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PUBLIC **Summary**

Forest Management Plan | Santa Catarina



Dear **READER**

In the following pages, you will learn a little more about the efforts that Klabin makes to properly manage our forests and about our social and sustainability policies. This is a demonstration of Klabin's commitment to generate wealth, always respecting nature, our collaborators and society, in addition to maintaining the commitment to long-term adherence to the principles and criteria of the *Forest Stewardship Council*® - FSC® and the *Programme for the Endorsement of Forest Certification* - PEFC.

FSC® C023492

PEFC/28-22-15



Mosaic planting.
Photo: Anna Carolina Negri

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About KLABIN

Klabin is the largest paper producer and exporter in Brazil and is a leader in the production of packaging paper and cards, corrugated cardboard packaging and industrial bags. Klabin is also the only company in the country to simultaneously supply the market with hardwood pulp (eucalyptus), softwood (pine) and fluff pulp.

On July 22, 2000, Celucat and Igaras were merged, Klabin Florestal Santa Catarina forest complex, which now manages an area of about 151 thousand ha, distributed in 44 municipalities in Santa Catarina state and 11 in Rio Grande do Sul State, with the social and economic development hub in the municipality of Lages, Santa Catarina.



Kabin Otacilio Costa Factory
Photo: Coxilha Films

WOOD PURCHASING POLICY

Klabin seeks certification for all its units. When there is a need to purchase uncertified wood, Klabin is committed to implementing its best efforts to **avoid purchasing wood or wood fiber from the following categories:**

- Wood from illegal logging;
- Wood whose logging has led to the violation of civil and traditional rights;
- Wood obtained from forests where the high conservation value is threatened by management activities;
- Wood from forests whose land is being converted into plantations or intended for uses other than forestry;
- Wood from forests where genetically modified trees are planted;
- Wood from controversial sources.

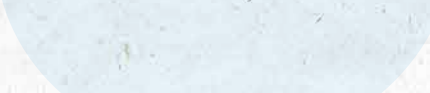

In 2004, the Forest Unit in Santa Catarina received forest certification from the FSC® (Forest Stewardship Council®, which ensures that its forest plantations adopt the best socio-environmental and economic practices.

SUSTAINABILITY POLICY

Klabin S/A is a company that produces wood, paper and cardboard for packaging, corrugated cardboard packaging and bags. It operates in the domestic and foreign markets and is based on the following sustainability principles for all activities related to its products and services:


- 1.** To seek actively the transition to a low-carbon economy, applying and stimulating the directing of investments and financial instruments that incorporate values and performance linked to Sustainability, guaranteeing transparency and reliability of the data on the basis of which decisions are made, assuring alignment with the science and recognized parameters and, whenever pertinent, promoting the verification of data consistency by a third party.
- 2.** To innovate and adapt the business model to be increasingly more responsible in the revision and definition of the strategic portfolio of products and processes, directing it towards positive solutions for nature.
- 3.** To map, measure and give transparency to the impact of the social and environmental externalities generated by the Company's businesses with respect to their location and the relationship with stakeholders.
- 4.** To assure execution of the Klabin Agenda in relation to its horizon and targets based on priority themes so that the Company's operations and growth strategy are orientated towards economic development, environmental sustainability, and social justice in the light of the impacts and externalities of the businesses.
- 5.** Preserve the tone and affirmations used in the approach of marketing and communication of Sustainability, ensuring that the messages are correct, precise, and based exclusively on the performance and practices maintained by the Company.
- 6.** Promote a culture of dissemination of ethics and develop the best practices of corporate governance.

- 7.** To respect and promote human rights in accordance with the United Nations Guiding Principles on Business and Human Rights and other national and international commitments that include guidelines on the theme, pertinent to the operations of Klabin and the areas in which they are located.
- 8.** Seek to apply the most efficient and current technologies and engineering solutions in the implementation of new projects and ventures, ensuring the protection of human health, natural resources, and the environment.
- 9.** Potentialize circularity seeking to develop partnerships for new business models and eco-efficient products and processes, which maximize the reduction, reuse, and recycling of products of the chain and by-products of the industrial process.
- 10.** Promote cooperation with customers, suppliers, academia, organized civil society and other stakeholders in the search for innovation in products and processes, and through improvements with a view to Sustainability for the value chain.
- 11.** Seek competitive quality for the sustained improvement of its results, researching, developing, and continuously upgrading existing and new processes, products, and services in order to meet the expectations of the customers, employees, shareholders, the community, suppliers, and other stakeholders.
- 12.** Guarantee the valorization of the forestry assets from their transformation into sustainable and competitive products and ensuring the supply of planted wood for its industrial units in a sustainable way without harming the associated natural ecosystems in both proprietary operations and developed producers.
- 13.** Ensure that the Company's operations constantly seek to reduce emissions of Greenhouse Gases (GHG), considering the environmental impact on its operations and investment projects so that they are compatible with the long-term objectives adopted by Klabin.
- 14.** Promote the conservation of biodiversity through the development of practices that guarantee the increased balance of the ecosystem, encouraging research and partnerships with academia and operating with the commitment of utilizing recognized techniques of forest husbandry, which incorporate the conservation of characteristics and avoiding operating in preservation areas of the natural heritage and/or those with species relevant to the national and global biodiversity.

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- 15.** Practice the responsible management of water resources, especially in areas of hydric stress, to ensure the availability of water in quality and quantity necessary for supplying the locations in which it operates.
 - 16.** Avoid and prevent pollution by reducing environmental impacts relating to wastewater, solid waste, and atmospheric emissions, always considering these elements in the maintenance and improvement of productive processes, development, and the improvement of products in forestry operations and logistics', and in the monitoring of the economic and socio-environmental aspects of critical suppliers.
 - 17.** Identify in advance the negative social impacts caused by our forestry, industrial and logistics' operations to avoid, preempt and mitigate them. Simultaneously, maximize the positive impacts of our operations through social programs and actions in partnership with public, private institutions and civil society, promoting engagement and frequent, proactive, and transparent contact with stakeholders.
 - 18.** Comply with legislation and the national rules (and international ones when applicable) with respect to product safety and quality, the environment, and occupational health and safety. Promote the physical, mental, and social wellbeing of the direct and indirect employees through continuous improvement in labor, health, and safety conditions with the commitment to consult and promote their active participation in the drive for the prevention and mitigation of risks and the personal and professional development of each individual.
 - 19.** Practice social responsibility with a focus on the communities where Klabin operates according to the private social investment platform and its lines of activity: local development (directed towards planning capacities and participative public management directed to sustainable development), education, environment, and culture.
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Cyanocorax caeruleus (Azure Jay)
Photo: Zig Koch





Araucaria angustifolia (Brazilian pine tree)
Photo: Sumatra Inteligência Ambiental

Klabin's

Code of Conduct



Since its foundation, Klabin has strived to develop in a way that provides its employees, customers, suppliers and society in general with a relationship supported by ethical conduct and socially recognized principles. The high standards followed by Klabin are fundamental factors for the company's growth. The requirements of the Klabin Code of Conduct go beyond mere compliance with laws and regulations and are intended to standardize standards among the board members, directors and employees encouraging them to adopt behaviors and attitudes in their daily lives that are guided by the policies and core values established in this Code.

Klabin maintains the following communication channels for contact with the Ethics Committee – Ombudsman:

E-mail: ouvidoria@klabin.com.br

www.klabin.com.br/ouvidoria

Telephone: **0800 718 7814.**

Socio-environmental Responsibility Policy for Recruiting suppliers

At Klabin, all businesses are guided by ethics, transparency and respect for the principles of sustainability, in order to ensure economic balance, social responsibility and environmental preservation. Therefore, the company seeks suppliers who follow the criteria specified in the Socio-environmental Responsibility Policy for Recruiting Suppliers.

The contract model was revised based on a standardization of sustainability aspects, such as punctuality of delivery, creditworthiness, respect for applicable laws, tax compliance, prohibition of child and forced labor and the adoption of measures to protect the environment. Parties interested in becoming suppliers for Klabin must access the company's website and the Contact Us > Supplier Registration tab.

Pinus logs.
Photo: Anna Carolina Negri.





External commitments

Klabin seeks to play an active role in socio-environmental and economic issues, voluntarily adhering to commitments proposed by recognized institutions, described in the following pages.



GLOBAL COMPACT

United Nations (UN) initiative to engage companies and organizations in the adoption of 10 universal principles of Human Rights, Labor, Environment and Anticorruption Measures so that they can develop actions to face the challenges of society.



SUSTAINABLE DEVELOPMENT GOALS

Since 2016, the Sustainable Development Goals (SDGs) have constituted a global development agenda comprising 17 goals and 169 targets set by the United Nations (UN) for governments, society and the private sector. The UN's initiative brings together governments, civil society and the private sector on a global agenda for people, the planet, peace and prosperity, defining global priorities and aspirations for 2030. Since then, the company has prioritized 15 of the 17 goals that inspired the Klabin 2030 Agenda, which consists of the KODS, the Klabin Goals for Sustainable Development.

The prioritized goals are to:

- 01.** No poverty;
- 03.** Good health and well-being;
- 04.** Quality education;
- 05.** Gender equality;
- 06.** Clean water and sanitation;
- 07.** Affordable and clean energy;
- 08.** Decent work and economic growth;
- 09.** Industry, innovation and infrastructure;
- 10.** Reduced inequalities;
- 11.** Sustainable cities and communities;
- 12.** Responsible consumption and production;
- 13.** Climate action;
- 15.** Life on land;
- 16.** Peace, justice and strong institutions;
- 17.** Partnerships for the goals.



