

# **PUBLIC SUMMARY**

SUSTAINED FOREST MANAGEMENT PLAN 2023



# **1)** ABOUT THE PUBLIC SUMMARY

This document presents the Public Summary of the SUSTAINED FOREST MANAGEMENT PLAN (PMFS) on a business scale implemented at Seringal Novo Macapá Farm and its main objective is to provide a summary of the operational activities carried out by the Company in the YEARS 2022-2023 to its employees and interested parties.

Through this document, Agrocortex makes its main guidelines and available, in strategies addition maintaining effective an to communication channel with traditional communities. civil society, teaching and research institutions, control and inspection bodies as well as governmental and non-governmental institutions and our collaborators.



### THE COMPANY



AGROCORTEX MADEIRAS DO ACRE is a company in the Brazilian forestry sector focused on sustainability, combining environmental conservation, through forest management in the Amazon Forest, and social responsibility, through improving the quality of life of people in the region in which the project is located.

The inception of the AGROCORTEX group took place from the union of knowledge from different areas that come together with experts in financial management and structuring agroforestry businesses. The group has the concept of Integration of Know-How and Technology at its genesis. As a Company, it has developed and implemented in recent years several projects thanks to the technical and technological knowledge of more than 10 years of experience of its partners and collaborators, focusing on forest management, including all stages of forest management up to the processing of the forestry raw material.



Created in 2014, Agrocortex Madeiras do Acre is committed to managing all operational activities related to forest management and industrialization at the sawmill. The activities are divided between the Seringal Novo Macapá Farm, located on the border between the states of Acre and Amazonas, and its industry in Manoel Urbano/AC, the city closest to the farm.





The Company operates one of the largest sustainable forest exploration projects in Brazil aimed at long-term timber production, based on practices that respect the environment in order to never exhaust natural resources and also contribute to the regeneration of the forest, always maintaining its vitality. Furthermore, it is the only PMFS (Sustainable Forest Management Plan) in Brazil that is currently authorized to explore the species Swietenia macrophylla King (Mahogany) subject to compliance with specific legislation and monitoring by the CITES Scientific Technical Committee.





### **OUR VISION**

To be a global reference in the sustainable management of tropical forests from a multiple forest-use perspective, through the implementation of the "360° Sustainability" concept to the forests under our management.

### **OUR MISSION**

Manage tropical forests in a sustainable way with a universal perspective, using ReducedImpactExploration(EIR)techniques,protectingforestsandenvironmental resources, generating income and positively impacting communities under the influence of the project and creating value for our employees, shareholders, stakeholders and society in general.

### **OUR VALUES**

- Honesty
- Commitment
- Ethics and moral
- Continuous improvement
- Innovation



### **OUR COMMITMENTS**

The project is based on the operationalization of the Sustainable Forest Management Plan with the sustained exploitation of forest species pursuant to the criteria established in current legislation and reduced impact exploitation techniques, in an area of 186,000 hectares that will be explored in 30 years.

In addition to sustainable timber production, PMFS also aims to:

- Generate, in partnership with teaching and research institutions, practical and theoretical references for forest management, in order to contribute to the conservation of forest cover and ecosystem biodiversity;
- Employ Reduced Impact Exploration (EIR) techniques, aiming to mitigate damage to residual forest;
- Employ a combination of careful forestry planning and silvicultural treatments to regulate productivity during the cutting cycle;
- Preserve trees of non-marketable species and those of significant value, such as: matrices, rare, future harvest, prohibited from cutting and with nests;
- Ensure the traceability of forest products and by-products;
- Maintain forest certification of the forest management area, through compliance with the Principles and Criteria established by the Forest Stewardship Council<sup>®</sup>, as well as the Chain Custody of the entire production process.



## 2) CURRENT USE AND LAND OCCUPATION

The Seringal Novo Macapá Farm is located in three municipalities: Manoel Urbano/ AC, Boca do Acre/AM and Pauini/AM. The municipal division in the Seringal Novo Macapá Farm area is represented as follows:

MUNICIPALITY/STATE	AREA (ha)	%
MANOEL URBANO/AC	4.005,4880	2,1
BOCA DO ACRE/AM	48.945,7338	25,7
PAUINI/AM	137.258,7785	72,2
TOTALS	190.210,0003	100,0

Source: Real estate registration of the property, year 2016.

The property has a total area equal to 190,210.0003 hectares, with 186,000 hectares registered on the margins of the registrations as a Forest Management Area (AMF), which corresponds to 97.8% of the total, with no other type of economic exploitation in the rural property area other than the production of forest products and by-products on a sustainable basis.

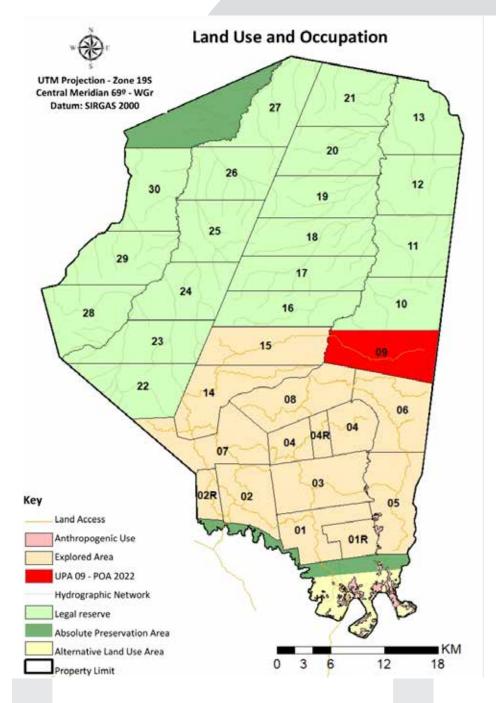




# **3)** BRIEF ENVIRONMENTAL DIAGNOSIS

### **3.1 CLIMATE**

The region's predominant climate is hot humid, with an average annual temperature of around 24.5°C. The hot months occur from August to October, and the temperature tends to drop from April to July. The rainy season occurs from October to April and the average annual rainfall in the region is approximately 2,100 millimeters.





## 3.2 FAUNA

In 2016, Agrocortex began a partnership with Casa da Floresta to monitor birdlife and large and medium-sized mammals at the Seringal Novo Macapá Farm. These groups were chosen because they are considered good bioindicators, being scientifically well studied, making it possible to direct conservation actions.

In the two monitoring campaigns that took place this year, 345 species of birds and 34 species of mammals were recorded out of the 573 species of birds and 60 species of mammals likely to occur in the region, according to the secondary data collected. Of the recorded species, three birds and eight mammals are considered threatened with extinction nationally and/or worldwide, such as the Pacarana (Dinomys branickii), the Jaguar (Panthera onca), the Goeldi's Marmoset (Callimico goeldii), the Channel-billed Toucan (Ramphastos vitellinus culminatus) and the Blue-headed Macaw (Primolius couloni).



Faced with the scenario of deforestation and land use conversions, forest management with Reduced Impact Exploration presents itself as a place of great importance for the conservation of biodiversity, since the good management practices applied on the Farm allow the maintenance of the forest standing, conserving the habitat of several fauna species.





