

Public  
Summary  
of the

**FOREST  
MANAGEMENT  
PLAN**

**2021**



Forestry  
Business Unit

**IMPERATRIZ**

# FOREST MANAGEMENT PLAN

## SUMMARY

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## PROCEEDINGS

Every year, Suzano S.A. prepares its Forest Management Plan for the regions where it operates based on data from the previous year and according to results for monitoring and control or significant changes in forestry operations, responsibilities and socioeconomic or environmental conditions.

### Cover

Horned sungem  
(*Heliactin bilophilus*)

### Images

Suzano's archives



A woman with braided hair, wearing a grey hooded cap with the Suzano logo, smiles from a field of young orange-brown plants. The background is a blurred forest.

ABOUT THE  
**SUMMARY**



# 01

## ABOUT THE SUMMARY

In this public summary of the Forest Management Plan, Suzano S.A. presents information on the forestry activities of the region, including responsibilities, available resources and strategies used in the adoption of responsible forest management focusing on the sustainable development.

It is a synthesis of the Forest Management Plan based on the main forest certifications: FSC® – Forest Stewardship Council®, FSC-STD-BRA-01-2014 V1-1 PT FSC and NBR 14.789:2012 CERFLOR (Forest Certification). Each system has its own principles and criteria.

Suzano S.A.'s Forest Business Units (FBU) under the scope of the forest certification are licensed under the following codes: FSC-C009927, FSC-C100704, FSC-C110130, FSC-C155943 and FSC-C118283.

In addition to the printed version, the Public Summary of the Forest Management Plan is emailed to the Company's main stakeholders: society, public authorities, neighbors and communities in its areas of operation, in addition to employees and outsourced.

**Have a pleasant reading!**

**Additional information, questions, feedback and suggestions that may arise from this reading should be sent to:**

**[suzanoresponde@suzano.com.br](mailto:suzanoresponde@suzano.com.br)**

Or calling:

**0800 022 1727**



**ABOUT  
SUZANO S.a.**



# 02

## ABOUT SUZANO S.A.

**Suzano is a global reference for the development of sustainable and innovative solutions from renewable sources and is committed to renewing life from the tree.**

World leader in the manufacturing of eucalyptus pulp and one of the major manufacturers of paper in Latin America, Suzano exports to over 100 countries and its products are part of the lives of more than 2 billion people.

With eleven operating plants and the joint operation Veracel, its installed capacity is 10.9 million tons of market pulp and 1.3 million tons of paper per year.

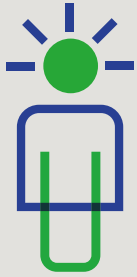
Suzano has approximately 35 thousand direct and indirect collaborators and has been investing in innovative solutions in eucalyptus crops to allow the replacement of fossil fuels by raw materials from renewable sources. The company has the highest degrees of Corporate Governance with B3, in Brazil, and New York Stock Exchange (NYSE), in the USA, stocks where its shares are traded.

We plant and grow trees. We transform this renewable raw material into innovative and sustainable bioproducts that are part of your daily life.



# RENOVO NOVDATE





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People who  
**INSPIRE AND  
TRANSFORM**

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We create  
and share  
**VALUE**

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It's only good  
for us if  
**IT'S GOOD FOR  
THE WORLD**

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**Renewing life from the tree. This is our purpose. We need to renew our ways of producing, consuming, distributing value, and relating with nature. Each eucalyptus seedling carries solutions for sustainable and innovative ideas for society.**

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For Suzano, trees are a symbol of renovation. With them, we plant a future of innovation and sustainability. This is what we call INNOVABILITY. We believe that trees are the basis for it and that our crops can generate renewable inputs for several businesses. That's how we evolve more and more.

We operate responsibly based on our expertise in eucalyptus crops. This means that we always use the best management practices in cropping - that is how we contribute for the maintenance of fertility and protection against erosion and degradation.





# WHERE WE ARE

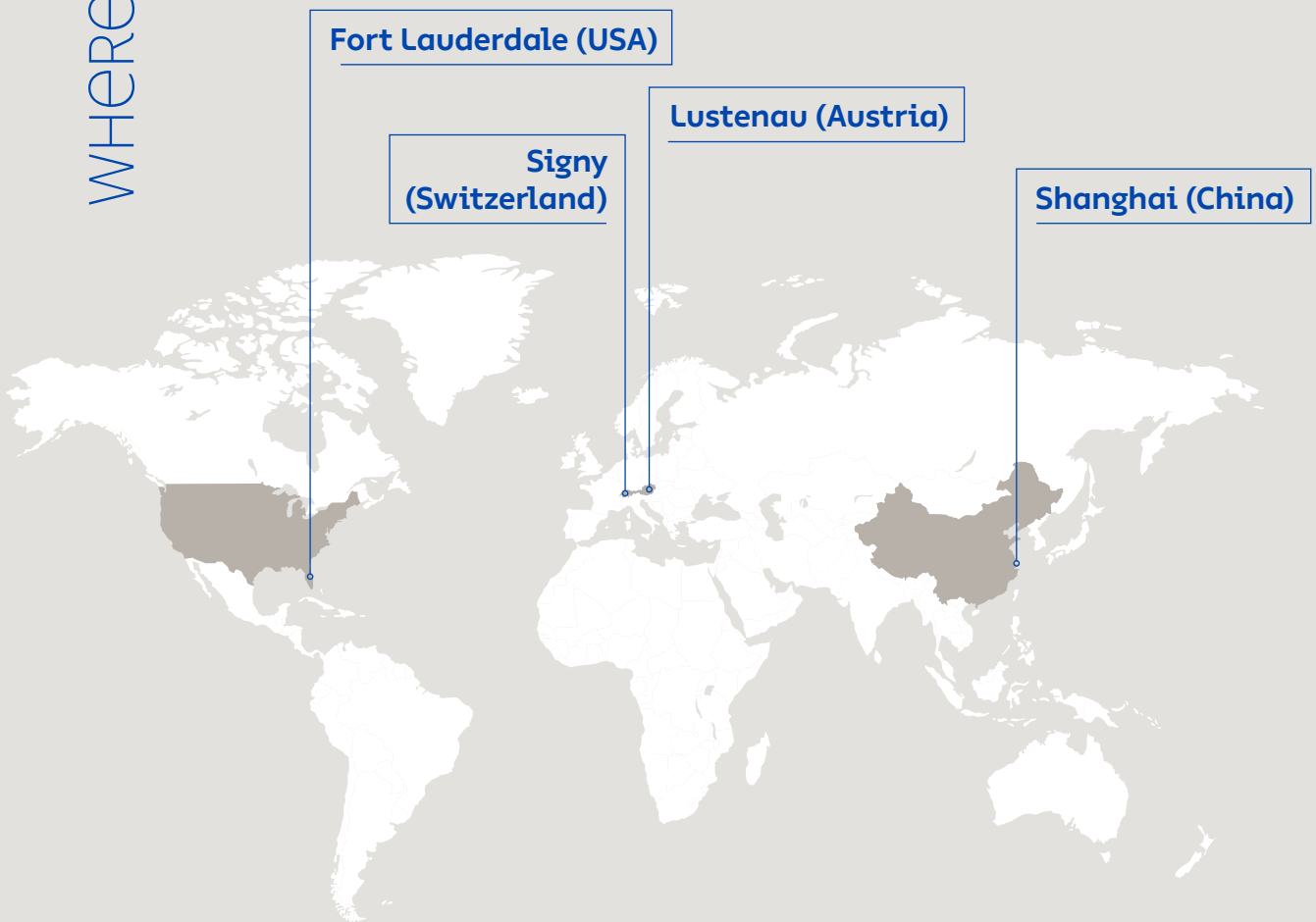


# 03

WHERE WE ARE

## Business offices

We have business offices abroad in China, USA, Switzerland and Austria and subsidiaries in England and Argentina.



## Distribution Centers

United States (4)

Europe (6)

Asia (2)

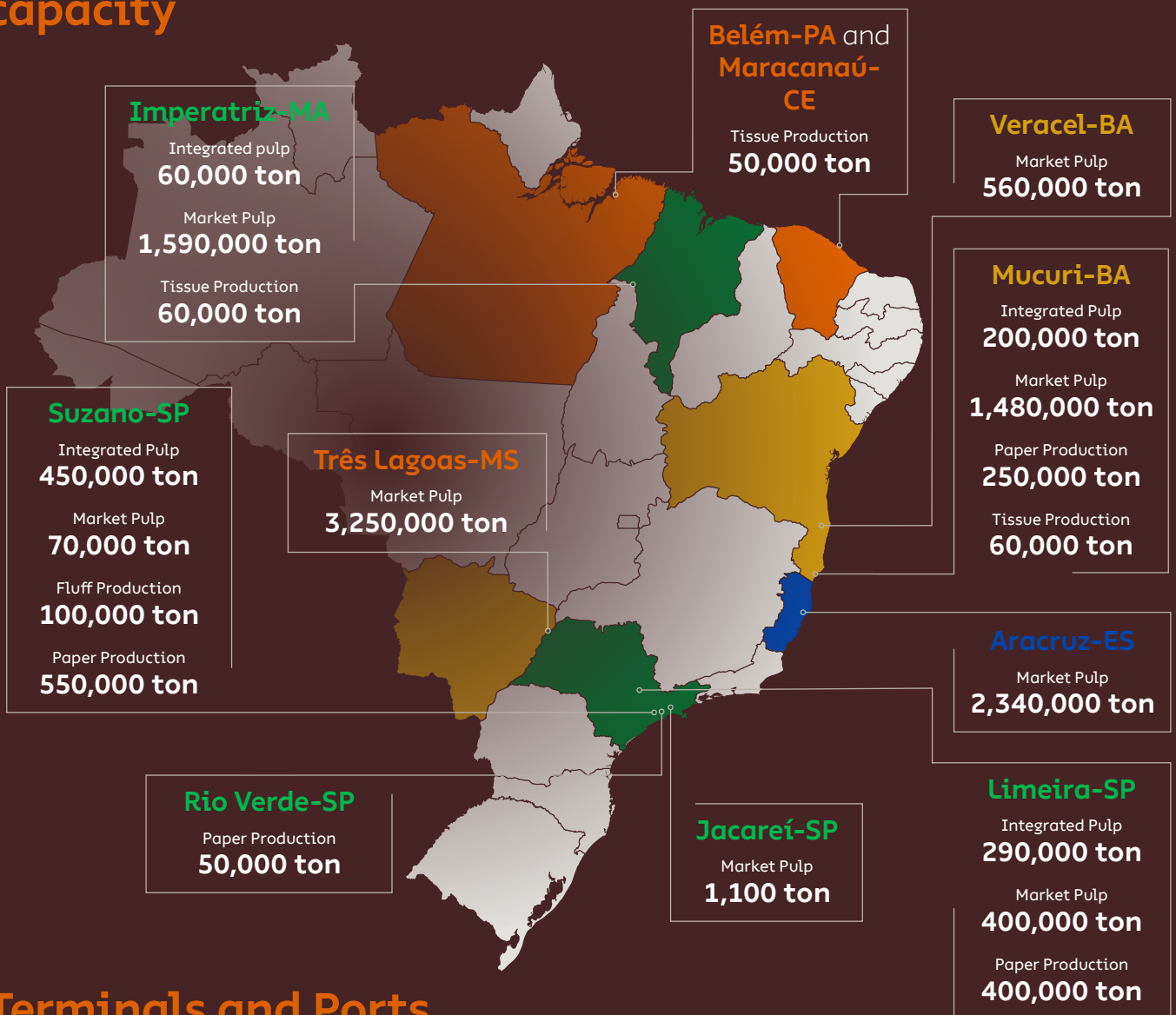




Our organization includes administrative offices in Salvador (state of Bahia) and São Paulo (state of São Paulo), industrial plants and FuturaGene, which is responsible for the genetic development of forest crops and biofuels, with research laboratories in Israel and China. In 2021, FBU Mato Grosso do Sul started building a new plant in the municipality of Ribas do Rio Pardo.