BRAZILIAN PACT TO ERADICATE SLAVE LABOR

Brings together Brazilian and multinational companies that have undertaken a commitment not to do business with companies engaged in slave labor practices. In addition to economically restricting employers committing this crime, the pact works to promote dignified labor and the social integration of workers in situations of vulnerability and to combat enticement. Companies that are signatories to the initiative participate in the pact's monitoring and undertake to make public the results of their efforts to eradicate slave labor.



BUSINESS PACT FOR INTEGRITY AND AGAINST CORRUPTION

According to the Ethos Institute, companies that are signatories to the pact undertake to disseminate Brazil's anticorruption legislation to their employees and stakeholders to support its enforcement. They also undertake to prohibit any form of bribery, ensure legal compliance and transparency in contributions to political parties and foster information transparency and collaboration in investigations whenever necessary.



UN WOMEN'S EMPOWERMENT PRINCIPLES (WEP)

To reinforce its commitment to diversity and foster an inclusive workplace, in 2018, Klabin became a signatory to the seven Women's Empowerment Principles (WEPs). The United Nations Initiative for Gender Equality (UN Women) helps companies to empower women in their organization, value chain and local communities.

LGBTI+ COMPANIES AND RIGHTS FORUM

Klabin is a signatory to the LGBTI+ Companies and Rights Forum, which has drafted 10 commitments to ensure respect for and the promotion of LGBTI+ human rights inside companies. The forum has working groups divided by topic (leadership, health, communication and other) that meet periodically to discuss how to advance in each of the commitments.

MOVEMENT FOR RACIAL EQUALITY (MOVER)

This initiative establishes 10 guidelines for signatories to advance on their journey of racial equality with a commitment to offer an inclusive environment with initiatives that create opportunities for black professionals through training, awareness and employability actions and by promoting social awareness.

BUSINESS PACT AGAINST SEXUAL EXPLOITATION OF CHILDREN AND ADOLESCENTS ON BRAZILIAN HIGHWAYS



Klabin is signatory to this Pact, which aims to end sexual exploitation of children and adolescents on highways, by joining the Na Mão Certa Program of Childhood Brazil and Ethos Institute in 2016. The Pact comprises six commitments that address topics such as the working conditions of truck drivers, awareness campaigns, support for projects and monitoring of practices.

SUPPORTER OF THE TASK FORCE ON CLIMATE RELATED FINANCIAL DISCLOSURE (TCFD)



The initiative provides recommendations to help markets address the financial impact from climate change and to increase transparency on the risks related to climate and the opportunities for promoting better informed financial decision-making.

SCIENCE-BASED TARGETS INITIATIVE (SBTI)

Initiative that establishes methodologies to help companies design goals for reducing emissions that are aligned with climate science and sustainable economic development. Klabin was Latin America's first pulp and paper producer to have its goals approved by the SBTi.

BUSINESS AMBITION FOR 1.5°C – ONLY FUTURE

In 2019, we joined the UN global campaign Business Ambition for 1.5°C – OUR ONLY FUTURE, through which we undertook to reduce GHG emissions to help keep the increase in the average global temperature below 1.5°C.

RACE TO ZERO

Klabin has been striving to combat climate change for years. With sustainability as a key pillar of its management, the company is aware of the topic's urgency and the importance of mobilizing everyone to ensure the future of our planet. In partnership with the UN Global Compact Network Brazil, Klabin invites companies and society to support the cause for reducing greenhouse gas emissions based on science.

SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB)

SASB is a set of standards designed to help identify, manage and report sustainability-related issues of the organization, including environmental, social and governance issues that could impact its financial performance. It is mainly targeted at large companies and investors. In 2020, Klabin started to report the SASB indicators recommended for packaging, pulp and paper and forest sectors.



GHG PROTOCOL



Klabin has been involved in this program since 2013, whose goal is to encourage the corporate community to prepare and publish inventories of their greenhouse gas (GHG) emissions by giving them access to world-class instruments and standards. Originally developed in the United States in 1998 by the World Resources Institute (WRI), the GHG Protocol is a tool used to understand, quantify and manage GHG emissions.

RECOGNITION

DOW JONES SUSTAINABILITY INDEX

Klabin is a member of the Dow Jones Sustainability Index (DJSI), which recognizes companies that create long-term value through sustainable practices. Inclusion in the “World” category for the fourth year in a row recognizes and promotes the company’s commitment to developing a solid sustainable business model that respects the environment and society.

CORPORATE SUSTAINABILITY INDEX (CSI)

A pioneering initiative in Latin America and the fourth sustainability index in the world, ISE B3 was launched by B3 in 2005 with initial funding from the International Finance Corporation (IFC), the financial arm of the World Bank Group. For the tenth year in a row, Klabin is one of the companies from 15 sectors included in this process, which evaluates the various aspects of sustainability in an integrated manner, helping investors in their decision-making and companies to improve their ESG (environmental, social and corporate governance) practices.





CARBON DISCLOSURE PROJECT (CDP)

Klabin is once again on the “A List” of CDP - the global investor information platform - in all three programs: Climate, Water and Forests, underscoring the company’s responsible performance. In addition to being the first company in Latin America to reach the leadership level in the three questionnaires, it was also recognized as the best performer in the “CDP Brazil - Climate Resilience” index, which measures performance in differentiated climate management practices and establishes a relationship between environmental initiatives and the financial performance of organizations.

ECOVADIS



Klabin is the first Brazilian company to implement the Ecovadis methodology, since 2019, a global provider of business sustainability classifications. Klabin has remained in the Platinum category of the Ecovadis Corporate Responsibility Assessment for 4 years, joining the select group of 1% of the best performing companies in the world in the pulp and paper sector. Topics such as labor practices and human rights, environment, ethics and sustainable purchasing are analyzed.



ABRINQ FOUNDATION

The Abrinq Foundation program recognizes organizations that defend childhood and adolescence with the Child Friendly Company seal, which certifies, among other things, that we do not exploit child labor, do not allow it in our production chain, and promote social actions that encourage the education and learning of children and adolescents in the communities where we operate.



Klabin collection.

Description of the Enterprise

Aiming at the practice of sustainable development, Klabin Santa Catarina has been carrying out its forest management activities according to the guidelines:

Main objective:

Wood production for the pulp and paper industry and for the log trade.

Secondary objectives:

- 1.** Exclusive use of planted forests;
- 2.** Maintenance of biodiversity through the knowledge, monitoring, and protection of local fauna and flora species;
- 3.** Soil conservation through the adoption of environmental concepts in land preparation and road opening/maintenance operations;
- 4.** Protection of water resources through a Re-composition Program of the permanent preservation areas;
- 5.** Economic sustainability and forest competitiveness through strategic planning, the development of new technologies for superior genetic materials and forest management studies;
- 6.** Social approach in the implementation, expansion and maintenance of forest areas and inherent activities;
- 7.** Maintenance of High Conservation Value Forests based on the knowledge and protection of the attributes that define these areas;
- 8.** Commitment to the Principles and Criteria of FSC®.

Forest harvesting.
Photo: Anna Carolina Negri



The following table presents the general characteristics of Klabin's forest heritage in Santa Catarina and Rio Grande do Sul:

Table 1 - Klabin's Florest Heritage in SC and RS

Forest Areas	Total SC (ha)
Total Klabin SC Forest Area	151,018.84
Forest Area certified by FSC® and PEFC	134,935.57
Total Klabin SC Planted Forests	72,069.23
Planted Forests certified by FSC® and PEFC	62,451.15
Total Klabin SC Preserved Native Forests	71,829.06
Preserved Native Forest certified by FSC® and PEFC	66,183.21
Total Infrastructure of Klabin SC ¹	7,120.55
Infrastructure certified by FSC® and PEFC ¹	6,301.21

Database: 28/07/2023

¹ Roads, dividers. Ponds, improvements etc.

LOCATION

The areas of Klabin Santa Catarina are distributed in 44 municipalities in the State of Santa Catarina and 11 in Rio Grande do Sul, covered in the West, Middle West, Mountain region, North and Upper Valley of Santa Catarina and Northeast, Northeast Center and East regions of Rio Grande do Sul.

Municipalities covered in the state of

Santa Catarina: Agrolândia, Alfredo Wagner, Bela Vista Toldo, Bocaina do Sul, Bom Retiro, Caçador, Calmon, Campo Belo do Sul, Canoinhas, Capão Alto, Cerro Negro, Correia Pinto, Curitibaanos, Herval d'Oeste, Ibirama, Imbuia, Itaiópolis, Lages, Leoberto Leal, Major Vieira, Monte Castelo, Otacílio Costa, Paniel, Palmeira, Papanduva, Petrolândia, Ponte Alta, Ponte Alta do Norte, Porto União, Rio do Campo, Rio do Sul, Rio Rufino, Salete, Santa Cecília, Santa Tereziinha, São Cristóvão do Sul, São Joaquim, São José Cerrito, Taió, Timbó Grande, Urubici, Urupema, Vidal Ramos and Zortéa.

Municipalities covered in the state of Rio

Grande do Sul: Bom Jesus, Cambará do Sul, Campestre da Serra, Caxias do Sul, Ipê, Jaquirana, Muitos Capões, São Francisco de Paula, São José dos Ausentes, Três Coroas and Vacaria.

Socio-economics: The municipalities where Klabin operates in Santa Catarina generally have good Municipality Human Development Index – MHDI, with room for economic growth in the less favored classes. In the 44 municipalities where the company operates in Santa Catarina, the average MHDI is 0.699, compared to an MHDI of 0.774 in Santa Catarina (IBGE, 2010). In the 11 municipalities where the company operates in the state of Rio Grande do Sul, the average MHDI is 0.694, compared to the state MHDI of 0.746 (IBGE, 2010).

