

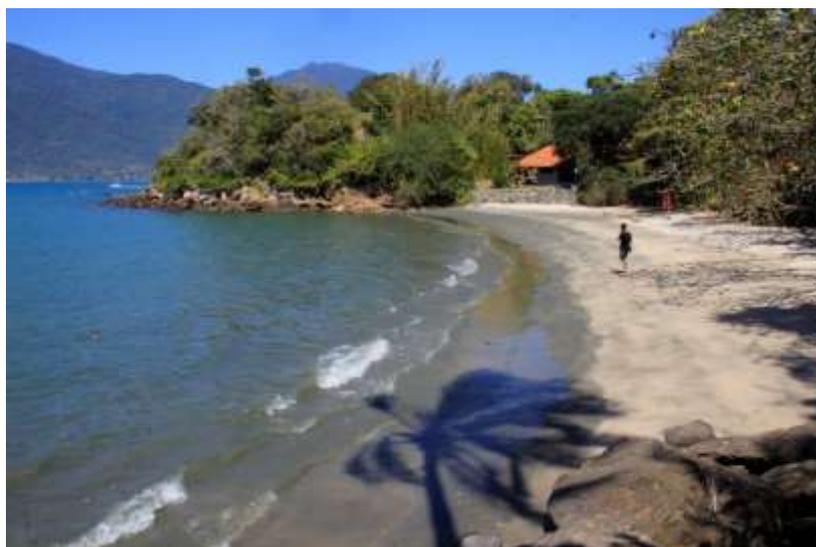
FUNDAÇÃO FLORESTAL



# FUNDAÇÃO FLORESTAL

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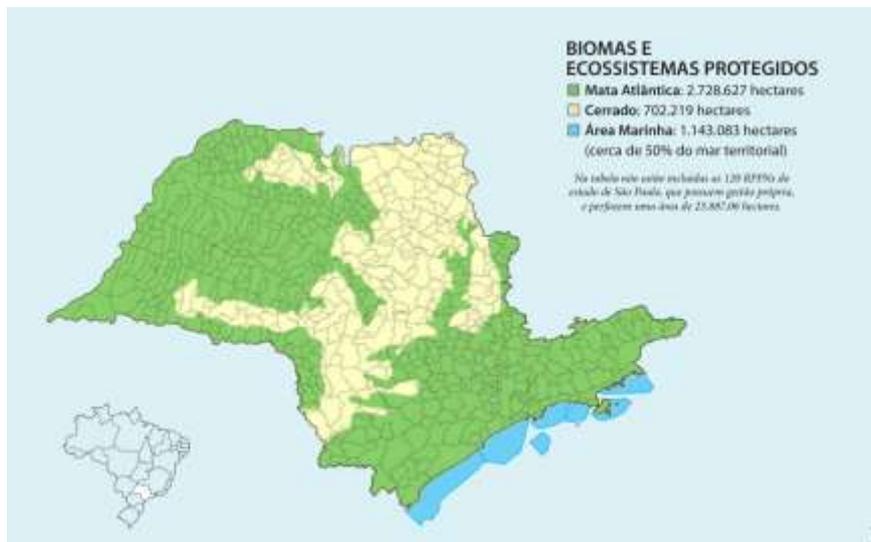
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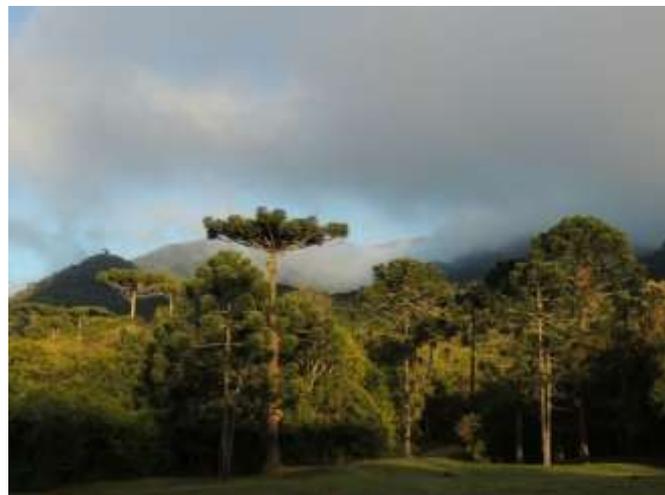


## Introduction

The Foundation for the Conservation and Production of Forests, or simply Forestry Foundation, or FF, is an indirect administration institution linked to the Secretariat of Environment, Infrastructure and Logistics of the State of São Paulo (SEMIL). It is responsible for the administrative, territorial and technical management of 152 protected areas, totaling more than 4.7 million hectares (Mha), with 57% in the Atlantic (Rain)Forest biome, 26% in the Cerrado biome (grasslands) and 42% in Marine Areas (approximately 50% of the territorial sea).