## 3.3 FLORA

region The is located under three types of vegetation, the Submontane Open Rainforest with Dominant Bamboo (tabocal), the Submontane Open Rainforest with Dominated Bamboo (restinga) and the Alluvial Dense Rainforest with Emergent Canopy. Due to the marked presence of bamboos of the Guadua genus, most of the vegetation is classified as Open Bamboo Forest, which is regionally referred to as Tabocal. The Restinga has a dense canopy cover and the bamboo disperses and integrates into the understory, present only as a dominated element.

The genus Guadua is widely distributed in the Americas and is characterized by flowering and fruiting, followed by mortality of the entire population. The longevity of these populations in this Amazon region is estimated between 27 and 28 years and in 2016 it was possible to observe the beginning of this flowering phenomenon.

To monitor the development of the managed forest, Permanent Inventory Plots are installed annually, which are remeasured at five-year intervals. In the process of selecting and retaining trees for cutting, tree individuals of all species are preserved, ensuring that the perpetuity and diversification of the forest continues.



## 4) SUSTAINABLE FOREST MANAGEMENT PLAN

### 4.1 LEGAL ASPECT

The project is based on the implementation of PMFS on a Business Scale, aiming to obtain socioeconomic benefits, resulting in the conservation of biodiversity and improvement of the quality of life in the region in which the project is located.

The AMF corresponds to 186,000 hectares and must be managed on a 30-year cycle. Annual production is estimated at approximately 110,000 m<sup>3</sup>/logs of various forest species, including mahogany in the list of manageable species, considering current legislation.

The aforementioned PMFS falls into the following categories:

O aludido PMFS enquadra-se nas seguintes categorias:

- I Regarding forest dominance: PMFS IN PRIVATE FOREST;
- II As for the holder: CORPORATE PMFS;
- III Regarding the products resulting from management: PMFS FOR MULTIPLE PRODUCTS (wood, taboca, oils, forestry by-products, etc.);
- IV Regarding exploration intensity: FULL PMFS;
- V Regarding the predominant environment: UPLAND;

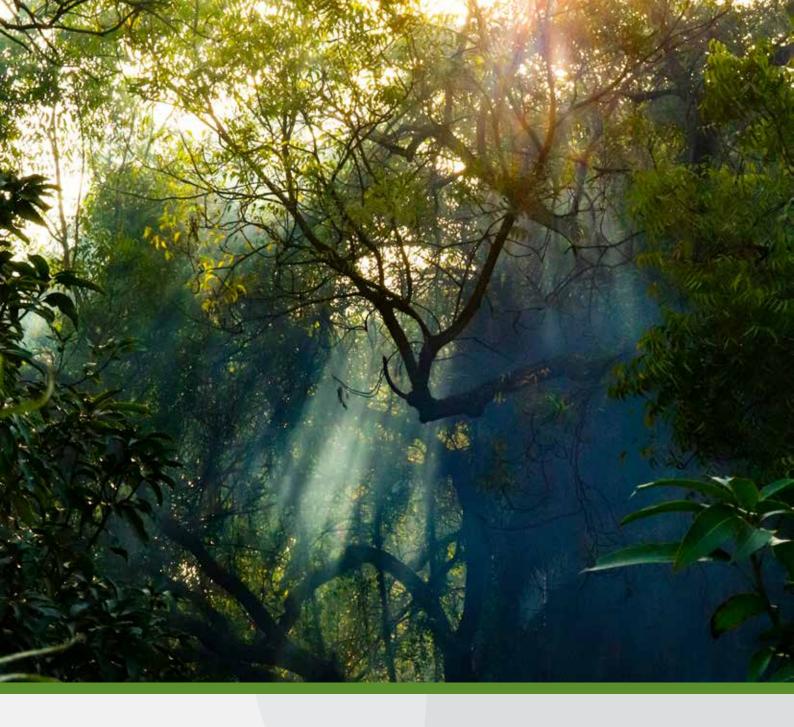
Regarding the natural state of the managed forest: PRIMARY FOREST.

## **4.2 TECHNICAL ASPECTS**

#### 4.2.1 SILVICULTURAL SYSTEM

According to Silva (2004), a silvicultural system is a set of human interventions in the forest in order to increase or maintain forest productivity (timber and non-timber products) between two cutting cycles. The silvicultural system adopted is polycyclic, widely recommended for the Upland conditions in the Brazilian Amazon.





The silvicultural system is based on three fundamental stages to ensure sustainability, namely:

- 1. Careful exploration planning, with a view to reducing damage to residual forest;
- 2. Application of post-harvest silvicultural treatments to the residual forest, favoring regeneration and growth for the next cycle;
- 3. Monitoring growth, mortality and recruitment with the aim of assisting in technical operational and administrative decisions.

The AMF is made up of 30 annual compartments, called Annual Production Units (UPAs), which have areas of approximately 5,860 hectares.



#### 4.2.2 CUTTING INTENSITY

The maximum cutting intensity is 25.8 m<sup>3</sup>/ha of standing volume, of species of commercial interest selected according to the tree selection and retention criteria, as determined by legislation.

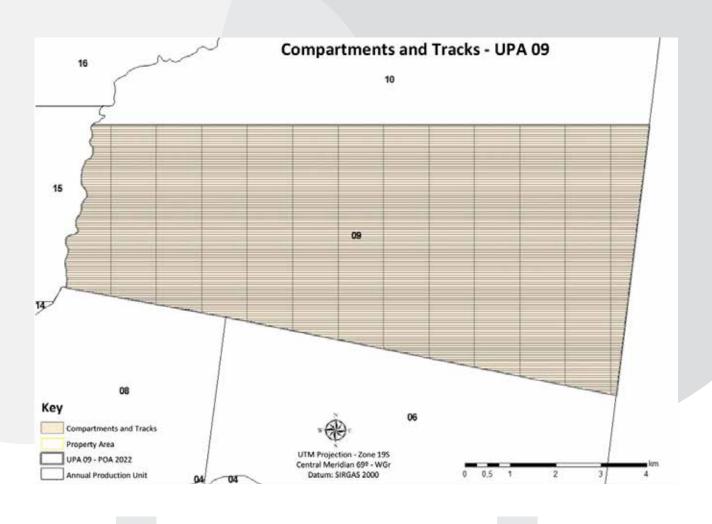
#### 4.2.3 CUTTING CYCL

The projected cutting cycle is 30 years, considering an average productivity of 0.86 m<sup>3</sup>/ha/year (IN 05 of December 11, 2006 and CONAMA Resolution 406 of February 2, 2009).

## 4.3 PRE-EXPLORATORY ACTIVITIES

#### 4.3.1 DETERMINATION AND ALLOCATION OF UPAs

The UPAs are determined in the field by a topography team that opens the boundary trails, following pre-established directions. In addition to the limits, the topography team implements trails equidistant 1,000 meters, which serve as Baselines for the trails in the 100% census inventory.