We provide products and services from 1.3 million hectares of planted forests and 960 thousand hectares of preserved forests in the states of Bahia, Espírito Santo, Minas Gerais, São Paulo, Mato Grosso do Sul, Maranhão, Tocantins, Para and Piauí.

## Suzano's production capacity



## Terminals and Ports

Belmonte (BA)  
Santos (SP)

São Luis (MA)

\* Relative to production capacity of each industrial unit



# FOREST OPERATION AREA





# 04

## FOREST OPERATION AREA



### Forest assets with certification

Suzano's forest competitiveness ensures its operation in different regions with adequate productivity.

#### OWNED AND LEASED AREAS AND PARTNERSHIPS

Business Unit	Crop Area (ha)	Conservation area (ha)	Infrastructure (ha)	Total (ha)
Aracruz/Mucuri	382,107.70	298,220.76	29,638.59	709,967.05
Imperatriz	216,427.69	299,918.82	16,525.23	532,871.74
Limeira/Suzano/Jacaré	219,159.22	134,253.20	16,789.29	370,201.71
Três Lagoas / Cerrado	422,418.80	280,406.76	21,802.23	724,627.79
<b>Total</b>	<b>1,240,113.41</b>	<b>1,012,799.54</b>	<b>84,755.34</b>	<b>2,337,668.29</b>

Data of May/2022



#### FOREST AREAS WITHIN THE SCOPE OF FSC® AND CERFLOR CERTIFICATIONS FOR EACH FOREST BUSINESS UNITS

FBU	Certified areas FSC® and PEFC (ha)
FBU BA	328,885.91
FBU ES	214,613.58
FBU MA	400,786.81
FBU MS	303,697.15
UNF SP	335,087.67
<b>Suzano S.A. Total</b>	<b>1,583,071.12</b>

Data of Dec/2021



50

# FOREST CERTIFICATION



# 05

## FOREST CERTIFICATION

Suzano S.A. is committed to its goal of guiding its Forest Management system according to the Principles and Criteria set forth by the FSC® Certification and CERFLOR NBR 14.789 Forest Management, aiming to provide long-term business sustainability, continuous improvement of its activities and performance, as well as the adoption of environmentally correct and socially responsible practices.

To this end, the company has incorporated the environmental, social and economic dimensions into its forest management basic guidelines, as follows:

- To seek technological innovations and to support research to apply the best forestry techniques in its forest production units.
- To contribute to the professional development of direct and indirect collaborators.
- To implement the Forest Production Plan based on environmental aspects, such as landscape and microbasins management, monitoring of fauna, maintenance of biodiversity corridors, and compliance with the applicable federal, state and city legislation, as well as international agreements of which Brazil is signatory.

- To contribute to the maintenance or improvement of communities surrounding the forest management units through open dialog channels, participative follow-up of social indicators, sharing of relevant information and promoting recreation areas or environmental education.

### Timber traceability

Every timber harvested from eucalyptus crops in certified areas have their traceability ensured (stewardship chain of custody), i.e., origin guaranteed from planting to transportation for the industry, thus eliminating the risk of a mix up with logs from uncertified areas (timber controlled by Due Diligence assessment).



Suzano has the  
**FOREST  
CERTIFICATIONS**  
FSC® and CERFLOR (NBR 14,789)



# FORESTRY BUSINESS UNIT IMPERATRIZ





# 06

## FBU MA

The Forest base of MA Unit is distributed across the states of Maranhão, Pará and Tocantins. In the state of Maranhão, the farms are located along the axis Cidelândia - Imperatriz – Açailândia– Buriticupu. In the state of Para, the farms are located along the axis Rondon - Dom Eliseu – Ulianópolis – Paragominas. In the state of Tocantins, the farms are located along the axis Darcinópolis – Ananás – Araguatins. We also rely on crop areas in the region of Urbano Santos (Maranhão) and Teresina (Piauí).

Crops are planted in owned lands, leased lands or in partnership with rural producers. With a forest basis of 526,995.41 hectares, interspersed with 293,481.91 hectares of biodiversity conservation areas, Suzano’s forest management targets the combination of eucalyptus crops and the conservation of natural resources, technological innovations and respect to communities.

All production is based on renewable eucalyptus crops, with the aim of supplying the industrial complex of Imperatriz - MA, with capacity to produce 1.6 thousand tons of bleached eucalyptus pulp per year.

Imperatriz (MA) industrial unit operates in compliance with environmental control standards, with technology aimed at monitoring emissions, air and water quality, and the proper disposal of waste.

The seedlings are produced using cloning technology and are provided by nurseries under a lending contract and licensed partners that have one of the most advanced genetic bases for the formation of forests adapted to the local natural conditions and for the production of pulp.

FBU Imperatriz encompasses a forest base of

**526,995.41 HA,**

of which, about

**293,481.91 HA**

are destined to conservation.





The harvesting process respects the region characteristics and uses efficient systems that rely on equipment that allow an efficient, safe and environmentally friendly operation.

To ensure success in all phases of the process, the company constantly invests in research, technology, and professional training. Suzano's practice is to recruit candidates from the regions where it operates, provided that they meet the requirements for the job and apply on equivalent terms with other candidates.

It is also the company's practice to train the workforce involving the communities, in partnership with universities and technical institutions.

## AREA OF OPERATION PER MUNICIPALITY

Municipality	Municipality's area (ha)	Total area Farm (ha)	Share of occupation in the municipality (%)	Preservation area (ha)	Total area Crop (ha)	Other uses (ha)
<b>AM</b>						
Lábrea	6,842,283.39	4,999.37	0.07%	4,999.37	-	-
<b>Subtotal Amazon</b>	<b>-</b>	<b>4,999.37</b>	<b>-</b>	<b>4,999.37</b>	<b>-</b>	<b>-</b>
<b>MA</b>						
Açailândia	583,475.70	90,057.35	15.43%	41,209.71	46,012.40	2,835.24
Bom Jardim	662,404.68	30,845.73	4.66%	11,416.14	18,481.78	947.81
Bom Jesus das Selvas	267,383.77	31,422.92	11.75%	20,203.33	10,503.13	716.46
Centro Novo do Maranhão	825,966.88	2,767.04	0.34%	2,767.04	-	-
Cidelândia	148,231.50	14,185.14	9.57%	8,902.62	4,762.38	520.14
Davinópolis	31,967.11	3,209.68	10.04%	2,312.78	810.61	86.29
Estreito	271,793.03	14,983.58	5.51%	7,561.61	6,811.40	610.57
Gov. Edison Lobão	62,465.62	909.47	1.46%	433.99	443.51	31.97
Imperatriz	135,841.03	28,385.15	20.90%	19,335.75	7,593.00	1,456.40
Itinga do Maranhão	352,973.22	46,033.89	13.04%	21,336.01	23,246.80	1,451.08
João Lisboa	61,607.28	2,246.59	3.65%	1,065.83	1,046.51	134.25
Porto Franco	141,453.71	1,181.75	0.84%	578.89	532.95	69.91
Riachão	635,169.97	894.62	0.14%	855.00	-	39.62
Ribamar Fiquene	74,712.69	841.09	1.13%	585.37	236.24	19.48
Santa Luzia	548,227.27	7,769.83	1.42%	6,289.98	1,382.72	97.13
São Francisco do Brejão	76,156.60	10,276.53	13.49%	4,668.22	5,188.85	419.46
São João do Paraíso	204,413.98	1,346.64	0.66%	596.05	684.40	66.19
S. Pedro da Água Branca	72,645.72	29,996.79	41.29%	14,712.41	14,341.51	942.87
São Pedro dos Crentes	97,099.46	109.64	0.11%	107.87	-	1.77
Senador La Rocque	125,262.21	220.86	0.18%	129.23	79.86	11.77
Sítio Novo	311,397.72	5,958.66	1.91%	3,093.49	2,627.50	237.67
Vila Nova dos Martírios	121,108.81	7,902.51	6.53%	3,482.57	4,043.98	375.96
<b>SubTotal Maranhao</b>	<b>-</b>	<b>331,545.46</b>	<b>-</b>	<b>171,643.89</b>	<b>148,829.53</b>	<b>11,072.04</b>



Municipality	Municipality's area (ha)	Total area Farm (ha)	Share of occupation in the municipality (%)	Preservation area (ha)	Total area Crop (ha)	Other uses (ha)
<b>PA</b>						
Abel Figueiredo	60,017.75	276.06	0.46%	179.95	91.35	4.76
Dom Eliseu	532,524.65	55,505.36	10.42%	32,072.26	21,666.67	1,766.43
Paragominas	1,932,601.80	69,144.03	3.58%	48,146.73	19,288.11	1,709.19
Rondon do Pará	825,659.29	10,342.24	1.25%	5,556.47	3,309.02	1,476.75
São João do Araguaia	127,799.33	3,483.04	2.73%	1,784.69	1,582.21	116.14
Ulianópolis	508,611.76	32,590.66	6.41%	18,596.30	12,957.64	1,036.72
<b>Sub-Total Pará</b>	<b>-</b>	<b>171,341.39</b>	<b>-</b>	<b>106,336.40</b>	<b>58,895.00</b>	<b>6,109.99</b>
<b>TO</b>						
Ananás	160,312.39	1,962.68	1.22%	779.54	1,080.02	103.12
Angico	43,942.76	5,990.09	13.63%	3,755.89	2,025.40	208.80
Araguatins	267,177.44	3,013.55	1.13%	1,245.62	1,655.68	112.25
Darcinópolis	163,859.98	1,996.41	1.22%	1,013.32	926.15	56.94
Palmeiras do Tocantins	75,067.63	2,431.82	3.24%	1,268.70	1,067.87	95.25
Riachinho	53,077.36	1,088.92	2.05%	631.01	413.09	44.82
Sta. Terezinha do Tocantins	28,145.95	119.77	0.43%	75.88	40.92	2.97
São Bento do Tocantins	112,042.25	2,505.95	2.24%	1,732.29	720.82	52.84
<b>Sub-Total Tocantins</b>	<b>-</b>	<b>19,109.19</b>	<b>-</b>	<b>10,502.25</b>	<b>7,929.95</b>	<b>676.99</b>
<b>Overall Total</b>		<b>526,995.41</b>		<b>293,481.91</b>	<b>215,654.48</b>	<b>17,859.02</b>

Source: Suzano's database in May/2022  
Municipalities' areas - Source IBGE





An aerial photograph showing a vast plantation of young trees in neat, parallel rows. The plantation is situated in a valley, with a dirt road winding through it. In the background, there are rolling hills and a prominent mesa under a cloudy sky. The foreground is filled with dense, green vegetation.