		Area (hectares, or 2.47 acres)				Units			
<b>Areas under FF Management</b>		<b>4708537</b>				<b>157</b>			
	Conservation Units		4674385				125		
	Comprehensive Protection Units			962912				70	
	State Parks				826285				37
	Ecological Stations				116770				26
	Natural Monuments				16825				3
	Biological Reserves				827				2
	Wildlife Refuges				2205				2
	Sustainable Use Units			3711473				55	
	Environmental Protection Areas				3666401				35
	Sustainable Development Reserves				18185				7
	State Forests (Sustainable Use)				7503				6
	Areas of Relevant Ecological Interest				16597				5
	Extractive Reserves				2787				2
	Production Units		34152				32		
	Experimental Stations				23501				18
	Forests (Production)				10619				11
	Forest Nurseries				20				2
	Forest Nursery				12				1





## Infrastructure, Administrative Management and Finance

Of the R\$219.5 million in revenue for the Forestry Foundation in 2024, 39% came from its own resources (mostly from the sale of timber and resin, followed by revenue sharing, antenna and transmission line rentals, entrance fees and accommodations, and financial income). Next comes the State Treasury (28%), mainly for personnel and operating expenses. The Environmental Compensation Chamber – CCA (23%) provides resources aimed at executing work plans, including the protection and monitoring of protected areas, combating forest fires (Operation SP Without Fire), infrastructure and trail signage, biodiversity monitoring, the Sea Without Trash program, and land regularization. Finally, agreements and terms of commitment for environmental compensation (10%) signed with companies are directed towards maintaining the environmental licensing conditions.

The payroll and social security contributions cover 332 employees, in addition to security (188 outsourced security posts in 52 Conservation Units), and third-party services (Payments for Environmental Services); forest restoration and production; land regularization (georeferencing and demolitions), biodiversity monitoring and trail maintenance, among others. Environmental monitoring includes 191 posts for biodiversity monitoring and public use activities. Outsourced gatekeeping operates 73 posts in 41 Conservation Units. Civilian firefighters are concentrated in 57 fixed posts, expanded to 102 in October and November during Operation SP Without Fire. In transportation, vehicle and helicopter rentals stand out, with the majority of aircraft used in Operation SP Without Fire. Compensation payments are made to the Institute for Environmental Research (IPA). Furthermore, there are expenses for building maintenance, vehicles and equipment, fuel and public services (electricity, water and communications), consumable materials, per diem allowances, cleaning, construction,

and equipment acquisitions. Execution rates reach up to 91% of the allocated funds, demonstrating a continuous commitment to excellence in management and planning, resulting in better quality in the application of resources in conservation units. This positive evolution demonstrates a progressive improvement in the efficiency of financial execution, ensuring greater effectiveness in the application of resources destined for environmental preservation.



## Forest Management and Production

The Forest Management Program in the Forest Production and Conservation Units managed by the Forestry Foundation aims to eradicate exotic species in Conservation Units, monitor research, implement and monitor planted areas, sell timber and extract resin in production areas, and combine activities developed in different categories.

In fully protected Conservation Units contaminated by pine trees, the forest management team has defined the most appropriate method for their removal and has been monitoring the clear-cutting, with the aim of making areas available for planting native species. Actions aimed at developing partnerships with the goal of training communities surrounding the production areas in resin extraction processes, aim to improve local financial and economic development, as well as increase quality of life, family income, and job opportunities.

To support forest management and sustainable exploitation planning, information is needed to inform decision-making regarding the commercial potential of existing forest assets. Tests are underway using drones and leading cameras to ensure greater

accuracy in volumetric inventories. Unit-level diagnoses aim to develop a Business Plan for the Forestry Foundation.



## International Relations and Communication

The Forestry Foundation has been intensifying its activities on the international stage, participating in strategic events that reinforce its mission to promote the conservation and sustainable management of ecosystems. Institutional presence at global conferences has strengthened the exchange of knowledge and the expansion of partnerships to implement innovative solutions in São Paulo. Participation in the UNFCCC CoP29 provided the opportunity for the Forestry Foundation to present its efforts on ecological restoration through the launch of the Ecological Restoration Platform in Conservation Units. The platform consolidates a georeferenced and automated database with information that allows for the rapid selection of areas for restoration, scaling the potential of restoration projects in all Conservation Units in the state. The platform also allows those interested in carrying out restoration projects to pre-select areas and outline their projects for the carbon market, directly contributing to the mitigation of climate change and the conservation of biodiversity in the state of São Paulo. There, Forestry Foundation also reaffirmed its commitment to the conservation of marine and mangrove ecosystems. The Forestry Foundation (FF) is a benchmark for subnational governments in PES practices and nature-based solutions, strengthening its integration into global networks. Another highlight was the opportunity to celebrate partnerships with countries on the West African coast. These collaborations have been fundamental in aligning the Forestry Foundation's actions with global demands for conservation and sustainability, expanding the international

visibility of the state's Conservation Units and connecting them to the Sustainable Development Goals. Furthermore, the events provided an opportunity to establish strategic partnerships and build a credible environment for raising funds for local projects, reinforcing the institutional mission of protecting the environment and promoting the well-being of the communities that depend on it.