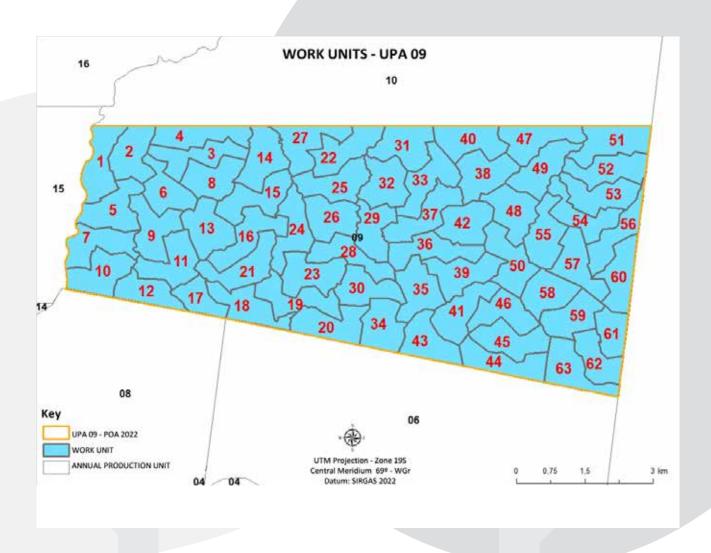




#### 4.3.2 CUTTING AND DRAGGING UNITS AND WORK UNITS

In order to better organize exploratory activities, i.e., aiming to control production, monitoring, safety in operations carried out by workers and chain of custody, the UPA areas are subdivided into Cutting and Dragging Units (UCAs). The UCAs are defined based on the area covered by the storage yards and these are planned taking into account several aspects.

Subsequently, the limits of each Work Unit (UT) are determined based on the grouping of some UCAs, with an effective area of approximately 100 hectares, as per the recommendation contained in current legislation, from which the tree selection and retention criteria are subsequently applied.







#### 4.3.3 100% FOREST INVENTORY

In each UPA, a forest inventory is carried out on 100% of the species of commercial interest in the year prior to their exploitation. The objective of this inventory is to determine the qualitative (shape, quality and health of the stem) and quantitative (circumference at breast height - CAP and height) characteristics of the species. All individuals with a CAP of 100 centimeters and above are inventoried, except for mahogany, whose individuals are measured from 60 centimeters.

The geographic coordinates of all trees are collected with GNSS receivers, which allow an accuracy of around 1.5 meters even under the tree canopy. These coordinates and other data are digitized and organized in a database so that the company has total control and security of information for planning subsequent operations.



#### 4.3.4 TREE SELECTION AND RETENTION CRITERIA

The selection and retention criteria for trees are based on what is concomitantly determined by Normative Instructions 07/2003 (Mahogany), 05/2006, 01/2015 (Official National List of Flora Species Threatened with Extinction) – List of classified species in the "Vulnerable – VU" category, in the Amazon biome and CONAMA Resolution N. 406/2009, as well as the understanding maintained with the Board of Sustainable Use of Biodiversity and Forests – DBFLO and Technical Division – DITEC/SUPES of Rio Branco, State from Acre.

Although IN/MMA N. 01/2015 refers to the species, we chose to consider as retention criteria for trees in the Vulnerable category (4/100 hectares) all botanical genera listed in the aforementioned normative instruction (Ex. Pouteria sp, Apuleia sp, Mezilaurus sp, etc.), until botanical material is collected for proper identification at species level.



Planning is done for each of the UTs, considering remaining trees:

- Future Cutting: characterized by not having a Minimum Cutting Diameter (DMC). For mahogany, trees with DBH < 60cm and for other species, trees with DBH < 50cm;</li>
- Rare species: species with a density < 0.03 ind.ha-1 of commercial trees in each UT were considered rare. For species listed in IN/MMA 01/2015, density < 0.04 ind.ha-1 of commercial trees, in each UT. For mahogany, density < 0.05 ind.ha-1 of commercial trees in each UT.
- Mother trees or seed carriers: 20% of the number of commercial trees was allocated to mahogany. Species listed in IN/MMA 01/2015 retain at least 15% and 10% for other species;
- Species that are prohibited by law: Chestnut tree (Bertholletia excelsa), Rubber tree (Hevea brasiliensis), Andiroba (Carapa guianensis Aubl.) and Copaíba (Copaifera sp);





- Trees located in Permanent Preservation Areas (APP): the positioning of watercourses was collected in the field with a Trimble Juno 5S GNSS receiver, which guarantees satisfactory accuracy, in addition to the MDD that was extracted from the LIDAR survey, with a spatial resolution of 1 meter. Thus, the APP ranges were determined in the office based on micro zoning and the trees existing in this range were excluded from processing, therefore, there is no felling under any circumstances;
- Tree located close to APP: During forest exploration planning, a 20-meter "buffer" is created from the limits of the APPs, which are called Buffer Zones. In this location, the destination/allocation of parent trees is prioritized, aiming to reduce possible impacts on APPs due to falling trees. Trees that are close to the APPs are cut by using special cutting techniques aimed at directing the fall (through wedges), preventing it from damaging these locations; however, if the chainsaw operator detects that such an operation will excessively damage this location, he or she must discard its felling;
- Trees with nests: Trees identified with the presence of nests will be preserved during exploration.

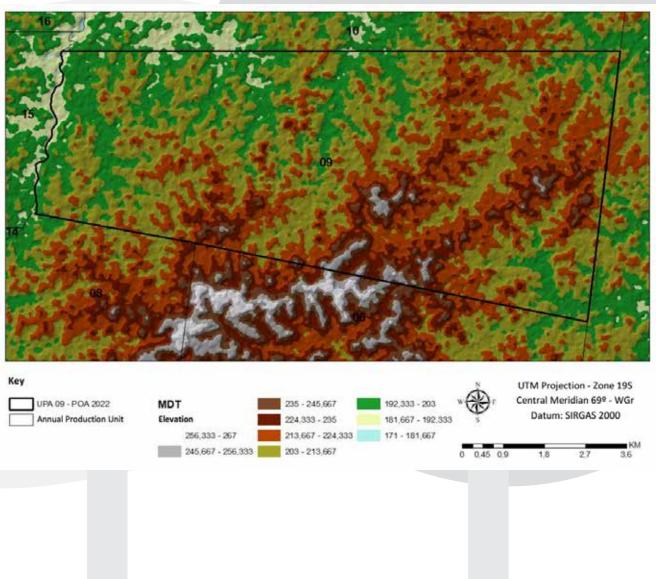


#### 4.3.5 DIGITAL TERRAIN MODELING

The planning of areas to be protected and the allocation of permanent and temporary infrastructure, to be installed in the UPAs, was based on an aerial survey carried out with satellite images and field surveys.

The data allows the generation of the Digital Terrain Model (MDT). From these models, the Contour Curves were extracted, with an equidistance of 1 meter and the Digital Drainage Model was generated, using an area of 100m2 as the base unit for drainage channels.

Thus, it was possible to identify areas with a slope greater than 45°, considered by legislation such as APPs, in addition, the MDT determines the critical or restrictive zones for the construction of permanent infrastructure, i.e., roads and storage yards.