GEOCLIMATIC DATA

Weather: In the western and eastern ranges of Santa Catarina, the climate is classified as “humid mesothermal with hot summers (Cfa), where thermal averages vary between 17°C and 19°C, characterized by the lower areas of the southern region and the coast”, according to the Köppen classification. In the southern plateau and mountain regions, where the altitude is higher than 800 m, the climate is called “humid mesothermal with cool summer (Cfb), where the average rainfall is 1500 mm/year with well distributed rainfall”. For the State of Rio Grande do Sul, the Köppen classification also defines the climatic types Cfa and Cfb. The Cfa climate type is found in the Northeastern Mountain region and in the higher parts of the Plateau and Southeastern Mountain regions. In the other regions, the climate is of the Cfb type.

Geology: The geology of the State of Santa Catarina can be outlined in three areas: Atlantic Shield, Paraná Basin and Quaternary Sediments.

The sedimentary strip of the Paraná Basin in the state of Santa Catarina (where the company's forest management areas are located) consists of carboniferous, Permian and Triassic sediments, marked as Tubarão Super-Group, Passa-Dois and São Bento Groups.

In Rio Grande do Sul, there are four typical environments: the altiplanos in the north of the state, the steepest hillocks in the south, the region of soft hillocks in the central region and the flat and coastal region. These geomorphologic environments usually have similar occurrences of rocks and outline what is defined by a geologic “region” or “province”. In the State of RS there are four provinces: Planalto de derrames (where the company's forest management areas are located), Escudo rio-grandense, Depressão periférica and Planície costeira.



Cold dawn at PNHR Serra da Farofa Complex. Photo: Zig Koch

Relief: The Lages Plateau is characterized, for the most part, by a homogeneous dissection relief with hilly formations. In some sections, the presence of topographic ridges is observed, usually facing the Southeast. The elevations in most of the unit are around 850 to 900 m; the Morro do Tributo at 1,200 m. and as the highest point in Klabin's areas is the antenna hill in Urupema at 1785 m. The relief of the state of Rio Grande do Sul has several forms caused by different reasons, from the coast to the campaign there are varieties of soils, rocks, altitude, actions of the environment that

over millions of years have defined the features that now show on the surface. The main forms that the relief takes, or the main geomorphologic units of Rio Grande do Sul, are Planalto Meridional, Cuesta do Haedo, Depressão Central, Escudo Sul-rio-grandense and Planície Costeira.

Hydrology: According to codification level 1 of the River Basins in Brazil, the state of Santa Catarina comprises three River Basins: the Paraná/Paraguay River Basin, the Uruguay River Basin and the South and Southwest Atlantic Basin. Klabin's planted area in Santa Catarina covers areas in these basins, in Hydrographic Regions 4, 5 and 7. The state of Rio Grande do Sul is also divided into three hydrographic regions: the Uruguay River Basin, the Guaíba Basin and the Coastal Basin. They are subdivided into 25 hydrographic regions, and Klabin's areas cover the Uruguay River and Guaíba basins.

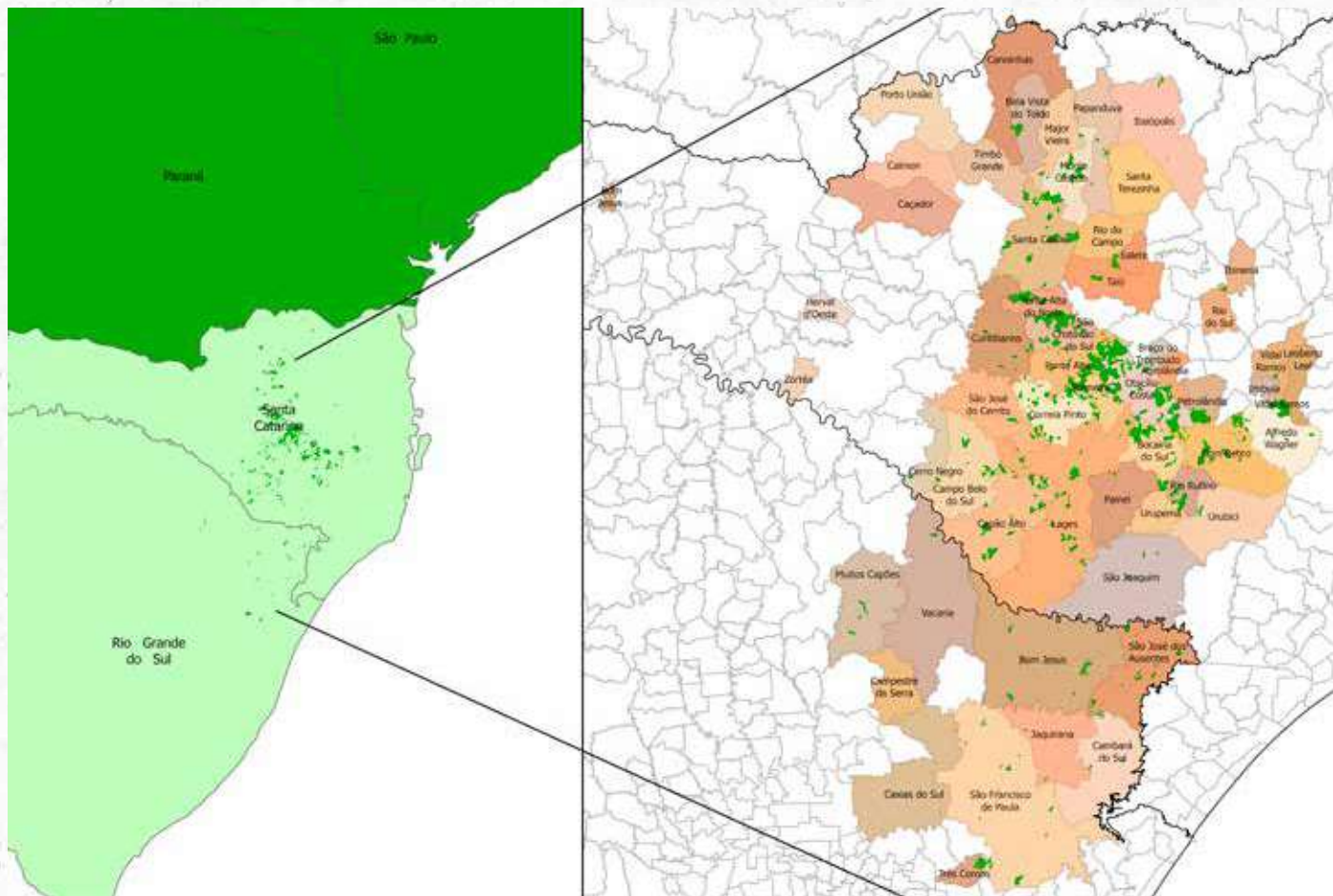


Figure 1 - Location of Klabin SC and RS Forest Properties

BIOLOGICAL DATA

Flora: The predominant vegetation cover in the Klabin coverage region in SC is a Mixed Ombrophilous Forest, with areas in the types of vegetation in the Grassland and Dense Ombrophilous Forest. Inserted in the Atlantic Forest area, the preserved forests that Klabin maintains constitute one of the most important Brazilian biomes. The currently available data refer to surveys carried out on several farms of the company where over 890 species of native flora were identified (Table 2), distributed as follows:

Table 2 – No. of flora species identified on Klabin’s Farms – SC

Life-form	Species identified	Species with recognized conservation status
Trees/ Shrubs	564	234
Herbaceous	275	37
Epiphytes	15	3
Liana	38	1
Subtotal of plants	892	275

Source: Klabin S. A., 2024.



Cattleya coccinea (Red orchid)
Photo: Sumatra Inteligência Ambiental

In Klabin's areas, where the flora surveys took place, 90 species were found that fall into critical categories under the threat of extinction (CR, EN and VU) according to the official list of IUCN (International Union for Conservation of Nature) 2023, Ministry of Environment (MMA Ordinance no. 443/2014), CONSEMA (State Environment Council of SC - Resolution no. 51/2014) and List of Endangered Flora of RS (FZB, 2014):

Table 3 - Flora species with conservation status recognized in more critical categories identified on Klabin's farms in SC.

Growth Habit	Scientific name	Common name	IUCN	BR	SC	RS
Shrub	<i>Baccharis bifrons</i>	***	---	EN	---	---
Shrub	<i>Mikania decumbens</i>	Graco	---	NT	---	EN
Shrub	<i>Perezia squarrosa</i>	Daisy	---	---	---	CR
Shrub	<i>Symphopappus lymansmithii</i>	***	---	NT	VU	---
Shrub	<i>Trichocline catharinensis</i>	Cravo-do-campo-catarinense	LC	---	---	VU
Shrub	<i>Apteria aphylla</i>	***	---	---	---	VU
Shrub	<i>Monteverdia evonymoides</i>	Laranjinha, tiriveira	---	---	---	EN
Shrub	<i>Clethra uleana</i>	Caujuja-de-uile	---	LC	---	EN
Shrub	<i>Syngonanthus chrysanthus</i>	***	---	---	---	EN
Shrub	<i>Mimosa taimbensis</i>	Bracatinga-mirim	EN	---	VU	---
Shrub	<i>Cuphea lindmaniana</i>	***	---	EN	---	---
Shrub	<i>Ossaea amygdaloides</i>	Pixirica	---	---	---	EN