The Communications Department plays a strategic and essential role in maintaining the organization's institutional image. Responsible for coordinating internal and external communication, the area aims to ensure that the message is transmitted clearly, cohesively, and aligned with the institution's values and objectives. The Department focuses on preserving brand identity, creating content that reinforces its image, and engaging with various stakeholders.



## Transparency

Management Councils are spaces for dialogue for civil society and other actors in the territory covered by Protected Natural Areas. Among the various challenges of managing Conservation Units, the need to attract support and ensure the partnership and participation of society in this process is undoubtedly one of the most significant. The formalization and operation of the councils is a goal of the Forestry Foundation, even accounted for in the indicators of the State Government's Multi-Year Plan, and their creation and operation are supported by the Law of the National System of Conservation Units. They are chaired by the body responsible for the administration of the Conservation Unit and are composed of representatives from the public, private and third sectors, functioning as social control of the actions, decisions and execution

of public resource expenditures by the government. In addition to this accountability, it is in the councils that a diversity of segments of society and the public power express their demands, suggest improvements, propose and build solutions, as well as contribute to the participatory planning of the management of the Conservation Units.

With the premise of acting with a focus on the integrated management of territories, there are the Mosaics of State Conservation Units of São Paulo, bordering, continuous and juxtaposed protected areas, in protected terrestrial and marine areas. Formalizing the councils is an institutional priority, keeping them active and regular, as foreseen in the government guidelines and the goals of the Multi-Year Plan (PPA) of the Forestry Foundation, under a great institutional effort to maintain the participatory process in the management of the Conservation Units with the formalization of new councils and the renewal of others, organization of meetings and events, despite the difficulties imposed by the particularities of each territory covered by the Conservation Units.



## Creation and Expansion of Conservation Units

The Forestry Foundation has an area dedicated to the creation and expansion of Conservation Units, aiming to contribute to the increase of biodiversity and guarantee the provision of essential ecosystem services for the well-being of populations. The processes are informative and participatory, aligning conservation actions with global biodiversity goals and the fight against climate change. The sector is dedicated to the creation and expansion of State Parks, both terrestrial and marine, to technical studies,

and to participatory processes with public hearings for the approval of Management Plans in areas rich in biodiversity. In addition, the Forestry Foundation promotes the creation of Sustainable Development Reserves in regions inhabited by traditional communities that use means of subsistence, playing an important role in environmental conservation.



## Protection and Monitoring

The protection teams of Conservation Units and other protected areas managed by the Forestry Foundation recorded thousands of field inspection actions, with incidents and infraction notices issued in an integrated operation with the Environmental Military Police. Infractions against flora and fauna, as well as those related to balloons, stand out.



The Department of Airspace Control has received several requests from the Forestry Foundation for access to Brazilian airspace to conduct drone operations in support of the protection, monitoring, and management of protected areas. The increased use of aircraft in service of the Forestry Foundation is noteworthy, a response to institutional investment in training new pilots. The importance of this initiative is clear to society when even newly graduated pilots are recruited to support emergency work in Operation São Paulo Sem Fogo (São Paulo Without Fire). Drones and pilots have been deployed to improve the field situation assessment capacity of the local Forestry Foundation Command and to motivate increased effort. Furthermore, the Forestry Foundation developed the RVA Mobile application on the ESRI ArcGIS Survey123 platform to facilitate the collection of georeferenced data during inspections. The Foundation is training its team to integrate the application into field routines.



## Prevention and Control of Forest Fires.

In 2024, São Paulo and Brazil experienced a period of severe drought, the worst drought in recorded history in the last 70 years. In 2022 and 2023, there was a large volume of rainfall due to the La Niña phenomenon, generating a significant reduction in fire outbreaks compared to 2020 and 2021, when the number was around 6,000 outbreaks. This scenario demanded that the entities involved in Operation SP Sem Fogo (Operation SP Without Fire) reinforce prevention and monitoring actions and significantly increase the number of teams in the field, as well as contractual addenda. The preparation of the institutions, the effort of the field teams, and the territorial management actions adopted ensured the protection of the specially protected areas of the state of São Paulo.



Among the most significant actions, the following stand out: (i) the use of a satellite monitoring system for fires and wildfires by the Civil Defense (SMAC); (ii) access to the fire and wildfire monitoring system of forestry companies (partnership with Florestar); (iii) the implementation of firebreaks and the maintenance of internal roads in Conservation Units; (iv) in-person training for the formation of firefighters; (v) environmental education actions; (vi) an international course on Forest Firefighting in partnership with the National Wild Fire Coordinating Group, with instructors from California (Calfire), Chile, Mexico and Ecuador; (vii) prescribed burning in the Northwest Paulista State Forest, in the Santa Maria Ecological Station and in the Marília Ecological Station; (viii) acquisition of various equipment and uniforms; (ix) hiring of civilian firefighter positions and addendum during the critical fire season; (x) contracting fixed-wing and rotary-wing aircraft for aerial monitoring, transporting teams and fighting fires; (xi) allocating a fleet of drones with thermal cameras to monitor hot spots and fires and directing teams to mop-up operations; (xii) acquiring tractors with attached front blades, rear drag blades and hydraulic drag mowers, as well as cabs for existing tractors.