# ENVIRONMENTAL ASPECTS



## Forest areas

The forest areas and other native phytophysiognomies in FBU MA offer possibilities for the conservation of the regional biodiversity.

We are inserted into three macroregions: Cidelândia (MA2, MA4, MA5 e MA6), Dom Eliseu (PA1 e PA2) and Porto Franco (MA1). With a privileged biodiversity, FBU MA is inserted into a region that houses two biomes: the Amazon forest and Cerrado, as well as the transition areas between them.



## Soil, climate and hydrography

### Macro-region Cidelândia - MA2, MA4, MA5 and MA6

The areas in the macro-region Cidelândia are located in the municipalities of Açailândia, Cidelândia, Davinópolis, Governador Edison Lobão, Imperatriz, João Lisboa, São Francisco do Brejão, São Pedro da Água Branca, Vila Nova dos Martírios, Itinga do Maranhão, Bom Jardim, Bom Jesus das Selvas and Santa Luzia, in the state of Maranhão.

In this region, the soil is composed of yellow latosol, red-yellow podzolic, plinthosols, litholic and alluvial soils.

Hydrogeology is entirely in the sedimentary rocks domain and presents four aquifers: Codó, Itaperucu, tertiaryquaternary coverage and alluvionars.

The main watercourse is the Tocantins River, formed by rivers Alma and Maranhão. The Gurupi river also crosses the region, with a contribution basin of approximately 33,950 km<sup>2</sup>, encompassing portions of the states of Maranhão and Pará.

The macro-region Cidelândia is located in tropical latitude, with maximum average temperatures of 32.4 °C and minimum average of 21.5 °C, and relative humidity varying from 83% (January to March) to 63% (June to September), with annual average of 67.8%.



With a privileged biodiversity,  
FBU MA houses

# 2 BIOMES



## Macro-region Dom Eliseu – PA1 and PA2

The areas belonging to the macro-region Dom Eliseu are located in the municipalities of Dom Eliseu, Rondon do Pará, São João do Araguaia, Ulianópolis and Paragominas. The region has two main types of soil: yellow dystrophic latosol and red-yellow dystrophic argisol.

The macro-region Dom Eliseu is located on the hydrographic basin of Tocantins-Araguaia. This hydrographic region is covered by the Amazon Forest on the North and North West portion, and the Cerrado in the remaining areas.

## Macro-region Porto Franco – MA1 and TO1

The macro-region Porto Franco encompasses the municipalities of Estreito, Feira Nova do Maranhão, Grajaú, Porto Franco, Riachão, Ribamar Fiquene, São João do Paraíso, São Pedro dos Crentes and Sítio Novo, all of which are in the state of Maranhão. In the state of Tocantins, it stretches across the municipalities of Ananás, Angico, Araguatins, Darcinópolis, Palmeiras do Tocantins, Riachinho and São Bento do Tocantins.

The region presents seven types of soil: Glazed hydromorphic, red-yellow latosol, quartzite sands, red-yellow podzolic, concretionary, and litholic soils.

Climate in the region is humid mesothermal. The average annual temperature is around 25° C and average daily minimum is around 20° C. The rainfall regime is usually between 2,250mm and 2,500mm. Rainfall regimen is regular, but not evenly distributed throughout the year, being concentrated between the months of January and June (approximately 80%). This implies large amounts of water surplus and, as a consequence, the occurrence of surface run-offs and floods. Relative humidity is around 85%.

Climate is predominantly humid with moderate water deficiency, and average annual potential evapotranspiration of 1600 mm. During summer, evapotranspiration stays around 410 mm throughout the three consecutive months with the highest temperatures.

The Northern region of Tocantins is characterized by the transitional forest between Cerrado and the Amazon forest.

Macro-region Porto Franco is located on the Parnaíba basin. The main aquifers are the Serra Grande, Cabeças and Poti-Piaui.

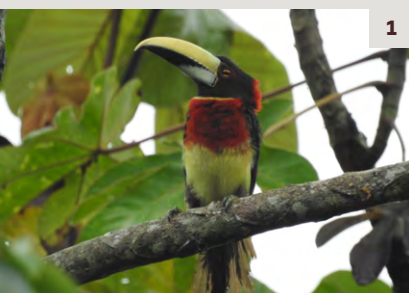




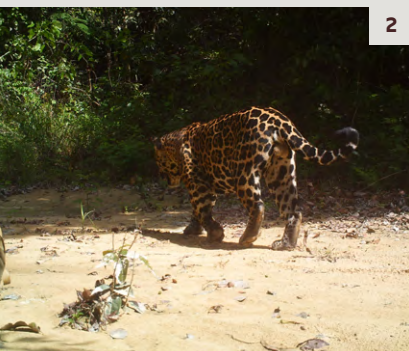
## Fauna and Flora

Suzano's FBU-MA farms are inserted into different forest coverage mosaics and house several phytophysionomies of the biomes Amazon forest, Cerrado and Caatinga.

enerally, our areas encompass forest fragments capable of contributing to the conservation of several species, especially threatened species or endemic to the biome.



1



2



3



4

1. Red-necked aracari (*Pteroglossus bitorquatus bitorquatus*),  
2. Jaguar (*Panthera onca*), 3. Blue finch (*Porphyrospiza caerulescens*), 4. Scarlet macaw (*Ara macao*)

The environmental characterization in Suzano's areas of operation is done through the monitoring of the fauna and flora. In a general way, the studies seek to identify, randomly or systemically, the local fauna and flora species, enabling the identification of critical species (protected by law), mapping the habitats of endemic, rare and endangered species, and finding opportunities for more detailed studies, restorative actions aimed at the flora, or improvement of environmental conditions for the fauna. Fauna monitoring campaigns are carried out every three years, while the flora monitoring takes place every five years following the adjustment of its periodicity, and involves expeditions in the rainy and drought seasons.

Vegetation in the macro-region Cidelândia is characterized by Lowland Ombrophilous Dense Forest and by an area of mixed forests. Currently, vegetation consists, mostly, by eucalyptus reforestation and areas of native forest in several stages of succession. Species from several taxonomic groups have been recorded in this macro-region: Herpetofauna, Avifauna, mammals and Ichthiofauna.

Vegetation in the macro-region Dom Eliseu corresponds to the Amazon Forest, dense forest of the sub-region of the high plateau of Pará-Maranhão, alluvial plains dense forests, and terrace dense forests. The great majority of species in this forest are arboreal small or medium-sized animals. Some typical examples of the Amazon forest animals are: monkeys, snakes, marsupials, toucans, woodpeckers, rodents, bats, among others.

The North of Tocantins is characterized by the transitional forest between Cerrado and the Amazon forest. Studies conducted on the Northern region of Tocantins show a huge variety of animal species due to the large ecotonal area found in the region.





# SOCIOECONOMIC ASPECTS



### Forest areas

**Characterizing and identifying the main socioeconomic and cultural aspects present in the Forest Centers to support the work of the company in defining the specific strategies in its area of operation.**

The extensive area of operation in the FBU-MA is characterized by different social, economic and cultural realities and by small, essentially rural, municipalities.

Eucalyptus crops are responsible for significant socioproductive changes in the region, along with the strong presence of soy crops. Nonetheless, traditional activities, such as cattle ranching and subsistence agriculture, are very important for the productive structure of the regional economy.

Except for Imperatriz and Governador Edison Lobão, all municipalities have demographic densities lower than that of the state and the country. In terms of territorial occupation, the population is distributed mainly in urban areas.

The north west region of Maranhão is known as a hub for the technical and higher education, with particular emphasis to the courses of Nursing, Pharmacy, Animal Sciences, Veterinary and Agronomy (STCP, 2009) and, recently, Forest Engineering.

In the macro region Cidelândia, between 56% and 90% of residences are supplied by the water supply network with adequate treatment.

In the meso-region of Dom Eliseu, cattle ranching activities have been boosted by the inauguration of the highway BR-010, that connects Belém to Brasília, passing through Paragominas, and has quickly become the economic basis of the municipality.

In the macro-region of Porto Franco, subsistence agriculture and cattle ranching are the main uses of land and large areas of the biome Cerrado have been degraded by the indiscriminate use and the recurring use of fire for management and expansion of pasture.

The company maps social assets - tool used to learn and map the main socioeconomic characteristics of the surrounding communities.

#### Archaeological information

**The archaeological sites and locations with significant historical and/or cultural relevance located in the company's areas or surroundings are identified in our cartographic base.**

Among the main actions performed, we highlight: identifying sites of special historical, archaeological, cultural, ecological, economic or religious significance for the communities and training field staff on archaeological heritage.





## Distribution of Suzano's farms, Conservation units and Management Units of Water Resources

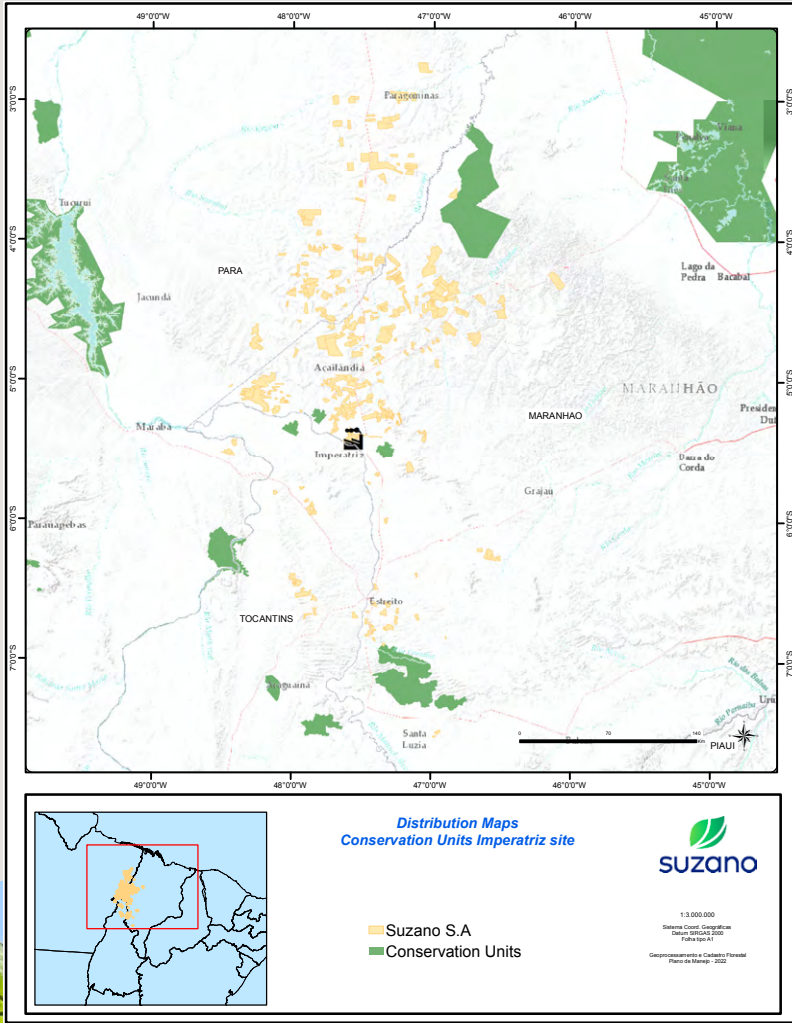
**Conservation Units are legally recognized areas, with relevant natural features with the role of securing the representativeness of significant and ecologically viable samples of the different populations, habitats and ecosystems.**

The areas operated by Suzano, with the techniques provided to protect fragments and manage commercial crops, have relevant positive effects on the neighboring conservation units because they shelter significant amounts of biodiversity and maintain the functionality of key biological and ecological processes.