Growth Habit	Scientific name	Common name	IUCN	BR	SC	RS
Shrub	<i>Tibouchina urvilleana</i>	Orelha-de-onça	---	---	---	EN
Shrub	<i>Curitiba prismatica</i>	***	VU	VU	---	---
Shrub	<i>Margaritaria nobilis</i>	Figueirinha	---	---	---	EN
Shrub	<i>Azara uruguayensis</i>	Amargoso	---	NT	---	VU
Shrub	<i>Calibrachoa elegans</i>	Calibrachoa, falsa petúnia	---	EN	---	---
Shrub	<i>Calibrachoa linoidea</i>	Petunia	---	---	---	EN
Shrub	<i>Solanum aparadense</i>	***	---	---	---	EN
Tree	<i>Guatteria australis</i>	Cork	---	LC	---	VU
Tree	<i>Oreopanax fulvum</i>	Figueira-braba	---	LC	---	VU
Tree	<i>Araucaria angustifolia</i>	Brazilian pine	CR	EN	CR	VU
Tree	<i>Butia eriospatha</i>	Woolly jelly palm	VU	VU	CR	EN
Tree	<i>Geonoma schottiana</i>	Guaricana	---	---	---	EN
Tree	<i>Moquiniastrium polymorphum</i>	Cambará	LC	---	---	EN
Tree	<i>Maytenus boaria</i>	Coração-de-bugre	LC	---	---	VU
Tree	<i>Clethra scabra</i>	Carne-de-vaca	LC	LC	---	VU
Tree	<i>Buchenavia kleinii</i>	***	NT	LC	---	EN
Tree	<i>Cyathea corcovadensis</i>	Xaxim-de-espinho	DD	---	---	VU
Tree	<i>Dicksonia sellowiana</i>	Xaxim	---	EN	CR	VU
Tree	<i>Pausandra morisiana</i>	Almecega-vermelha	LC	---	---	CR
Tree	<i>Apuleia leiocarpa</i>	Grápia	LC	VU	---	CR
Tree	<i>Inga lentiscifolia</i>	Ingá	VU	NT	---	NT
Tree	<i>Myrocarpus frondosus</i>	Cabreúva	DD	---	---	VU
Tree	<i>Aniba firmula</i>	Cinnamon	LC	---	---	CR

Growth Habit	Scientific name	Common name	IUCN	BR	SC	RS
Tree	<i>Cinnamomum triplinerve</i>	***	LC	LC	---	EN
Tree	<i>Ocotea catharinensis</i>	Canela-preta	VU	VU	CR	VU
Tree	<i>Ocotea lancifolia</i>	Cinnamon	LC	LC	---	EN
Tree	<i>Ocotea nectandrifolia</i>	Cinnamon	---	---	---	VU
Tree	<i>Ocotea odorifera</i>	Canela-sassáfras	---	EN	---	CR
Tree	<i>Ocotea porosa</i>	Imbuia	VU	EN	CR	EN
Tree	<i>Ocotea silvestris</i>	Canela-copaíba	---	LC	---	VU
Tree	<i>Persea willdenovii</i>	Pau-andrade	---	---	---	CR
Tree	<i>Cedrela fissilis</i>	Cedro	EN	VU	---	---
Tree	<i>Cedrela odorata</i>	Cedro-cheiroso, cedro-vermelho	VU	VU	---	---
Tree	<i>Campomanesia guaviroba</i>	Guabiroba	---	---	---	CR
Tree	<i>Campomanesia neriiflora</i>	Guabiroba branca	VU	LC	---	---
Tree	<i>Campomanesia reitziana</i>	***	NT	VU	---	---
Tree	<i>Eugenia neomyrtifolia</i>	***	---	---	---	EN
Tree	<i>Myrceugenia bracteosa</i>	***	VU	EN	---	---
Tree	<i>Myrceugenia gertii</i>	Guamirim	EN	EN	---	---
Tree	<i>Myrceugenia scutellata</i>	---	VU	---	---	---
Tree	<i>Myrcia aethusa</i>	***	VU	---	---	---
Tree	<i>Myrcia pubipetala</i>	Jambinho	VU	LC	---	---
Tree	<i>Myrcianthes pungens</i>	Guabiju	EN	---	---	---
Tree	<i>Myrciaria cuspidata</i>	Camboim	VU	LC	---	---
Tree	<i>Psidium longipetiolatum</i>	***	---	LC	---	EN
Tree	<i>Heisteria silvianii</i>	Casca-de-tatu	LC	---	---	EN

Growth Habit	Scientific name	Common name	IUCN	BR	SC	RS
Tree	<i>Picramnia parvifolia</i>	Pau-amargo	---	LC	---	VU
Tree	<i>Podocarpus lambertii</i>	Pinheiro-bravo	NT	LC	EN	---
Tree	<i>Podocarpus sellowii</i>	Pinheiro-bravo	EN	LC	---	CR
Tree	<i>Quillaja lancifolia</i>	Pau-de-sabão	---	EN	---	---
Tree	<i>Frangula sphaerosperma</i>	Canjica	---	---	---	VU
Tree	<i>Sessea regnellii</i>	Coerana	---	LC	---	CR
Tree	<i>Solanum pabstii</i>	Canena	EN	---	---	---
Tree	<i>Solanum reitzii</i>	Canema	---	---	---	EN
Tree	<i>Styrax acuminatus</i>	Pau-de-remo	---	LC	---	EN
Tree	<i>Symplocos itatiaiae</i>	***	EN	EN	---	---
Tree	<i>Drimys angustifolia</i>	Casca-de-anta	---	---	---	VU
Herb	<i>Alstroemeria brasiliensis</i>	***	---	EN	---	---
Herb	<i>Eryngium zosterifolium</i>	Gravatá, caraguatá	---	VU	---	EN
Herb	<i>Hypochaeris catharinensis</i>	***	---	---	VU	---
Herb	<i>Athyrium dombeyi</i>	***	---	---	---	EN
Herb	<i>Aechmea kleinii</i>	Bromeliad	EN	EN	EX	---
Herb	<i>Billbergia alfonsijoannis</i>	***	---	LC	VU	---
Herb	<i>Dyckia hatschbachii</i>	Gravatá, bromeliad	---	CR	---	---
Herb	<i>Vriesea biguassuensis</i>	***	---	EN	EX	---
Herb	<i>Eriocaulon magnificum</i>	Gravatá-manso	---	---	---	VU
Herb	<i>Eriocaulon modestum</i>	***	---	---	---	VU
Herb	<i>Paepalanthus catharinae</i>	Gravatá-manso	---	DD	---	VU
Herb	<i>Hymenophyllum magellanicum</i>	***	---	LC	---	VU
Herb	<i>Tibouchina rupestris</i>	***	---	---	---	EN

Growth Habit	Scientific name	Common name	IUCN	BR	SC	RS
Herb.	<i>Botrypus virginianus</i>	***	VU	LC	---	---
Herb.	<i>Plagiogyria fialhoi</i>	Fern	---	LC	DD	EN
Herb.	<i>Setaria parviflora</i>	Capim-rabo-de-raposa	LC	EN	---	---
Herb.	<i>Xyris capensis</i>	***	LC	LC	---	VU
Liana	<i>Mikania oreophila</i>	Guaco	---	EN	---	EN
Liana	<i>Mikania ulei</i>	Guaco	---	LC	---	EN
Liana	<i>Piptadenia affinis</i>	***	---	---	VU	---
Liana	<i>Griselinia ruscifolia</i>	***	---	---	---	VU
Liana	<i>Passiflora actinia</i>	Passion fruit	---	---	---	EN

In what: Official IUCN (International Union for Conservation of Nature) List 2023 version, Official National List of Endangered Flora Species – (MMA, 2014), Official List of Endangered Flora Species in the State of Santa Catarina (CONSEMA, 2014), List of Endangered Native Flora Species in the State of Rio Grande do Sul – (FZB, 2014). Where: AE: Endangered; EX: Presumably extinct; CR - Critically endangered; EN - Endangered; VU – Vulnerable; NT - Almost endangered; LC - Safe or not concerning; DD – Insufficient Data; R – Rare.

Source: Klabin S. A., 2024.

Fauna: The wildlife survey activities in the Klabin areas in Santa Catarina began in 2003, with surveys of birdlife and mammalian fauna (large mammals) and over the years the surveys were carried out in the other groups. The table below shows the number of species identified per group.

Table 4 – No. of fauna species identified on Klabin farms in SC

Class/Group	Species identified	Species with recognized conservation status
Amphibians	33	31
Birds	319	318
Mammals	49	46
Fish	19	9
Invertebrates	103	1
Répteis	18	17
TOTAL	541	422

Source: Klabin S. A., 2024.



Eira barbara (Irara). Farrapos Farm. Photo: Sumatra Inteligência Ambiental.

Among these species, some have their conservation status recognized at critical levels by official lists.

Table 5 – Fauna with conservation status recognized in more critical categories identified on Klabin farms in SC.