During the most critical period, with the establishment of the Crisis Cabinet by the state government, additional measures were taken, such as the closure of 81 Conservation Units, with the aim of protecting the population and maintaining the teams' full focus on the areas most affected by the fires. The Forestry Foundation concentrated an institutional effort involving civil servants who acted as firefighters, civilian firefighter posts, firefighter security guard posts, as well as various vehicles and equipment.



## Land Regularization

Georeferencing and rectification services are underway for real estate documents in 21 publicly owned Conservation Units managed by the Forestry Foundation. The georeferencing of rural properties must be duly certified in the Land Management System of the National Institute for Colonization and Agrarian Reform (SIGEF/INCRA), adhering to the required levels of precision, with a map and descriptive report of the properties. These actions are important to guarantee the accuracy of real estate records and the legal security of the Conservation Units managed by the Forestry Foundation, promoting better management and preservation of these areas. Within the scope of environmental compensation, the Land Regularization Sector analyzes proposals for the alienation of areas located within Conservation Units. Since 2024, the State Treasury has been authorized to receive, by donation, without charge or encumbrance, properties in Conservation Units pending land regularization, as a form of environmental compensation for the absence of a Legal Reserve, suppression of native vegetation, or intervention in a Permanent Preservation Area, in environmental licensing processes, in accordance with the provisions of the law. A Technical Manual provides guidance on such procedures.



## Environmental Licensing

Environmental licensing, an essential procedure in the management of projects and activities that potentially impact the environment, is conducted by the Forestry Foundation as an intervening body. The processes encompass authorizations for soil movement, vegetation suppression, and interventions in Permanent Preservation Areas; requests for environmental licenses (preliminary, installation, and operation); technical opinions; consultations; analysis of terms of reference; environmental impact studies; monitoring of responses to technical requests; and other demands. Some relate to Environmental Impact Studies and Environmental Impact Reports (EIA/RIMA), essential for identifying, evaluating, and mitigating the environmental impacts of a project, minimizing negative effects on the environment, as well as ensuring compliance with legal standards, promoting transparency, social participation, and sustainable development, with continuous monitoring of impacts. In accordance with the guidelines of the Protected Areas Information and Management System (Sigap), agreements and partnership terms were established with the developers in the areas influenced by these projects, promoting significant benefits with improvements in infrastructure, surveillance, and support for public use and research, as well as the acquisition of equipment and vehicles to strengthen the monitoring and protection of the area. For oil exploration projects, among the conditions, we exemplify the Training Program for Artisanal Fisherwomen and their Families. The program's objective is to conduct specific courses, determined in advance and according to the local demands of artisanal fishermen working in Marine Environmental Protection Areas. The monitoring of the conditions is carried out by the territory management and the Permanent Pre-Salt Technical Group, formed by an interdisciplinary team from the Forestry Foundation for the evaluation of offshore activities.



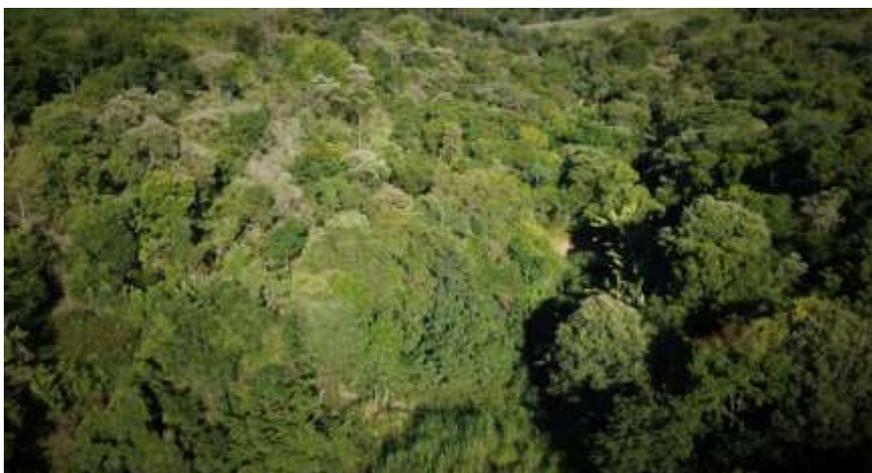
## Management Plans

The Management Plan is an essential technical document for the management of Conservation Units, guiding zoning, sustainable use and management of natural resources, as well as the implementation of the physical structures necessary for their administration. Aligned with the UN SDGs, they focus on the protection and sustainable use of ecosystems, improving quality of life, combating climate change and promoting equal opportunities. The Forestry Foundation promotes intense social participation, with workshops and broad participation of local actors. The involvement of communities, especially *quilombola* (traditional African heritage) communities, strictly follows the principles of Prior Consultation Protocol, respecting cultural specificities. The workshops are conducted considering local conditions to ensure qualified and transparent participation. Foundation also prioritizes partnerships with technicians and researchers, promoting efficient technical and scientific management, with emphasis on studies involving climate and biota characterization. These collaborations have been fundamental to the production of technical and scientific knowledge, without significant additional costs. A Management Plan Integration Committee contributed to reducing costs with external consultancies, resulting in greater efficiency in the plan development processes. With the implementation of this committee, the Forestry Foundation managed to reduce costs with outsourced services and optimize internal resources, with the technical team assuming most of the production of these plans.