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The fragments of native vegetation and planted forest have an important role in the set of biodiversity conservation actions both locally and state-wide.





The Conservation Units surrounding the macro-region Cidelândia are the Biological Reserve of Gurupi, RESEX Ciriaco, Mata Grande and the northernmost region of the State of Tocantins, managed by Chico Mendes Institute for the Conservation of Biodiversity - ICMBio

There are no conservation areas or Indigenous Lands in the areas next to the company's in the macro-region Dom Eliseu.

The macro-region Porto Franco encompasses a few protected areas, such as the National Park Chapada das Mesas, with 160,046 hectares in the municipalities of Carolina, Riachão and Estreito (MA), and the Natural Monument of Fossilized Trees, a conservation unit of great relevance with 31,758 hectares, located at the municipality of Filadélfia, in the North of the State of Tocantins.





# THE IMPORTANCE OF **PLANTED FORESTS**



# 09

## THE IMPORTANCE OF PLANTED FORESTS

### What is forest management?

Forest Management is the administration of forest resources with the aim of achieving economic and social benefits aligned with the mechanisms for ecosystem support by employing the best practices of Eucalyptus farming. The goal is to reach high productivity in balance with the environment conservation.

#### Objective

The goal of Suzano’s forest management is to supply the industrial Units with eucalyptus timbers, according to the parameters described in the following, either for short or long terms.

- Availability and rational use of areas for the cultivation of eucalyptus through directives and procedures for the purchase and lease of land.
- Development of new genetic material and monitoring of soil nutritional levels, pests and others, defined in operational routines and specific research projects.
- Standardization, reporting and continuous improvement of procedures related to seedling production, implementation, restoration, forestry practices, construction and conservation of roads, harvesting, and transportation of forestry products.
- Outlining of programs concerning the environment, healthcare and safety at work, as well as socioenvironmental aspects, always in compliance with the applicable law.



### THE EUCALYPTUS

Is an exotic species (not native from Brazil), like coffee, corn, soy, sugar cane and several other crops widely cultivated in the country.

With proper management, water consumption is similar to that of native forests and its roots are kept away from the water table

It is harvested in approximately seven years and can be cultivated in low fertility land.

With proper management, it provides protection for biodiversity as shown by the biodiversity surveillance results in Suzano’s areas.

Helps to absorb carbon dioxide (CO2) from the atmosphere, contributing to reduce the effects of climate change and to maintain environmental services that are important to society, such as water sources.



The average annual production of FBU MA is around  
**32.2 M<sup>3</sup>/Ha.YEAR**

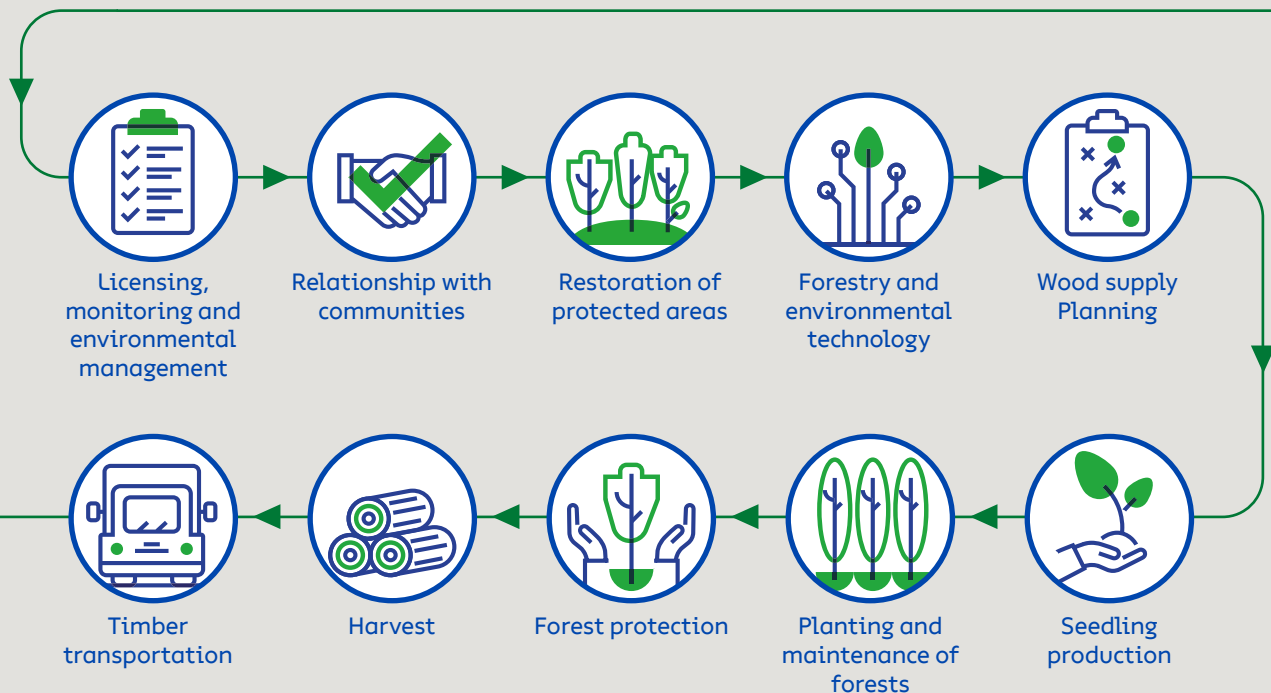
### Compliance with the law

Suzano is always up-to-date with the applicable environmental, labor and tax laws with preliminary surveys carried out by an environmental law consulting firm.

### Managed forest resources

To supply the demands of the industry for eucalyptus timbers, we rely on crops of the genus Eucalyptus, which encompasses more than 600 species that are adapted to many different soil and weather conditions. Eucalyptus originates from Australia and Indonesia. It was chosen due to its higher potential for timber production for pulp when compared with other forestry species and due to its adaptability to the environmental conditions in Brazil, including soil and weather.

## Forest Management Activities





## Technology and innovation

**Suzano maintains advanced Technology Centers that develop studies and research on forestry and industry. These activities aim to a consistent enhancement of its operations and technological innovations, focusing on the company's sustainability.**

Technology and Innovation works mainly on Genetic Improvement, Genomics, Forest Protection, Forest Management, Ecophysiology and Biotechnology, defining models of planted forest management that support an increase in forest biomass productivity.

Suzano's crops are mostly formed by hybrids obtained from the crossbreeding of *Eucalyptus grandis* and *Eucalyptus urophylla*.

Those species were selected following several cycles of improvement and research because they are better adapted to the local soil and weather conditions. Currently, the tree is harvested in six years in average, varying from five to seven years. After the first harvest, the area is managed for a new planting or for regrowth.

### Partnerships

Suzano develops studies and research in collaboration with outstanding public and private institutions in Brazil and abroad. All projects and activities seek to meet market and operational demands, legal requirements, new tendencies, technologies and products of internal research strategies.

As a result, Suzano stands out in developing and recommending new genetic materials, in monitoring and recommending forest management practices and fertilization, in using new technologies in forest protection and more sustainable production practices. In addition to the results highlighted in forestry, Suzano also sustains solid and robust results in the research and development of the industry and new businesses.



Meet our partners in research and innovation in:  
[www.suzano.com.br/a-suzano/documentos](http://www.suzano.com.br/a-suzano/documentos)



# FOREST MANAGEMENT



# 10

## FOREST MANAGEMENT

### Forest protection

**The company continuously monitor for pests, diseases and weed with regular field visits.**

The objective is the early detection of pests and weeds, and the assessment of the competition level of eucalyptus with weed. All information gathered are used to guide decisions on control and to define the method to be adopted, seeking for the rational use of pesticides.

Suzano also prioritizes the use of biological control agents in occasional pest management, and selection and planting of clones resistant to the main crop diseases, complementing the integrated management.



## Forest Inventory

On its first 120 days, the forest is monitored through a Qualitative Inventory that allows inferences on the quality and homogeneity of the crops. In regrowth forests, performance is monitored at 90 and 180 days upon harvesting also through qualitative forest inventory.

The Continuous Forest Inventory uses sampling techniques to gather data that allow an estimate of the planting volume per hectare and per tree for a given age. This information is used in the decision making process on the best harvest time. It is also important for the proper planning of timber supply to the Industrial Unit.

## Planning

Planting and harvesting planning for timber supply comprises short, medium and long term achievements, aiming at the best utilization of natural resources and minimizing occasional socioenvironmental impacts. Forest planning keeps track of forest ordering to ensure the industry supply.

The proper management of planted forests favors crop productivity and contributes to disease and pest control, biodiversity conservation, and protection of springs and ecosystem services - creating a virtuous cycle.

## Operational Excellence

This area is responsible for the development and transference of mechanization and digitalization technology to forest processes.

It seeks the continuous improvement of forestry activities, harvest and logistics, with particular interest in routine management, quality and productivity of operations, as well as personnel qualification, thus promoting safety, product quality, high productivity, feasible costs for forestry activities and environmental conservation.





## Seedling production

The plant nursery is where the eucalyptus seedlings are produced and managed through several stages until reaching the proper size to be planted in the field.

The seedling development time ranges from 90 to 120 days. To produce seedlings of outstanding quality, the distance between them needs to be increased when they reach 60 days so that they can grow healthier.

