultant Adair Pereira Duarte, who is an environmental manager and specialist in agro-ecology.



Agricultural Extension Training Courses (Photo Credit: Ilderlei Cordeiro)

The communities are still using some of the knowledge obtained during the agricultural extension courses which were taught in July 2013. For example, some communities have started to plant corn and bananas (i.e., when they previously did not plant corn or bananas), while others have expanded their banana plantations.

Additional agricultural courses were taught in 2015, 2016, and 2017. More specifically, Ilderlei hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least

14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses. In addition, there are other agricultural techniques (e.g., planting pineapples and cocoa) that is being discussed with SOS Amazonia.

In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.

Originally, Manoel Batista Lopes, ME also planned on buying three boats. One boat was to be a fast boat to provide better access to the Valparaiso Project, one boat was to provide transportation for the communities around the Project, and a third boat was to increase market access of the communities' crops by providing transportation for the crops to Cruzeiro do Sul. From March 2011 to December 2013, Manoel Batista Lopes, ME preliminarily reviewed boat models and reviewed the costs to acquire such boats. In November 2018, two transport boats with a capacity of seven tonnes were delivered to the communities of Três Bocas and Queimadas in November 2018. In addition, the Valparaiso Project purchased a small wooden boat in February 2020 and an eight-meter-long aluminum boat in May 2020. Both the wooden boat and the aluminum boat were accompanied by 13 and 23HP engines.

Agricultural extension trainings and increased market access assist the Project Proponents achieve both the climate and community objectives of the Valparaiso Project. These activities result in both net GHG emission reductions by reducing the communities' dependence on forest resources through intensifying agriculture and livestock, while also providing the communities with alternative incomes.

Create Association to Process Açaí and Manioc Flour

In the future, Ilderlei Souza Rodrigues Cordeiro will create an association to give support to the communities' manioc houses based off local research of the individual manioc houses' needs. For example, the association could provide financial support if a manic house's motor breaks down, the association could assist improving production by mechanization of the land, and by increasing market access. The association will also do a one-time update to modernize the communities' manioc houses.

With respect to açaí, a local processing plant will be built to industrialize the açaí berries grown inside the Valparaiso Project. This industrialization process will involve purchasing the açaí berries from local communities, transporting the raw berries to the local processing plant, process the açaí berries into açaí juice, and then transport the açaí juice to Cruzeiro do Sul for final sale to end consumers.



Açaí Processing Equipment (Photo Credit: Brian McFarland)

From March 2011 to December 2013, several initial steps were taken to eventually create this association to assist with the processing of acai and manioc flour. In March 2011, during the very early stages of designing the Project, many communities spoke of the large amount of acai which can be found in the region and that income from selling manioc flour was very important but more support was needed. In 2012, I.S.R.C. agreed to make the necessary investments to create an association to assist with the processing of acai and manioc flour when there is eventually revenue from the sale of carbon offset credits. From 2012 to 2013, the Project Proponents looked into the approximate costs to help process acai and manioc flour and the Project Proponents also looked at a model of processing acai in Cruzeiro do Sul. Furthermore, the Basic Necessity Surveys (BNSs) and the Participatory Rural Assessment (PRAs), which were conducted in March and April 2013, further confirmed the importance of acai and manioc flour.

In addition, Ilderlei initiated conversations with some açaí buyers in Cruzeiro do Sul and in 2021, Ilderlei will purchase 25 manioc flour kits for the local communities. Also, two transport boats for the communities' crops, with a capacity of seven tonnes, were delivered to the communities of Três Bocas and Queimadas in November 2018. The communities are continuously using the boats to transport their manioc flour, bananas, corn, rice and beans, along with the food and fuel they purchase in the city of Cruzeiro do Sul.

Help Communities Obtain Land Tenure

Community members that have been living on the land and who made the land productive (e.g., by growing agriculture or raising animals) for ten years have the right to be titled to land. Manoel Batista Lopes, ME will voluntarily recognize whatever area is currently deforested and under productive use by each family and up to the recommended size that a family in the State of Acre needs for a sustainable livelihood according to State and Federal laws. All communities, whether they join the Valparaiso Project or not, will be titled the land they have put under productive use.

Between March 2011 and December 2013, Ilderlei spoke to the local families about the local families receiving land title. In addition, Ilderlei spoke with the director of ITERACRE, which is

the State of Acre's Institute of Land, about land regulations of the residents. ITERACRE offered their services to be partners and the Project Proponents received a letter of support from ITERACRE for the Valparaiso Project.

From 2014 to 2016, the Project Proponents gained insights into the titling process from another CarbonCo REDD+ Project in Acre.

In June 2017, the Rural Workers Union (STR-Cruzeiro do Sul) met with the local communities about the Brazilian Revised Forest Code and titling of communities. Saymo Justiniano da Silva, a trained professional in rural Cadastro Ambiental Rural (CARs), was hired on July 1, 2017 and intended to complete all the CAR measurements by December 1, 2017. Saymo went door-to-door to explain all aspects of land demarcation including discussion around the shape and size of the plots, discussion about the CCIR and CAR, discussion of land tenure laws and about what communities are able to do with their titles, and a brief discussion about REDD+ projects. Ilderlei then met with the President and Vice President of STR-Cruzeiro do Sul in September 2017 to discuss how to address the communities' concerns regarding the size and shape of their titles.

It is important to note that the landowner may only be able to grant final, official land titles to the local communities upon obtaining a Certificado de Cadastro de Imóvel Rural (CCIR). Nevertheless, Saymo was to revisit the communities in 2018 to make sure the communities are still aware of the titling process and land tenure laws.

Helping communities obtain land tenure will assist the Project Proponents with facilitating the communities' sustainable economic opportunities. This formal recognition of the community's land tenure and the ability of communities to access credit (i.e., due to their property collateral) will reduce GHG emissions as communities will have greater responsibility and ownership over their land.

Profit-Sharing of Carbon Credits

Carbon revenue will be primarily used by Manoel Batista Lopes, ME to partner with Ilderlei Souza Rodrigues Cordeiro to develop social projects and programs. Within the first five years, the community will start to receive from Manoel Batista Lopes, ME a small share of the payments for ecosystem services (i.e., carbon revenue) as a result of their assistance in achieving the social and environmental goals of the Valparaiso. This revenue will be shared with the communities each time Manoel Batista Lopes, ME receives payment for their share of the verified emission reductions.

Although sharing carbon revenue with the local communities is a longer term activity, the Project Proponents – particularly Ilderlei – discussed with the communities that they would be eligible for a share of the carbon revenue in the future. In addition, the Project was designed and implemented throughout March 2011 to December 2020 which are necessary actions to eventually having a verified REDD+ project with issued carbon offset credits that generate enough revenue to share with local communities.

Carbon revenue primarily enables Sustentabilidade Juruá LTDA and Ilderlei Souza Rodrigues Cordeiro to implement social projects and programs, while the small portion of revenue shared with the communities will contribute both to slightly increased and diversified income for communities.

Establish a Headquarters
Manoel Lopes Batista Lopes, ME has a dedicated, informal headquarters near the local church on the Valparaiso Project. This informal headquarters provides: a place for visitors to sleep and eat; a repository for Project documents; and provides a base for local employees of the Project.
The initial renovation of the Valparaiso Project's headquarters took place in 2013. While the Valparaiso Project's headquarters is still maintained, the Russas Project's headquarters served as the official headquarters for both Projects.

Work on a new headquarters specifically for the Valparaiso Project started in May 2020, and on June 25, 2020, there was a pre-inauguration of the headquarters. Throughout the remainder of 2020 and in 2021, the headquarters was expanded and a specific house for the caretaker was built.



Building a local headquarters contributes to the community objective because the office will serve as a centralized headquarters and provides an administrative base for the Project.

Improve Health Center and Dental Clinic
Ilderlei Souza Rodrigues Cordeiro has built and improved the local health center in order to provide residents and their families on both the Russas and Valparaiso Projects with preventive

and curative medicine, including dental. Ilderlei Souza Rodrigues Cordeiro has also facilitated the increased frequency of visits by doctors from Cruzeiro do Sul. Usually the doctors only stay one or two days, but Ilderlei Souza Rodrigues Cordeiro will pay the doctors to stay longer and visit more families throughout the Russas and Valparaiso Projects.



Local Health Center at Russas and Valparaiso Projects (Photo Credit: Brian McFarland)

There were a few activities undertaken from March 2011 to December 2013. In 2013, Mr. Sebastião Melo de Carvalho was completing his Bachelor of Nursing program and expressed his desire to provide health services in the Valparaiso River Basin. Sebastião spoke of the need to implement a program of oral prevention in the Russas and Valparaiso Projects by donating toothbrushes and toothpaste to the schools. Ilderlei realized the importance of these initiatives and talked to local families about incorporating this into the Project design.

Between July 20 and 24, 2014, Sebastião coordinated the action and taught basic healthcare information that was attended by 400 people, including many children and young adults, and distributed dental kits. Furthermore, Ilderlei and Sebastião distributed dozens of mosquito nets throughout the Russas-Valparaiso Projects to help combat malaria in the Juruá River Basin. Sebastião completed his Bachelor of Nursing degree program and in the future, Ilderlei would like to hire Sebastião to work at the Russas and Valparaiso Projects.

Throughout 2014 to 2019, Ilderlei helped facilitate visits by the municipal health boat (e.g., provide gas and food; sometimes supplementary income to workers) to the Russas and Valparaiso Projects. More specifically, in 2017, there were 4 visits by the municipal health boat, there was one visit by the municipal health boat in March 2018 and another visit in February 2019.

In 2016, Ilderlei began renovating (i.e., purchase of all supplies and all labor costs) of the health post in Foz do Valparaiso near the headquarters of the Project. These renovations were completed in 2017.

Also in 2017, Ilderlei began building restrooms throughout the communities to promote health and clean water. More specifically, in 2017, eight communities had restrooms built with a total of approximately 22 toilets, including sinks and showers. As of May 2018, a total of six more communities had restrooms built with a total of approximately 13 toilets. The toliets are being maintained and used.

In February 2017, the Project also helped approximately 1,000 children throughout the Project Zone get access to dental care and taught how to brush their teeth. The Brazilian Navy did this dental health intervention in partnership with the Project which provided the food and fuel for the families, along with the kits with toothbrushes, toothpaste, and floss.

Furthermore, a health clinic was built in the Três Bocas community in November 2018 and another health clinic was built in the Tartaruga community in May 2019. In response to the COVID-19 pandemic, COVID-19 prevention guidelines were shared throughout 2020. In addition, 60 sacks of food and 1,000 masks were distributed.

The health center and dental clinic is also relevant to the community objective because this is another main social project that Manoel Batista Lopes, ME and Ilderlei Souza Rodrigues Cordeiro would like to facilitate. The clinics will ultimately improve health, life quality, and increase life expectancies which will result in more productive community members.

Develop Community Monitoring Plan and Monitor Community Impacts
The community monitoring plan essentially helps the Project Proponents better understand if the social projects and programs for the communities were able to generate sustainable economic opportunities and overall positive outputs, outcomes and impacts. The initial and full community impact monitoring plans were designed between March 17, 2011 and December 31, 2013 and the community monitoring plans were made publicly available in July 2013.
The Participatory Rural Assessment (PRA) and the Basic Necessity Survey (BNS), which were used to develop the community impact monitoring plan, were administered in March and April 2013. The second PRA was administered in May 2014 and the third PRA was administered in March 2017, while the second BNS was administered in May 2017. The fourth PRA was administered from April to May 2019, while the third BNS was also administered from April to May 2019.

Major Biodiversity Objective
To preserve the Project's rich biodiversity, the Project Proponents will continue to generate sustainable economic opportunities for the local communities and implement local social projects with the goal of addressing the underlying causes of deforestation and reducing the release of GHGs. In addition, the Project Proponents rapidly assessed biodiversity on the Project and developed a biodiversity monitoring plan.

Rapidly Assess Biodiversity on Project
A rapid assessment of the Project Zone's biodiversity was conducted in March and April 2013. This included background research along with meeting local organizations such as S.O.S. Amazônia and the Secretariat of Environmental Affairs for the Municipality of Cruzeiro do Sul about biodiversity in the Juruá and Valparaiso River Basins. This rapid assessment of biodiversity contributes to the objective of preserving the Project's rich biodiversity by providing an understanding of what flora and fauna potentially exist within the Project Zone.

Develop Biodiversity Monitoring Plan and Monitor Biodiversity Impacts
The biodiversity monitoring plan essentially helps the Project Proponents better understand if the climate and community objectives are aligned with preserving the Project's rich biodiversity. The initial and full biodiversity monitoring plans were designed between March 19, 2011 and December 31, 2013 and the biodiversity monitoring plans were made publicly available in July 2013.

Wildlife cameras were deployed to the Purus Project, which is another REDD+ project in the State of Acre, Brazil being implemented by CarbonCo and Carbon Securities, and this provided many lessons learned for CarbonCo and Carbon Securities. This includes identifying local partners, proper placement of wildlife cameras, the quality of photographs to be expected, and the type of preventative maintenance to be conducted. These wildlife cameras were then deployed to the Russas-Valparaiso Projects from August 2014 to July 2015. Andre Botelho and Kidney Cunha da Aires were contracted to assist with the installation of the wildlife cameras and to analyze the images. Andre's classmate Luiz Henrique Medeiros Borges also assisted with the installation. Andre presented a poster in September and October 2015 entitled, "Composition and Relative Abundance of Medium and Large Mammals in REDD+ areas in Acre" at the 8th Brazilian Congress of Mammalogy, held in João Pessoa (the capital city of Paraíba). Andre then completed his final report for the Russas-Valparaiso Projects wildlife camera study with his final analysis in December 2015.