## Private Natural Heritage Reserves

Among the categories of protected natural areas, Private Natural Heritage Reserves (RPPNs) represent an important strategy for the conservation and protection of remaining forest fragments of the Atlantic Forest and Cerrado biomes, located on private lands in the state of São Paulo. Their establishment is initiated by landowners, both individuals and legal entities (companies, associations, condominiums, NGOs, and various other entities), committed to safeguarding the biodiversity present on their properties. To encourage the creation and implementation of such reserves, the Forestry Foundation established, by decree in 2006, a dedicated State Program. In addition to fulfilling the formalities stipulated in the current legislation for this category, the program provides ongoing technical and scientific support, offering training through courses and workshops, as well as guidance for the development and analysis of Management Plans. The program carried out several actions, both directly and in partnership with federal, state, and municipal institutions. These activities included support for process analysis, technical meetings, field inspections, training workshops, lectures, and the awarding of recognition titles. Events are held in various municipalities in São Paulo and in other locations throughout the country.



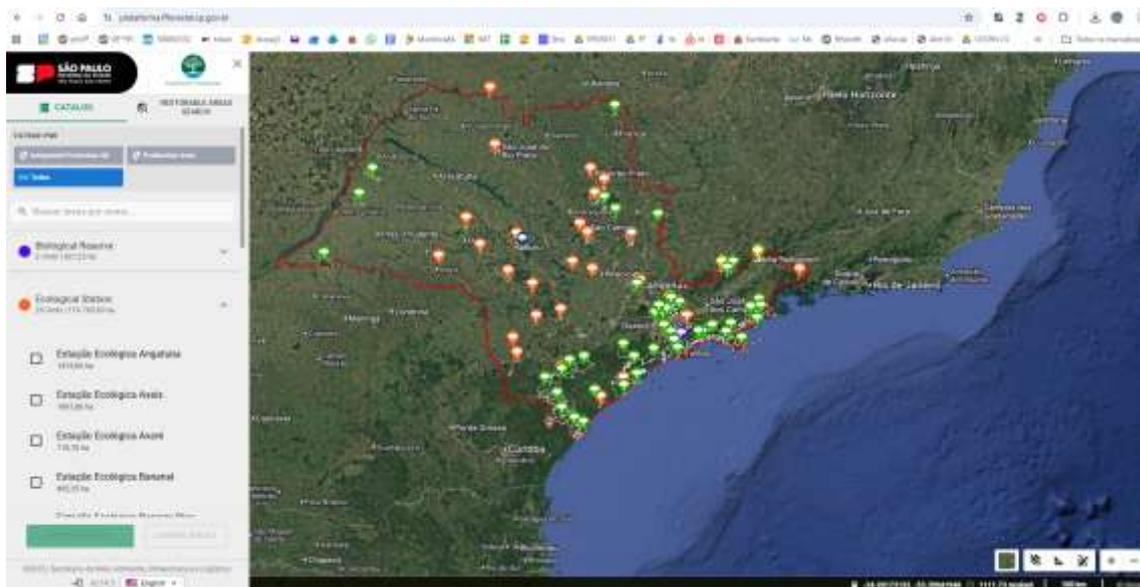
Maintaining and protecting these areas is challenging, and management plans are essential to ensure its effectiveness and the strategic planning desired by the owners. Once recognized as privately owned Conservation Units by SEMIL and permanently registered in the property's title deed, these Private Natural Heritage Reserves become part of the State and National System of Nature Conservation Units, sharing responsibilities with the public authorities in safeguarding the natural heritage still existing in our state. The Integrated Monitoring System for Conservation Units (SIM-RPPN) was created in 2015 to support landowners in protecting their areas. This system operates through a partnership between the Coordination of Inspection and Biodiversity (CFB/SEMIL), the Forestry Foundation, the Federation of Private Ecological Reserves of the State of São Paulo (Frepesp), and the State Environmental Police Command. Additionally, the Operation São Paulo Without Fire aims to integrate Private Natural Heritage Reserves into the SEMIL Forest Fire Prevention and Control Program. Through this program, private reserve owners and employees have the opportunity to participate in firefighting training courses, promoted by the State Civil Defense and the Regional Centers of the Forestry Foundation, which are announced annually.