Scientific name	Common name	Group	IUCN	BR	SC	RS
<i>Vitreorana uranoscopa</i>	Glass frog	Amphibians	LC	LC	VU	NT
<i>Scinax rizibilis</i>	Perereca-rizadinha	Amphibians	LC	LC	---	CR
<i>Pseudastur polionotus</i>	Mantled hawk	Birds	NT	NT	---	VU
<i>Spizaetus ornatus</i>	Ornate hawk-eagle	Birds	NT	NT	CR	CR
<i>Spizaetus tyrannus</i>	Black hawk-eagle	Birds	LC	LC	---	EN
<i>Urubitinga coronata</i>	Crowned eagle	Birds	EN	EN	CR	CR
<i>Hydropsalis anomala</i>	Sickle-winged Nightjar	Birds	---	NT	---	EN
<i>Patagioenas plumbea</i>	Plumbeous pigeon	Birds	LC	LC	---	VU
<i>Procnias nudicollis</i>	Bare-throated bellbird	Birds	NT	NT	---	VU
<i>Anabacerthia amaurotis</i>	White-browed foliage-gleaner	Birds	NT	LC	---	VU
<i>Cinclodes pabsti</i>	Long-tailed cinclodes	Birds	NT	NT	VU	VU
<i>Clibanornis dendrocolaptoides</i>	Canebrake groundcreeper	Birds	NT	LC	---	VU
<i>Limnocittes rectirostris</i>	Straight-billed reedhaunter	Birds	NT	NT	CR	NT
<i>Phacellodomus striaticollis</i>	Spot-breasted thornbird	Birds	LC	---	VU	---
<i>Xanthopsar flavus</i>	Saffron-Cowled blackbird	Birds	EN	VU	CR	VU
<i>Amazona pretrei</i>	Red-spectacled parrot	Birds	VU	VU	EN	VU
<i>Amazona vinacea</i>	Vinaceous-breasted parrot	Birds	EN	VU	EN	EN
<i>Eleoscytalopus indigoticus</i>	White-breasted tapaculo	Birds	NT	LC	---	EN

Scientific name	Common name	Group	IUCN	BR	SC	RS
<i>Hemitriccus diops</i>	Drab-breasted bamboo tyrant	Birds	LC	LC	EN	EN
<i>Drymophila rubricollis</i>	Tufted Antshrike	Birds	LC	LC	---	EN
<i>Mackenziaena severa</i>	Tufted antshrike	Birds	LC	LC	---	VU
<i>Myrmotherula unicolor</i>	Unicolored antwren	Birds	NT	LC	---	VU
<i>Cissopis leverianus</i>	Magpie tanager	Birds	LC	LC	EN	---
<i>Sporophila hypoxantha</i>	Tawny-bellied seedeater	Birds	LC	VU	VU	VU
<i>Sporophila plumbea</i>	Plumbeous seedeater	Birds	LC	LC	---	EN
<i>Stilpnia peruviana</i>	Black-backed tanager	Birds	VU	VU	EN	EN
<i>Attila rufus</i>	Grey-hooded Attila	Birds	LC	LC	---	VU
<i>Cnemotriccus fuscatus</i>	Fuscous flycatcher	Birds	LC	LC	---	VU
<i>Colonia colonus</i>	Long-tailed tyrant	Birds	LC	LC	---	VU
<i>Contopus cinereus</i>	Tropical pewee	Birds	LC	LC	---	VU
<i>Heteroxolmis dominicanus</i>	Black-and-white monjita	Birds	VU	VU	EN	VU
<i>Alouatta guariba</i>	Brown Howler monkey	Mammals	VU	VU	VU	VU
<i>Chrysocyon brachyurus</i>	Maned wolf	Mammals	NT	VU	CR	CR
<i>Mazama americana</i>	Red brocket	Mammals	DD	DD	EN	EN
<i>Mazama nana</i>	Brazilian dwarf brocket	Mammals	VU	VU	VU	EN
<i>Ozotoceros bezoarticus</i>	Pampas deer	Mammals	NT	VU	VU	CR
<i>Cuniculus paca</i>	Lowland paca	Mammals	LC	LC	VU	VU
<i>Dasyprocta azarae</i>	Azara's agouti	Mammals	DD	LC	---	VU
<i>Chironectes minimus</i>	Water opossum	Mammals	LC	DD	VU	VU

Scientific name	Common name	Group	IUCN	BR	SC	RS
<i>Leopardus guttulus</i>	Southern tiger cat	Mammals	VU	VU	---	VU
<i>Leopardus pardalis</i>	Ocelot	Mammals	LC	LC	EN	VU
<i>Leopardus wiedii</i>	Margay	Mammals	NT	VU	---	VU
<i>Puma concolor</i>	Puma	Mammals	LC	LC	VU	EN
<i>Puma yagouaroundi</i>	Jaguarundi	Mammals	LC	VU	---	VU
<i>Sylvilagus brasiliensis</i>	Tapeti	Mammals	EN	LC	---	EN
<i>Eira barbara</i>	Tayra	Mammals	LC	LC	---	VU
<i>Tamandua tetradactyla</i>	Southern tamandua	Mammals	LC	LC	---	VU
<i>Nasua nasua</i>	Nasua	Mammals	LC	LC	---	VU
<i>Pecari tajacu</i>	Collared peccary	Mammals	LC	LC	VU	VU

In what: Official IUCN (International Union for Conservation of Nature) List 2023 version, Red Book of Endangered Brazilian Fauna (ICMBio, 2018; MMA, 2022); Official List of Endangered Fauna Species in the State of Santa Catarina (CONSEMA Resolution no. 002/2011) and List of Endangered Fauna in the State of Rio Grande do Sul (FZB, 2014). Where: CR - Critically endangered; EN - Endangered; VU – Vulnerable; NT - Almost endangered; LC - Safe or not concerning; DD – Insufficient Data;

Source: Klabin S. A., 2024.

Forest Management

PLANTING PINE AND EUCALYPTUS

The company is recognized for the sustainable management adopted, which aims to multipurpose timber forestry with pine and eucalyptus plantations interspersed with native forests in forest mosaic systems. The environmentally sound practices used by the company in its forest management, as well as proper management of the landscape, provide excellent use of the production potential of forests and the protection of natural resources.



Research

Through studies, it seeks to ensure the maintenance and improvement of forest productivity, considering the quality of plantations and fibers for use in pulp production, through the development and adaptation of new technologies and sustainable forest management. It operates in the specialties of: Forest Improvement, Cloning and Biotechnology, Nutrition and Silviculture, Forest Plant Health and Wood Quality.

Micro Watershed

In order to maintain monitoring of the river basins, Klabin participates in the experimental network for environmental monitoring (ReMAM) through the Environmental Monitoring Program (PROMAB) and the Institute of Forest Research and Studies (IPEF).

PROMAB gathers information from several companies, with experimental micro watersheds located in reforestation, native forest and pasture areas in different soil and climate conditions in the country. This allows information to be continuously collected on the hydrological functioning of these areas, as well as the identification of hydrological

indicators of sustainable management of forest plantations.

Hydrological monitoring at Klabin in Santa Catarina is being carried out in two micro watersheds, one spillway installed in a contribution area within native forest and another in a contribution area with planting of *Pinus taeda*. The two micro watersheds are located on the Cavalete farm, located in the municipality of Ponte Alta.



Klabin micro watershed (PROMAB) - spillway of the native area

Forest Planning and Management

The planning area studies the various components of forest management in order to ensure the sustainability of forests in an orderly manner, ensuring the factory supply and commercialization of wood for sawmills.

It has short-term (annual) and long-term (30 years) planning. Harvest rates and forest intervention strategies are defined based on inventory data, studies and simulations. Information from the forest resource base for monitoring forest growth and dynamics is also assessed. The areas of forest registration, geoprocessing, inventory and microplanning of the areas in operation support the planning.

Forest Operations

Klabın is self-sufficient in seed production activity, relying on seed orchards per seedling and clonal seed orchards. The surplus production of pine and eucalyptus seeds has been marketed since 1969.

Silviculture

The main silviculture activities are carried out by in-house teams and include preparation of the land, with operations that ensure conservation of soils and water resources; planting seedlings; control of leaf-cutting ants; weed control and fertilization according to technical recommendations.



Forest worker planting eucalyptus seedlings.

Harvest

The mechanized and integrated system of forest harvesting ensures the cutting of wood in hard to reach places due to the characteristics of the soil (mud, slopes, etc.) and also reduces the loss of raw material in the process.

In addition, forest mechanization aims to provide collaborators with better working conditions and safety. This activity is carried out according to strict control to protect the adjacent native forest. For the mechanized forest harvesting system, the following harvesting methods are carried out at Klabin:

- **Full-Tree System:** In the Full-Tree method or known as the full tree system, the wood is knocked down (Feller Buncher, Shovel Logger and Harbunk - very steep terrain or near risk areas), dragged to the loading points (6x6 and 4x4 skidder) and subsequently processed and sectioned into the desired assortments (Harvester).
- **Cut-to-length system (CTL):** In the CTL method or known as the short log system, the wood is felled and subsequently processed inside the plot (Harvester). Then, the wood already sectioned in the desired assortments is transferred (8x8 forwarder) to the loading points.
- **Loading and Unloading:** It is loaded and unloaded using mechanical loaders with conveyors.



Forest harvesting. Photo: Anna Carolina Negri

Biomass

The plant material consisting of tips, branches, leaves and logs with diameter and length not usable in the harvesting activity is called Biomass.

It comes from the forest harvesting activity. It is processed through a chipping operation with equipment and an in-house team. After chipping, the material is sent to the factory for energy use that is generated from burning this material in a boiler, generating steam. The objective of biomass burning in the pulp and paper production process is steam generation as a source of lime, renewable and job-producing energy.

Logistics

In the logistics area are the activities of road construction/maintenance, loading and transporting wood. Loading and transportation activities are carried out by in-house and third-party teams. The timber is transported to the yards of the manufacturing units, sold directly on the farm or delivered to the customer. In road operations, the company has third-party teams and an in-house team. In addition to the construction and maintenance of private roads on the farms, the company maintains the roads for collective use in the communities where it operates in good condition and sprays down the

routes with intense traffic to minimize the impact of dust on its activities.

In addition, it partners with city halls to maintain these roads, with the donation of gravel, wood for bridges, pipes for culverts, labor and machinery to execute the works, etc.

Forest Protection

- **Pest Monitoring and Control:** A program for monitoring and controlling pests and diseases is maintained, aiming to identify species that may present some potential risk to forests.

- **Forest Heritage Security:** The company has an outsourced structure with its own management of forest heritage security. The surveillance structure consists of a structured team with vehicles and motorcycles, radio communicators, GPS and digital cameras. It acts in firefighting and in protecting fauna and flora, predatory hunters and fishermen are deterred, through preventive and/or corrective measures of mobile patrols and constant surveillance in Klabin's areas.

Socio-environmental Responsibility

The practice of socio-environmental responsibility is a premise of Klabin, which promotes and supports social, cultural and environmental projects in the communities where it operates.