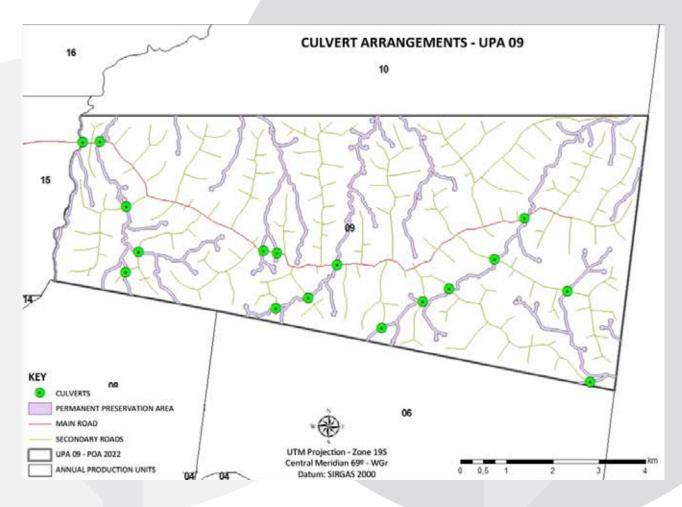


#### 4.3.6 INFRASTRUCTURE PLANNING

Infrastructure planning is carried out based on MDD, MDT, micro zoning information and the spatial distribution of trees.

In a first stage, the roads were planned, taking into account the watersheds, the drainage network, micro zoning and areas with slope restrictions (>15%). Road planning prioritizes their layout in the highest parts, observing the terrain's level curves, avoiding areas with slope restrictions and the crossing of watercourses.

Subsequently, the location of the storage yards was planned, where aspects such as: the existence of trees selected for cutting, a Skidder drag radius of 200 meters, a flat location and outside of restrictive zones (>15%) were considered.



#### 4.3.7 INFRASTRUCTURE CONSTRUCTION

The construction of infrastructure (roads, storage yards, bridges and culverts) is carried out according to the techniques provided for by the IFT, and preferably one year before exploration.



## **4.4 EXPLORATORY ACTIVITIES**

#### 4.4.1 TREE FELLING

The harvesting operation is the phase in which interventions in the forest are necessary. For the changes in relation to the natural state of the environment to be minimal, the company adopts a different management system, known as Reduced Impact Exploration. At this stage, only the trees selected for cutting are explored.

One of the techniques adopted is directional cutting, where the cutter directs the falling tree to the most appropriate location, avoiding damaging other trees around it, as well as preventing the tree from falling on any preserved or sensitive area. When analyzing that the tree will fall on a protected tree (Chestnut tree, Rubber tree, Copaíba and Andiroba), in a preserved area or in a High Conservation Value, the cutter does not carry out the cut, leaving it standing.





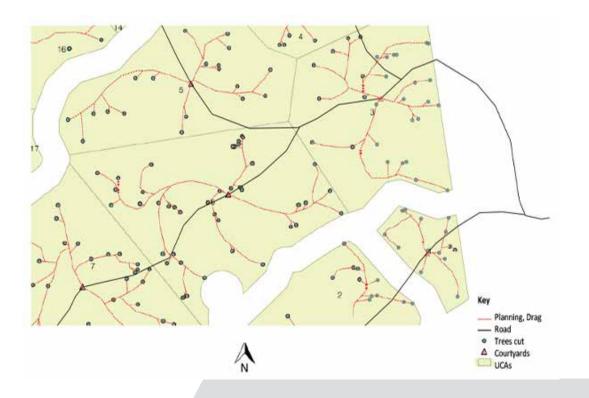


#### 4.4.2 LOG DRAGGING

After cutting, the logs are dragged by specialized forestry machines called Skidders to skidding yards, distributed throughout the forest with the aim of maximizing operational efficiency. This dragging is done in a planned manner, ending with the best access points in the field to carry out the dragging of trees, in order to minimize the damage caused by machines to the vegetation of the remaining forest.

To try to further reduce the damage caused by this operation, Agrocortex has invested in more robust machines, which can drag the entire tree or sectioned into logs, thus reducing the impact on the forest and soil compaction.





#### 4.4.3 LOG ROLLING AND TRANSPORTATION

In the skidding yards, the trees are sectioned into pre-determined lengths that facilitate their transport and subsequent processing at the sawmill. In the internal yard, all logs have their custody marked with an industrial marker and receive numbered and bar-coded plastic tags, in redundancy to guarantee their traceability, in addition to being measured (diameters and lengths) and duly registered. With this data it is possible to compare the real volume of the tree with that estimated during the inventory and improve the equations that allow this estimate.

Internal transport is carried out from the skidding yards to the Lung Courtyard, a larger storage yard, where the logs are organized, ready for transport to the Agrocortex Industrial Complex according to industry demand.

External transport, from forest management to the industry yard, is carried out by trucks equipped with B-train trucks, which have the capacity to transport up to 45 m<sup>3</sup>. It should be noted that all loads are transported with the appropriate cover of the Forest Origin Document (DOF) and identification of 100% FSC® certified wood and certification code IMA-FM/COC-007255).





# **5)** 2022 HARVEST

In 2022, exploration took place at UPA 09. This unit has a total area of 5,842.2387 hectares and an effective exploration area of 5,342.8831 hectares. The areas where there was no exploration correspond to APPs and unproductive areas excluded from the operation planning. These areas remained preserved and unexploited, guaranteeing the preservation of watercourses and the forest.

UPA 09 presented 63 UTs with an average size of 84.81 hectares, all of which were explored (cutting, dragging, packing and transport) and as previously mentioned, with a maximum radius of 350 m from the trees to the storage yard, it is practical made it possible to optimize considering that exploration as the number of yards, opening of secondary roads and consequently operational costs and environmental impacts were reduced.





According to POA-2022, 110.44 ha of roads and 13.8500 hectares of vard area were planned. After the conclusion of the 2022 harvest, an area corresponding to 107.06 hectares of road and 13.8000 ha of yard was planned, built and reopened, a reduction in the opening of the planned infrastructure by 4.22 ha, made possible thanks to the adoption of the practice of opening of the yards after cutting down the trees in the UCAs, this made it possible to optimize the operation as a whole, considering that the opening of infrastructure for the extraction of a few individuals would no longer occur.

277 yards were planned on the yards, size (20X25) meters, and following this planning, 276 patios with an average size (20X25) meters or 12.45 ha were built and used, due to the radius of 350 m giving greater use to everyone storage yards and the practice of opening the yards only after trees have been felled at the UCA.





With respect to the construction of infrastructure, 124.29 hectares of roads and yards were planned, representing 2.32% of the effective exploration area of UPA 09. However, after the 2022 harvest, only 120.7 hectares or 2.25% of the UPAs effective exploration area were opened, meaning a reduction of 3.59 hectares in relation to that projected for UPA 09. Planning maximizing the log extraction radius, with an ideal number of storage yards and road mapping were determining factors for reducing the area of open forest in order to implement infrastructure for the exploration of UPA 09, and consequently the effectiveness of the entire operation.