## Forest Restoration

The UN General Assembly declared the period from 2021 to 2030 as the Decade on Ecosystem Restoration, with the aim of preventing, halting and reversing ecosystem degradation on all continents and oceans, as well as enabling job creation and ensuring food security, addressing climate change, conserving biodiversity and water supply. The

Forestry Foundation has structured the Permanent Technical Group for Environmental Recovery, composed of specialists and Conservation Unit managers, to evaluate restoration proposals, considering the specific characteristics of each area. In addition, it makes degraded areas within Conservation Units available for restoration projects. The Cerrado and Atlantic Forest biomes require restoration due to degradation caused by human activities and the invasion of exotic species. Many are classified as Recovery Zones in Management Plans, and are subsequently incorporated into the permanent zones of the Conservation Units. The execution of ecological restoration projects is made possible through Environmental Recovery Commitment Agreements (TCRAs), which allow restoration by third parties to fulfill environmental obligations. All Integral Protection Conservation Units are prioritized for restoration due to their importance in improving the environmental conditions of the state. Some restoration projects are financed by the State Fund for Pollution Prevention and Control (FECOP). The eradication of invasive exotic species is also highlighted, as it eliminates competition with native species and restores essential ecological processes. In Cerrado areas, restoration projects may require the use of fire, a tool employed in a planned and monitored manner, respecting the natural dynamics of the ecosystem.



In 2024, during the 29th UN Climate Conference, the São Paulo State Forestry Foundation launched the Protected Areas Restoration Platform, which integrates detailed information on restorable areas in state Conservation Units. The platform uses artificial intelligence to cross-reference data layers from different official sources, including area classification, vegetation characteristics, land use, slope, proximity to highways and nurseries, potential for natural regeneration, and suitability for active restoration. The tool facilitates the planning and execution of reforestation and environmental recovery projects, including regions impacted by fires, in addition to contributing to the state's goals of restoring 1.5 million hectares of native vegetation by 2050, assisting in mitigating carbon emissions and conserving biodiversity. The platform

is integrated with FINACLIMA, a financial instrument for raising funds for restoration and climate mitigation, reinforcing the São Paulo government's commitment to sustainability and environmental conservation.

**IPÊ-BRANCO**  
*Tabebuia roseoalba* (Ridl.) Sandwith



Arvore no auge da floração.



Esse florífero

**Família:** Bignoniaceae.

**Grupo Ecológico:** Não pioneira de dossel.

**Grupo Funcional:** Diversidade.

**Domínio (em São Paulo):** Mata Atlântica e Cerrado.

**Dispersão:** Anemocórica.

**Tipo de Vegetação:** Cerrado, Floresta Estacional Semidecidual.

**Bioeconomia:** madeireira, ornamental.

**Características:**

- **Porte:** médio (até 16m).
- **Tronco:** cilíndrico.
- **Folhas:** opostas, com três folíolos, decíduas.
- **Flores:** grandes, tubulosas, brancas a ligeiramente rosadas.
- **Frutos:** cápsulas alongadas, glabras.
- **Sementes:** aladas, com alas transparentes.

**INFORMAÇÕES TÉCNICAS**

**Tipo de fruto:** seco deiscente.

**Natureza da semente:** ortodoxa.

**Técnica de coleta:** com um podão, coletar os frutos de coloração verde e ainda fechados, quando outros frutos da árvore já estiverem começando a abrir e cair.

**Número médio de sementes por quilo:** 64 mil.

**Beneficiamento:** secar os frutos ao sol até que se abram e liberem a semente; fazer a separação manualmente com uma peneira. Armazenar por um ano.

**Fruto:** 20 cm a 30 cm.

**Semente:** 2 cm a 3 cm.

**Distribuição Geográfica:**



■ Presença  
□ Ausência

**FENOLOGIA: FLOR / FRUTO**



## Catalog of Tree Species, and Collection, Use and Commercialization of Seeds and Seedlings

The Catalog of Tree Species of the State of São Paulo, gathers information on more than 100 native species with high potential for the seed and seedling market, especially those geared towards forest restoration. Each listed species has a detailed botanical description, ecological requirements, zoning for planting, guidelines on seed collection, processing and storage, and its importance in the formation of ecological corridors and the resilience of ecosystems. The catalog aims to protect biodiversity and foster the seed and seedling market, creating sustainable business opportunities for local communities, nurseries, and restoration companies.