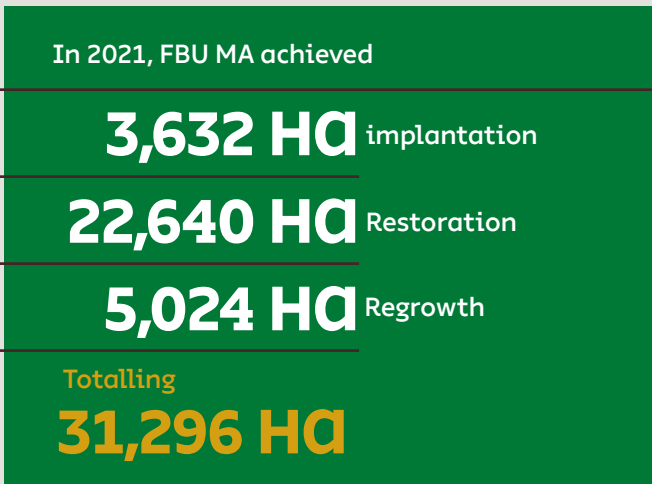


## Planting

The main activities related to trees planting are: pre-planting mechanized chemical cleaning, mechanized soil tillage, mechanized fertilization, planting, mechanized and semi-mechanized irrigation, and replanting.

Planting can be carried out in reform areas (where an eucalyptus crop already exists), or in implantation areas (where there is no eucalyptus crop). Suzano only implants forest in areas not covered by native forests.

Soil is prepared using minimum tillage, which consists in preparing strips of soil in the planting line. About 70% of the land remains undisturbed, which favors the maintenance of soil characteristics, avoiding erosion and loss of organic matter.



The licensed nurseries of FBU MA have a installed capacity of

**38.1 MILLION**

of seedlings per year, with final yield of

**96%**





## Forest Maintenance

This stage consists in a set of activities carried out between planting and harvest (5 to 7 years) to ensure growth and productivity.

The main forest maintenance activities are: manual or mechanical mowing, chemical or mechanical weeding, fertilizing, control of leafcutter ants, prevention of forest fire and diseases and pest control.

## Trucks equipped with telemetry

Our fleet is equipped with telemetry to monitor operations, distribution and positioning of the trucks on the company's roads and farms, control of loading and unloading, and to support our partners in the management of operation safety, such as monitoring the drivers working hours and detecting occasional violations of speed limits.

With this system in place, Suzano strengthens the culture of daily routine management with partner companies in logistics operations, thus maximizing personnel safety standards, and operational efficiency based on reliable data.



In 2021, the annual volume harvested was **5,950,434.83 M<sup>3</sup>**

## Harvest

As soon as the forest reaches its ideal point, timbers are harvested to supply the industrial plant. Harvest encompasses all the processes from tree harvest to the disposition of logs (cutting, forwarding, stacking and fueling), up to the point where they can be transported by trucks.

During harvest, eucalyptus trees are cut toward the center of the plot, avoiding any possible damage to the native vegetation.

## Timber transportation

Forest Logistics main responsibility is to transport timbers from the forest areas to the Industrial Units. The harvested timbers are transported according to the Annual Transportation Planning. Once this process is defined, loading, routes and trucks distribution are determined considering the requirements defined on the area's operational procedures. The unit has the hexatrain (a system composed of a tractor truck and 6 trailers), an innovation implanted in 2019.

The routes for timber transportation are defined in agreement with Suzano's Sustainability sector in order to minimize the possible impacts of forestry activities on the neighboring communities.



The volume of timber transported to the industry was **5,115,382 M<sup>3</sup>**





## Road Network - roadways

The road network in the forest area comprises municipal and state roads, arterial, collectors and firebreaks, whose maintenance is defined according to the company's internal criteria to secure forestry operations and avoid erosive processes in the conservation areas.

- Drainage structures, such as containment boxes, are built to store rain water and avoid erosion on the roads.
- Existing roads are repaired and new roads can be opened to improve operation quality and safety.
- Firebreaks are kept to secure the access of fire brigade teams.

## Road moistening

To keep the road wet during certain earthworks, the company uses a tank truck. The goal is to reduce dust around houses and settlements caused by the traffic of trucks transporting timber to the company.

### Suzano respects and values its professionals.

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Therefore, health and safety are the company's permanent commitment. Suzano maintains a set of rules that guides its employees and the carriers' employees into safer driving habits, protecting everyone's lives.



# Forest integrity

**Suzano’s team of professionals involved in the productive processes of forestry focus largely on prevention and control of wildfires.**

That is why the company provides continuous training to its brigade teams that are not only apt to monitor, but also act as support to fight fire in neighboring farms.

Suzano invests in awareness-raising with campaigns that address the dangers of wildfires.

We rely on trained fire brigade teams, trucks and surveillance towers available to respond to any possible fire outbreaks.

The program Live Forest aims to raise awareness among collaborators (employees and suppliers), partners and surrounding communities about the impacts and dangers of fire, how to avoid it and how to act when a fire outbreak is spotted.

Our planted forests and native forest areas are systemically surveyed and any event, whether fire, littering, trespassing, blocking of watercourses, among others, are monitored and documented.

<b>Cameras</b>	39
<b>Towers</b>	41
<b>Radio repeaters</b>	26
<b>Radio spread through the own operation</b>	78
<b>Radius of operation</b>	Average 800-900 km Paragominas up to Grajaú/Araguaína



raise awareness among collaborators and community on the impacts and dangers of fire outbreaks.



# ENVIRONMENTAL MANAGEMENT



# 11

## ENVIRONMENTAL MANAGEMENT

### High Conservation Value Areas

Every forest has values or environmental and social functions beyond its productive value, such as fauna and flora and their habitats, protection of water resources, among others.

When the values are considered extraordinary, the forest can be classified as a High Conservation Value Forest (HCV Resource Network, 2007), and are targeted by Suzano’s management to maintain or improve its attributes.

The company used the criteria of attributes based on and adapted from the General Guide for the Identification of High Conservation Values from HCV Resource Network (HCVRN, edited in 2018 as reference).

Value	Definition
HCV 1	Diversity of species
HCV 2	Ecosystems and mosaics on the landscape scale
HCV 3	Ecosystems and habitats
HCV 4	Critical environmental services
HCV 5	Communities needs
HCV 6	Cultural values

#### Consultation with stakeholders

Suzano consulted with stakeholders, in accordance to the criteria for HCVAs to develop management regimes for the maintenance of HCVAs and assess their efficacy.

During the development of the diagnosis, researchers and specialists were consulted about the items in their areas of expertise in order to provide Suzano with the security to make decisions about the proper identification and management for HCVAs.

This study has identified 22 forest fragments as HCVAs (52.67 thousand hectares), where species of fauna and flora are found in significant number, diversity and relevance for conservation. In addition to that, the study identified places with social value for the surrounding communities as HCVA 5.









Butia (*Mauritia flexuosa*)







# Measures of protection and Monitoring in the HCVAs

High Conservation Values	Charact.	Risks and threats	Measures of protection	Monitoring	Monitoring
					
HCV 1	Endemic, rare, threatened or endangered species at the global, national or regional level.	<ul style="list-style-type: none"> <li>a. Fire</li> <li>b. Wood theft;</li> <li>c. Invasion of exotic species;</li> <li>d. Predatory hunting and fishing;</li> <li>e. Inadequate management of bordering areas</li> </ul>	<ul style="list-style-type: none"> <li>a. Loss of biodiversity;</li> <li>b. River silting;</li> <li>c. Damage to biodiversity;</li> <li>d. Ecosystem imbalance;</li> </ul>	<ul style="list-style-type: none"> <li>a. Patrimonial surveillance;</li> <li>b. Implementation of preventative measures and of firefighting;</li> <li>c. Prioritize, whenever possible, the forest restoration of ecological corridors of connectivity;</li> <li>d. Environmental education</li> <li>e. Placement of signposts;</li> <li>f. Identification on the company's geographical tools.</li> </ul>	<ul style="list-style-type: none"> <li>• Anthropic actions: Quarterly</li> <li>• Birds: triannual</li> <li>• Mammals: triannual</li> <li>• Flora: every five years</li> </ul>
HCV 2	Significantly wide areas at the global, national or regional level, containing viable populations of naturally	<ul style="list-style-type: none"> <li>f. Deforestation;</li> <li>g. Irregular invasions (under judicialization)</li> </ul>			<ul style="list-style-type: none"> <li>• Anthropic actions: Quarterly</li> <li>• Vegetation coverage with satellite imaging: Annual</li> </ul>
HCV 3	Ecosystems, habitats or refuges for rare, threatened or endangered biodiversity.				<ul style="list-style-type: none"> <li>• Anthropic actions: Quarterly</li> <li>• Birds: triannual</li> <li>• Mammals: triannual</li> </ul>
HCV 4	Critical environmental services related to protection against landslides and wildfires.	<ul style="list-style-type: none"> <li>a. Fire;</li> <li>b. Wood theft;</li> <li>c. Inadequate management of the areas bordering areas;</li> <li>d. Deforestation;</li> <li>e. Irregular invasions (under judicialization)</li> </ul>	<ul style="list-style-type: none"> <li>a. Loss of access to natural resources;</li> <li>b. Deforestation (exposed soil);</li> <li>c. Forest degradation (increased risk of fire).</li> </ul>		<ul style="list-style-type: none"> <li>• Anthropic actions: Quarterly</li> <li>• Vegetation coverage with satellite imaging: Annual</li> <li>• Analysis of fire outbreaks; Annual</li> </ul>
HCV 5	Key areas to meet the basic needs of local communities.	<ul style="list-style-type: none"> <li>a. Damage and pillage;</li> <li>b. Fire;</li> <li>c. Deforestation;</li> <li>d. Inadequate management;</li> <li>e. Irregular invasions (under judicialization)</li> </ul>	<ul style="list-style-type: none"> <li>a. Loss of access to natural resources;</li> <li>b. Scarcity of sources of collection;</li> <li>c. Disfigurement of the area;</li> <li>d. Impact on livelihood (extractivism).</li> </ul>	<ul style="list-style-type: none"> <li>a. Conservation of the areas;</li> <li>b. Access granted;</li> <li>c. Identification signposts;</li> <li>d. Open dialog with the community;</li> <li>e. Patrimonial surveillance;</li> <li>f. Operational patrolling;</li> <li>g. Identification on the company's geographical tools.</li> </ul>	<ul style="list-style-type: none"> <li>• Anthropic actions: Quarterly</li> <li>• Sustainable extractivism program (Social Development)</li> </ul>
HCV 6	Area of great relevance for the traditional culture identity of local communities.		<ul style="list-style-type: none"> <li>a. Loss of access to cultural and religious values and resources;</li> <li>b. Disfigurement of the area;</li> <li>c. Devaluation or loss of cultural identity.</li> </ul>		



# Biodiversity management

Suzano understands Biodiversity Monitoring as the tracking of development and changes in components and parameters of the landscapes and communities of fauna and flora, aiming to assess the effects of forest management on the environment

## Fauna and Flora

In the studies conducted between 2013 and 2016, birds accounted for 566 species appearing in the FBU database, of which, 18 are threatened. The last monitoring, in 2019, has identified 354 bird species.

Studies conducted between 2013 and 2016 showed 46 medium and large-sized mammals in the FBU database, 13 of which are threatened. In the last monitoring, conducted in 2019, 32 species of mammals were identified.

With the vegetation and fauna inventory in the company's area, it is possible to define indicators for the environmental status. The monitoring include surveys, demarcation, restoration and conservation of the areas, enabling the enhancement of environmental management techniques, thus contributing to the conservation of the local biodiversity.