Klabin collection.



Environmental education on the Araucaria trail.
Photo: Anna Carolina Negri.

KLABIN AND ITS EMPLOYEES

People are of great importance to Klabin. Therefore, we select and make a point of keeping the best professionals, those who are aligned with our values and committed to building a better company on a daily basis.

Better for everyone: customers, suppliers, collaborators, people in the community, friends, family, neighbors or any of the millions of people who use the company's products daily. For Klabin, people are more than resources within a company. Therefore, it abolished the term Human Resources, which was replaced with People & Management. More current and true, this nomenclature emphasizes the respect and importance that the company dedicates to human capital, a fundamental part that moves its business. We believe that people offer, in their individuality, skills and potentials that contribute

to the construction of a culture of engagement, development and results among all collaborators.

Klabin offers a number of benefits, which are presented during the interview.

Solidity: Klabin is a company that has been in the Brazilian market for over a hundred years. It is a leader in the industry, has numerous certifications and market recognitions. Even those who have not heard of Klabin have certainly come into contact with some of their products that package important brands in the country.

Future career: the market Klabin operates in is growing. This means that people working in this area will have opportunities in the future.

Courses and training: the company offers courses for the different career activities and stages. The company's professionals are prepared to become better. That makes a huge difference. The company contributes to the development of

the collaborator and the collaborator participates in the development of the company. The Klabin Business School is one of the examples of this practice and supports professional development and leadership training in the company.

Management of the internal environment: just as Klabin takes care of the forests, it also preserves the work environment. The company is dedicated to the safety of its processes and management of the internal climate so that professionals feel safe and motivated in their day-to-day work.

High performance: leaders are always attentive to the performance of professionals so that the company can maintain a reciprocal relationship with each person. Klabin promotes collaborator performance evaluations and encourages the definition of indicators and goals in order to create variable compensation for eligible positions.

Quality of life: for Klabin, well-being is essential for employee productivity and quality of life. To this end, the company maintains the Klabin Quality of Life Program (PKQV), coordinated by health professionals and human resources who are part of the Preventive Medicine and Quality of Life Committee. Based on five pillars, preventive medicine, nutritional guidance, physical activity/integration, alternative therapies and educational actions, the Program puts into practice actions aimed at the balance between professional and personal life.

OCCUPATIONAL HEALTH AND SAFETY (OHS)

Since 2005, the company has implemented Klabin Excellence in Occupational Health and Safety, a corporate program that aims to implement and disseminate occupational safety and health management techniques and tools, composing a system that allows the identification of risks

and treatments for effective control, aiming at ensuring life, health and physical integrity of people.

The fundamentals of the OHS Program are:

- **Visible Commitment:** from all levels of leadership, through their attitudes;
- **Line Responsibility:** all leadership levels are responsible for management in their area;
- **Operational discipline:** behavior and attitudes of people at all levels and areas of activity.

KLABIN AND THE COMMUNITY

Environmental Education

Klabin Caiubi Program

The Klabin Caiubi Program aims to disseminate ecological awareness concepts among teachers and students from various schools in the mountain plateau region. In Santa Catarina, 36 editions have already been held, the last one, held in October 2023, involving the municipalities of Bocaina do Sul, Capão Alto, Correia Pinto, Lages, Otacílio Costa and Paniel. The program has so far reached 707 schools, 1,763 teachers, and around 245,000 students in the stages carried out in the state.

The Klabin Caiubi Program has a portal with various information on environmental education, and on the editions of the Program in all states where Klabin operates. Access at: www.caiubi.klabin.com.br

SUMMARY OF PARTICIPATING MUNICIPALITIES:

2007 – 1st Edition - Bocaina do Sul
2007 – 2nd Edition - Correia Pinto
2007 – 3rd Edition - Otacílio Costa
2007 – 4th Edition - Lages
2008 – 5th Edition – Rio Rufino
2008 – 6th Edition – Lages
2008 – 7th Edition – Palmeira
2008 – 8th Edition – Bom Retiro
2009 – 9th Edition – Ponte Alta do Norte
2009 – 10th Edition – Ponte Alta
2010 – 11th Edition – 27 Municipalities of Alto Vale do Itajaí
2010 – 12th Edition – Rio do Oeste and Otacílio Costa
2010 – 13th Edition – Correia Pinto
2010 – 14th Edition – Rio Rufino, Urupema and Otacílio Costa
2011 – 15th Edition – Petrolândia and Atalanta
2011 – 16th Edition - Palmeira
2011 – 17th Edition – Bocaina do Sul
2011 – 18th Edition – Lages (Municipal Stage)
2012 – 19th Edition – Lages (State Stage)
2012 – 20th Edition – Correia Pinto
2013 – 21th Edition – Otacílio Costa and Palmeira
2013 – 22th Edition – Bocaina do Sul
2014 – 23th Edition – Correia Pinto and Ponte Alta
2014 – 24th Edition – Ponte Alta do Norte
2015 – 25th Edition – Lages
2016 – 26th Edition – Lages

2016 – 27th Edition – Lages and São Cristóvão do Sul
2017 – 28th Edition - Santa Cecília, Bocaina do Sul and Otacílio Costa
2018 - 29th Edition – Lages and Correia Pinto
2018 - 30th Edition – Lages, Bom Retiro, Bocaina do Sul, São José do Cerrito, Urubici, Palmeira, Painei, Correia Pinto
2019 - 31th Edition – Bocaina do Sul, Lages, Monte Carlo, Otacílio Costa, Painei, Rio Rufino and Urupema
2019 - 32th Edition – Correia Pinto, Lages, Monte Carlo, Otacílio Costa, Urupema, Rio Rufino, Palmeira
2020 - 33th Edition (Online) – Correia Pinto and Lages
2021 – 34th Edition (Online) – Lages, Monte Carlo, Otacílio Costa and Petrolândia
2022 – 35th Edition – Correia Pinto and São Joaquim
2023 - 36th Edition – Bocaina do Sul, Capão Alto, Correia Pinto, Lages, Otacílio Costa and Painei.



Teachers participating in the Klabin Caiubi Program in 2023.

Araucaria Trail

Klabin's Araucária Trail is located in the municipality of Correia Pinto, near the the company factory. It is 1,260m long and is interspersed with the native forest of Klabin's forest areas. It aims to receive teachers and students who participate in the Caiubi Program, as well as visitors in general. People who had the opportunity to visit, from different locations, received environmental information about the company and its socio-environmental actions.



Araucaria trail - Correia Pinto, SC Photo: Anna Carolina Negri

Environmental Protectors

The Environmental Protector Program is a program of the Military Police of Santa Catarina that aims to train pre-teens to act as multipliers in environmental education. Klabin has supported the program with the Environmental Police since 2005. Five hundred and twenty-seven teens aged 11 to 14 years have already been involved in the Environmental Protectors Program, sponsored by Klabin, in several municipalities in the region where the company operates. In 2023, 23 new Environmental Protectors were formed, who worked in the Program throughout the year.



Field trip and environmental protectors camping 2022 – PNH Serra da Farofa Complex

Forest Grow Program

The program contributes to personal and professional development, maintaining a direct communication channel and promoting the improvement of the quality of life of the company's direct employees and third-party contractors. Bimonthly meetings are held with each team, in the work environment itself (field) or in training rooms.



Forest Grow Program in SC

Forest Fomentation Program

Forest Fomentation has a relevant social role, ensuring an alternative source of income for small farmers, with stable labor in the field and better use of mostly unproductive areas for agriculture.

Forest Supplier Certification Program

Klabin's Forest Supplier Certification Program for partners, is an initiative of the company that has been supporting the region in producing sustainable forests for many years.

Suppliers who are in agreement undergo an intensive process, lasting a year, of documentation preparation and fieldwork, to carry out an external audit with a certifying body. The preparation process is funded by Klabin for 12 months. This process allows small suppliers to add value to the product with FSC® certification, facilitate business, improve the competitiveness of the value chain as a whole.



1st Wood supplier certification group in SC

Legal Forests Program

Since 2005, this program has been a partnership between Klabin and the Association for the Preservation of Environment and Life (Apremavi). Initially, Legal Forests will target producers participating in Klabin's Forest Promotion Program, a sustainable economic activity that generates additional income for the producer and his family. The Forest Fomentation and the Legal Forests Program combine the generation of income and the diversification of productive activities with the recovery of Permanent Preservation Areas (PPA), linked to springs, streams and rivers. The program

also develops conservation and environmental education actions.

Social Forests Program

The "Social Forests - Planning Sustainable Properties" program is a program to strengthen family farming initiated by Klabin in partnership with Apremavi and Sebrae, with the support of local communities, farmers, associations and cooperatives.

The initiative promotes family farming and assists small and medium-sized rural producers in all stages of production, from bringing properties into compliance with regulations, to carrying out conservation and restoration projects, to supporting food marketing by bringing producers closer to food buyers. It includes training, improvement and diversification of ownership and promotion of associations and cooperatives, facilitating access to new market and regional development opportunities.

Starting in 2015, in Paraná, in 2020 it arrived in Santa Catarina. It is held in Otacílio Costa, Lages and Correia Pinto. In 2022, it was expanded to include Palmeira and Ponte Alta.

Public Management Support

The Public Management Support Program proposes to equip city governments with modern management processes and tools capable of supporting planned and participatory development. To this end, the City Halls will receive technical assistance from a consultancy specialized in public management to prepare programs, actions, objectives, indicators and budget, as well as to prepare their multiannual plan, which will make clear the projects and indicators of results. In Santa Catarina, it is conducted in the municipalities of Otacílio Costa, Correia Pinto and Lages.