Nome científico	Nome popular	Na total	Origem	Estado	Coleção	Semente(s)	Espalho	Preço/Unid.	Valor	Local	Data
Acacia mangium	ACÁCIA MANGIUM	60				60	300,00	R\$	18,00	Carajás	15/04/2024
Acacia mangium	ACÁCIA MANGIUM	30	F	Coínia		30	357,00	R\$	11,90	Floresta Tietê	15/04/2024
Acacia mangium	Acacia Mangium / Akacia	60000	Exótica	Coínia		60000	290,00	R\$	4,83	Arco-íris	16/07/2024
Acacia mangium	Acacia Negra	30000	Exótica	Nativa		30000	420,00	R\$	14,00	Arco-íris	16/07/2024
Acacia polyphylla	ACACIA POLIFILA	30				30	310,00	R\$	10,33	Carajás	15/04/2024
Acacia polyphylla	MONJOLINHO	30	F	Nativa		30	339,00	R\$	11,30	Floresta Tietê	15/04/2024
Acacia polyphylla	Monjolinho / Acacia-Monjolin	30000	Secundária	Nativa	Agulha - Taboão	30000	420,00	R\$	14,00	Arco-íris	16/07/2024
Acrota albocoma	Fuza de taboa	300000	F	Nativa		300000	610,00	R\$	2,03	Floresta Tietê	15/04/2024
Acrota albocoma	Fuza de taboa	30000	Secundária	Nativa	a parte do Fervento	30000	330,00	R\$	11,00	Arco-íris	16/07/2024
Acrota albocoma	Chapadinha / Chapadinha Amarelada	30000	Secundária	Nativa	Março - Abril	30000	320,00	R\$	10,67	Arco-íris	16/07/2024
Acrota albocoma	Chapadinha / Chapadinha Amarelada	30000	F	Nativa		30000	320,00	R\$	10,67	Floresta Tietê	15/04/2024
Adiantum pavonis	Ólio de dragão	4				4	352,50	R\$	87,88	Carajás	15/04/2024
Adiantum pavonis	Ólio de dragão	400	NP	Exótica		400	35,00	R\$	8,75	Floresta Tietê	15/04/2024
Adiantum pavonis	Ólio de Pavão / Terra-Celena	2000	Exótica	Nativa		2000	240,00	R\$	120,00	Arco-íris	16/07/2024
Adiantum pavonis	Ólio de Dragão	400	Secundária			400	120,00	R\$	30,00	Serra Verde	16/07/2024
Agavea villosa	Tamanacoito						85420,00	R\$	427,10	400 Colônia de m	25/07/2024
Agavea villosa	Tamanacoito-do-cerrado	8	F	Nativa		8	123,00	R\$	15,38	Floresta Tietê	15/04/2024
Agavea villosa	Tamanacoito	11	F	Nativa		11	780,00	R\$	70,91	Carajás	15/04/2024
Agavea villosa	Tamanacoito	11	F	Nativa		11	180,00	R\$	16,36	Floresta Tietê	15/04/2024
Agavea villosa	Tamanacoito / Fuza-de-Papagaio	30000	Secundária	Nativa	Fervento - April	30000	420,00	R\$	14,00	Arco-íris	16/07/2024
Agavea villosa	Tamanacoito / Fuza de papagaio	12000	Primária	Nativa		12000	300,00	R\$	25,00	Serra Verde	16/07/2024
Agavea villosa	Tingo-Caca	615	F	Nativa		615	345,00	R\$	56,10	Floresta Tietê	15/04/2024
Agavea villosa	Tingo-Caca	615	Secundária	Nativa	Novembro - Dezembro	615	340,00	R\$	55,29	Arco-íris	16/07/2024
Albizia lebbekii	Farrinha Seca / Albizia-Farrinha-Seca	30000	Secundária	Nativa	Setembro - Outubro	30000	490,00	R\$	16,33	Arco-íris	16/07/2024
Albizia lebbekii	Alfaca	45	F	Coínia		45	350,00	R\$	7,78	Floresta Tietê	15/04/2024
Albizia lebbekii	Farrinha Seca	80	Sim			80	120,00	R\$	15,00	Carajás	15/04/2024
Albizia lebbekii	Farrinha Seca	80	F	Nativa		80	340,00	R\$	42,50	Floresta Tietê	15/04/2024
Albizia polyphylla	Albizia-polyphylla	30	F	Nativa		30	140,00	R\$	46,67	Floresta Tietê	15/04/2024
Albizia polyphylla	Albizia / Angico Branco	3000	Primária	Coínia		3000	240,00	R\$	80,00	Serra Verde	16/07/2024
Albizia polyphylla	Buena Oriental	12000	Exótica	Coínia		12000	240,00	R\$	20,00	Arco-íris	16/07/2024
Albizia polyphylla	Nagaina-de-igaraé	750	F	Coínia		750	120,00	R\$	16,00	Floresta Tietê	15/04/2024
Albizia polyphylla	Nu-da-Inda / Nagaina-de-igaraé	130	Exótica	Coínia		130	190,00	R\$	14,62	Arco-íris	16/07/2024
Albizia polyphylla	Nagaina	35	NP	Nativa		35	270,00	R\$	77,14	Floresta Tietê	15/04/2024
Albizia polyphylla	Amorosa de choro	8	F	Coínia		8	340,00	R\$	42,50	Carajás	15/04/2024

In 2024, the Forestry Foundation began developing a strategic policy for the collection, use, and commercialization of seeds and seedlings in Conservation Units. This policy aims to promote the conservation and sustainable use of biodiversity, as well as restore forest and urban areas, promoting a balance between environmental, social, and economic benefits. This policy seeks to develop an efficient and inclusive production chain, combining biodiversity conservation with socioeconomic development. The main objectives include: (i) supplying the market with high-quality seedlings, ensuring adequate standards for restoration and landscaping projects; (b) maintaining genetic variability by promoting the repopulation of native species with high genetic diversity, essential for the resilience of restored ecosystems; and (c) generating income and social inclusion by creating economic opportunities for nurserymen, restoration companies, traditional communities, and small producers, supporting the direct sale of seeds and seedlings. Several projects and programs are carried out focusing on training collectors, partnerships with local communities and research institutions, aiming to guarantee the genetic quality and viability of the collected seeds. These initiatives not only contribute to the preservation of native species, but also boost the local economy through the commercialization of seeds, aligning environmental conservation with socioeconomic development.