Studies conducted between 2013 and 2016 found 375 species of plants in the FBU database, 04 of which are threatened. In the last monitoring, in 2018, 369 plant species were identified, 11 of which are threatened.

## Species registered in the last monitoring



\* Monitorings are carried out every 3 or 5 years. In 2021, there was no monitoring of fauna or flora.

Red-and-green macaw (*Ara chloropterus*)





## Threatened species

The last surveys - flora in 2018 and birds and medium and large-sized mammals in 2019 - have identified several threatened species. See below the table with the description.

According to the current methodology, the fauna monitoring take place every 3 years and flora monitoring every 5 years, following the adjustment in its periodicity.

Type	Species	Popular name	Conservation status		
			PA	BR	G
Plants	<i>Apuleia leiocarpa</i>	Garapeira		VU	
	<i>Aspidosperma desmanthum</i>	Para-tudo-branco	VU		
	<i>Aspidosperma sandwithianum</i>	Araracanga	VU		
	<i>Bertholletia excelsa</i>	Castanheira	VU	VU	VU
	<i>Campomanesia aromatica</i>	Gabirola			VU
	<i>Cedrela fissilis</i>	Cedro		VU	VU
	<i>Couratari guianensis</i>	Taurí			VU
	<i>Hymenaea parvifolia</i>	Jatobá		VU	
	<i>Manilkara elata</i>	Parajú-mirim			EN
	<i>Ptychopetalum olacoides</i>	Marapuama	VU		
	<i>Sorocea guilleminiana</i>	Folha-de-serra			VU
Birds	<i>Harpia harpyja</i>	Gavião-real		VU	
	<i>Psophia obscura</i>	Jacamim-de-costas-escuras	EN	CR	CR
	<i>Patagioenas subvinacea</i>	Pomba-botafogo			VU
	<i>Penelope pileata</i>	Jacupiranga			VU
	<i>Pteroglossus bitorquatus</i>	Araçari-de-pescoço-vermelho	VU	VU	EN
	<i>Ramphastos vitellinus ariel</i>	Tucano-de-bico-preto			EN
	<i>Celeus torquatus pieteroyensi</i>	Pica-pau-de-coleira	EN	EN	
	<i>Guaruba guarouba</i>	Ararajuba	VU	VU	VU
	<i>Pyrrhura amazonum</i>	Tiriba-de-hellmayr			EN
	<i>Pyrrhura coerulescens</i>	Tiriba-pérola	EN	VU	VU
	<i>Phlegopsis nigromaculata paraensis</i>	Mãe-da-taoca	EN	VU	
	<i>Thamnophilus aethiops incertus</i>	Choca-lisa	EN		
	<i>Dendrexetastes rufigula paraensis</i>	Arapaçu-galinha	EN	EN	
	<i>Dendrocolaptes medius</i>	Arapaçu-barrado-do-leste	EN	VU	
	<i>Synallaxis rutilans omissa</i>	João-teneném-castanho	EN		
	<i>Lepidothrix iris</i>	Cabeça-de-prata		EN	VU
	<i>Piprites chloris grisescens</i>	Papinho-amarelo	VU	VU	
	<i>Tolmomyias assimilis paraensis</i>	Bico-chato-da-copa	EN		



Type	Species	Popular name	Conservation status		
			PA	BR	G
Mammals	<i>Alouatta belzebul</i>	Guariba-de-mãos-ruivas		VU	VU
	<i>Chiropotes satanas</i>	Cuxiú-preto	CR	CR	CR
	<i>Leopardus sp.1</i>	Gato-do-mato		EN/VU	VU
	<i>Myrmecophaga tridactyla</i>	Tamanduá-bandeira	VU	VU	VU
	<i>Panthera onca</i>	Onça-pintada	VU	VU	
	<i>Priodontes maximus</i>	Tatu-canastra	VU	VU	VU
	<i>Puma concolor</i>	Onça-parda	VU	VU	
	<i>Puma yagouaroundi</i>	Gato-mourisco		VU	
	<i>Saguinus niger</i>	Sagui-una		VU	VU
	<i>Tapirus terrestris</i>	Anta		VU	VU
	<i>Tayassu pecari</i>	Queixada		VU	VU

Conservation status: VU – “vulnerable”, EN – “endangered” and CR – “critically threatened”, “PA – State of Para’s list; BR - Brazil’s list; G - global list

Capuchin monkey (*Sapajus libidinosus*)





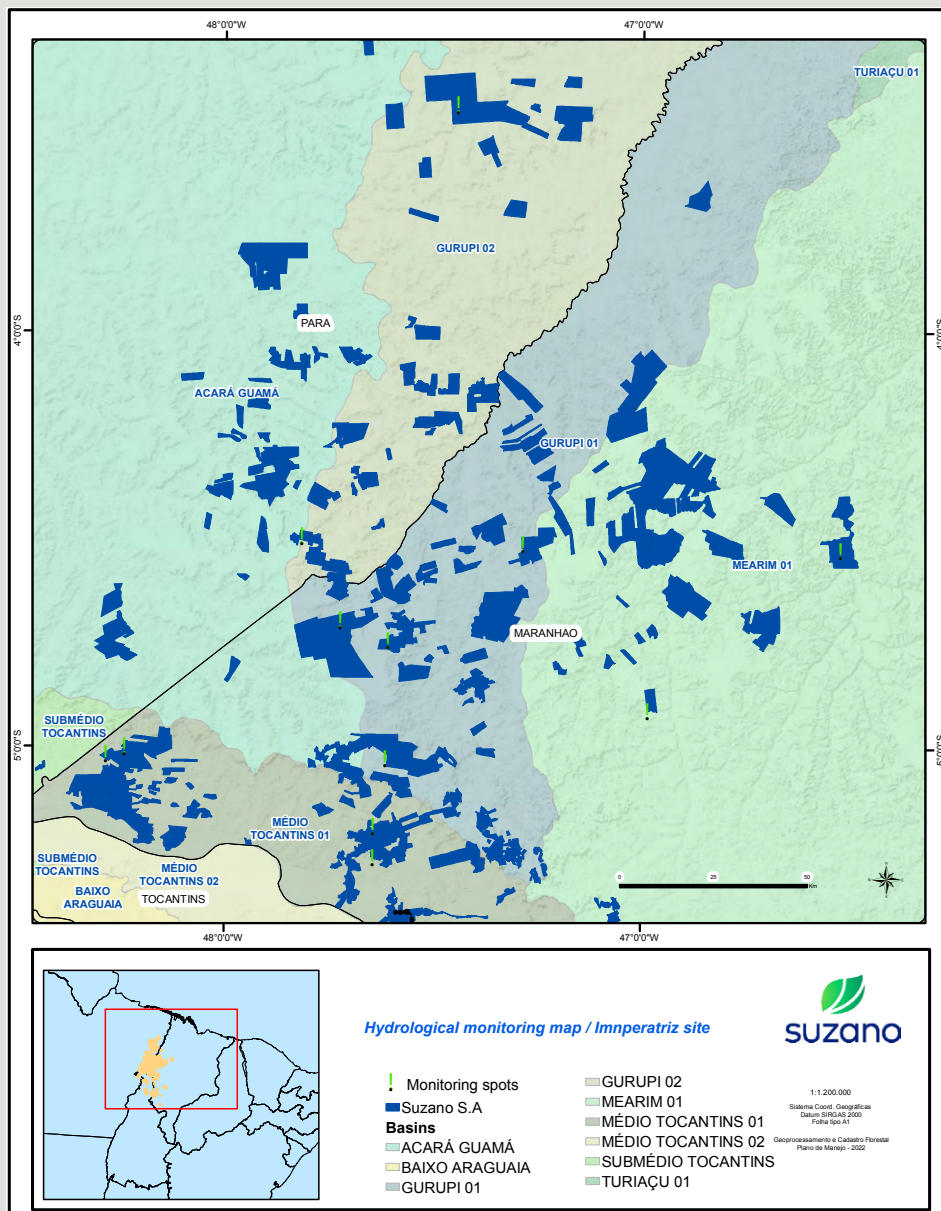
# Monitoring of water resources

Suzano assesses the effects of its crops on the quality and quantity of water resources through a representative monitoring network according to its scale and intensity

Five hydrographic sub-basins, representing the different regions of operation at the FBU-MA are permanently monitored. Part of the information gathered are sent to the Cooperative Program on Monitoring and Modeling of Hydrographic Basins (*Programa Cooperativo sobre Monitoramento e Modelagem de Bacias Hídricas* - PROMAB), a research program of IPEF (Institute of Research and Study of Forests) coordinated by the Laboratory of Forest Hydrology of the Forest Sciences Department of ESALQ - University of São Paulo.

In 2021,  
**12 POINTS**  
**WERE MONITORED**  
**IN 5 HYDROGRAPHIC**  
**SUB-BASINS**

One of the mechanisms applied for the maintenance of water resources is based on natural control developed across evolutionary processes of the landscape. One example is the well-known relationship between forest coverage and water resources. These actions are primarily taken in Permanent Preservation Areas aiming to meet the legislation and constraints posed by the forest operation permits.





# Environmental aspects and impacts of the forest management

**Suzano is committed to adopting the best environmental practices to innovate in promoting a sustainable development**





Focusing on the sustainability of its processes, the company uses managerial instruments and tools that provide better environmental quality in its forestry activities. Managing environmental aspects and impacts, the FBU defines methodologies for the identification, assessment and control of environmental aspects and impacts (of its services, activities and products), seeking to minimize all possible adverse impacts and strengthen the beneficial ones.

Environmental aspects and impacts of forestry processes are identified and assessed considering the following social and environmental safeguards, among others:

- The new laws that apply to the business;
- Compliance with the current law;
- Identified regulatory marks;
- Obligations resulting from agreements and voluntary certifications;
- Change management for new products, services, activities and equipment.

Once identified the environmental aspects and impacts, mitigation, control and monitoring actions are established.

## Examples of environmental aspects and impacts of forest management

Type of impact	Adverse	Adverse	Benefic	Benefic
Environmental aspect	 <p>Water consumption</p>	 <p>Risk of fire outbreak</p>	 <p>Carbon absorption</p>	 <p>Improvement of ecological processes</p>
Environmental impact	Scarcity of water resources.	Alteration in the physical quality of soil.	Reduction of greenhouse effect.	Biodiversity recovery.
Control measure	<ul style="list-style-type: none"> <li>• Physical control: field appointments.</li> <li>• Grant limits.</li> </ul>	Fire control systems and fire brigade teams.	CO <sub>2</sub> sequestration by forestry production and conservation areas.	<ul style="list-style-type: none"> <li>• Restoration of degraded areas;</li> <li>• Conservation of PPA and LR.</li> </ul>



## Ecological Restoration

The Ecological Restoration Program aims to restore the ecological processes that are responsible for a sustainable functional forest. Such actions are employed on conservation areas, particularly on Permanent Preservation Areas.