For the second round of the biodiversity monitoring plan, a total of 12 Bushnell Trophy Cam High Definition with Security Package wildlife cameras were purchased in March 2018. Luiz Henrique Medeiros Borges (a close associate of André Luis Botelho de Moura) was contracted in February 2019, a Standard Operating Procedure was developed, onsite training by Luiz was provided to Willyan in July 2019, and then the wildlife cameras were deployed to the Russas-Valparaiso Projects from July 2019 to June 2020. A final report was completed by Luiz Borges in September 2020.

Furthermore, the Project Proponents have reviewed satellite imagery from 2011 to 2020 to monitor forest cover change.

Project Lifetime and GHG Accounting Period
The Project State Date, which can be demonstrated via a signed "ata," is March 19, 2011. An "ata" is a signed record for public meetings. On March 19, 2011 Ilderlei (landowner of the Russas Project) spoke with the Valparaiso Project community at length about REDD+, forest conservation, community benefits, etc. and the community signed an "ata."

The GHG Accounting Period – otherwise known as the Project Crediting Period – also began on March 19, 2011. The Tri-Party Agreement between CarbonCo, Carbon Securities and Manoel Batista Lopes stipulates a 60-year Project Lifetime, followed by two renewable terms of 25-years each. Thus, the Project Lifetime is 60 years but the Project Proponents may decide in the future to extend the Project Lifetime to 110 years.

The initial Project Crediting Period – otherwise known as the GHG Accounting Period - will be for 30 years which started on March 19, 2011 and ends on March 18, 2041. This Project Crediting Period is also in conformance with the Verified Carbon Standard.

The reason for a difference between the Project Crediting Period and the Project Lifetime is because the Project Proponents are committed to maintaining forest cover within the Valparaiso Project beyond the Project Crediting Period.

Implementation Schedule
The approximate implementation schedule for the Valparaiso Project is as follows:[3]

Pre- and Post-Validation: Years 1 and 2 (2012-2013)

- Signing of Tri-Party Agreement between Project Proponents
    - The Valparaiso Project's Tri-Party Agreement was signed in May 2012.
- Stakeholder Consultations and Community Visits
    - Stakeholder consultations and community visits occurred through March 2011 to December 2013, with the Project Proponents visiting the Valparaiso Project together in June 2012, March-April 2013, June 2013 and August 2013. The Project Proponents continued to visit the Valparaiso Project, with visits in May 2014, August 2014, May 2017, July 2017, May 2018, April-May 2019, and July 2019. Unfortunately, due to the COVID-19 pandemic, the Project Proponents were unable to collectively visit the Project in 2020
    - Ilderlei visited the Valparaiso and Russas Projects in January 2014, July 2014, and March 2016. Ilderlei also visited the Projects in 2015, but Ilderlei is unsure of the exact months. More recently, Ilderlei visited the Projects four times in 2018 and five times in 2019, with some accompanying visits by Gleidson.
- Forest Carbon Inventory
    - TECMAN was contracted by CarbonCo in January 2013 for the forest carbon inventory, TECMAN participated in a web-based training from TerraCarbon in January 2013, and then TECMAN conducted the forest carbon inventory from February to March 2013. TECMAN was later contracted by CarbonCo in April 2014, participated in a classroom and field-based training from TerraCarbon in May 2014, and then TECMAN conducted the forest carbon inventory at another CarbonCo Project from May to July 2014.
    - Conversations with TECMAN took place throughout 2019 and 2020, which culminated in March 2021 when TECMAN was contracted by CarbonCo to remeasure select forest carbon inventory plots as part of the baseline revision work.

[3] Please see Appendix A of the 2014-2016 Monitoring and Implementation Report for a slightly revised implementation schedule as part of the Project's "catch up plan."

- Land-use and Deforestation Modeling
    - Professor Flores was contracted by CarbonCo in April 2013 and assisted with the review of the Valparaiso Project's modelling from approximately March to July 2013. Professor Flores was also contracted by CarbonCo in 2014, 2015, 2016, and 2017 to assist with data acquisition.
    - In 2018 and 2021, TerraCarbon was contracted to assist with acquisition and classification of satellite imagery.
- Project Design Documents Written
    - The Valparaiso Project's Climate, Community and Biodiversity Standard (CCBS) Project Design Document and Verified Carbon Standard (VCS) Project Description (both English and Portuguese versions) were written between November 2012 and July 2013.
    - The initial and second Project Implementation Reports were written between March 2014 and June 2017, with revisions made in August 2017 to February 2018. The third VCS-CCB Project Monitoring and Implementation Report was written between March 2018 and September 2018. This fourth VCS-CCB Project Monitoring and Implementation Report was written between January 2021 and August 2021.
- Hire Project Manager
    - In the earlier stages of the Project, Jose Getulio Silva ("Getulio") was the initial, informal project manager. Manoel Batista Lopes, ME then partnered with Ilderlei Souza Rodrigues Cordeiro in April 2013 to work on the social projects and programs of the Valparaiso Project in conjunction with Ilderlei's Russas Project and in conjunction with Getulio. Marmude Dene de Carvalho ("Marmude") was hired by Ilderlei in March 2011 as the Russas Project's local project manager and to patrol for deforestation. Sadly, Marmude passed away on September 2, 2014. Prior to Marmude's passing, two volunteer local project coordinators (Maria de Fátima Dene de Carvalho and Nágila Deni Sarah) joined the Project in February 2014. After Marmude's passing, Fátima and Nágila stepped in to help out until a new local project manager, Willyan Deni Sarah, was contracted in May 2017. Fátima and Willyan are both based at the Project, while Nágila is based in Cruzeiro do Sul.
    - As of August 2021, Fátima and Nágila are still involved with the Russas Project and provide assistance to the Valparaiso Project as needed. As of August 2021, Willyan assists with both the Russas and Valparaiso Projects.
- Initiate Patrols of Deforestation
    - The initial patrols of deforestation at the Valparaiso Project started on January 8, 2012 when Manoel Batista Lopes partnered with Jose Getulio Silva ("Getulio") to act as the initial project manager and to initiate patrols of deforestation. Although Getulio is still the informal project manager and informal patroller of deforestation, Manoel Batista Lopes, ME partnered with Ilderlei Souza Rodrigues Cordeiro in April 2013 to take over the main responsibility of patrolling for deforestation. Ilderlei hired Marmude Dene de Carvalho in March 2011 to patrol for deforestation and such patrols continued throughout most of 2014, until sadly, Marmude passed away on September 2,

2014. Getulio, Maria de Fátima Dene de Carvalho Silva and Willian Deni Sarah informally patrolled for deforestation.
    - Starting in 2017, Willyan began to formally record his patrols of deforestation. As of 2021, Willyan is still responsible for monitoring for deforestation on behalf of Sustentabilidade Juruá LTDA.
- Initiate Training and Agricultural Extension Courses for Communities
    - Communities throughout the Valparaiso Project Zone were surveyed on their most desired agricultural extension courses from March to May 2013. The five agricultural training courses on the production of soursop (i.e., also known as graviola), passion fruit, banana, maize, and cassava took place in July 2013. The communities are still using some of the knowledge obtained during the agricultural extension courses which were taught in July 2013. For example, some communities have started to plant corn and bananas (i.e., when they previously did not plant corn or bananas), while others have expanded their banana plantations.
    - Ilderlei also hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses.
    - In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities.
    - In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.
- Biodiversity and Community Impact Monitoring Plans Developed
    - The Valparaiso Project's biodiversity and community impact monitoring plans were developed between March 2011 and July 2013, the Participatory Rural Assessment (PRA) and the Basic Necessity Survey (BNS) which were used to develop the community impact monitoring plan were administered in March and April 2013, and both monitoring plans were publicly posted in July 2013. The second PRA was administered in May 2014 and the third PRA was administered in March 2017, while the second BNS was administered in May 2017. The fourth PRA and the third BNS were both administered in April-May 2019.
    - Motion-sensitive wildlife camera traps, which are part of the biodiversity monitoring plan, were installed from August 2014 to July 2015. The second biodiversity study using wildlife camera traps took place from July 2019 to June 2020.
- Project Validated to CCBS and VCS Standards
    - The validation site visit of the Valparaiso Project took place in August 2013 and the Project was validated to the CCBS and VCS Standards in July and September 2014. The initial VCS-CCBS verification was achieved in December 2014, the second verification was achieved in November 2017, and the third verification was achieved in March 2019.
- Renovate Headquarters

- The initial renovation of the Valparaiso Project's headquarters took place in 2013. While the Valparaiso Project's headquarters was still maintained, the Russas Project's headquarters served as the headquarters for both Projects.
- Work on a new headquarters specifically for the Valparaiso Project started in May 2020, and on June 25, 2020, there was a pre-inauguration of the headquarters. Throughout the remainder of 2020 and in 2021, the headquarters was expanded and a specific house for the caretaker was built.

Post-Validation: Years 3 to 5 (2014-2016)

- Help Communities Obtain Land Tenure
  - Ilderlei began to discuss with the communities the process of them receiving official land tenure. Ilderlei spoke with ITERACRE and the Project Proponents also received a letter of support from ITERACRE. From 2014 to 2016, the Project Proponents gained insights into the titling process from another CarbonCo REDD+ Project in Acre.
  - In June 2017, the Rural Workers Union (STR-Cruzeiro do Sul) met with the local communities about the Brazilian Revised Forest Code and titling of communities. Saymo Justiniano da Silva, a trained professional in rural Cadastro Ambiental Rural (CARs), was hired on July 1, 2017 and intended to complete all the CAR measurements by December 1, 2017. Saymo went door-to-door to explain all aspects of land demarcation including discussion around the shape and size of the plots, discussion about the CCIR and CAR, discussion of land tenure laws and about what communities are able to do with their titles, and a brief discussion about REDD+ projects. Ilderlei then met with the President and Vice President of STR-Cruzeiro do Sul in September 2017 to discuss how to address the communities' concerns regarding the size and shape of their titles.
  - Saymo was to revisit the communities in 2018 to make sure the communities are still aware of the titling process and land tenure laws. In addition, the Valparaiso Project is in the process of reviewing everything that Saymo did at the Valparaiso Project. The titles were to be completed in 2020, but was unfortunately temporarily paused due to the COVID-19 pandemic.
- Create Association to Process Açaí and Manioc Flour
  - Ilderlei discussed importance of manioc flour and the availability of açaí with the local communities. In addition, the Project Proponents looked into the approximate costs to help process açaí and manioc flour and the Project Proponents also looked at a model of processing açaí in Cruzeiro do Sul. In 2021, Ilderlei will purchase manioc flour kits and will, in the future, help promote associations where they currently do not exist. It is important to note that one of the courses taught in July 2013 was on cassava (i.e., also known as manioc).
  - In November 2018, two transport boats for the communities' crops, with a capacity of seven tonnes, were delivered to the communities of Três Bocas and Queimadas. The communities are continuously using the boats to transport their manioc flour, bananas, corn, rice and beans, along with the food and fuel they purchase in the city of Cruzeiro do Sul.

- Improve Health Center and Dental Clinic
    - In 2013, as Mr. Sebastião Melo de Carvalho was completing his nursing program and expressed his desire to provide health services in the Valparaiso River Basin. Sebastião spoke of the need to implement a program of oral prevention in the Russas and Valparaiso Projects by donation toothbrushes and toothpaste to the schools. Ilderlei realized the importance of these initiatives and talked to local families about incorporating this into the Project design.
    - Between July 20 and 24, 2014, Sebastião coordinated the action and taught basic healthcare information that was attended by 400 people, including many children and young adults, and distributed dental kits. Furthermore, Ilderlei and Sebastião distributed dozens of mosquito nets throughout the Russas-Valparaiso Projects to help combat malaria in the Juruá River Basin. Sebastião completed his Bachelor of Nursing degree program and in the future, Ilderlei would like to hire Sebastião to work at the Russas and Valparaiso Projects.
    - Throughout 2014 to 2019, Ilderlei helped facilitate visits by the municipal health boat (e.g., provide gas and food; sometimes supplementary income to workers) to the Russas and Valparaiso Projects. More specifically, in 2017, there were 4 visits by the municipal health boat, there was one visit by the municipal health boat in March 2018 and another visit in February 2019.
    - In addition, in 2016, Ilderlei began renovating the onsite health clinic and then in 2017, Ilderlei began building community bathrooms throughout the communities to promote health and clean water, and the onsite health clinic renovations were completed. Furthermore, a health clinic was built in the Três Bocas community in November 2018 and another health clinic was built in the Tartaruga community in May 2019.
    - In response to the COVID-19 pandemic, COVID-19 prevention guidelines were shared throughout 2020. In addition, 60 sacks of food and 1,000 masks were distributed.

Post-Validation: Years 6 to 10 (2017-2022)

- Profit Sharing of Carbon Credits
    - Although a long-term activity, the Valparaiso Project was designed and implemented from March 2011 to December 2020 which are very important steps to eventually having a verified REDD+ project with issued carbon offset credits that generate enough revenue to share with local communities.
- Reassessment of Land-use and Deforestation Modeling Baseline
    - The reassessment of land-use and the renewal of the Project's deforestation baseline was originally a future activity. The Project Proponents held several conversations throughout 2019 and 2020 about the baseline revision and CarbonCo began the work in 2021 by contracting TECMAN and TerraCarbon.

Project Description Deviations

Rather than initially assessing the significance of illegal logging using temporary sample plots covering 1% of the potential degradation area (*ADegW,i*) as proposed in the project document

and monitoring module of the VM0007 methodology; information gathered during the course of the participatory appraisals including amounts of fuelwood, charcoal, and timber collected by communities members will be used along with conservative assumptions to assess whether emissions due to degradation are significant using the T-SIG tool, and plot level monitoring of degradation is warranted. This deviation may be used for the first and each subsequent monitoring period. This deviation was added during the course of the first verification event. This deviation was included as it was our understanding that we could use T-SIG to determine the significance of any with project emission. Further, this deviation was warranted due to the significant amount of work necessary to monitoring degradation using temporary plots and the likely insignificant amount of emissions resulting from degradation. The section on "Monitoring Illegal Degradation" in the monitoring plan has been updated to reflect this deviation.