With respect to productivity, in 2022, cutting activity at UPA 09 took place from June to October 2022, which resulted in the cutting of 2,617 trees (27,527.13 m<sup>3</sup> inventoried volume) of the 10,643 trees authorized for exploitation, which equivalent to 24.59% of trees, the remaining 8,026 (75.41%) trees were not felled. In other words, 5.15 m3/ha in relation to the effective exploration area of UPA 09. As previously mentioned, the volume permitted by legislation is 25.8m3/ha, ensuring that the reduced impact exploration practiced was more conservative than that permitted by legislation.

It is important to be reminded that all management operations are closely monitored by the IBAMA/AC team, which in 2022 carried out a field inspection verifying compliance with all standards to continue the forest management activity.



6) 2023 OPERATIONS

In 2023, no new UPA was explored, the exploratory activity that took place was the external transport, from forest management to the industry yard, of 2,755.17 m<sup>3</sup> of wood from 8 different species that were already in the conservation storage yard of the UPA 09 from exploited stock from the 2022 harvest.

## 7) ATIVIDADES PÓS-EXPLORATÓRIAS E MONITORAMENTO DA FLORESTA



**Monitoring by Permanent Inventory Plots:** continuous process of installing and measuring permanent plots to monitor forest growth, guarantees understanding and inventorying the minimum damage caused by logging in order to take mitigating measures.

**Monitoring of remaining mahogany individuals:** aiming to meet the prescription set out in IN 07/2003, mahogany individuals are being reinvented and to date 780 trees have been visited and remeasured.

**Fauna monitoring:** in 2020-2021, fauna monitoring was carried out at the Seringal Novo Macapá Farm, to assess the impact of Reduced Impact Forestry Exploration on local fauna, in addition to propose mitigation and support measures in identifying Areas of High Conservation Value.



**Internal audits:** four internal audits were carried out in the year 2022-2023, covering operational processes and quality, workplace safety, areas of experience and chain of custody control. Given the reports generated by the audits, corrective actions were proposed for non-conformities and monitoring of corrections.

**Fire protection:** Agrocortex had a partnership with the Fire Department to train the Forest Fire Brigade, in addition to promoting lectures on preventing and fighting fires for local communities and collaborators and distributing educational signs at access points to the property.

**Operational monitoring:** the company constantly monitors its management activities, in order to prevent and mitigate impacts and act in a timely manner on problems found, promoting corrective actions. The results of these monitoring serve as a basis for continuous improvements in forest management.





## 8) NURSERY AND ENRICHMENT PLANTING



With the aim of always promoting sustainability, a local enrichment project was created, which seeks to use genetic material from the management area itself.

In 2022 and 2023, seedlings of the main species of commercial interest were produced by the company Agrocortex Madeiras do Acre. The seed collection process began at the beginning of 2021 (February to April) and intensified during the exploration operations of the 2022 Harvest, given the facilitation in the collection and phenology of seed dispersal of the species.

Regarding the seedling planting process, in 2022 and 2023 the Agrocortex team planted 5575 seedlings of 5 forest species, namely: cedar, Cumaru, guariúba, Jatobá and mahogany. These plantings were carried out at strategic points, storage yards, lung yard and along the main road that gives access to the exploration of the other UPAs, in the latter, the teams opened "pikes" to plant the seedlings inside the forest, in order to avoid the mortality of individuals as a result of the traffic of heavy trucks and of road maintenance.





It is also worth highlighting that, in all cases, the seedlings were crowned in order to reduce competition for nutrients with nearby individuals, increasing success rates in the recovery of degraded areas and forest enrichment.

It is important to highlight that the actions to recover degraded areas and enrichment planting will continue until 2024, given the beginning of the rainy season while obtaining seedlings suitable for planting.

All actions are carried out by the Agrocortex team, from collecting seeds, producing seedlings and planting. Seeking to comply with legislation and sustainability while preserving the local genetic material. The planting of forestry enrichment in exploration areas, through the planting of native seedlings, has been carried out in clearings originating from forestry exploration during the execution of HARVESTS, along access roads (roads) and storage yards.



## 9) MARKET AND COMMERCIALIZATION

Annual production for 2022 is estimated at around 25,018.12 m3 of logs from various forest species, including mahogany. Agrocortex verticalizes the enterprise and works with sawn and processed wood, adding value to forest products and, as a consequence, generating more jobs and income for the local community.

Today the main forest essences sold by the company, considered woods with good market acceptance, are: Ironwood (Dipteryx odorata (Aubl) Wil ld), Mahogany (Swietenia macrophylla King.), Pink Cedar (Cedrela odorata L.), Cherry (Amburana acreana Ducke A.C. Sm), among others.

The industrial complex is located near the city of Manoel Urbano/AC, on the left bank of the Purus River and consists of 4 sets of band saws, 20 drying greenhouses and warehouses for storage and baling.

The Company uses waste to feed the boiler used to dry sawn wood and also intends to use it to generate energy through a thermoelectric plant to supply the industrial park, where the surplus will be supplied to the region's electricity concession company.





# **10)** CHAIN OF CUSTODY CONTROL



The main objective of the Chain of Custody is to guarantee the origin of each tree and its respective logs, i.e., it certifies that a given tree was harvested exactly from a known area, also facilitating the return to the origin (stump) if applicable.

Before packing, the trees are sectioned into logs, each of which receives an identification similar to the original, plus a numbered plastic tag with a bar code, which is attached to one of its ends. The logs are measured in length and diameter, information added to the cell phone application for the logbook linked to the company's database and forestry management, which guarantees control of this stage.

In addition to all these operations, point-to-point control is carried out through specific cell phone applications for each stage, collecting data that was then transferred to the company's electronic forest management system. And, after leaving the property, all movements were also controlled by the Forest Origin Document (DOF), through IBAMA's online system.



# **11)** SOCIO-ENVIRONMENTAL IMPACTS

There is no doubt that Reduced Impact Exploration generates a set of environmental and social impacts in the location and surroundings where the activities are carried out. The proposal of mitigating and/or compensatory measures for these impacts aims to minimize the negative effects and enhance the positive ones, resulting from the impacts caused to the environment.

Considering its complexity, the environment is didactically divided into three environments: physical (soil, water resources, air), biological (fauna and flora) and socioeconomic (employees and communities).

## **11.1 PHYSICAL ENVIRONMENT**

To protect the soil, careful exploration planning is carried out; appropriate machinery is used to reduce soil compaction; the vines of potential trees intended for extraction are eliminated at least one year in advance, avoiding the opening of large clearings; cutting, dragging and transporting logs are not carried out during rainy seasons to avoid erosion and compaction; trees are not harvested in places with steep slopes and in APP areas; Road planning takes into account geoprocessing techniques, which consider the drainage network and terrain topography and, in addition, permanent maintenance of the road network is carried out.

To protect water resources, infrastructure is implemented according to the micro zoning made in the 100% inventory; watercourses, rivers and slopes are permanently preserved; care for the environment, prohibiting contamination of water courses; and drainage devices, culverts and bridges are built on the main and access roads, facilitating surface runoff and preventing erosion.

To protect the air, periodic inspections are carried out on equipment and vehicles, with the aim of preventing atmospheric pollution; The practice of burning in the Forest Management Area is prohibited and enrichment plantings are carried out, contributing to the fixation of carbon in the forest.