Klabin Seeding Education

The Klabin Seeding Education Program works to improve the management of public resources for education with a focus on results, seeking a balance between school management, infrastructure, resources, and pedagogical practices. The main objective is to improve the results of official indices, such as the IDEB (Basic Education Development Index). It is performed in Santa Catarina, in the municipalities of Lages, Otacílio Costa, Correia Pinto, Palmeira and Ponte Alta.

Klabir collection.





Forest Certification Program for Beekeepers

At Klabin, the main objective of beekeeping is to encourage the efficient and sustainable use of forest goods and services, strengthening regional development, encouraging the protection of forests and is an alternative for generating work and income for small and medium-sized producers.

The group of beekeepers who use Klabin's areas in SC were encouraged by the company to form an Association. Since 2019, it has been formalized as the Association of Beekeepers of the Serrano Plateau of Santa Catarina (ABPSC), with assemblies, minutes, board of directors, etc., and began to collaborate with each other in a more organized manner.

In August 2021, Klabin received Imaflora certification to attest to the feasibility of producing certified honey in native forests within the scope of Klabin's certification, as well as ABPSC members received Imaflora chain of custody certification.

The honey verified by Imaflora combines several benefits to the environment, the sustainable economy and the families of forest workers and their communities. Responsible beekeeping helps to conserve natural forests, endangered species and ecological balance, as well as contributing to the UN's SDGs 1, 2, 8, 10, 12, 15 and 17 according to environmental, social and governance (ESG) practices.



Beekeeping. Photo: Anna Carolina Negrí



Lectures and Relationship with the Community

During the year, there are several visits from groups of students and teachers who request lectures during events such as seminars, academic weeks, commemorative days (Environment Day, Water Day, Tree Day) or even visits to the company to learn about Klabin's actions in the environmental area, to visit the Araucaria Trail.

Community Relations

Klabin has been conducting forestry work to identify, map and characterize the communities adjacent to the forest areas as well as those along the transport route. At this moment, a dialog is established with the communities to inform them about the operation to be carried out and to consult them about the possible interference in their daily routine, opening a channel for the proposal of mitigation measures to be adopted by Klabin, and the communication channels are also disclosed.

Relationship with traditional communities

Klabin identifies and implements measures to protect the customary rights of traditional communities (quilombolas and indigenous) living near its forest management areas. In the relationship with these communities, a dialogue and respect-based relationship is built, in accordance with Brazilian legislation and the recommendations of ILO 169.



Mapping of communities.

Community Dialog Channels

Klabin continuously supports and invests in the local development of communities adjacent to its forestry and industrial operations, and strives to understand and listen to them in order to mitigate any sensitive impacts. To this end, the company provides several channels for dialog.

Through these, it is possible to receive requests, suggestions, compliments, reports and complaints, which will be handled by the responsible teams:

- **TALK TO KLABIN: 0800 721 0228**
- **WEBSITE: KLABIN.COM.BR/FALE-CONOSCO**
- **LECTURES / VISITS TO THE COMPANY**
- **PRESS / ANNOUNCEMENTS / CAMPAIGNS**
- **VISIT TO UNIONS**
- **PARTICIPATION IN FORUMS AND SECTORAL COMMITTEES**
- **EMPLOYEE EMAIL / PHONE**
- **DIALOGS WITH NEIGHBORS AND COMMUNITIES**
- **SOCIAL AND ENVIRONMENTAL PROGRAMS**



Sphaenorhynchus surdus (Cochran's Lime Treefrog)
PNHR Serra da Farofa Complex.
Photo: Sumatra Inteligência Ambiental.

Klabin and the Environment



The concern to preserve the environment has guided the company's actions since its foundation.

Protected Areas

In Santa Catarina, 48% of the company's total area is dedicated to production and the same amount, 48%, to conservation. These forested areas have made important contributions to the preservation of the environment, the protection of biodiversity and the conservation of water sources. Forest management follows the mosaic concept, with pine and eucalyptus plantations interspersed with areas of native forests, preserving biodiversity.

In the 44 communities where Klabin owns forestland in SC, the company protects more than 5,000 kilometers of rivers and more than 9,000 springs that contribute to the region's water supply.

PNHR – Serra da Farofa Complex

The Private Natural Heritage Reserve - PNHR - Serra da Farofa Complex has 4,987.16 hectares of areas destined exclusively to conserving natural resources in the region where Klabin operates in SC. These areas are home to important springs such as those that make up the Canoas and Caveiras Rivers, springs that supply the Serrano Plateau region. An important acquired area was the Nascentes Farm, popularly known as the Farofa Farm, in reference to a local mountain range with the same name. Located in the municipality of Paineira, bordering Urupema (SC), it has an area of 1,518.57 hectares of natural vegetation in a high state of conservation. The other areas are located in the municipalities of Rio Rufino, Urubici and Bocaina do Sul.

The areas that make up the Serra da Farofa Complex are considered HCVA, as they are preserving attributes such as the protection of springs and water sources and the conservation of endangered animal species. In them, it is possible to find important plant formations, such as araucaria forests, high altitude grassland and cloud forests. The rich local fauna also harbors species included in official listings as threatened with extinction.

High Conservation Value Areas (HCVA)

The conservation attributes defined for HCVA in Klabin areas are being analyzed, according to the Criteria of Principle 9 of the FSC® and ProForest Guide for High Conservation Value Areas, which are:

HCVA 1 – Species

Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

HCVA2 – Landscape

Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

HCVA3 – Ecosystems

Forest areas that are in or contain rare, threatened or endangered ecosystems.

HCVA4 – Environmental Services

Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

HCVA 5 – Community needs

Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).

HCVA 6 – Cultural Values

Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

The result of the assessment presented in the following table is a compilation of different analyses made by qualified specialists, and the HCVA presented were validated through public consultations with representatives from the scientific community and the population surrounding the areas and internal technical assessment of the company. Therefore, areas defined as HCV have differentiated forest management activities aimed at maintaining and maximizing the identified attributes.



Mazama gouazoubira (Gray Brocket) Photo: Sumaira
Inteligencia Ambiental

Table 6 – High Conservation Value Areas and respective attributes

Farm	Types of vegetation	HCVA Class	Attributes
HYDROGRAPHIC REGION 4 - Lages Plateau			
<i>Serra da Farofa Complex (Nascentes, Boa Vista, Cedro I and II, Farrapos, Morro Agudo and Santo Antônio farms)</i>	MOF	1	Presence of several endemic species threatened or in danger of extinction of fauna and flora
		2	Santo Antônio: scenic beauty, presence of canyons; Farrapos: near São Joaquim National Park
		3	Representative areas of FOM in the middle or advanced stage of succession, high altitude grassland and cloud forests; Santo Antônio: Xaxim wetlands
		4	Nascentes: it houses 4 of the 5 springs of the Caveiras river, the main river that supplies the municipality of Lages; Santo Antônio: springs of the Canoas river.
		5	Families collect pine nut for their own consumption and to sell
		6	Nascentes: stone walls on property boundaries
<i>Paredão I</i>	MOF	1	Specimens of endangered or threatened fauna and flora
		2	The farm owns a vast conservation area, representative in the regional landscape
		3	Remaining representative of FOM in high conservation status
<i>Ponte Alta do Norte</i>	MOF	1	Specimens of fauna and flora (Araucaria)
		3	Remaining FOM in good condition
		4	Marombas River

Farm	Types of vegetation	HCVA Class	Attributes
HYDROGRAPHIC REGION 4 - Lages Plateau			
<i>Santa Rita-I</i>	GRA	1	Presence of very well preserved fragments
		3	Remnants in good condition
		4	Protects springs and rivers
		6	Landscape Attributes: waterfalls in canyons, rocky cliffs with conserved vegetation
<i>Capão da Lagoa</i>	GRA	1	Presence of endemic species from grassland and wetland areas
		2	Relevant in the landscape for protecting grassland areas, so commonly anthropized in the Santa Catarina plateau
		3	Predominance of grassland, with well preserved araucaria isolated woods and wetlands
		6	Stone walls on property boundaries
HYDROGRAPHIC REGION 5 - Canoinhas Plateau			
<i>Palmital do Areião</i>	MOF	1	Presence of endemic species from field and wetland areas
		2	Relevant in the landscape for protecting FOM areas
		3	Remaining FOM in good condition
HYDROGRAPHIC REGION 7 - Itajai Valley			
<i>Corote</i>	DOF	1	Presence of endemic species
		2	Relevant in the landscape for protecting FOD areas
		4	Protects springs and rivers important to the region

Key: MOF: Mixed Ombrophilous Forest; GRA: Grassland; DOF: Dense Ombrophilous Forest

Source: Klabin S. A., 2023.

Monitoring that contributes to maintaining and improving High Conservation Value Attributes in HCVA areas in Santa Catarina occurs periodically through research projects that are carried out in partnership with researchers, education and research institutions and a specialized consulting firm. In order to reduce threats, HCVA have several protective measures.

The fauna monitoring activities registered at the Farrapos Farm (HCVA), located in the municipality of Urubici belonging to Block IV of the Private Natural Heritage Reserve (PNHR) Serra da Farofa Complex, a rare and endangered amphibian species. The glass frog, which is the common name of the *Vitreorana uranoscopa* specie.



Vitreorana uranoscopa (Glass frog). Photo: Sumatra Inteligência Ambiental.

Table 7 - HCVA Protection and Monitoring Measures

Monitoring										
HCVA	Heritage Surveillance	Surrounding	Flora survey	Mammalian fauna survey	Birdlife survey	PPA recovery	PPA monitoring	Control of invasive exotic species	Fire control	Educational campaigns
<i>Serra da Farofa Complex</i>	X	X	X	X	X			X	X	X
<i>Paredão 1</i>	X		X	X	X	X		X	X	X
<i>Ponte Alta do Norte</i>	X		X	X	X	X		X	X	X
<i>Santa Rita-I</i>	X		X	X	X	X		X	X	X
<i>Capão da Lagoa</i>	X		X	X	X	X	X	X	X	X
<i>Palmital do Areão</i>	X		X	X	X	X	X	X	X	X
<i>Corote</i>	X		X	X	X	X	X	X	X	X

Source: Klabin S. A., 2023.