Rather than monitoring Cpost using modules CP-AB and CP-D as described in the MON modules, C(post) can conservatively be assumed to be zero in the with-project case, not only for natural disturbance (CP,Dist,q,i , as stated in Section 5.2.3 of the M-MON module) but also for deforestation (CP,post,u,i). This deviation is conservative because subtracting zero from the baseline stocks, leads to the conclusion that $\Delta C_{pools,Def,u,i,t}$ is equal to $C_{(BSL,i)}$, which leads to the maximum emission in the with-project case, which is conservative. This deviation may be used for the first and each subsequent monitoring period.

Risks to Climate, Community and Biodiversity Benefits

There are potential natural, anthropogenic and project risks to the climate, community and biodiversity benefits of the Valparaiso Project. The overall risks associated with the Valparaiso Project are considered low and justify a low Verified Carbon Standard buffer reserve established for any verified emission reductions (i.e., carbon offsets or carbon credits).

Natural Risks

The following are some potential natural risks that could impact forest conservation projects and particularly the Valparaiso Project:

- Seedling, sapling and tree survival;
- Drought and flooding;
- Severe weather;
- Forest fire; and
- Disease, invasive species, and pest infestations.

Due to the fact that the Valparaiso Project is primarily a conservation project, there is limited risk of seedling, sapling and tree survival because reforestation is not the major climate objective. While there will be some reforestation activities, the carbon sequestration of these activities will not be counted towards the generation of verified emission reductions.

With respect to drought and flooding, the Juruá River basin is a wetland ecosystem where the native habitat thrives under periodically flooded conditions. Drought does not have a direct effect on existing forest carbon stocks, but instead can increase the severity of forest fires and hence is covered below in the section on fire risk. Being a tropical climate, the Valparaiso Project is not prone to snowstorms and there are no volcanoes in the general vicinity.

Furthermore, the State of Acre historically has not experienced hurricanes, monsoons, or tornadoes with only minimal effects from Chilean earthquakes.[4]

Another risk to the Valparaiso Project is a forest fire. Forest fire historically has not been a problem in the Project Area. Most of the Project Area is un-fragmented forest, with few areas of bordering pasture/non-forest. Most forest fires that occur in the region are anthropogenic, and thus sources of fire outbreaks in the Project Area are limited.

It is also important to note that the State of Acre has some of the highest precipitation levels in the world with annual rainfall ranges from 1,600 – 2,750 millimeters (i.e., approximately 63 – 108 inches).[5]

With regard to disease, invasive species and insect infestation, Brazil's Department of the Environment has approved a permanent technical committee known as the National Biodiversity Commission (CONABIO) which carefully monitors these developments.[6] The Project Proponents are aware that the Global Invasive Species Database, which is managed by the Invasive Species Specialist Group of the International Union for Conservation of Nature's Species Survival Commission, has identified 62 natural forest species which are either native to Brazil and act as an invasive species elsewhere or are native species elsewhere and are considered invasive species within Brazil.[7] Furthermore, three species native to Brazil (i.e., and which are considered invasive species elsewhere) are on the Global Invasive Species Database's 100 of the World's Worst Invasive Alien Species List.[8] The Project Proponents will carefully monitor any invasive species known to exist in Acre and will not extract any known species from the Project that are considered native species but which are invasive species elsewhere. For more information on the risk of invasive species, please see the VCS Non-Permanence Risk Assessment.

Anthropogenic Risks

The following are some potential anthropogenic risks that could impact forest conservation projects and particularly the Valparaiso Project:

- Illegal logging;
- Illegal hunting of endangered fauna;
- Illegal collection of endangered flora; e
- Human-induced fires.

The Project Proponents will regularly monitor the climate, community and biodiversity objectives of the Project and thus, will be able to identify early on if there are illegal logging or hunting activities taking place.

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4 Center for Weather Prediction and Climate Studies, "Home," Available: http://www1.cptec.inpe.br/ National Observatory, "Seismic Data," mhttp://www.on.br/conteudo/modelo.php?endereco=servicos/servicos.html

[5] State Government of Acre Portal, "Geographic Data,"

[6] National Biodiversity Commission, "Technical Committee," Available: http://www.mma.gov.br/sitio/index.php?ido=conteudo.monta&idEstrutura=15&idConteudo=7474&idMenu=368

[7] Global Invasive Species Database, "Alien Species," Available: http://www.issg.org/database/species/search.asp?sts=sss&st=sss&fr=1&sn=&rn=brazil&hci=1&ei=-1&lang=EN&Image1.x=30&Image1.y=10

[8] Global Invasive Species Database, "100 of the World's Worst Invasive Alien Species List," Available: http://www.issg.org/database/species/search.asp?st=100ss&fr=1&str=&lang=EN

Project Risks

A few of the potential project risks identified by the Project Proponents include:

- A fixed plot of land per family is given, but an increasing family population results in less land per capita.
- As incomes increase, the use of illicit drugs, alcoholism and violence might increase.
- "An influx of relatively large cash sums in areas with weak governance or where local organizations lack appropriate systems runs the risks of mismanagement, corruption, and 'elite capture'."[9]
- "Increased land speculation or in-migration, thus creating conditions for increased competition and social conflict within and between communities."[10]
- State of Acre's CEFLORA (Centro de Formação e Tecnologia da Floresta or Center for Training and Forest Technology), the Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul and/or consultants might not be effective at providing agricultural extension to communities.
- If many communities throughout the Project Area start producing the same crop, the price might fall due to supply-demand mismatch; similarly, the price of carbon could fall.
- Ilderlei Souza Rodrigues Cordeiro unable to deliver local social projects and programs
- The institutions IBAMA (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis), IMAC (Instituto de Meio Ambiente do Acre) and/or the police department are unable to stop deforestation if their services are requested.

To address these aforementioned risks, the Project Proponents met in June 2013 to develop mitigation plans. These risks were periodically reviewed from 2014 to 2020.

As previously discussed, community members that have been living on the land and who made the land productive (e.g., by growing agriculture or raising animals) for ten years, have the right to be titled. Manoel Batista Lopes, ME (now Sustentabilidade Juruá LTDA) will voluntarily recognize whatever area is currently deforested and under productive use by each family.

In addition, the parcel granted to the community will be combined with improved agricultural techniques. Furthermore, job creation should allow for less dependency on the land.

The communities are religious and regularly attend church. The church educates the communities about the social problems surrounding illicit drugs, alcoholism and family violence. If worse comes to worse, there are federal and civil police who will take care of illicit drug use and violence.

To minimize the chances of corruption and 'elite capture,' Sustentabilidade Juruá LTDA and Ilderlei Souza Rodrigues Cordeiro have a few policies in place. First, the Project Proponents will encourage community-wide participation and will try to always include all the communities.

[9] Richards, M. 2011. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 2 – Social Impact Assessment Toolbox. Climate, Community & Biodiversity Alliance and Forest Trends with Rainforest Alliance and Fauna & Flora International. Washington, DC. Page 6.

[10] Richards, M. 2011. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 2 – Social Impact Assessment Toolbox. Climate, Community & Biodiversity Alliance and Forest Trends with Rainforest Alliance and Fauna & Flora International. Washington, DC. Page 6.

For example, everyone will be given an equal opportunity to attend agricultural classes and all benefits (e.g., access to health clinic and access to manioc flour house) will be offered to everyone. Second, the Project will specifically target poorer communities to further reduce the chances of elite capture. Third, the Basic Necessities Survey will be regularly administered to enable the rapid detection of elite capture by monitoring the distribution of assets, inequality and poverty. Lastly, if increased inequality is identified and attributed to the Project, the Project Proponents will conduct a root cause analysis to determine the underlying cause and using adaptive management, the Project Proponents will modify the Project accordingly. Thus as an overall principle, the Valparaiso Project will not allow corruption or elite capture.

Agricultural training courses will be offered to surrounding communities as one method to counteract potential in-migration. Some of the Project's benefits (for example, access to health clinic) will be offered to surrounding communities. Ultimately, the Valparaiso Project is privately-owned land and in-migration will not be allowed. The deforestation monitoring plan will ensure the rapid identification and resolution of in-migration. The census conducted by Ilderlei Souza Rodrigues Cordeiro has documented everyone currently living in the Valparaiso Project and the titling of land to the communities will incentivize the communities to not allow in-migration.

State of Acre's CEFLORA (Centro de Formação e Tecnologia da Floresta or Center for Training and Forest Technology), the Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul and consultants are leading institutions and are experts at providing agricultural extension trainings and thus, the risk of their efforts failing is minimal.
The overall crop production among communities is relatively small and should not create a downward pressure on prices of a given crop throughout the Project Zone. Diversity of crop production should act as an insurance mechanism against the price drop of a given crop. If carbon prices fall, the Project Proponents will seek alternative sources of funding to continue the Project and compliment the then-reduced funding from carbon finance.

Ilderlei Souza Rodrigues Cordeiro was able to deliver local social projects and programs. Since December 31, 2018, Manoel Batista Lopes, ME has assumed the responsibilities of implementing the social projects and programs and in the future, could hire a local company, if necessary. As of August 2021, Sustentabilidade Juruá LTDA has now assumed the responsibilities of Manoel Batista Lopes, ME.

With respect to the institutions IBAMA, IMAC, and police department being unable to stop deforestation if their services are requested, Ilderlei Souza Rodrigues Cordeiro and Manoel Batista Lopes, ME have already spoken with these institutions, the municipality of Cruzeiro do Sul and the State of Acre support REDD+ projects, and the institutions' missions are in part to stop deforestation.

For a more extensive identification of risks and mitigation strategies (i.e., measures to address these climate, community and biodiversity risks), please see the VCS Non-Permanence Risk Assessment.

Stakeholder Identification and Involvement

Document and Defend how Communities and other Stakeholders Potentially Affected by the Project Activities have been Identified and have been Involved in Project Design

The Project Proponents have conducted an extensive stakeholder identification and stakeholder engagement or involvement process. For a comprehensive list of the Valparaiso Project's stakeholders, please refer *to Appendix A, Stakeholder Identification.*

Stakeholders were primarily analyzed based off their influence and importance.

Influence of Stakeholder	**Importance of Stakeholder to Project Achievement**				
	Unknown	**Low**	**Moderate**	**Significant**	**Critical**
Low	Other	Other	Other	Secondary	Secondary
Moderate	Other	Other	Other	Secondary	Secondary
Significant	Secondary	Secondary	Secondary	Secondary	Secondary
Highly Influential	Secondary	Secondary	Secondary	Secondary	Primary

Figure 2, Stakeholder Analysis (Credit: CARE 2002)[11]

Stakeholders were then categorized according to: Project Proponents, Community and Primary Stakeholders; Secondary Stakeholders; and Other Stakeholders.

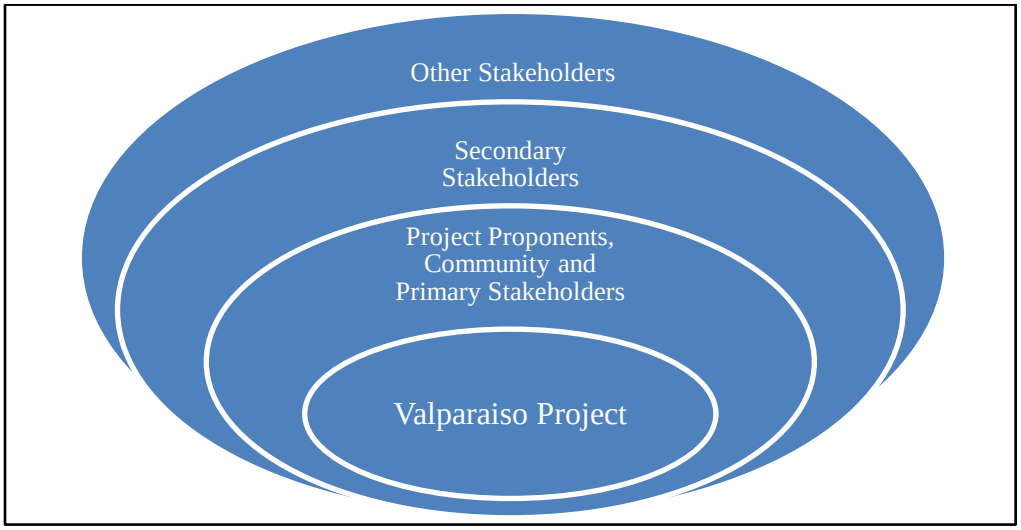


Figure 3: Stakeholder Map

These following stakeholders, considered primary and secondary stakeholders, were involved in project design to optimize climate, community and biodiversity benefits while ensuring the Valparaiso Project was properly aligned with the State of Acre. Consultations with all stakeholders, but especially these following stakeholders, shall continue throughout the Project Lifetime:

[11] CARE (2002), Annex XIV contains guidance on stakeholder analysis in project design: http://www.proventionconsortium.org/themes/default/pdfs/CRA/HLSA2002_meth.pdf

- Manoel Batista Lopes ME (now Sustentabilidade Juruá LTDA), specifically Manoel Lopes Filho and Gleidson Lopes;
- Communities living within the Valparaiso Project;
- Carbonfund.org Foundation, Inc. and CarbonCo, LLC;
- Freitas Group International LLC and Carbon Securities;
- I.S.R.C. Investimentos e Acessória LTDA, specifically Ilderlei Souza Rodrigues Cordeiro
- TerraCarbon;
- TECMAN LTDA;
- Ostrya Conservation;
- Professor Antonio Willian Flores de Melo;
- Landowner and Communities living around Valparaiso Project;
- State of Acre, particularly the:
    - Climate Change Institute of Acre (IMC);
    - State of Acre's CEFLORA (Centro de Formação e Tecnologia da Floresta or Center for Training and Forest Technology);
    - The Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul;
- Aster Global Environmental Services (the current project auditor);
- IMAFLORA (previous project auditor);
- Verra (formerly known as the Verified Carbon Standard Association); and
- Climate, Community and Biodiversity Alliance.