## **11.2 BIOLOGICAL ENVIRONMENT**

With respect to flora, Reduced Impact Exploration techniques are adopted, reducing damage to residual forest when compared to conventional exploration; careful planning of infrastructure avoids unnecessary opening of vegetation; enrichment planting will be carried out along roads and on the edges of storage yards; areas will be maintained without exploitation to preserve biodiversity and maintain environmental processes; rare, endemic, threatened or endangered species are not exploited; hollow trees are kept for seed production and animal shelter; strict control of the chain of custody will guarantee the origin of forestry production and the use of waste will optimize the use of the forest.

Fauna will be treated with planning criteria similar to those used for flora, mainly due to the interrelationship that exists within ecological processes. The partnership with Casa da Floresta in 2017 sought to study the impact of forest management on the region's fauna; exploration is carried out in annual compartments to reduce the impact on the landscape; predatory hunting and fishing practices are prohibited by employees in the AMF; fauna corridors are maintained, connecting APPs and intact areas; Environmental educational signs are placed throughout the farm areas and through the environmental education program through lectures and meetings it is possible to clarify important issues regarding fauna management for the population.





## **11.3 SOCIOECONOMIC ENVIRONMENT**

The Company seeks to maintain local cultural traditions and include communities in its production chain, generating jobs and local development; promotes training and qualification of workers in reduced impact exploration, workplace safety, first aid and firefighting; complies with current occupational health and safety standards and legislation; reduced impact exploitation conserves the forest structure, not interfering with hunting and fishing and the collection of subsistence forest products.

# **12)** SOCIAL RELATIONSHIPS

## **12.1 TRADITIONAL COMMUNITIES**

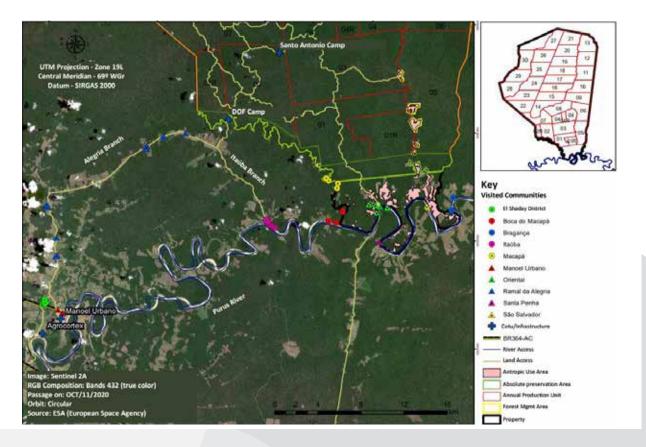
The PMFS' area of influence covers residents of nine locations located on the banks of the Purus River and its tributaries: Itaúba, Extrema, Boca do Macapá, Macapá, Oriental, São Salvador, Santa Penha, Bragança, São Paulo, among which 95 families were found to be present.

Communities engage in activities such as hunting, fishing and subsistence agriculture. Agricultural activity is often the family's only source of income and is based on the farming of beans, watermelon, bananas and cassava to produce flour, which is sold on a small scale in the headquarters of the municipalities of Manuel Urbano and Sena Madureira. Raising cattle and other animals is part of family subsistence, serving as a source of food and supplementing the income of local families.

Chestnut collection is also an activity of cultural and economic importance for some families, providing extra income for some families.

In view of what was observed during the field survey, it was found that there is a significant contingent of young people and adults who yearn for an opportunity to earn income to support themselves, seeing the Company as a great opportunity to prosper.





In this sense, Agrocortex's Forest Management activity appears as an alternative that will have positive effects on the social and economic order, among others, through the emergence of direct employment offers in the various phases that make up forest management. The salary compensation for the employed workforce offers improvements to the family environment and contributes to the generation of employment in the region.

In addition to creating jobs, Agrocortex stimulates local commerce through the purchase of products, whenever possible and available, from local sources, generating income and development for residents.

The communication channel between the company and traditional populations helps in analyzing the impacts caused by forestry activities. The ombudsman program takes into account the agendas discussed in meetings with residents and the critical points raised, forwarding them to those responsible, responding to questions and executing whatever is possible and pertinent.

Meetings are held with the São Salvador, Oriental and Itaúba communities and one in the city of Manoel Urbano, in which important issues were addressed: social and AVC impacts, dissemination of training, communication channels, dissemination of the PMFS Public Summary and the result monitoring with Chestnut tree, one of the Company's social AVC.





The communication box was also used, 11 messages were collected and the requests were fulfilled: opening of the access branch to the Itaúba community and the arrival of the Luz para Todos power line for this community.

Agrocortex, aiming to recognize the rights of squatters located within the Seringal Novo Macapá Farm, followed in 2022 the process of identifying and mapping the areas of ownership, for subsequent dismemberment and donation of these areas to families. The process is being conducted by a specialized law firm in partnership with residents, allowing transparent and fair work to be carried out with all parties involved.





### 12.1.1 CUSTOMER USE AND AREAS OF SPECIAL VALUE

The mapping of areas of customary use identified the places within the Seringal Novo Macapá Farm where families carry out traditional use of natural resources and the forest. The work was carried out through consultations with local communities and geographic surveys. The following resources were identified:

- Soil: cultivation of traditional gardens, located in areas of shrub land vegetation and primary forest, close to houses;
- Forest: collection of nuts, fruits, vines, oils and medicinal plants, in addition to wood. They are collected in primary forests located inside and outside the community or family area;
- Fish and turtles: captured in the Purus River and Macapá, Oriental, São Paulo and Bragança streams;
- Wild animals: consumption of deer meat, tapir, capybara, agouti, nambu, piglet, peccary, among others. They are hunted in primary forests, located inside and outside the community or family area. Chestnut collection areas are preferred for hunting as there is no human disturbance. The collection period is also a time of intense slaughter of wild animals;
- Watercourses: streams, slopes, small watercourses, and the Purus River, the main source of water supply for human consumption and domestic tasks

According to the consultation carried out at IPHAN, there are no archaeological or historical sites in the UMF (Forest Management Unit). The social survey carried out also did not reveal any areas of historical and cultural importance for the communities consulted. The consultation with FUNAI confirms that there are no indigenous communities in the UMF and surrounding areas.





## **12.2 COMMITMENT TO EMPLOYEES**

Agrocortex offers opportunities for professional development, invests in employees to take on new challenges and evolve in their careers. Our work environment is dynamic, with great growth and transformation, offering an exchange of experiences with qualified professionals from various areas of activity.

The company seeks the best practices for efficient management of the safety and health of its employees, investing in specific training for certain functions such as cutting, dragging and forestry machinery techniques, firefighting and prevention, first aid, lectures on specific topics, among others.

In 2022, operational training was carried out by the company's technical team and with experts in safety and health in rural and forestry work, in addition, several Safety Dialogues (DS) were held with employees throughout the harvest period, addressing topics environment, monthly health and safety campaigns, work organization, importance of using PPE, among others.