The process of ecological restoration is very recent in the region where Unit Imperatriz is located. Little is known about the adequate methodology and set of actions necessary for the success of the restoration.

With this aim, in 2018, we started the implantation of 107.52 hectares to learn the dynamics of the ecological restoration process in the region. In 2019, the restoration process initiated in 15.24 hectares. In 2021, only maintenance activities were conducted on the areas undergoing restoration.

Suzano's program promotes an increase in biodiversity and creates several environmental services in our region of operation by using the following restoration methodologies: planting of native species saplings, conduction of natural regeneration, control of invasive species, and isolation of protected areas. The best technique is defined according to the environmental conditions of the area to be restored, as well as its potential for regeneration, history of land occupation and possible degradation factors.

From 2017 to 2021,  
Suzano begins the restoration  
process of

**126.05 HA**

in protected areas  
at Unit Imperatriz





# Solid waste management

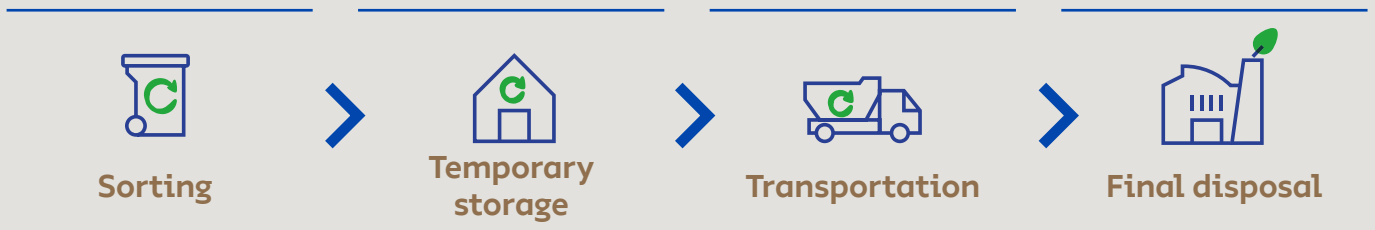
Suzano’s Solid Waste Management procedure adopts practices to classify, separate, store, collect, transport, and dispose of waste produced in forestry operations and activities, aiming to:

- Reduce waste production;
- Reuse residues, optimizing its use before disposal;
- Recycle residues;
- Adequately process waste;
- Ensure the proper disposal.

Waste management in the forest areas is performed according to the effective legislation. Waste is forwarded according to its classification to recipients that undergo a rigid process of evaluation and approval. Class I waste (Hazardous) might be sent for co-processing, recycling and licensed Class I landfills. Class II waste (non-Hazardous) are sent for recycling or licensed landfills, depending on its physical characteristics.

Packages of pesticides used in forestry operations are sent to licensed Empty Crop Protection Packages Receiving Units for reverse logistics.

## Waste management steps



- Recycling
- Reuse
- Reverse logistics
- Co-processing
- Licensed landfill



# ACKNOWLEDGMENT OF AND RESPECT FOR PROFESSIONALS





# 12

ACKNOWLEDGMENT  
OF AND RESPECT FOR  
PROFESSIONALS

## Safety, Health and Quality of Life

The valuation of, and respect for, our professionals are Suzano's commitment. Safety and health management is one of Suzano's priorities. The company encourages all individuals to take responsibility for safety and spares no resources to further reduce the rate of accidents.

The Occupational Health and Safety Management program provides guidance on the registration of events in and outside the company, providing the Safety Department with the elements required for the development of awareness campaigns that extrapolate the management boundaries and contributes significantly to the quality of life of employees, their families and the communities surrounding Suzano's areas of operation.

Checking and ensuring work safety and health conditions, as well as the use of safety devices, are also covered by the collective agreement signed with the employees' representative entities. All events related to the employees health and safety are registered and monitored based on a corporative standard for the communication of accidents, incidents and occupational disease.





The main programs developed by Suzano to ensure safety at work involve the preparation of documents that seek to identify the risks of accidents such as the Preliminary Risk Analysis (APR), Work Risk Observation (OPA), Safety in the Area, and work permits.

All activities are checked and monitored for belowstandard conditions and practices (Fique Alerta / DNA - “De Olho na Área”) and approached by programs as the Program for Medical Control of Occupational

Health (PCMSO). The system is composed of different groups and committees that help monitoring and provide guidance on safety and health conditions. The initiatives aim to establish and maintain a responsible and transparent relationship with all employees in order to adopt the best existing practices in the industrial, forestry and administrative units. This process helps to build Suzano’s reputation among its key relationship public and seeks to explore synergies and to better employ our professionals talents.



### SAFETY PERFORMANCE OF FBU - MA FOREST OPERATIONS

Safety indicators	2021
Safety Management Indicator (IGS)	75%
Safety Quality Indicator (IQS)	94%
Safety Indicator (IS)	83%
Frequency rate	0,55
Severity rate	7,77



# Workforce Qualification

The company contributes to the generation of local jobs by improving the economic activities in the region of operation.

Our collaborators and outsourced are offered personal and professional development opportunities. All collaborators take part in training activities that address not only technical aspects of the operation, but also subjects such as ethics and human rights. The welfare of every employee and level of satisfaction with the company are also closely monitored through organizational surveys.

The company conducts a structured process of integration of new employees and permanent outsourced that aims to facilitate their adaptation into the work environment, the organizational culture, concepts and drivers, environmental conservation, code of conduct, the management system and relationship with stakeholders.

Suzano has a benefits policy aligned to the good practices of the market and to its employees' expectancies. The benefits granted represent a significant value for the company and its employees, and are managed in order to ensure the best quality level and provide comfort and satisfaction.

## JOB CREATION AT FBU-MA

Own	835
Outsourced	2,355
<b>Total</b>	<b>3,140</b>

\*Data: dec/2021





# SOCIAL MANAGEMENT



# 13

## SOCIAL MANAGEMENT

Suzano prioritizes clear and straightforward actions toward social and environmental investments.

With this end, the company considers a set of specific actions aimed at the different audiences influenced by its activities.



# Management of relationship with stakeholders

Suzano’s relationship strategy is to ensure social and business legitimacy through the long-term strengthening of its interaction with neighboring communities and the integration of their interests into forestry business management.

Suzano’s relationship with the communities surrounding its operations follows the following approach:



## 1. PRIORIZATION MATRIX

Process of characterization of the area where Suzano is present to guide the activities with social impact to be adopted in each case. This study provides an assertive guidance for social investment and other actions for local engagement.



## 2. ENGAGING

Structured, inclusive and continued relationship, where the company plays the role of a partner to foster the local development. Takes place on the communities most impacted by Suzano’s operation.

In rural communities, engagement is promoted by programs for income generation such as the Rural and Territorial Development Program (PDRT), Invitation letters, craftsmanship production chain, fishery and circular economy.



## 3. OPERATIONAL DIALOG

It is a channel for direct communication through which the company informs the residents of neighboring communities about the forestry operations scheduled in that region according to an annual planning of activities, and discusses impacts and mitigation actions.

This process also integrates annual visits to ensure a continuous relationship with the neighboring communities.





## Management of social impacts

Suzano understands “social impacts in the communities” as any changes (harmful or beneficial) caused entirely or partially by its forestry operations within a radius of three kilometers of its properties or areas leased for eucalyptus production.

The model of social impacts management seeks to eliminate, reduce or compensate the negative impacts through management practices, socioenvironmental investment, and continuous control and mitigation actions.

Despite all measures taken to prevent and mitigate adverse impacts, unpredictable losses and damages can still occur, directly affecting the communities resources or livelihood. In this case, these losses and damages are compensated and mitigated, in common agreement and according to the particularities of each case, in a fair and balanced way.

In the following, examples of adverse social impacts from forestry management and the corresponding mitigation and prevention measures are presented. For conflict resolution, disputes and compensations involving rights of use, possession and control of the land, the company has defined directives that prioritize a friendly and fair solution for the parts.

### Examples of adverse social impacts and controls

Activities	Social impacts	Preventative and mitigation measures
Application of crop protection products	Inconvenience caused by drift* to neighboring areas	<ul style="list-style-type: none"> <li>• Use of products authorized by the environmental bodies</li> <li>• Signaling of the areas</li> <li>• Training of employees that apply the products</li> <li>• Maintenance of equipment used for the application</li> <li>• Operational dialog and management of incidents</li> </ul>
	Increase in the risk of accidents	<ul style="list-style-type: none"> <li>• Use of up-to-date equipment and trained and qualified teams</li> <li>• Signaling and guidance offered to the community to prevent people from approaching machinery during operation</li> <li>• Operational dialog and management of incidents.</li> </ul>
Forest harvest	Change of landscape (visual) and loss of reference	<ul style="list-style-type: none"> <li>• Placement of warning signs</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>• Negotiation of time slots for the operations</li> </ul>
Timber transportation	Increase in the risk of accidents	<ul style="list-style-type: none"> <li>• Reduced and controlled velocity</li> <li>• Compulsory stops to check and tighten the load</li> <li>• Safe driving voluntary campaigns</li> </ul>
	Dust	<ul style="list-style-type: none"> <li>• Reduction of dust with moistening of the roads (tank trucks)</li> </ul>
	Damage of the road network	<ul style="list-style-type: none"> <li>• Road maintenance during operations</li> <li>• Monitoring and control of load weight of the timber trucks</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>• Negotiation of time slots for the operations</li> </ul>

\*Drift: phenomenon of spray drops carry



# Analysis and monitoring of processes of relationship with stakeholders

All the demands concerning forestry operations, identified in the engagement processes, and operational dialogs are critically assessed and validated by the operational areas to review the social impact matrix and improve Suzano’s forest management.

## EFFECTIVENESS OF THE ACTIONS TO MITIGATE SOCIOENVIRONMENTAL IMPACTS

Area	Category	Name of monitoring	Indicator	Results	
Social	Social impacts in the communities	Investment in the community (GRI EC1)	Socioenvironmental investments	R\$2,168,000.00	
			Socioenvironmental donations	R\$ 6,769.60	
			Rural communities in PDRT	25	
		Operational dialog and participative agenda	Operational dialog reach	1,921 people	
			# of dialogs	541	
			Index of effectiveness	92%	
			Number of complaints received	18	
			Complaints about damage caused by management	Events	343
				Average time to respond to complaints	69 days**

\* In 2021, there were donations outside the Director of Sustainability, not targeting socioenvironmental projects. Currently, the strategy is to support income generation projects.

\*\* Due to the need of engagement with the operational areas in inputting evidences to the Reports.



Project Mãos que Valem



## Socioenvironmental investment

Socioenvironmental investment is the voluntary transference of private resources in a planned, monitored and systematic way to social, environmental and cultural projects of public interest that contribute to the development of the communities where Suzano operates. Such investments are segmented into four types of interventions:

### Cooperation

One-off support that require a counterpart from the applicant and is applied to community assets.

Are necessarily related to the needs of forest and industry operations, expertise and products from Suzano's business.

### Donation

Financial contribution or one-off spendings that meet the demands of institutions, bodies or individuals representing the community that are non-profit and do not require a counterpart.