It is important to note that the Project Proponents used socially and culturally appropriate methods for stakeholder consultations and these stakeholder consultations were inclusive of gender, inter-generations, and language. High conservation values were also respected, along with local customs and values. In addition, meetings often took place at the most convenient locations (for example, at the communities instead of in Rio Branco) for stakeholders.

Specific Processes to Address Particular Conflicts

There are a few specific processes being developed in order to address particular conflicts that may arise at the Valparaiso Project.

Upon learning of any significant deforestation within the Project Area, the Project Manager shall:

- 1. Contact the agent of deforestation to explain that deforestation is not part of the Project.
- 2. If the deforestation continues, the Project Manager will immediately notify the fact to Ilderlei Souza Rodrigues Cordeiro and/or Sustentabilidade Juruá LTDA.
- 3. Ilderlei Souza Rodrigues Cordeiro will then contact Sustentabilidade Juruá LTDA and will contact the police department, IMAC, IBAMA, and other institutions to assist, if necessary.

Upon learning of any fire within the Project Area, the Project Manager would take the following steps:

- 1. The Project Manager will immediately notify the fact to Ilderlei Souza Rodrigues Cordeiro and Ilderlei will contact Sustentabilidade Juruá LTDA.

- 2. If the fire results in a large-scale fire started by a community member, Ilderlei and Sustentabilidade Juruá LTDA will contact the State of Acre government and the fire department in Cruzeiro do Sul to assist with putting out the fire and to take actions against the community member.

Upon learning of any in-migration of Project Area, the Project Manager should adopt the following procedures:

- 1. Contact the in-migrant to explain the property is a forest conservation project and in-migration is not allowed.
- 2. If the in-migrant is established, the Project Manager will immediately notify the fact to Ilderlei Souza Rodrigues Cordeiro and Ilderlei will contact the police department and Sustentabilidade Juruá LTDA.
- 3. The police department would remove the in-migrant, if necessary.

Upon learning of the occurrence of illegal logging or poaching in the Russas Project, the Project Manager should adopt the following procedures:

- 1. The Project Manager will immediately notify the fact to Ilderlei Souza Rodrigues Cordeiro and Ilderlei will contact Sustentabilidade Juruá LTDA, the police department and IMAC.
- 2. The police department and IMAC would investigate.

One grievance that arose in 2017 concerned the amount of land being offered to the community members for title transfer and whether its size was sufficient. To help address this grievance, in June 2017, the Rural Workers Union (STR-Cruzeiro do Sul) met with the local communities about the Brazilian Revised Forest Code and titling of communities. Saymo Justiniano da Silva, a trained professional in rural Cadastro Ambiental Rural (CARs), was then hired on July 1, 2017 and went door-to-door to explain all aspects of land demarcation including discussion around the shape and size of the plots, discussion about the CCIR and CAR, discussion of land tenure laws and about what communities are able to do with their titles, and a brief discussion about REDD+ projects. Ilderlei then met with the President and Vice President of STR-Cruzeiro do Sul in September 2017 to discuss how to address the communities' concerns regarding the size and shape of their titles.

One resolution was to offer a smaller plot of land for elders who do not have more children to divide their area, a slightly larger plot of land for couples who have a small family, and the largest plot of land for couples who have a larger family.

A second resolution was that Ilderlei Cordeiro hired Saymo Justiniano da Silva to return to the Projects to talk with the communities and it was agreed that the lands that were proposed for the communities are for them to use for planting crops, and the Russas and Valparaiso Projects are going to give the support of the environmental reserve (i.e., known as the legal reserve) for the areas offered to the communities.

More specifically, the revised Brazilian Forest Code of May 2012 requires private landowners in Amazonia, including the state of Acre, to maintain an 80% legal reserve and the remaining 20% non-legal reserve is where one can plant crops, raise cattle, build a house, etc. With this in mind,

the local communities were unsure if, for instance, a title granting them ten hectares was really a plot of land that required eight hectares (i.e., 80%) of legal reserve and thus, they were only able to grow crops on two hectares (i.e., the 20% non-legal reserve). This was clarified by Saymo Justiniano da Silva that, for instance, the communities could plant crops on the full ten hectares and the required 80% non-legal reserve (i.e., forty hectares) would be maintained by the landowner. In essence, it is as if the local communities will be granted fifty hectares.

Another grievance that arose from 2017-2018 was that several of the restrooms installed at the Projects were not being maintained. To rectify this situation, the landowner will renovate the bathrooms and will soon begin a monthly campaign to raise awareness amongst the communities in relation to their responsibility for the stewardship of the restrooms.

Project Transparency

The Valparaiso Project will seek to promote the highest level of transparency, while protecting proprietary information and respecting intellectual property rights. To achieve this goal, these actions are being taken to promote the Project's transparency:

- The Valparaiso Project was independently audited by Environmental Services, Inc., IMAFLORA and Aster Global to the CCBS and VCS, two leading certification standards. In addition to being validated, the Project has also been verified twice.
- The CCBS PDD must be publicly posted for 30 days.
- Carbonfund.org and CarbonCo LLC's financial statements are annually audited by an independent, certified public accountant.
- The Project Proponents have presented the Project to a wide-range of officials, including but not limited to: the President of the Cruzeiro do Sul Municipal Legislature, the Secretary of Environmental Affairs for the Cruzeiro do Sul municipality, staff members of the Secretary of Agriculture for the Cruzeiro do Sul, and the Climate Change Institute of the State of Acre.

The Project has undertaken extensive stakeholder consultations (i.e., including local communities, communities in the leakage belt, and the State of Acre), the project documents were both translated into Portuguese and widely publicized, and the Verra Registry (formerly the VCS-approved IHS-Markit Environmental Registry) was used to further ensure the Project's transparency.

There was also a participatory process of drafting the Tri-Party Agreement, outlining the overall roles and responsibilities of the Project Proponents, clarity about funding, and appropriate risk sharing of costs and benefits. Furthermore, the transparency of benefit sharing will be enhanced through verification and VCS-registry distribution of VERs.

Describe Methods to Publicize CCBA Public Comment Period and to Facilitate Submission of Comments

A variety of communication methods were utilized to publicize the CCBA Public Comment Period to stakeholders of the Valparaiso Project, including the local communities. In addition, the Project Proponents will play an active role in distributing the Valparaiso Project's CCBS Project Design Documents. Such specific steps include:

- First and foremost, the CCBS Project Design Documents – along with these Summary Documents - are available in both English and Portuguese. This allows for a wider-range

of stakeholder participation including local communities and government officials in Acre, Brazil.

- Secondly, the Project Documents will be communicated to community members in an appropriate manner to overcome the fact that some community members might be illiterate. For example, the Project Proponents are committed to visiting the communities during the CCBA Public Comment Period to explain the Project's Public Comment Period and solicit their comments. A copy of the Portuguese CCBS PDD was also left at the Russas Project.
- The CCBS Project Design Document were publicly posted for a minimum of 30 days on the CCBA website and comments will be solicited from the CCBS.
- In addition, CarbonCo's parent company Carbonfund.org Foundation, Inc. publicized the Project Documents on its website and solicited comments on the Project via a newsletter announcement to Carbonfund.org's 8,000+ members.
- Furthermore, the Project Documents were sent to a variety of specific stakeholders including Acre State Government officials, TECMAN and Professor Flores to ensure accuracy of statements and encourage their submission of comments to the CCBS.

During the CCBS Public Comment Period, the Project Proponents visited as many communities as possible living within the Project Zone. To facilitate comments from the communities, the Project Proponents individually met with communities and offered to transcribe their comments. After ensuring the accuracy of the comment, the Project Proponents will submit the comments on behalf of the communities directly to the CCBS.

With respect to other stakeholders, Manoel Batista Lopes, ME (in the future, it will be Sustentabilidade Juruá LTDA) announced the public comment period on the Rádio Juruá FM and Rádio Verdes Florestas. These radio stations are widely listened to throughout the State of Acre, including the municipalities of Cruzeiro do Sul and Porto Walter. Such an announcement informed listeners about the Valparaiso Project and about the CCBS, encouraged listeners to review the Project Documents, and asked for comments to be submitted.

Roles and Responsibilities of Project Proponents

The three primary Project Proponents responsible for the Valparaiso Project's design and implementation are Sustentabilidade Juruá LTDA, CarbonCo and Freitas International Group. The following shall provide the overall governance structure, along with specific roles and responsibilities.

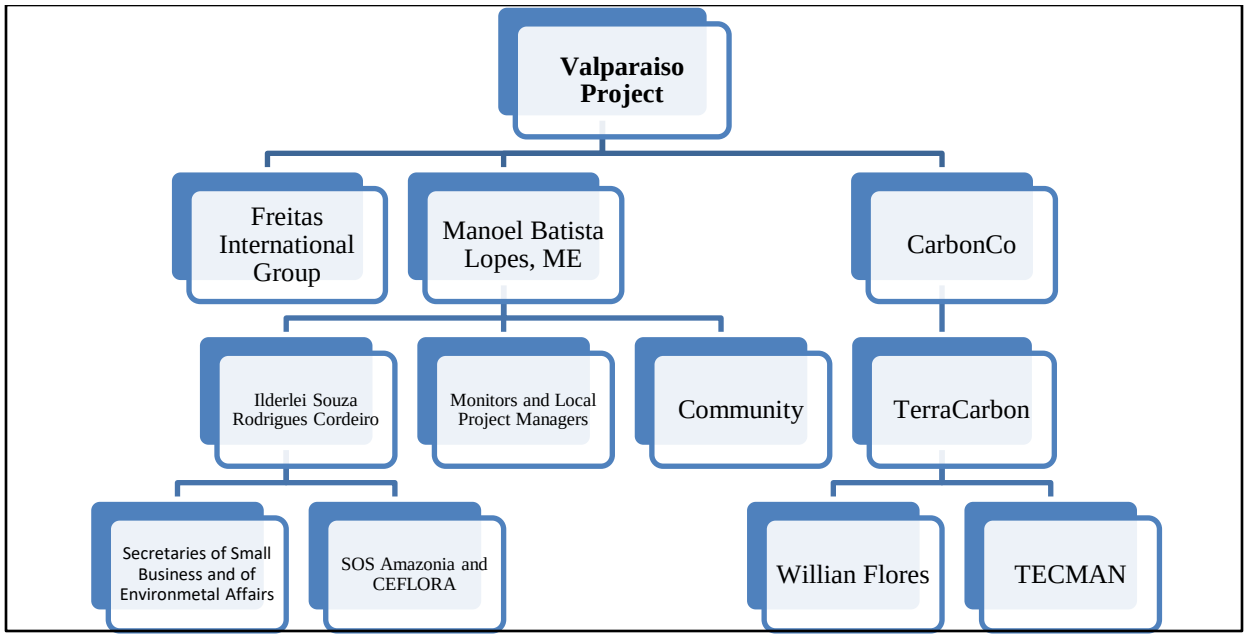


Figure 4: Governance Structure / Organizational Chart of the Valparaiso Project

CarbonCo, LLC

CarbonCo, LLC ("CarbonCo") is a limited liability company based in New York.

CarbonCo develops carbon reduction projects by working with landowners on the documentation and programs needed to ensure large tracts of land are protected from deforestation, attain international certification, and create value for all Project Proponents.

CarbonCo is managing the project development portion of Carbonfund.org's work but is not in the business of climate change education and outreach, small scale carbon offset retail sales, nor corporate sustainability programs. CarbonCo instead is focusing on a number of project opportunities and the advisory services necessary to help these conservation projects reach certification. This experience includes financing and developing the Purus Project, which was the first-ever REDD+ project in the State of Acre to achieve dual VCS-CCB validation and verification. To learn more, visit: www.CarbonCoLLC.com.

More specifically, CarbonCo's contractual obligations and specific responsibilities include:

- Performing due diligence to determine the feasibility of the Project;
- Selecting an international certification standard and appropriate REDD methodology;
- Acquiring satellite images and/or remote sensing;
- Determining an appropriate deforestation rate, reference region and leakage belt;
- Measuring the Project's carbon stock via a forest carbon inventory;
- Developing the VCS Project Description and CCBS Project Design Document;
- Posting the CCBS Project Design Document for a 30-day Public Comment Period;
- Contracting an independent and approved auditor to validate and verify the Project;
- Addressing all Corrective Action Requests raised by the audit team;
- Registering the verified emission reductions (VERs) on a VCS-approved registry; and
- Providing advice on the marketing, sale and transfer of VERs.

Furthermore, CarbonCo's entire financial portfolio is audited by an independent, certified public accountant and CarbonCo shall also keep all documents and records (i.e., including contracts) in a secure manner for at least two years (i.e., seven years for the CCBS PDD) after the end of the Project Crediting Period. This includes publicly displaying the completed VCS Project Description, as well as keeping hard copies of documents in easily accessible file cabinets and electronic copies on a backed-up share drive.

Freitas International Group, LLC and Carbon Securities
Freitas International Group, LLC is a Florida limited liability company, doing business as Carbon Securities, with a main office located in Miami, Florida and associates in the Brazilian cities of Goiânia, Brasília, Rio Branco, Belém, and São Paulo.

Carbon Securities works with CarbonCo, LLC to identify and develop high quality carbon reduction projects in the Amazon Basin. This experience includes the Purus Project, which was the first-ever REDD+ project in the State of Acre to achieve dual VCS-CCB validation and verification. To learn more about Carbon Securities, please see the validated CCBS PDD and visit: http://www.carbonsecurities.org.

More specifically, Carbon Securities' contractual obligations and specific responsibilities include:

- Promoting, encouraging and facilitating the participation and cooperation of Landowner;
- Facilitating due diligence on the Project;
- Serving as a liaison and translator for the Landowner and CarbonCo; and
- Assisting CarbonCo which includes establishing meetings with Landowner and relevant stakeholders, arranging site visits, providing information and documentation such as previous studies, photographs, and satellite images related to the Project.

Manoel Batista Lopes, ME
Manoel Batista Lopes, ME was originally created in 1988 by the Valparaiso Project Landowner Manoel Batista Lopes.