Always focused on expanding its dialogue with employees and the community, the Company has communication channels to facilitate employee access to the company's management, which is a tool that complements strategic planning for continuous improvements in labor procedures. With the execution of forestry management and the industrialization of raw materials, the enterprise generates around 100 direct jobs and 100 to be generated by the multiplier effect, totaling 200 direct and indirect jobs, causing a very positive impact on the local economy of the municipality of Manoel Urbano/AC and surrounding areas.

All workers, including outsourced workers, are hired pursuant to labor and social security legislation. They receive training and qualifications to perform their duties effectively and safely. The hiring of local labor is being favored and training tends to reduce turnover, bringing greater stability to workers' families.

Currently, of all the employees that Agrocortex employs in management and industrial activities, 60% come from the communities surrounding the management – Boca do Acre and the municipality of Manuel Urbano.



## **12.3 AGROCORTEX 2023 SOCIAL ACTION** SUMMARY OF ACTIVITIES CARRIED OUT



### CINEMA IN THE COMMUNITY

On January 27, 2023, the film Ice Age: Collision Course was developed in the Itaúba riverside community located on the lower Purus River. The activity also included snacks such as: hot dogs, popcorn, soda and chocolate. With the aim of promoting a different day of leisure for children in the community.



ACCIDENT AWARENESS ACTION AT RURAL WORK

The action took place on March 2, 2023, at the Alegria branch with lectures and guidance on the risks of accidents in rural work and delivery of first aid kits.



### DELIVERY OF PPE (PERSONAL PROTECTIVE EQUIPMENT)

Action carried out on April 20, 2023, PPE was delivered to chainsaw operators, mower operators and safety helmets were delivered to residents of the Alegria branch, a complement to the March action that took place on the same branch.



### **DELIVERY OF SCHOOL MATERIALS**

Developed on May 31, 2023, the action involved the delivery of notebooks, pencils, erasers, sharpeners and pens to students in the riverside community of the lower Purus Boca do Macapá river.





### DONATION OF SEEDLING

Activity carried out on June 30, 2023, in Nossa Senhora da Penha square in the municipality of Manoel Urbano Acre. A donation of 2,000 seedlings of the Jatobá, Brazilian Walnut, Cumaru and Cashew species was made to residents of the rural and urban areas of the municipality, with the aim of promoting reforestation in the municipality.



### **HEALTH ACTION**

Developed on August 31, 2023, at the indigenous peoples' house, located in the port of Manoel Urbano Acre, a lecture was held on viral diseases, assistance, delivery of a trash box, mineral moisturizing serum and snack.



#### HEALTH ACTION

Action developed on September 20, 2023, in the riverside community Boca do Macapá below the Purus River, visits, consultations, blood pressure measurement and delivery of mineral moisturizing serum to residents were carried out.



### CHILDREN'S DAY

On October 12, 2023, the celebration of Children's Day was held in the El-Shaday neighborhood, located in the municipality of Manoel Urbano Acre. The action provided several activities such as: bounce house, slide, popcorn, hot dogs and sweets for children and neighborhood residents.





### SPORTING ACTION

Activity carried out on November 27, 2023, in the riverside community São Salvador located on the lower Purus River, the action included the delivery of two balls and twenty player vests to the community's residents.



### INTER DISTRICT TOURNAMENT

Action developed during the month of December 2023 at the Almiro Ferreira gym, the activity was supported and donated 2,500 reais to award the tournament champion.

# **13)** 2022 AND 2023 AGREEMENTS AND PARTNERSHIPS

The company has agreements with educational institutions, such as the partnership with the Federal University of Acre – UFAC, where partnerships are always sought with the practical teachings of academics.

The big gain is the exchange of experiences, reciprocal assistance and exchange between companies and institutions, where the biggest prize is the promotion of knowledge and education for society.

In 2022, a partnership was also signed with Bangu, a research project from the Federal University of Acre (UFAC) on the Assessment and modeling of the volumetric growth of three commercial tree species as a support for forest management in the Amazon.





The main objective of which is to determine the growth in diameter of trees of Cedrela odorata L., Amburana cearensis (Allemão) A.C.Sm. and Swietenia macrophylla King exploited under forest management regime, aiming to define management criteria in tropical forests in the region.

In addition to determining the age at which trees are being harvested and when the maximum current and average annual increase in diameter occurs; determine the "adequate" minimum cutting diameter and evaluate the adequacy of the cutting cycle for the three species studied;

- With this project, the researchers seek that the analysis of growth rings makes it possible to evaluate the growth of tree species throughout their lives, so that they can reconstruct their past growth and thus measure and describe the growth rates in diameter, height, transversal area and volume per tree, as well as the description of their average and annual increment curves. It is also intended to generate results for diametric, volumetric and hypsometric modeling.





With the modeling and construction of species growth curves, the aim is to estimate the minimum cutting diameter and cutting cycles for each species. Such results will allow greater detail for the sustainability of the management of the species, thus making it possible to contrast with current forestry legislation, thus suggesting the improvement of management techniques.

Furthermore, previously established partnerships were maintained, such as the partnership with the research project of the State University of Campinas (UNICAMP) and the Federal University of Lavras (UFLA) on Growth rings in tropical species for climate reconstructions, ecological and forest management analyzes in the western Brazilian Amazon.

The project aims to analyze the growth rings of three main species (Mahogany, Cedro and Jatobá) to reconstruct their growth and apply the data obtained in climatic, ecological and forest management studies. Additionally, seeking to explore the potential for similar analyzes on additional species in the western Brazilian Amazon.

Obtaining long-term growth data, specific by species and for species of high commercial interest. In a relatively short period of time (2 to 3 years) it is expected to be able to reconstruct the growth of dozens of individuals that may be hundreds of years old. Thus managing to produce a robust amount of data, covering hundreds (or even thousands) of years × growth.



Establish a collaboration with researchers from two renowned universities in Brazil, UNICAMP and UFLA, with projects of national and international impact. Collaborations will be made official via formal agreements following the necessary documentation for both parties (Technical and Scientific Cooperation Agreements). The means of verification (technical-scientific productions and formal agreements) can assist in the forest certification and bonus processes for the company.

The researchers have experience in applying the growth data obtained to simulate the timber productivity of the species studied in future cutting cycles. These data and simulations can provide a more robust investigation of the sustainability of the exploitation of these species (example article attached).

Visibility for the company through the publication of results in master's and doctoral theses, in national and international scientific journals, the dissemination of these results in media and social networks, and possible exhibitions of samples (polished discs, with specific years marked) in universities themselves or at events.

Another regular and extremely important program is the project Young Apprentice Developing Generations, which is a partnership with the Manoel Urbano Public Prosecutor's Office. The partnership began in 2018 when we had the first selections where those selected who were part of the company's staff emerged.

The program aims to create opportunities for young people in risky and vulnerable situations, thus promoting their insertion into the job market and thus avoiding associations with criminal organizations, at the same time, making the future of these generations more promising.

In 2023 we also signed a very important partnership for environmental conservation with SOS Amazônia, which was the authorization to collect forest seeds within the Management area.

The collection aims to produce seedlings that will contribute to the reforestation of degraded areas in Acre.



# **14)** ENVIRONMENTAL CONSERVATION



The Seringal Novo Macapá Farm is located in the Amazon Forest biome, one of the most important areas for conserving biodiversity on the planet. Permanent Preservation Areas guarantee that the vegetation present there will remain intact, in addition to bringing many other benefits to fauna and water resources.