Starry sky at CINAT - Nature Interpretation Center - Serra da Farofa Complex, SC.
Photo: Sumatra Inteligência Ambiental



CINAT – Nature Interpretation Center

The Nature Interpretation Center – CINAT is a sustainable construction, inaugurated at the PNHR Serra da Farofa Complex in 2019. Environmental research has been carried out since 2008 in the Conservation Unit, such as theses, dissertations and published scientific articles. With the structure of CINAT, researchers have access to dormitories for up to 40 researchers/students, a refectory, bathrooms and auditorium.

Ecosystem Services at PNHR – Serra da Farofa Complex


In November 2021, Klabin was the first company in Brazil to obtain simultaneous recognition from FSC® (Forest Stewardship Council®) of verified positive impacts of three Ecosystem Services: Biodiversity Conservation (ES1), Carbon Sequestration and Storage (ES2) and Services in Watersheds (ES3), at the Nascentes Farm, located at the PNHR Serra da Farofa Complex.

The statements of positive impacts of Ecosystem Services reaffirm that management activities are contributing to maintaining and/or improving the ecosystem services of Biodiversity (ES1), Carbon (ES2) and Water (ES3) in Klabin's forests and are aligned with the KODS - Klabin Objectives for Sustainable Development and reiterating the various benefits provided:

- Diagnose, monitor and maintain the region's biodiversity;
- Maintain the forest and protect the areas against fire, theft, hunting and illegal fishing;
- Monitor the carbon stock of native forests;
- Protect and maintain the quality and availability of water resources;
- Environmental Education;
- Deepen knowledge about biodiversity, water resources and carbon sequestration and storage by continuously encouraging scientific studies in the areas.

Klabir collection.





*Field Monitoring Corote Farm,
Sumatra Inteligência Ambiental*

The recognition of existing ecosystem services at Klabin reinforces the importance of good forest management for environmental conservation, reflecting the efforts made in the company on this journey towards sustainable development.



Ecosystem Service Representation
Carbon storage and sequestration

Forest of Nascentes Farm. - PNHR Serra da Farofa Complex.
Photo: Sumatra Inteligência Ambiental

Representation of Ecosystem Service in Watershed services



*Spring of the Caveiras River,
PNHR Serra da Farofa Complex.
Photo: Sumatra Inteligência Ambiental*

Ecosystem Service Representation for Biodiversity Conservation



*Puma concolor (Puma), top of the food chain,
in the PNHR Serra da Farofa Complex.
Photo: Sumatra Inteligência Ambiental*

LIMITING AND POTENTIAL FACTORS

I. Cultural Practices: Forest productivity depends on the cultural practices adopted, such as soil preparation, spacing and forest competition control.

II. Abiotic and biotic factors: Forest plantations can suffer from environmental conditions such as: fires, frosts, winds, hail, water deficit or pest infestations and diseases, among others.

III. Climate Factors and Technological Development: Due to favorable weather conditions and advanced technological development, the wood produced in Brazil in planted forests has relatively short cycles and high productivity, which allow the country to remain active in the international forest products market.

IV. Technological Development and Commercial Growth: Combined with advanced technological development, the wood produced in Brazil in planted forests has favorable climatic and soil conditions, relatively short cycles and high productivity, which allow the country to remain active in the international forest products market.

In general, assessing the regional scenario, it can be said that the justification for species selection and the economic viability of management are due to the following factors: favorable climatic and soil conditions and market perspective for commercial planted forests.

ENVIRONMENTAL SAFEGUARDS

Klabin has some environmental safeguards, aiming to minimize the negative impacts of its forest operations. Among them, the following stand out:

- Heritage Security;
- Monitoring fauna and flora in the company's areas;
- Monitoring and controlling pests and diseases;
- Monitoring to minimize environmental impacts on operations;
- Control of pine in Permanent Preservation Areas;
- Socio-environmental actions in the regions where it has forest operations;
- Development of environmental research in partnerships with universities.

Forest Management Indicators

Klabir collection.



1. TECHNICAL AND ECONOMIC DATA

TECHNICAL AND ECONOMIC MONITORING							
Monitoring	Indicator	Results					
		2021	2022	2023	2023 Target	Customer service	2024 Target
Products harvested (tons)	Pine wood Production for cellulose	1,651,735	1,363,423	2,245,160	3,047,522	☹️	2,563,190
	Pine wood Production for trade	422,983	399,283	399,750	450,136	☹️	449,790
	Eucalyptus wood Production for cellulose	265,694	295,832	388,780	282,083	😊	341,820
	Biomass production for energy	160,130	130,678	148,430	162,500	☹️	169,000
Forest Growth Rates - AAI - Average Annual Increment (m3/ha/year)	Eucalyptus (cutting age 7 years)	As a result of the Forest Management and the Genetic Improvement Program carried out, the AAI of forests has an average growth expectation of 1.5% per year for Pine and Eucalyptus					
	Pine (cutting age 16 years)						
Forest Management Efficiency (in tons)	Pine wood delivery to the factory	1,622,272	1,380,328	2,219,060	2,032,708	☹️	2,703,610
	Eucalyptus wood delivery to the factory	281,771	283,390	413,700	289,585	😊	301,670
	Sale of Pine logs to Third Parties	422,983	399,283	399,750	450,136	☹️	449,790
	Biomass delivery to the factory	110,039	86,265	129,220	162,500	☹️	169,000
Chemical Monitoring	Herbicide consumption in the silviculture area - L/ha	2.06	0.35	0.39	Maximum 0.5 L/ha	😊	Maximum 0.5 L/ha
	Herbicide consumption in the silviculture area - Kg/ha	0.42	1.47	0.82	Maximum 3.50 Kg/ha	😊	Maximum 3.50 Kg/ha
	Insecticides for ants consumption in the silviculture area - kg/ha	2.25	2.09	1.76	Maximum 2.5 Kg/ha	😊	Maximum 2.5 Kg/ha

LEGENDA



TARGET REACHED



TARGET NOT REACHED

Data from January to December of each year.

2. ENVIRONMENTAL MONITORING

ENVIRONMENTAL MONITORING							
Monitoring	Indicator	Results					
		2021	2022	2023	2023 Target	Customer Service	2024 Target
Biodiversity	No. of fauna species	528	534	541	-	😊	-
	No. of flora species	880	887	892	-	😊	-
	No. of occurrences of species with recognized conservation status	629**	774**	697**	-	😊	-
	Expansion of the number of species identified in fauna monitoring in HCVA	427***	431***	433***	>1	😊	>1
Environmental Education	No. of Teachers involved in the Caiubi Program	1,656	1,710	1,763	1,750	😊	1,790
	No. of Students involved in the Caiubi Program	223,640*	231,153*	244,753	235,000	😊	250,000
	Annual Caiubi Program editions	1	1	1	1	😊	1
	Annual Environmental Protection Program editions	1	1	1	1	😊	1
Forest Protection	No. Wildfires	34	21	26	< 40	😊	< 40

LEGENDA

😊 TARGET REACHED

😞 TARGET NOT REACHED

* Cumulative 2005-2023 data from the Caiubi Program (number of students involved)

**The sum considers the species of fauna and flora included in the lists of IUCN (2023), MMA (2014), ICMBio (2018), CONSEMA - SC (no. 2/2011 and no. 51/2014) and for RS, FZB (2014) with some category of threat identified in the Biodiversity Monitoring Program since 2003.

*** Accumulated data from all fauna monitoring in HCVA areas with annual inclusion of species seen for the first time in the areas

3. SOCIAL DATA

SOCIAL MONITORING							
Monitoring	Indicator	Results					
		2021	2022	2023	2023 Target	Customer Service	2024 Target
Jobs Generated	No. of Collaborators (In-house)	593	668	653	-	😊	-
	No. of Collaborators (Third Parties)	475	720	758	-	😊	-
Collaborator Health and Safety	No. of Occupational Accidents (Third Parties + In-house)	8	10	14	0	😞	0
Collaborator Training	Training Hours (In-house)	18,511	24,903	17,822	13,000	😊	18,500
	% Participation in the Forest Growth Program	79.5%	83.5%	83.7%	75%	😊	75%
Interaction with the Community	No. of Visitors to the Araucária Trail and CINAT	0**	155	79	100 visitors	😞	100 visitors
	No. of Participants in lectures on Klabin	1337	1335	1278	800	😊	800 ha/ano
	No. of certified hectares of wood suppliers	29,207.49*	36,457.27*	43,103.9*	5000 ha/year	😊	5000 ha/year
	No. of ongoing surveys in the year with biodiversity conservation	16	13	10	6 surveys/year	😊	6 surveys/year
Perception of Klabin's commitment to communities	Average of 8 indicators evaluated in research in the communities where Klabin operates: Perception of impacts; Economic development; Environmental preservation; Employment; Commitment; Social; Business stimulus and Image	81.7%	85.3%	82.9%	80%	😊	80%

*Data accumulated since 2017 when the program started

** Visits canceled due to the pandemic

LEGENDA



TARGET REACHED



TARGET NOT REACHED

2 0 2 4

PUBLIC **Summary**

Forest Management Plan | Santa Catarina



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KlabinInstitucional

Av. Olinkraft, 6.602 | Bairro Igaras | CEP: 88540-000 | Otacilio Costa (SC)

0800 721 0228

www.klabin.com.br



Klabin