The company was headquartered here:

Manoel Batista Lopes, ME
Endereço: Rua do Embira, nº 261, Bairro João Alves
Cruzeiro do Sul, Acre, Brazil - CEP: 69980-000

Contractual obligations and specific responsibilities of the Manoel Batista Lopes, ME include:

- Providing all evidence of ownership of the Property such as deeds, titles and maps which clearly define the Property's boundaries and registered with government authorities;
- Eliminating the drivers and causes of deforestation;
- Acknowledging and agreeing to not execute any activity that otherwise might interfere with the implementation during the term of the Project and with the VER generation and certification at the Property, including, but not limited to (i) clearing the forest for livestock; (ii) clearing the forest for agriculture; (iii) expanding old roads or constructing

new roads; (iv) expansion into new forests on Property for community use or infrastructure facilities (i.e., bridges, housing, electricity, etc.); (v) expanding logging operations; and (vi) deforestation for new mining or mineral extraction;
- Taking all actions necessary to avoid any risks associated with the Project, notably the spread of invasive species, forest fires and pests;
- Demonstrating legal ownership of any and all pre-existing carbon credit rights;
- Paying any and all pending liens, taxes, fines and/or any other debts against the Property;
- Cooperating with CarbonCo and Carbon Securities in any manner and whenever required in order to obtain the VERs which includes interviews aiming to gather additional information on the Project, verifying information written in the project documents, granting access to the Project site, attending meetings with the authorities and community to explain the Project;
- Elaborating a community impact monitoring plan;
- Meeting with community to inform and explain the proposed Project along with providing a means for the community to express, and be available to address, reasonable grievances;
- Incorporating community comments into the development of the Project and resolve any reasonable grievances with the Project;
- Landowner acknowledges and agrees that all conservation/preservation measures to be taken in connection with the Project will be carried out by Landowner voluntarily; and
- Making the project documentation publicly available at the Landowner's office and at the Property.

As of August 2021, Sustentabilidade Juruá LTDA has assumed the social, administrative and financial responsibilities that were previously held by Manoel Batista Lopes, ME.

TerraCarbon LLC
Neither Carbonfund.org nor CarbonCo directly employ staff with the technical skills to perform and execute some of the requisite activities and hired TerraCarbon.

TerraCarbon LLC is an advisory firm specialized in the forestry and land-use sector of the carbon markets. TerraCarbon provides a range of technical, transaction, and strategic services to clients that implement market oriented programs or projects to restore and protect the world's forests. To learn more, visit: http://terracarbon.com/

TECMAN LTDA
CarbonCo, with the guidance of TerraCarbon, hired TECMAN LTDA ("TECMAN") to perform the Project's forest carbon inventory. TECMAN is a Rio Branco-based environmental consulting and forest management firm founded in 2000 to meet a growing demand for forestry and environmental projects in the state of Acre, Brazil. Acquired by Fabio Thaines and Igor Agapejev de Andrade in 2007. TECMAN also successfully completed the forest carbon inventory for the Russas, Purus and Envira Amazonia Projects. To learn more, visit: http://tecman.eng.br/.

Local Communities
The local communities on the banks of the Valparaiso River and Juruá River and within the Valparaiso Project Property consist of approximately 85 families.[12]

As of June 2013, the local families of the Valparaiso Project who participated in the Basic Necessity Survey (BNS), the Participatory Rural Assessment (PRA), and the Agricultural Survey included:

- 1. Jose Getulio Silva
- 2. Antonio Gomes Maciel
- 3. Francisco Gomes Lima
- 4. Francisco Souza Silva (Chico Branco)
- 5. Desdete da Silva Maciel
- 6. Francisco Edualdo Souza da Silva
- 7. Francisco Assis Lima
- 8. Antonio Cruz da Silva
- 9. Joze Wilmar Xavier dos Santos and Maria Irani Silva dos Santos
- 10. Maria Cleidianis de Souza Silva Costa
- 11. Jose Wilson Souza da Silva
- 12. Raimundo Nonato Souza Lima (Marcondes)
- 13. Jose Helio da Silva Pinho
- 14. Maria das Dores Carneiro da Silva, Raimundo Souza Bezerra
- 15. Jose Nilson Souza Bezerra
- 16. Jose Maria Araujo da Silva
- 17. Edilson Bezerra da Silva
- 18. Josie Goncolves da Silva
- 19. Augusto Bezerra da Silva
- 20. Edilson Alves do Rocha
- 21. Alaiton Silva da Rocha
- 22. Marmude da Silva do Nascimento
- 23. Jose Eduardo da Conclicao
- 24. Maria Eglonti do Santo Silva
- 25. Antonio Homerito Bezerra da Silva
- 26. Genival Silva da Oliveira
- 27. Francisco dos Santos Lima
- 28. Geneane Silva de Oliveira
- 29. Alderlei Souza da Silva
- 30. Francisco dos Santos Silva

[12] To the best of the Project Proponents' knowledge as a result of a local census conducted by Ilderlei Cordeiro in May-June 2013, there were 35 households living on the Valparaiso Project and all such households were consulted. However, a high-level survey by the Ministry of Health for the Municipality of Cruzeiro do Sul suggests there may be more households than originally thought. A follow up local census, in conjunction with the CAR work, was conducted in December 2017 and it is now estimated that approximately 123 families live on the Valparaiso Project. Of the 123 families, approximately 85 families live in the Project and the remaining 38 families live in the leakage belt.

I.S.R.C. Investimentos e Acessória LTDA
Ilderlei Souza Rodrigues Cordeiro operates the company I.S.R.C. Investimentos e Acessória LTDA ("I.S.R.C.") which partnered with Manoel Batista Lopes, ME to assume the responsibility of implementing the local social projects and programs at the Valparaiso Project.

The company is headquartered here:

I.S.R.C. Investimentos e Acessória LTDA
CNPJ: 06.200.153/0001-69, Inscrição Estadual: 01.015.482/001-35
Endereço: Estrada do Aeroporto Km 04
Bairro: Zona Rural, Cidade: Cruzeiro do Sul - Acre - Brasil, Cep: 69.980-000

As of August 2021, Sustentabilidade Juruá LTDA has assumed the social, administrative and financial responsibilities that were previously held by Manoel Batista Lopes, ME and/or I.S.R.C.

Orientation and Training
Plan to Provide Orientation and Training for Project's Employees and Relevant Community Members
The Valparaiso Project Proponents will provide orientation and training for the Project's employees and relevant community members. This includes building capacity among the local communities and the plan will also target underrepresented groups in the communities. Between March 2011 and December 2020, orientation and trainings included:

- Meeting with Jose Getulio Silva (i.e., "Getulio," the initial Project Manager), Francisco dos Santos Silva and the minister Valdecir of the local church to discuss the Project.
- Ilderlei Souza Rodrigues Cordeiro also met with the local communities at the Valparaiso Project for over seven years to provide orientation to the Valparaiso Project, the adjacent Russas Project and conservation activities.
- CarbonCo, Carbon Securities and TerraCarbon had a kick-off meeting and orientation in August 2011 with TECMAN and Professor Flores prior to initiating the forest carbon inventory and regional deforestation modelling.
- TerraCarbon provided both classroom and field training, along with a standard operating procedure (i.e., in Portuguese and English) for TECMAN's forest carbon inventory and provided an online, refresher training for TECMAN in January 2013.
- Five agricultural extension training courses (soursop, passion fruit, banana, maize, and cassava) took place in July 2013.
- Ilderlei provide informal training to Marmude about how to monitor for deforestation, monitor for fire, and how to monitor for illegal logging and fishing. Additional training was provided to the new project manager Fatima, along with the local project coordinators Nágila and Willian.
- Assistance from Luiz Henrique Medeiros Borges to train the Project Proponents and local communities on proper techniques for wildlife cameras and biodiversity monitoring.
- Training for Sebastião as a nurse (i.e., he received training for his Bachelor of Nursing program and then Sebastião provided training to local communities for dental kits).

- Project Proponents have provided orientation to stakeholders, particularly through Brian McFarland's presentations from 2011 to 2021.
- SOS Amazonia has provided lots of training and orientation to the local communities, including about REDD+, from 2011 to 2017. For instance, SOS Amazonia visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses. In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction;
- The Project Proponents held a Public Meeting in Cruzeiro do Sul on May 8, 2018 and held a smaller Public Meeting at the Projects on May 9, 2018.
- In July 2019, Luiz Borges, the biologist, provided training to Willyan about the second biodiversity monitoring plan and the use of wildlife cameras. Willyan provided training to two community members in 2020 to assist with the wildlife cameras.
- In response to the COVID-19 pandemic, Willyan and Nagila provided orientation to the communities about COVID-19 prevention guidelines throughout 2020. In addition, 60 sacks of food and 1,000 masks were distributed. This said, Nagila is a trained nurse and provided the initial training to Willyan.

Furthermore, Manoel Batista Lopes, ME (now Sustentabilidade Juruá LTDA) and Ilderlei Souza Rodrigues Cordeiro will assist with training new workers when there is staff turnover.

Community Involvement

Show Communities will be given an Equal Opportunity to fill all Employment Positions

The Valparaiso Project Proponents recognize the communities are a central element to the Valparaiso Project's success and to achieve the Project's objective, the communities will be given an equal opportunity to fill all employment positions.

Between March 2011 and December 2020, the communities were involved in the Valparaiso Project by:

- Acting as guides;
- Providing lodging, food and transportation services;
- Local project manager, local project coordinators, and initiate monitoring for deforestation;
- Choosing the particular crops and techniques they would like to learn more about;
- Discussing the Project design, benefits of the project, how they would like to participate;
- Retrieval of biodiversity monitoring data;
- Helping build the local bathrooms;
- Doing the health clinic and school renovations;
- Providing assistance to the municipal health boats; and

- Helping to build the Valparaiso Project's new headquarters.

As the Valparaiso Project proceeds, the communities will eventually be considered for a variety of roles and employment opportunities such as:

- Additional local, on-the-ground monitors for deforestation;
- Participation in cooperative agricultural projects;
- Working internal jobs at the Project site (for example: hiring additional deforestation monitor, working at the açaí processing plant, maintain the Project's headquarters, and to provide transportation services);
- Nurse for health and dental clinic.

These positions are advertised in advance via radio announcements and by going door-to-door. Under-represented groups, such as women and young adults, will be given a fair chance to participate in any employment positions. Radio announcements will be targeted to all families living throughout the Project Zone and door-to-door visits will ensure all family members (i.e., both men and women, as well as young adults) are aware of the positions.

Relevant Laws and Regulations

Submit List of all Relevant Laws and Regulations Covering Worker's Rights in the Host Country

The Valparaiso Project shall meet, or exceed, all applicable laws and regulations covering worker rights in Brazil and the Project Proponents will inform all workers about their rights.

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

- The Brazilian Constitution, Chapter II-Social Rights, Articles 7- 11 which addressed:
  - Minimum wage;
  - Normal working hours;
  - Guidance on vacation and weekly leave;
  - Guidance on maternity and paternity leave;
  - Recognition of collective bargaining; and
  - Prohibition of discrimination.[13]

In addition to the Constitution, there are two additional decrees related to Brazilian labor laws.

- Consolidação das Leis do Trabalho (CLT): Decreto-Lei N.º5.452, DE 1º DE MAIO DE 1943 (Consolidate of Working Laws).[14] This decree gives more clarification on:
  - Hourly, daily, weekly and monthly work hours;
  - Employment of minors and women;
  - Establishes a minimum wage;
  - Worker safety and safe working environments;
  - Defines penalties for non-compliance by employers; and

[13] Massachusetts Institute of Technology, "Brazilian Constitution," Available: http://web.mit.edu/12.000/www/m2006/teams/willr3/const.htm

[14] Presidency of the Republic, "DECRETO-LEI N.º 5.452, DE 1º DE MAIO DE 1943, Available: http://www.planalto.gov.br/ccivil_03/decreto-lei/Del5452.htm

    - Establishes a judicial work-related process for addressing all worker related issues.
- Estatui normas reguladoras do trabalho rural: LEI Nº 5.889, DE 8 DE JUNHO DE 1973 (Establishes Regular Norms for Rural Workers).[15] This is a complimentary law to the aforementioned 1943 decree because prior to 1973, rural workers did not have the same rights as urban workers. In 1973, this law was established to specify the equality between urban and rural workers, along with compensation for overtime.

Compliance with Law

Agreements between the Project Proponents as well as Agreements between CarbonCo and its contractors stipulate firms to abide by labor laws (for example, wages above Brazil's federal minimum wage) and an assurance that all Brazilian employment taxes and insurance are paid. In addition, CarbonCo has an employee handbook to ensure proper guidelines are followed by its employees. Ilderlei Souza Rodrigues Cordeiro has an explanatory letter on labor rights that will be presented to all employees to ensure workers are informed about their rights.

CarbonCo undergoes a financial audit by an independent accountant to ensure all taxes, including employment, social and corporate, are paid. Furthermore, Manoel Batista Lopes, ME (going forward, this will be Sustentabilidade Juruá LTDA) have provided "Receita Federal" which certify that all taxes (including employee and business) and insurance (including social) are paid.

The Project Proponents will forever continue to work with the well-being of the communities in mind. This shall differ from historical employment arrangements where there were indentured servant arrangements at extractive reserves. In contrast, the communities will be offered meaningful employment, have the ability to directly shape the Project, and an ability to express any and all grievances.

At the moment, the Project has not entered into a fixed-term contract with anyone who is illiterate. In contrast, the Project has paid dozens of local community members, some of whom may have been illiterate, for certain services provided based off the person's qualifications and what the Project needed at the particular time. This includes assistance with building the local bathrooms, helping to repair the local schools, building the local health clinics, acting as guides for the Project Proponents, and renovating the Project's headquarters. These local community members are paid for a specified service for a short term time, and it is common for these same community members to provide such services to others who have an interest in their service. Thus, the community members, although possible illiterate, understand the exchange. In the future, if the Project hires anyone who is illiterate on a fix-term contract, the Project Proponents will seek out someone (e.g., a local teacher, family member, representative from STR-Cruzeiro do Sul, etc.) to make sure the community member fully understands the contract, including their rights and responsibilities.