### Sponsorship

Granting of resources, whether financial, material and/or services provided by Suzano to enable certain activity or event. It is considered a communication tool.

### Programs and projects

Social investments planned and developed within the scope of a certain program, with well-defined purpose and duration (objectives, goals, deadlines, process indicators, results and impacts and responsibilities).



Project Pindowa





## Suzano’s program for education (PSE)

**One of Suzano’s long term goals is to contribute to a 40% increase in the Index of Development of Basic Education (IDEB) in priority municipalities until 2030.**

To reach its goal, Suzano developed and implanted Suzano’s program for education (PSE), a project that focus on enhancing the quality of public education.

In 2021, its actions benefited 127 thousand students, 1,262 educators and 161 schools in Maranhão thanks to the actions that targeted 9 municipalities in the state that formed the Arrangement for the Development of Education of Maranhão (ADE-MA).

PSE acts by engaging the secretariats for education, schools, students, families and communities to face the challenges of education and build collaborative solutions.

### Foundation



Structuring action



Focus on learning



Integral development of the student



Systemic and reproducible processes with focus on the autonomy of the territories



Technological development



Territorial collaboration



## Socioenvironmental programs and projects

Line of work	Project/ program	Description	Municipality	Direct beneficiaries
Local dev.	PDRT	<p>The Rural and Territorial Development Program (PDRT) is based on agroecology and on the promotion of the families and associations autonomy, strengthening the human and social capital.</p> <p>Our role in the development of the territory is to promote the dialog with the neighboring rural communities, strengthen organizations and networks with socioeconomic development programs, and thus generate income and improve their quality of life.</p>	Imperatriz, Cidelândia, Buritirana, Vila Nova dos Martírios, São Pedro da Água Branca (MA), Ulianópolis (PA) and Darcinópolis (TO)	1,973 people
	Beehives	<p>The Beehives Program aims to contribute to income generation, improve quality of life and development of the population by means of opening new market opportunities for beekeeping. Also, it enables studies and research opportunities for the development and understanding of the behavior of bees, as well as pest and disease control.</p> <p>Suzano offers planting areas to beekeepers with the aim of boosting honey production in the regions where it operates.</p> <p>This partnership occurs at no charge for beekeepers and the project works in a very simple way: the beehives are installed in the areas of eucalyptus planting in the flowering period so that the bees can use the nectar to produce honey.</p>	Açailândia (MA), Dom Eliseu (PA) and Angico (TO)	345 people
	Sustainable extractivism	<p>The objective of Sustainable Extractivism is to support and empower plant extractive workers, such as Quebradeiras de Coco and communities that live off Açaí products, by rescuing traditional practices.</p> <p>Collective and associative actions, particularly the sustainable gathering of local raw materials such as babaçu and açaí; granting free access to the açaí field; the development of new production models; benefit extractive communities with an extra source of income during off-season are also objectives of this program, as well as promoting partnerships between the company and the communities.</p>	Vila Nova dos Martírios, Cidelândia e Imperatriz (MA), Carrasco Bonito and Davinópolis. (TO)	1,134 people
	Craftsmanship program	<p>The Craftsmanship Program is composed of a set of projects inserted into the communities, particularly the traditional communities with a relationship with Suzano. This program relies on specialized consulting and specific budget. The goal is to develop craftsmanship and the local culture using raw-material from Babassu nut and açaí for commercialization, thus granting income generation during the off-season and dissemination of the sustainable extractivism culture.</p>	Imperatriz and Cidelândia (MA)	68 families
Education	Suzano's program for education	<p>In 2020, Suzano launched Suzano's Educational Program (PSE) that relies on the technical partner Cedac (Educational Community) that is formed by outstanding professionals of education.</p> <p>PSE aims to increase the quality in public education and acts by engaging education secretariats, schools, students, families and communities to face the challenges of education together and build collaborative solutions.</p>	Imperatriz, Açailândia, Buriticupu, Bom Jesus das Selvas, São Francisco do Brejão, Vila Nova dos Martírios, Cidelândia, Itinga do Maranhão and São Pedro da Água Branca, Estreito (MA), Angico (TO), and Dom Eliseu (PA)	78 direct and 127,295 indirect

Baskets produced by extractivists





## Performance and main indicators of forest management

Aspect	Process Resp.	Monitoring	Indicators	Un.	Goal 2021	Actual 2021	Critical analysis	Actions	Systems/ Data base	Frequency	
Social	Social Management	Operational dialog and Relationship maintenance	Number of participants from the communities - Dialog	#	-	1,921	With the relaxation of restrictions related to COVID-19, agents increased the number of field visits, reaching a larger number of people. The more frequent presence of the agents was reflected as a greater engagement and interest of community leadership, thus motivating more people into participating in the dialog.	<ol style="list-style-type: none"> <li>1. Frequent and active presence of the dialog agents in the field.</li> <li>2. More engagement of leadership in the activities proposed by the operational dialog.</li> <li>3. Several channels of communication with the community (face-to-face, phone, WhatsApp, 0800).</li> </ol>	Indicators of the Socioenvironmental management portal	Monthly	
		SSOMAR	Score obtained with SSOMAR		90	92	Implementation of the new system SDWEB and evolution of the learning curve of use;	New reactive indicators management system and company's deviations - SDWEB	Portal SSQV		
	SSQV	DNA	Conclusion of deviations on DNA	%	100	86	Management of planned vs accomplished of own team and outsourced, with follow up of SSQV team.	Definition of the matrix of responsibilities regarding preventative tools for own team and outsourced.	SDWEB	Monthly	
		OPA	Score obtained with OPA		90	92			SSQV Portal		
Environmental	Patrimonial intelligence	Fire	Fire - crop Fire - preservation	Ha	359	237.73 2,007	553.12	Due to high temperatures and low relative humidity in the period of drought, there was an increase in the number of fire outbreaks and firefighting was more difficult.	Opening firebreaks, Live Forest Program, trainings, hiring of brigade teams, synergy between areas (Forestry, Harvest, roads, patrimonial intelligence, companies of market pulp), on-duty teams for support during weekends and holidays, participation in the program <i>Maranhão Sem Queimadas</i> and awareness raising in neighboring areas.	POWER BI and ZENITH	Monthly



Aspect	Process Resp.	Monitoring	Indicators	Un.	Goal 2021	Actual 2021	Critical analysis	Actions	Systems/ Data base	Frequency
Environmental	Environment	Environmental education program	Number of people impacted in the environmental education program (external)	#	-	990	In 2021, an annual planning was created for environmental trainings (training matrix) and, from the diagnostic, we mapped all trainings that should be offered in the unit.			
	Environment	Environmental education program	Total number of hours logged in the Environmental education program (internal)	Total Hours	-	2,509	<p>In 2020, the Education for Sustainability program worked on two fronts:</p> <p><b>1. External:</b> via Living Forest and Forest Protection, the collaborators that are part of the fire brigades teams raise awareness among the communities and neighbors as they moved to perform their activities; Socioenvironmental agents also inserted the campaigns into their surroundings before Suzano's operations took place.</p> <p><b>2. Internal:</b> environmental trainings for own collaborators and third parties aim to meet the legal requirements and are planned within the annual matrix. Through these two fronts we were able to reach a larger number of people.</p>	Operational dialogs, contact through social programs and projects and internal trainings.	Excel / Socioenvironmental management portal	Live Forest: Annual Trainings: Monthly
	Forestry	Forestry control	Ant bait consumption	Kg/ha	1.50	1.40	Ant Monitoring Implanted - DICE Activities are carried out according to recommendation and necessity, optimizing the use of ant bait.	In-person actions, according to monitoring and recommendation.	BPC/SAP	Monthly



Aspect	Process Resp.	Monitoring	Indicators	Un.	Goal 2021	Actual 2021	Critical analysis	Actions	Systems/ Data base	Frequency
Economic	Logistics	Distance	Average radius	Km	234	191	We had a change in tactics and routing project.	Routing project (analysis of shortest routes Factory/farm)	Excel, Power BI	Daily
	Nursery	Production of seedlings	Shipped seedlings	Thousands	44,600	38,100	Below due to the increase in the area of conduction and reduction of planting physicals relative to the goal.	Follow up and monitoring of physicals	SAP and Excel	Monthly
			Seedling usage	%	90	96	Our suppliers are constantly seeking for quality seedlings, surpassing the expected result (goal).	Follow up/Quality committees/ Trainings	Excel and Power BI	
	Harvest	Productivity of Harvest	Annual volume of harvested wood	44,411	5,761,838	5,763,051	The volume of wood felled was necessary to regulate the stocks of wood stacked in the field to supply the factory in Imperatriz for the production of pulp, according to the tactical supply plan.	<ul style="list-style-type: none"> <li>• Application of operational procedures;</li> <li>• Monitoring of quality levels 1 and 2;</li> <li>• Monthly follow ups;</li> <li>• Operational trainings;</li> <li>• Operational microplanning.</li> </ul>	Simova/SAP/ Spreadsheets/ Performance indicators	Monthly follow ups
			Annual volume of delivered wood		5,780,529	5,566,081	The volume of transportation was necessary to regulate the stocks of wood stacked in the field to supply the factory in Imperatriz for the production of pulp, according to the tactical supply plan.			



A close-up photograph of a person's hands holding a large quantity of Brazil nuts. The person's face is blurred in the background, and the focus is on the nuts in the foreground. The nuts are brown and have a textured, cracked surface.

# COMMUNICATION WITH STAKEHOLDERS



Suzano is constantly in contact with its employees and with the several segments of society, keeping them up to date on its activities, and always keeping things clear, transparent and straightforward.

Among the most commonly used communication media are:

### Internal Audience

Corporate social media, Intranet, Printed and Digital newsletters, walls, Forest Podcast, Corporate TV, Manuals and Educational guides.

### External Audience

Press Relations, Website, Social media, Visitation programs, Annual reports, Management plan summary. In addition to those, the company maintains other communication channels, as described below.





## Communication with specific audiences

### Suzano Answers

0800 022 1727, (11) 3956-3959 or [suzanoresponde@suzano.com.br](mailto:suzanoresponde@suzano.com.br)

If you have any questions, suggestions for improvement, or complaints, please contact us. It is toll-free!

### Social media

-  Facebook  
[www.facebook.com/suzanoempresa/](http://www.facebook.com/suzanoempresa/)
-  Instagram  
[www.instagram.com/suzano\\_oficial/](http://www.instagram.com/suzano_oficial/)
-  Youtube  
[www.youtube.com/user/Suzanovideos](http://www.youtube.com/user/Suzanovideos)
-  LinkedIn  
[www.linkedin.com/company/suzano/](http://www.linkedin.com/company/suzano/)

### Ombudsman Suzano

Phones (toll-free)

Brazil  
**0800 771 40 60**

Abroad  
**Check for the specific numbers on the Suzano Ombudsman website.**

E-mail  
[ouvidoriaexterna@austernet.com.br](mailto:ouvidoriaexterna@austernet.com.br)

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