In 2021, of the 5897.35 ha explored in UPA 15, 286.46 ha, which corresponds to 4.85% of the UPA, was kept preserved in the form of APP. Agrocortex also maintains the Absolute Preservation Area, where there is no exploitation and corresponds to 10,292 hectares of its forest (5.4% of the total area of the UMF).



# **15)** HIGH CONSERVATION VALUES

High Conservation Values (AVC) are values considered to be of great cultural, ecological, landscape significance, for threatened ecosystems, for production areas, basic services and subsistence for local populations.

Agrocortex has criteria for choosing High Conservation Values, and through them, the corresponding Areas of significant value or extreme importance at a regional or global level. It is these values that must be protected and maintained.

Recently, the update of the FSC Standards in 2012 and the HCV Resource Network changed the focus from areas to values, being classified as:

**AVC 1.** Concentrations of biological diversity including endemic, rare, threatened or endangered species that are significant at global, regional and national levels.

**AVC 2.** Large ecosystems and landscape-level mosaics of ecosystems that are significant at the global, regional, or national level, and that contain viable populations of the vast majority of species that occur naturally in natural patterns of distribution and abundance.

AVC 3. Rare, threatened or endangered ecosystems, habitats or refuges.

**AVC 4.** Basic ecosystem services in critical situations, including the protection of water sources and erosion control of vulnerable soils and slopes.

**AVC 5.** Key locations and resources to meet the basic needs of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through dialogue with these communities or indigenous peoples.

**AVC 6.** Areas, resources, habitats and landscapes of special cultural, archaeological or historical significance at a global or national level, and/or of critical cultural, ecological, economic or religious/sacred importance to the traditional culture of local communities, indigenous populations or traditional populations, identified in cooperation with these communities and populations.



## **15.1 IDENTIFICATION AND DEFINITION OF HIGH CONSERVATION VALUES OF AGROCORTEX**

Agrocortex used as a reference Proforest documents and studies carried out by other institutions, in addition to the Company's internal database and consultations with interested and affected parties.

The stages of the work to consolidate Agrocortex's Areas of High Conservation Value (AAVC) consist of the interpretation and identification of High Conservation Values based on Guides, studies and consultations with interested parties; definition of areas based on stipulated attributes and parameters; structuring documentation and consulting experts and/or technicians; review of parameters and attributes based on queries carried out; development of actions to ensure the maintenance, monitoring and protection of these areas; and making the public summary of the AAVC available.

Thus, Agrocortex identified some Attributes and Areas of High Conservation Value, namely:

**Clay Pit/Salt Cellar:** Clay Pit/Salt Cellars were considered AAVC, as the locations contain large numbers of animals that use them for food. The locations are mapped annually by the forest inventory team, allowing conservation measures in these areas to be carried out before UPA exploration.

**Chestnut trees, chestnut trails and chestnut grove areas:** after a survey of riverside communities, it was found that many of them use chestnut collection to supplement their family income. The chestnut trails and chestnut areas were mapped together with the chestnut collectors. The trails are also important places for hunting and collecting forest products.



**Igarapés Macapá, Oriental, São Paulo and Bragança:** narrow waterways are important for the flow of nut collection, in addition to being sources of food for families, as many depend on fish for their livelihood. These streams, therefore, were considered to be of High Conservation Value.

**Cemeteries and Churches:** these are places considered sacred by communities, therefore, an AVC.

**Intact Forest Landscapes (IFLSs):** the Intact Forest Landscapes (IFLs) are extensive forest areas that remain ecologically intact, that is, they were not significantly altered by human activities such as deforestation, agriculture or logging. These areas are of fundamental importance for the conservation of biodiversity, climate regulation and maintenance of ecosystem services.

# **15.2 MAINTENANCE AND MONITORING MEASURES**

The proposed maintenance and monitoring measures consist of:

- Mapping of social AVC together with the communities that use the resource and during the forest inventory (chestnut trees, chestnut trails, cemeteries and churches and barreiros);
- Use of data collected together with communities and during the inventory in the planning of roads and infrastructures, as well as during operational activities to collaborate in field decisions by employees;
- Definition of environmental care in each operational activity that may cause some impact on these AAVC, such as directional cutting to prevent the tree from falling on chestnut trees or mudflats and construction methodology for bridges and culverts in order to minimally interfere with the courses water and APPs;
- Educational lectures on the importance of AVC;
- Visits, conversations and feedback from communities regarding the conditions of the AAVC used by them.
- Monitoring of Intact Forest Landscapes (IFLs) by remote sensing where Sustainable Forest Management activities are raised to maintain and/or occur the lowest possible impacts.

During the harvest period, proposed maintenance measures are monitored through field inspections, internal audits and interviews with employees. If necessary, adjustments to maintenance measures are promptly made, aiming to ensure that Agrocortex's AAVC remains or is improved. The monitoring results will support a periodic review and update of the AAVC.



# **16)** FOREST CERTIFICATION

The certification seal guarantees transparency and responsibility throughout the production chain, so buying and selling certified wood is a guarantee that natural resources are being well used, generating economic benefits through respect and care for social and environmental aspects.

In 2014, Agrocortex began the process of certification of its Forest Management and the Chain of Custody of the Seringal Novo Macapá Farm Forest Management Unit, and in 2015, the certification process of the Chain of Custody of the Agrocortex industrial complex, located in the city by Manoel Urbano.

In 2022, the Company underwent a monitoring audit by the independent certifier Imaflora, based on the Certification Standard for Forest Management on Terra Firme in the Brazilian Amazon and the Standard for Chain of Custody Certification (FSC-STD-40-004 v2 -1 POR), ensuring that the wood sold is, therefore, produced in an ecologically correct way and becomes a responsible acquisition for consumers.

Certification guarantees compliance with the 10 FSC Principles and Criteria, promoting responsible forest management based on the tripod of sustainability, making the company environmentally adequate, socially beneficial and economically viable. Thus, Agrocortex ensures that its management protects and maintains natural populations and High Conservation Value Forests, respects the rights of workers, communities and traditional peoples, in addition to building new markets and adding greater value to forest products.





All Agrocortex products carry this socioenvironmental concern, guaranteed through the FSC Forest Certification seal (Forest Management Certification: FSC-C121950 and Chain of Custody certification: IMA-COC-007343, both achieved in 2015.





# **17)** OPEN DIALOGUE

Agrocortex recognizes the importance of maintaining a communication channel with all interested parties affected by operations in the Forest Management Unit. Therefore, to clarify questions, comments, suggestions and complaints, the Company has some relationship channels:

## Acre

ROD BR 364, S/N, Complemento LOTE 50, Zona Rural, CEP 69.950-000 Manoel Urbano, Acre, Brasil

# São Paulo

Rua Vergueiro, 2253, 7º andar, sala 714 Vila Mariana, CEP 04.101-100 São Paulo, São Paulo, Brasil

### **General Management and relations with interested parties:** marcos.preto@agrocortex.com

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General e-mail: comunidades@agrocortex.com

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