[15] Presidency of the Republic. "LEI Nº 5.889, DE 8 DE JUNHO DE 1973," Available: http://www.planalto.gov.br/ccivil_03/leis/L5889.htm

Worker Safety Assurance

Comprehensively Assess Situations and Occupations that Pose a Substantial Risk to Worker Safety

The Valparaiso Project Proponents comprehensively assessed the situations and particular occupations that could pose risks to worker safety. The Project Proponents will inform workers of such risks, explain how to minimize such risks, and the Project Proponents will use best work practices.

The main potential risks to workers identified by the Project Proponents include:

- Drowning;
- Heat Exhaustion and Dehydration;
- Getting lost in Remote Forest;
- Venomous Snake Bites; and
- Tropical Diseases.

Drowning

It is important to note, that all boats travel relatively slow on the Valparaiso and Juruá Rivers, many participants know how to swim, and life preservers are always onboard in case a boat does happen to capsize.

Heat Exhaustion and Dehydration

Workers and Project Proponents are familiar with tropical rainforests (for example, high levels of humidity and tropical temperatures) and prepare for each trip with sufficient food and water.

Getting Lost

Global positioning systems (GPS) are used during trips into the deep forest to minimize the risk of getting lost. Local guides from the community and the Valparaiso Project Landowner's familiarity with the area also helps to minimize the chances of getting lost.

Venomous Snake Bites

The most substantial risk to workers, particularly TECMAN's employees during the forest carbon inventory, was the potential encounter with venomous snake bites. Snake bites are relatively common in South America[16] and specifically within the State of Acre.[17] The snake species of greatest concern are the fer-de-lance (*Bothrops atrox*) and the South American bushmaster (*Lachesis muta*).[18] To mitigate such risk, all TECMAN's employees were equipped with and required to wear protective snake chaps. There are also many poisonous spiders and scorpions in tropical rainforests.

Worker safety is of the highest importance. For TECMAN's forest carbon inventory work, there was a discussion of safety procedures and TECMAN has a safety manual entitled, *Procedimentos de Segurança em Campo* (Field Safety Procedures).

[16] J.-P. Chippaux. "Reviews/Analyses," Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2305789/pdf/bullwho00388-0084.pdf

[17] Pierini SV et al., "High incidence of bites and stings by snakes and other animals among rubber tappers and Amazonian Indians of the Juruá Valley, Acre State, Brazil,"

[18] Fabiano Waldez and Richard C. Vogt, "Ecological and epidemiological aspects of snakebites in riverside communities of the lower Juruá River, Amazonas, Brazil," Available: http://piagacu.org.br/?attachment_id=416

Tropical Diseases
There are many tropical diseases in Acre, Brazil such as malaria, yellow fever and chagas disease. The Project Proponents are encouraged to get yellow fever vaccinations, malaria pills are available, and mosquito nets are frequently used. In addition, Ilderlei and Sebastião Melo de Carvalho helped distribute mosquito nets throughout the Project Zone, which should assist with malaria prevention.

Approval from Appropriate Authorities
Document that the Project has Approval from the Appropriate Authorities
The Valparaiso Project has approval from Manoel Batista Lopes who privately owns the Valparaiso Project property and the Project Proponents have received approval from the local communities. Such approvals are evidenced by the Tri-Party Agreement between the Project Proponents, along with the "ata" signed by the local communities.

The Project Proponents are also in active communication with the State of Acre and the Project Proponents also have letters of support from several institutions including:

- The President of ITERACRE;
- The President of the Legislature for the Municipality of Cruzeiro do Sul; and
- The State Secretary of Environmental Affairs for the Municipality of Cruzeiro do Sul.

The Project Proponents will officially register the Valparaiso Project with the State of Acre (i.e., receive an official seal and number) and will also upload the Project to the State of Acre's Climate Change Institute.

Potential Negative Offsite Stakeholder Impacts
The Project Proponents have identified the following potential negative offsite stakeholder impacts:

- Increased cost of land; for example, if forest carbon projects increase property values for future land purchases;
- Decreased value of land; for example, if Valparaiso Project prevents adjacent properties from accessing markets;
- In-migration to areas adjacent to the Project Zone;
- If communities migrate out of the Project Zone (i.e., due to forced relocation or lack of Project success) and into primary forests adjacent to the Project Zone;
- If the Project Proponents are unable to eliminate deforestation and the community continues to expand into the forest, including forests outside the Project Zone; and
- Wealth in Project Zone creates conflict in surrounding areas due to jealousy, a rise in illicit activities, alcoholism, elite capture, etc.

Mitigation Plans
Describe how Project Plans to Mitigate these Negative Offsite Social and Economic Impacts
It is important to note that the communities in and near the Valparaiso Project have good relationships and no conflicts with main stakeholders living outside the Project Zone have been identified through stakeholder consultations.

Regarding the increased cost of land, the Valparaiso Project will have less an impact on rising costs of land than the completion of BR-364 and Ramal 3's paving. In contrast, the Valparaiso Project might decrease the value of surrounding land. The Valparaiso Project is a conservation project and might prevent surrounding properties from having access to markets because the Project will not allow road construction through the property. Nevertheless, Manoel Batista Lopes, ME will discuss the Valparaiso Project with adjacent landowners to offer expanding forest conservation projects beyond the boundaries of the Valparaiso Project. Maintaining forest cover, at the expense of road construction or the establishment of large-scale cattle-ranches, has positive climate, community and biodiversity benefits.

In-migration to areas adjacent to the Project Zone could occur. However, Acre's State System of Incentive for Environmental Services (SISA) seeks to improve rural livelihoods which should reduce in-migration into the both the Project Zone and areas adjacent to the Project Zone. Furthermore, the Project Proponents will monitor deforestation throughout the Project Zone and will seek to minimize deforestation within the Project Zone. Similarly, there is a possibility of out-migration from the Valparaiso Project and into the surrounding non-Valparaiso Project property forests. To mitigate out-migration, the Project Proponents have held numerous community meetings and seek to implement a variety of social projects and programs.

With respect to increased conflict, illicit activities, alcoholism, and elite capture, the Project Proponents will monitor community benefits throughout the Project Zone. Children from surrounding communities will be allowed to attend the local school and surrounding communities will be allowed to visit the dental and health clinic.

Exceptional Community Benefits

The Project Proponents will continue to assist all communities in and around the Valparaiso Project, including the more vulnerable communities within the Project.

Project Zone and Socio-Economic Status

According to the United Nations Development Programme's International Human Development Index (HDI), Brazil is considered a high human development country.[19] However, it can be demonstrated that at least 50% of the population in the Project Zone are below the national poverty line. According to a World Bank study[20], the national poverty line per capita per month in Brazil is 180.14 (2005 PPP$) while the nominal median monthly income per capita of a rural, permanent private household in the municipality of Cruzeiro do Sul is R$130.75.[21]

A revised estimate of the national poverty line per capita per month in Brazil is $5.50 per day (2011 PPP$),[22] which translates into approximately PPP$165 per month.[23] In contrast, the

[19] UNDP, "International Human Development Index," Available: http://hdrstats.undp.org/images/explanations/BRA.pdf
[20] Martin Ravallion et al., "Dollar a Day Revisited," Available: http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2008/09/02/000158349_20080902095754/Rendered/PDF/wps4620.pdf
[21] IBGE, "Cruzeiro do Sul," Available: http://www.ibge.gov.br/cidadesat/link.php?codigo=120020&idtema=16
[22] World Bank, "Poverty & Equity Brief: Brazil, April 2018." Available: http://databank.worldbank.org/data/download/poverty/33EF03BB-9722-4AE2-ABC7-AA2972D68AFE/Global_POVEQ_BRA.pdf
[23] $5.50 per day (2011 PPP$) x 30 days per month = PPP$165 per month. Per the OECD PPP$1 = R$1.471 in 2011. This translates into a poverty line of PPP$165 per month or approximately R$242.72 per month. See OECD, "Purchasing power parities (PPP)," Available: https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm

nominal household per capita monthly income of a rural household in the municipality of Cruzeiro do Sul was R$185 in 2010 according to the latest census in Brazil.[24]

Involvement of Poorest Community Members

Project Proponents did not practice selective enrollment – all community members, regardless of background, longevity on project, size of holding, etc. were allowed to participate.

All social projects and programs (e.g., health and dental clinic, agricultural extension trainings, etc.) will continue to be offered to all communities. For example, in July 2013 the initial five agricultural courses (i.e., production of soursop, passion fruit, banana, maize, and cassava) were taught to the families living in the Russas Project and the Valparaiso Project. A total of 27 people participated from the Russas Project, 34 people participated from the Valparaiso Project, and 40 people from the leakage belts participated. Furthermore, Ilderlei hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses. In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.

The Project Proponents are aware of the potential for elite capture and will seek to prevent this risk.

In addition to partnering with Ilderlei Souza Rodrigues Cordeiro, Manoel Batista Lopes, ME (now Sustentabilidade Juruá LTDA) plan to involve the local church to hold after-church meetings to specifically assist women and children with alternative socioeconomic activities.

The initial Basic Necessity Survey (BNS) allowed the Project Proponents to identify the 50% of households within the lowest category of well-being. As of June 2013, the lowest quartile included communities with:

- Owned assets less than: R$34,839.00
- Owned assets per capita less than: R$5,320.63
- Poverty score less than: 13.833
- Poverty index less than: 52.20%

The follow-up BNS, which was conducted in May 2017, revealed similar characteristics of the lower quartile, with slight improvements:

- Owned assets less than: R$47,957.00
- Owned assets per capita less than: R$6,189.00
- Poverty score less than: 18.714
- Poverty index less than: 76.38%

[24] IBGE, "Cruzeiro do Sul: Censo: Rendimento mensal domiciliar per capita nominal," Available: https://cidades.ibge.gov.br/brasil/ac/cruzeiro-do-sul/pesquisa/23/25124?detalhes=true

The latest BNS, which was conducted in April-May 2019, revealed similar characteristics of the lower quartile, with slight improvements:

- Owned assets less than: R$47,609.00
- Owned assets per capita less than: R$6,492.00
- Poverty score less than: 18.87
- Poverty index less than: 79.49%

Benefit distribution will continue to be very equal. Land titling will take into account per capita, so larger families will get larger parcels of land.

Furthermore, the Project Proponents identified the particular needs of the eight households within the lowest quartile of the 32 communities surveyed via the Basic Necessity Survey. Thus, the assets and services deemed by 100% of these four households in the lowest quartile as Basic Necessities, but are the least owned among this lowest quartile, are as follows:

- Telephone (12.5% owned by lowest quartile);
- Planting Tool (12.5% owned);
- Boat or Canoe and Diesel (12.5% owned);
- Weedwacker (12.5% owned).

Similarly, the assets and services deemed by 100% of the four households in the lowest quartile from the 2017 BNS as Basic Necessities, but are the least owned among this lowest quartile, are as follows:

- Planting tool (0% owned by lowest quartile)
- Access to Doctor and Clinic (0% owned)
- Weedwacker (0% owned)
- Kit for Making Manioc Flour (25% owned)

Similarly, the assets and services deemed by 100% of the four households in the lowest quartile from the 2019 BNS as Basic Necessities, but are the least owned among this lowest quartile, are as follows:

- Telephone (25% owned by lowest quartile)
- Planting tool (25% owned)
- Diesel (25% owned)
- Pasture fence (0% owned)
- Weedwacker (25% owned)
- Freezer (25% owned)

The Project Proponents designed the Project in order for at least 50% of these households to benefit substantially from the Project. This includes addressing some of their particular needs (such as increasing access to transportation and focusing on agricultural extension courses) and by also seeking to increase their incomes in order for them to eventually purchase assets (such as a telephone or television) to satisfy their other needs. In addition, the Project Proponents purchased planting tools in July 2017, several generators have been distributed throughout the communities, and the health clinic renovations were completed in 2017. In addition, two transport boats with a capacity of seven tonnes were delivered to the communities of Três Bocas

and Queimadas in November 2018; fuel and food were given to the residents of the Russas and Valparaiso Projects, along with residents of the Leakage Belt, in March 2018 and February 2019 in order for the communities to access the hospital ferry that visited the region; and in 2020, internet was installed at the Russas Project's headquarters. Starting in June 2021, internet access will be granted to all local residents who would like internet access and this should increase communication.

The Project Proponents identified scenarios which might prevent the poorest quartile of communities to benefit substantially from the Project and this includes:

- Poorer families might live further away from the project headquarters;
- Fewer tools to produce agriculture;
- Might not have boat, motor or diesel to travel;
- Communities might have poorer soil quality where they live; and
- Poorer health and less nutrition.

Poorer Families might live further away from the Project Headquarters
The Project Proponents recognize that accessibility is important. Some activities – such as agricultural extension courses and building toilets – will occur throughout the communities. The location of the toilets, for instance, was prioritized based off being installed first at the poorer communities. Some activities – such as granting official land titles – will be done on a house-by-house basis. Some activities – such as renovating the headquarters and renovating the health clinic – will be done in one specific location. To ensure, for instance, the headquarters and health clinic are accessible to all, Ilderlei provides gas for their canoes, food while at staying at the headquarters and for their return canoe ride, and lodging at the headquarters (e.g., there are spare mattresses and hammocks) to anyone who needs such assistance, especially for poorer communities. Similarly, I.S.R.C will pay for the diesel, assuming these families have working boats and motors, to allow further communities to participate in the Project and attend meetings and agricultural courses.

For example, fuel was provided to communities living in the Russas and Valparaiso Projects, along with communities in the leakage belt, in July 2013 in order for families to participate in the agricultural courses and fuel was also provided in August 2013 and August 2014 in order for families to participate in a community-wide meeting with the auditors. Fuel was also provided throughout 2015, 2016, and 2017, so that poorer families could attend the visiting doctors. Similarly, fuel and food were given to the residents of the Russas and Valparaiso Projects, along with residents of the Leakage Belt, in March 2018 and February 2019 in order for the communities to access the hospital ferry that visited the region.

Fewer Tools to Produce Agriculture
The Project gave free agricultural extension courses for the communities to learn new techniques in July 2013 and throughout 2014-2019. The association will help with the mechanization of the land. The association will prioritize the improvement of the poorer communities' manic flour houses. In addition, the Project Proponents purchased planting tools in July 2017 for the communities.

Might not have Boat, Motor or Diesel to Travel
Two transport boats with a capacity of seven tonnes were delivered to the communities of Três Bocas and Queimadas in November 2018. These boats purchased by the Russas-Valparaiso Projects will allow those communities without a boat to participate in the Project and specifically to participate in the commercialization and market access of their crops. In 2018, this boat was purchased, and its usage will be further expanded in conjunction with the future establishment of an association to assist with açaí processing and the manioc flour houses.

Might Have Poorer Soil Quality Where They Live
Teaching fishing courses will allow those communities with poorer soil quality an alternative means to generate income. The agricultural courses will teach new techniques to take into account poorer soil. For example, the soil might be bad for bananas but might be good for manioc and this is something the agricultural courses will help to teach. For example, the agricultural courses taught in July 2013 focused on improvements in agricultural production through soil preparation techniques and through the use of cover crops for soil enhancement and to replace the use of fire.

Ilderlei also hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to agroforestry workshops and organic horticulture courses which should help communities with poorer soil quality. In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.

Poorer Health and Less Nutrition
The agricultural courses will seek to increase the productivity and hence, improve the nutrition of local communities. The health clinic will be improved and the doctor visits to the community will increase. The doctor will visit all communities including poorer communities. The doctor visits are free, which will most benefit the poorer communities who would otherwise be less able to pay for such doctor visits. Furthermore, the installation of toilets began at the poorer communities.

Basic Necessity Survey was utilized to identify any poorer and more vulnerable households and individuals whose well-being or poverty may be negatively affected by the project. All communities have been consulted and there were no negative impacts.

Community Impact Monitoring
The Basic Necessities Survey and Poverty Index have enabled the Project Proponents to establish a baseline and in the future, to identify positive and negative impacts on the poorest communities and more vulnerable groups within the Project, including women.

The Basic Necessities Survey is a differentiated approach because the Survey allows for the identification of the poorest communities and will enable the Project to specifically target their needs (for example, lack of transportation to participate in the Project). Furthermore, the Survey

was administered with women throughout the Project and the Project will specifically target their unique needs (for example, access to education for their children) as well.

To ensure gender and generational distribution of assets, the Project Proponents administer the Basic Necessities Survey, along with the Participatory Rural Assessment, to both women and men, as well as across a range of age groups. This being said, the Project Proponents will continue to monitor community impact variables such as: value of owned assets; value of owned assets per capita; poverty score and poverty index; inequality of owned assets and inequality of owned assets per capita. Furthermore, it is important to note that Project benefits are equally distributed to everyone (e.g., access to health clinics, access to bathrooms, granting of titles, offering free agricultural extension trainings, donation of food and gasoline to encourage participation, etc.) to ensure there is both gender and generational distribution of assets.

OVERVIEW OF MONITORING PLANS

The Project Proponents designed full climate, community and biodiversity impact monitoring plans. These monitoring plans were submitted to the CCBS and made publicly available in July 2013.

Climate Impact Monitoring

The Valparaiso Project Proponents have a climate impact monitoring plan in place which identifies the types of measurements, sampling method, and frequency of measurements.

Initial Monitoring Plan

The Valparaiso Project has a complete and detailed climate impact monitoring plan which accounts for leakage and the required carbon pools.

Full Monitoring Plan

For the Valparaiso Project's full climate impact monitoring plan, which also addressed the initial monitoring plan requirements, please see the VCS Project Description. Essentially, the Valparaiso Project's CCBS climate impact monitoring plan, which will utilize patrols by boat, participatory rural assessments and satellite imagery, will be centered on the Verified Carbon Standard's (VCS) monitoring plan.

Community Impact Monitoring

The Project Proponents have designed an initial community impact monitoring plan and a full community impact monitoring plan. The Project Proponents disseminated this full community impact monitoring plan and the results of the monitoring plan specifically to the local communities and other stakeholders, along with making the plan and results publicly available via the internet to the general public.

Initial Community Monitoring Plan

The initial community monitoring plan involved regular communication between Manoel Batista Lopes, ME, Ilderlei Souza Rodrigues Cordeiro and the communities. With respect to outside stakeholders, the initial monitoring plan involved informal conversations with outside

stakeholders and reviewing the Brazilian Census' socio-economic variables for the municipalities of Cruzeiro do Sul and Porto Walter.

From these conversations and based off Carbon Securities and CarbonCo's experience at the Purus Project, it was determined that a Basic Necessity Survey (BNS), Participatory Rural Assessment (PRA) and the Theory of Change would be the three best tools to monitor community net benefits and the communities' High Conservation Values. The BNS and PRA shall be administered approximately every two years, with the initial surveys conducted from March to May 2013. The specific variables to be annually monitored are the indicators of the Theory of Change (activities, outputs, outcomes, and impacts), while the access to Basic Necessities, along with the value of owned assets, value of owned assets per capita, poverty score and poverty index, inequality of owned assets and inequality of owned assets per capita will be monitored approximately every two years.

Initial High Conservation Values Plan
The PRA and BNS were designed to measure the communities' high conservation values (HCVs) and the Project Proponents will continue to monitor these HCVs.

The PRA inquired about HCVs such as the communities' hunting, fishing, building materials, and the collection of medicinal plants. The PRA will be regularly administered and additional questions to identify trends in the availability of medicinal plants, building materials, and food (i.e., from both the forests and rivers) will be added to the next PRA. As an example of the PRA's ability to monitor HCVs, it was discovered via community meetings and the initial PRA that local fishing stocks in the Valparaiso River are being depleted because commercial fishermen from outside the Project Zone are now entering into the Project Zone to fish. This situation will be monitored and the Project signs now specify no commercial fishing is allowed.

The BNS will also be regularly administered and will identify trends in the overall availability of basic needs and HCVs including access to housing, health clinic, food, and clean drinking water. This said, the specific HCVs related to hydrological services that provide benefits to the local communities are the provision of fish, using the rivers as a mode of transportation, and as a source of clean drinking water. Thus, the BNS will track the access to clean drinking water, transportation (i.e., access to boat or canoe), and the PRA inquired about fishing.

Full Monitoring Plan
The Valparaiso Project's full community monitoring plan is to monitor the indicators derived from the PRA, BNS and Theory of Change's outputs, outcomes and community impacts. The frequency of monitoring and reporting to ensure that these indicators are directly linked to the Valparaiso Project's major community objectives and are leading to the anticipated net positive impacts will take place every two years for the PRA and BNS and annually for the Theory of Change.

The specific indicators of the Theory of Change which will be monitored and reported are as follows:

Indicators of Activities

- Signed Tri-Party Agreement between Project Proponents
    - The Valparaiso Project's Tri-Party Agreement was signed in May 2012.
- Completion of Forest Carbon Inventory
    - The forest carbon inventory was completed in March 2013.
- Completion of Regional Deforestation and Land-Use Modeling
    - The regional deforestation and land-use modelling was completed in July 2013.
- Completion of VCS Project Description and CCBS Project Design Document
    - The final draft versions of the VCS Project Description and CCBS Project Design Document were completed in July 2013. The final versions of these Project Documents are project to be validated in July 2014.
- Completion of the Agricultural Survey, Basic Necessities Survey (BNS) and Participatory Rural Appraisal (PRA)
    - The Agricultural Survey, Basic Necessities Survey and the Participatory Rural Appraisal were completed in May 2013. A follow up PRA was completed in March 2017 and a follow up BNS was completed in May 2017. Another PRA and BNS were administered in April-May 2019.

Indicators of Outputs

- Validation Statements for VCS Project Description and CCBS Project Design Document
    - The validation statements for the VCS Project Description and the CCBS Project Design Document are projected to be received in July 2014.
- Spreadsheet with Top-10 Agricultural Courses Identified
    - The spreadsheet identifying the top-10 agricultural courses was completed in May 2013.
- Agricultural Extension Trainings / Courses Conducted
    - The first five agricultural courses were taught in July 2013. Follow up agricultural courses were taught from 2014-2017. The first five agricultural courses were taught in July 2013. Ilderlei hired SOS Amazonia which visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses. In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.
- Spreadsheet Compiling Data on Basic Necessities including: What are Considered Basic Necessities; Total Value of Owned Assets and Total Value of Owned Assets per Capita; Price of Assets; Poverty Score and Poverty Index

    - The spreadsheet compiling data on the basic necessities was completed in May 2013. A follow up spreadsheet was completed in 2017 and again in 2019.
- Summary Statistics on: Income/Asset Inequality; Most Disadvantaged Communities; Most Under-Owned Assets; Most Desired Basic Necessities
    - Summary statistics were calculated in May 2013. Follow up statistics were completed in 2017 and again in 2019.
- Participatory Rural Appraisal Surveys and Spreadsheet Compiling Data on: Land-Use; Patterns of Deforestation and Yearly Cycle of Deforestation; Why and Where Deforestation Occurs; Deforestation from Residents vs. Recent Migrants
    - The Participatory Rural Appraisal Surveys were completed in May 2013 and the spreadsheet compiling this data was completed in May 2013.

<u>Indicators of Outcomes</u>

- Value of Carbon Finance Generated
    - Carbon finance was generated in 2016, 2017, 2018, 2019 and 2021.
- Communities Gain New Knowledge, Practices and Skills About Sustainable Agricultural
    - Initial five agricultural courses taught in July 2013. In addition, SOS Amazonia visited the communities on behalf of the Project Proponents at least 14 times throughout 2015 and 2016, with another 12 visits in 2017. Such visits included agricultural trainings and follow up visits on these activities taught by SOS Amazonia including, but not limited to: banana production and management; agroforestry workshops; organic horticulture courses; and small animal (e.g., chickens) breeding courses. In 2018, S.O.S. Amazonia provided a course on fruit tree seedlings and coffee in the Foz do Valparaiso, Terra Firme de Cima and Três Bocas communities. In 2019, there was a meeting at the Russas and Valparaiso Projects with S.O.S. Amazonia to survey families that are interested in rubber latex extraction.
- Prioritization and Implementation Plan for Social Projects and Programs to Reduce Deforestation and Improve Community Benefits
    - Social projects – such as teaching agricultural courses and discussing land tenure with communities – were prioritized and implemented between March 2011 and December 2020.
- Baseline for Monitoring Community Benefits
    - Baseline established in June 2013.
- Formulation of Plan to Mitigate Leakage
    - Leakage plan formulated in June 2013.
- Formulation of Plan to Monitor Deforestation
    - Deforestation monitoring plan formulated in June 2013.

<u>Indicators of Impacts</u>

- Community Income Diversified
    - Ongoing, with initial agricultural courses taught in July 2013. Follow up agricultural courses were taught from 2014-2019.
- Increased Income Generation

    - Ongoing, with initial agricultural courses taught in July 2013. Follow up agricultural courses were taught from 2014-2019.
- Reduced Deforestation
    - Achieved between March 2011 and December 2020.
- Intensified Agricultural Practices
    - Ongoing, with initial agricultural courses taught in July 2013. Follow up agricultural courses were taught from 2014-2019.
- Diversified Crops
    - Ongoing, with initial agricultural courses taught in July 2013. Follow up agricultural courses were taught from 2014-2019.
- Increasing Communities' Owned Assets and Owned Assets per Capita
    - Ongoing, latest Basic Necessity Survey (BNS) was administered in 2019.
- Improved Poverty Figures and Poverty Scores
    - Ongoing, latest BNS was administered in 2019.
- Increased Access to Basic Necessities
    - Ongoing, latest BNS was administered in 2019.
- Improvement in Health and Dental Clinic
    - Mosquito nets were distributed and a local nurse taught healthcare to 400 community members and distributed dental kits in July 2014. In 2017, restrooms were constructed and the onsite health clinic was completed.

The specific variables that will be monitored and reported approximately every two years with the BNS and PRA are as follows:

- Communities' access to Basic Necessities;
- Value of Owned Assets;
- Value of Owned Assets per Capita;
- Poverty Score;
- Poverty Index;
- Inequality of Owned Assets; and
- Inequality of Owned Assets per Capita.

This community monitoring plan is ultimately designed to ensure equitable benefits distribution. To this end, the plan shall:

- Document receipt of benefits;
- Ensure attention is paid to gender and generational distribution of benefits;
- Adaptive management to address shortcomings associated with improper distribution of benefits;
- Monitoring plan will be shared with stakeholders; and
- Avoid elite capture.

Although very limited leakage is predicted outside of the Project Zone due to the project activities of the Valparaiso Project, the other stakeholders who might be negatively impacted due to the Valparaiso Project are the communities and landowners living adjacent to the Project Zone and within the municipalities of Cruzeiro do Sul and Porto Walter.

To quantify and document changes in the social and economic well-being of these outside stakeholders which result from the project activities, the Project Proponents will first review the Brazilian Census every four years to document the socio-economic variables in the municipalities of Cruzeiro do Sul and Porto Walter. These specific socio-economic variables to be monitored include:

- Total employed personnel;
- Resident population;
- Gross Domestic Product (GDP) per capita at current prices;
- Value of average nominal monthly income of permanent private households with household income, by status of the housing unit – Rural;
- Value of average nominal monthly income of permanent private households with household income, by status of the housing unit – Urban;
- Resident population – literate;
- Enrollment - Elementary school;
- Enrollment - High school;
- Number of Health institutions;
- Percentage of Permanent private housing units, by existence of piped water and type of water supply - With water supply; and
- Percentage of Permanent private housing units - with energy supply.[25]

The Project Proponents will then interview the outside stakeholders adjacent to the Project Zone approximately every four years to quantify their socio-economic variables (i.e., the same socio-economic variables described above). Next, the Project Proponents will conduct a statistical analysis to determine whether the outside stakeholders' socio-economic variables are significantly worse off than the residents throughout the municipality of Cruzeiro do Sul due to the project activities of the Valparaiso Project. The most recent Brazilian census took place in 2010 and will be used to establish a baseline of these socio-economic variables for outside stakeholders living in the municipality Cruzeiro do Sul. The outside stakeholder survey was conducted in May 2017.

The BNS and PRA will be administered approximately every two years and the Valparaiso Project will be fully discussed with each family prior to re-administering the BNS and PRA. This includes a discussion of the Project's benefits (i.e., particularly the HCVs) and implemented activities, along with the communities' costs and risks to participation.

The BNS was originally administered in March-May 2013 and illustrated what the local communities view as basic necessities. Each time the BNS is re-administered, the local communities will be re-asked which items are considered basic necessities and this will allow the Project Proponents to monitor whether what are locally considered basic necessities remain constant or change over time.

[25] IBGE, "Click here to get information about municipalities at Cities@," Available: http://www.ibge.gov.br/estadosat/perfil.php?sigla=ac#

Biodiversity Impact Monitoring
The Project Proponents have an initial biodiversity monitoring plan and a full biodiversity impact monitoring plan. The Project Proponents disseminated this full biodiversity impact monitoring plan and the results of the monitoring plan specifically to the local communities and other stakeholders, along with making the plan and results publicly available via the internet to the general public.

Initial Biodiversity Monitoring Plan
Develop an Initial Plan for Selecting Biodiversity Variables and Frequency of Monitoring and Reporting
The Project Proponents initial plan was to monitor forest loss (i.e., habitat availability) in the Project Area and Project Zone on a yearly basis using the State of Acre's remote sensing data.

Initial High Conservation Values Plan
Develop Initial Plan for Effectiveness of Measures to Maintain or Enhance High Conservation Values
The Project Proponents recognize the particular importance of the Project's high conservation values and will assess the effectiveness of the Project's conservation activities vis-à-vis the Project's high conservation values.

The measures to maintain or enhance the significant concentrations of biodiversity – particularly threatened species, endemic species and threatened ecosystems - within the Valparaiso Project are the various deforestation mitigation activities (e.g., agricultural extension training, deforestation monitoring, etc.) as outlined in section *G3. Project Design and Goal*, subsection *2. Major Activities*.

The initial plan to assess the effectiveness of these various deforestation mitigation activities will include:

- Review satellite imagery for deforestation to ensure effective conservation of forest cover (i.e., a threatened or rare ecosystem);
- Incorporate analysis of the population and distribution of threatened and endemic species identified with wildlife camera traps into full biodiversity monitoring plan; and
- Review ongoing Participatory Rural Assessments and Basic Necessity Surveys to ensure effectiveness of maintaining or enhancing community HCVs.

Additional mechanisms to ensure effective maintenance or enhancement of HCVs will be developed utilizing adaptive management, stakeholder consultation, and eventually be incorporated into the full monitoring plan. For example, if small-sized, threatened or endangered species such as amphibians, reptiles, or insects are identified in the Project Area (i.e., an example of an HCV), then the Project Proponents will incorporate the monitoring of these species, if necessary, into the full biodiversity impact monitoring plan.

Full Monitoring Plan
The Project Proponents' full monitoring plan will continue with monitoring forest cover and habitat availability, along with monitoring the diversity, distribution, and populations of medium-to-large mammals with wildlife camera traps. Furthermore, a Theory of Change shall be used to link the Projects activities to outputs and outcomes, and to the overall biodiversity impacts.

Monitoring forest cover and using wildlife cameras will be sufficient to monitor all wildlife species of interest – particularly medium-to-large mammals – throughout the Project Zone's rainforests. This has been demonstrated via local studies conducted near the Project Zone indicating the type of biodiversity likely present, along with CarbonCo and Carbon Securities' successful use of wildlife cameras at the Purus Project (another REDD+ project near Manoel Urbano, Acre) which has identified numerous mammals such as:

- Black agouti (*Dasyprocta fuliginosa*);
- Giant Anteater (*Myrmecophaga tridactyla*);
- Jaguar (*Panthera onca*);
- Lowland tapir (*Tapirus terrestris*);
- Ocelot (*Leopardus pardalis*);
- Paca (*Cuniculus paca*); and
- Short-Eared Dog (*Atelocynus microtis*).

The basic process of developing the biodiversity monitoring plan was:

- 1. Conducted background research; and
- 2. Identify local partners and community members to assist with monitoring plan.

Background research included: Reviewing the wildlife camera trap techniques deployed by other REDD project developers;[26] How to position cameras, sampling designs, and field crews;[27,28] Technical elements of mammalian diversity and populations using wildlife camera traps,[29,30] along with reviewing wildlife camera trap models.[31]

Brian McFarland also spoke to Dan Bisaccio, a Lecturer in Education and Director of Science Education at Brown University who has frequently used wildlife camera traps in a variety of tropical ecosystems.

Within one year of project validation, the Project Proponents shall:

- Review vegetation maps of the Valparaiso Project to identify general areas within the Project to set up wildlife camera traps (Achieved in 2013).
- Consult local communities and André Luis Botelho de Moura to identify the specific locations to set up wildlife camera traps (Achieved in 2013).
- Purchase and placement of wildlife cameras throughout the Project Area, rotating the cameras to different vegetation strata as necessary (Cameras originally purchased for

[26] Waldon, Jeff, Bruce W. Miller and Carolyn M. Miller, "A model biodiversity monitoring protocol for REDD projects," September 2011, Tropical Conservation Science Vol. 4(3):254-260.
[27] Grant Harris et. al, "Automatic Storage and Analysis of Camera Trap Data," Available: http://dx.doi.org/10.1890/0012-9623-91.3.352
[28] TEAM Network. 2011. Terrestrial Vertebrate Protocol Implementation Manual, v. 3.1. Tropical Ecology, Assessment and Monitoring Network, Center for Applied Biodiversity Science, Conservation International, Arlington, VA, USA.
[29] C. Carbone et. al, "The use of photographic rates to estimate densities of tigers and other cryptic animals," Available: nationalzoo.si.edu/.../024ebe33-5a96-49f6-9080-33bbdb0c92c0.pdf
[30] Tim O'Brien, "Wildlife Picture Index: Implementation Manual Version 1.0," Available: static.zsl.org/files/wcs-wpno39-wildlifepictureindex-928.pdf
[31] TrailCamPro, "Trail Camera Selection Guide," Available: http://www.trailcampro.com/trailcameraselectionguide.aspx

Purus Project in May 2013 and were used for the Russas-Valparaiso Projects from August 2014 to July 2015).
- Train community on wildlife cameras such as preventative maintenance, periodic movement of cameras between different locations, along with regular retrieval and replacement of camera memory and batteries (Achieved in August 2014).
- Photographic images will be then be organized, identified and analyzed by specialists (Conducted throughout 2014 and 2015).
- Disseminate the full biodiversity impact monitoring plan and the results of the monitoring plan specifically to the local communities and other stakeholders, along with making the plan and results publicly available to the general public (Conducted from 2013 to 2016).

Adaptive management will be incorporated into the biodiversity monitoring plan in order to allow for a change in the camera locations and camera models based off results.

For the second round of monitoring with wildlife cameras, the Project Proponents:
- Reviewed vegetation maps again of the Valparaiso Project to identify general areas within the Project to set up wildlife camera traps (Achieved in 2013).
- Consulted local communities and Luiz Henrique Medeiros Borges (a close associate of André Luis Botelho de Moura) to identify the specific locations to set up wildlife camera traps (January to March 2019).
- Purchased and placed the wildlife cameras throughout the Project Area, rotating the cameras to different vegetation strata as necessary (Cameras originally purchased for Purus Project in March 2018 and were used for the Russas-Valparaiso Projects from July 2019 to June 2020).
- Trained community on wildlife cameras such as preventative maintenance, periodic movement of cameras between different locations, along with regular retrieval and replacement of camera memory and batteries (Achieved in July 2019).
- Photographic images were organized, identified and analyzed by specialists (Conducted throughout 2019 and 2020).
- Disseminate the full biodiversity impact monitoring plan and the results of the monitoring plan specifically to the local communities and other stakeholders, along with making the plan and results publicly available to the general public (Ongoing).

Activities
The main activities were identified above.

Outputs
The main outputs of the biodiversity monitoring plan will be photographs from the wildlife camera traps and deforestation monitoring reports to document forest cover and habitat availability. In addition, an analysis of the population and distribution of threatened and endemic species will be conducted.



Outcomes
The outcomes based off the outputs will be an analysis of medium-to-large mammal populations and a better understanding of their distribution throughout the Valparaiso Project.

More specifically, according to the biologist Andre Botelho, From August 2014 to July 2015, images were retrieved from a sampling effort of 1,644 trap nights. During this time, 483 vertebrates were recorded. There were 95 birds and 388 were medium to large mammals. They recorded 16 different species of mammals across six orders. Among the taxa recorded, the most abundant species were the paca (*Cuniculus paca*), red deer (*Mazama americana*) and the agouti (*Dasyprocta fuliginosa*), totaling 77.8% of all mammals recorded. There was also the record of three endangered species: the short-eared dog (*Atelocynus microtis*), jaguarundi (*Puma yagouaroundi*) and the giant armadillo (*Priodontes maximus*). Of the species with more than ten independent records, six showed a diurnal activity pattern and predominantly nocturnal pattern.

At the end of the second sampling, images were retrieved from a sampling effort of 2,534 trap-nights. A total of 1,478 animal records were obtained, of which 1,311 were mammals and 167 were birds. A total of 16 species of medium and large mammals distributed in six orders and 11 families were recorded. In addition to the target species of monitoring, two species of primates and two species of small rodents were recorded. Comparing the 2014 and 2019 monitoring, two new species were recorded for the Project, which were the southern tamandua (*Tamandua tetradactyla*) and the greater long-nosed armadillo (*Dasypus kappleri*).

Impacts
The ultimate impact will be the preservation of biodiversity and particularly, the preservation of the Project's high conservation values such as threatened species.

The Valparaiso Project shall monitor biodiversity impacts both spatially throughout the Valparaiso Project as well as temporally over the Valparaiso Project Lifetime. The goal is to conduct a biodiversity monitoring project every four years.

CONTACT INFORMATION FOR AUDITORS AND GRIEVANCE PROCEDURES

The following is contact information for the Project's auditors and for the grievance procedures.

Contact Information for Auditors

Below is the contact information for the validation firm and the current verification firm, Aster Global Environmental Services:

Aster Global Environmental Solutions
Shawn McMahon
3800 Clermont Street, NW
North Lawrence, Ohio - 44666
Phone: +1 (330) 294-1242
Email: SMcMahon@asterglobal.com

Aster Global Environmental Services will audit the Valparaiso and Russas Projects in January 2022.

Contact Information for the Grievance Procedure

Below is the contact information for the Climate Change Institute which is the independent firm identified by the Valparaiso Project to handle unresolved conflicts and grievances:

> Instituto de Mudanças Climáticas e Regulação de Serviços Ambientais
> (Climate Change Institute)
> Address: Rua Floriano Peixoto, nº 460, Primeiro Andar, Centro, Acre, Brazil
> Telephone: +55 (68) 3223-1933 / +55 (68) 3223 9962 / +55 (68) 3223 1903
> Email Address: gabinete.imc@ac.gov.br

Formalize Clear Process for Handling Unresolved Conflicts and Grievances

The Project Proponents have frequently engaged stakeholders and the Project Proponents have formalized a clear process for handling unresolved conflicts and grievances throughout Project planning and implementation.

Essentially, if conflicts or grievances are unable to be resolved by the Project Proponents (particularly Sustentabilidade Juruá LTDA and Ilderlei Souza Rodrigues Cordeiro), the State of Acre's Climate Change Institute – acting as a third party to prevent any conflict of interest - will hear, respond to, and help resolve all reasonable grievances with the Valparaiso Project through an impartial and accessible process.

More specifically, the State of Acre's Climate Change Institute is in the process of establishing an Ombudsman who will be the specific person to receive and refer any grievances about the

Valparaiso Project. Before such an Ombudsman is officially hired, any stakeholder is free to contact or visit the Climate Change Institute with any unresolved conflicts or grievances.

The Climate Change Institute's process for hearing, responding to, and resolving reasonable grievances is as follows:

- Receiving: Any person may visit or contact the Climate Change Institute. Any person who makes contact with the Ombudsman over the internet will receive a notification of receipt by email.
- Verification and Acceptance: The Ombudsman will decide whether a complaint is considered reasonable and whether the complaint should be accepted by the Climate Change Institute.
- Referral to Internal Areas: When deciding to accept a demand, the Ombudsman records the compliant and informs the person raising the complaint of the protocol number and the deadline for a response. If the demand is accepted, the demand will be internally referred to the appropriate specialist. If the demand is rejected, the Ombudsman will inform the person of the reason for the rejection.
- Monitoring: The Ombudsman will monitor the protocol and will monitor the internal areas responsible for collecting the answers to the compliant.
- Resolution: When the settlement is decided, the Ombudsman will make contact with the person who raised the complaint and the Ombudsman will close the protocol. All complaints received by the Ombudsman are usually answered within five working days and the person can call to know the progress of their protocol.

Each month the Ombudsman shall prepare a report and forward it to Board and President of the Climate Change Institute. In this report, the Ombudsman will: summarize actions taken to address complaints; quantify complaints and provide graphics to compare number of complaints against previous months; report amount of open and closed protocols; and provide relevant suggestions for process improvements and final considerations of the Ombudsman.

Furthermore, all conflicts or grievances will be addressed within a reasonable timeframe, the resolutions will be documented, and this process has been publicized to all stakeholders and especially to the local communities.

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