## Climate Emergencies

Recent fires highlight the urgent need for emergency actions to support endangered species such as the maned wolf, marsh deer, giant anteater, black howler monkey, and capuchin monkey. The devastation of natural food and water sources requires the implementation of food and hydration supplementation points, essential for the survival of these animals in a highly vulnerable environment. Land use and occupancy modeling of target species, such as the maned wolf, marsh deer, and giant anteater, was crucial to identifying the most affected areas and defining strategic locations for the installation of support points.

Camera traps record the movement of species such as the giant anteater, maned wolf, ocelot, agouti, various birds, and capuchin monkey. These actions not only help the animals get through the post-fire period but also prevent dispersal to urban areas, which could pose risks to both wildlife and the population. With the support of experts from local universities, these measures should be complemented by continuous monitoring to assess vegetation recovery and the return of biodiversity, creating long-term strategies to mitigate the impacts of fires on ecosystems.



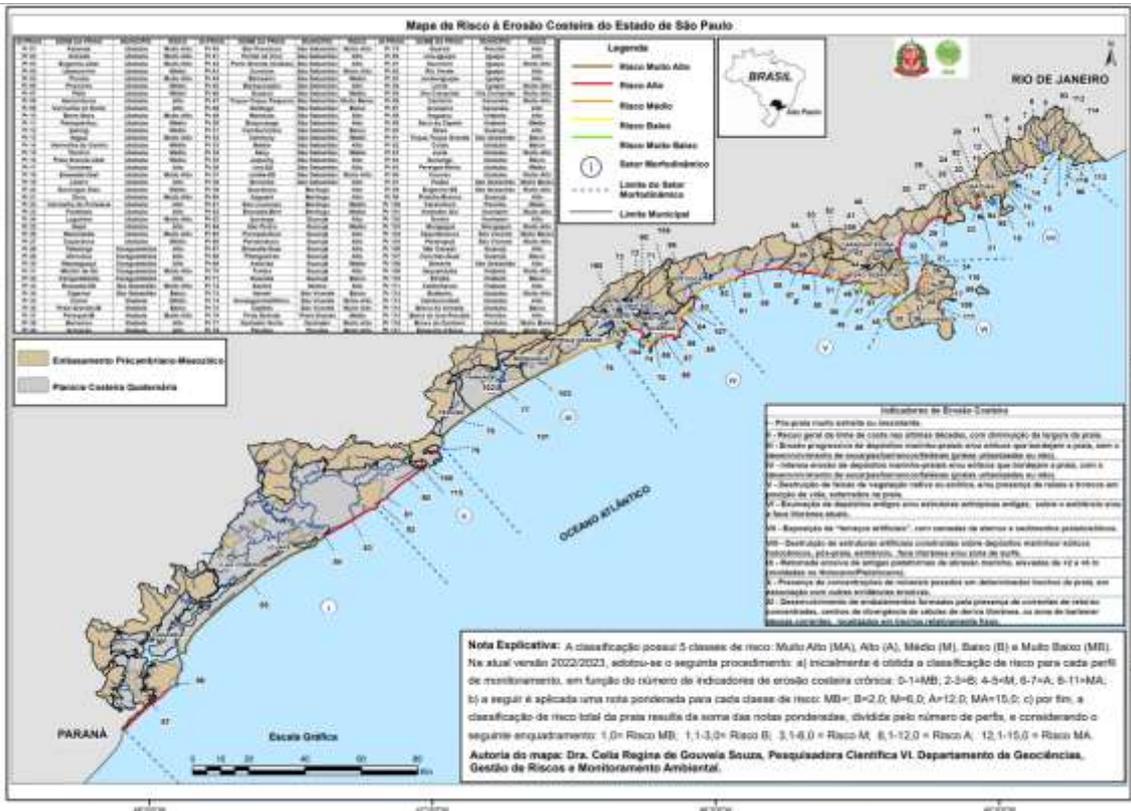
## Restoration of Landslide Areas

In February 2023, the Serra do Mar State Park – São Sebastião Nucleus was severely impacted by intense rainfall that caused landslides and environmental degradation, especially on slopes and protected areas. Faced with this critical scenario, an environmental restoration project was developed using modern bioengineering techniques, such as hydroseeding, bio-mats, and bio-retainers, aiming to regenerate native vegetation and stabilize slopes. The actions contributed to reducing erosion, increasing the safety of local communities, and preserving the Atlantic Forest biome, essential for ecological balance and quality of life in the region. The project focused on recovering areas affected by the rains and was primarily directed towards communities surrounding the park, especially the residents of Vila Sahy, promoting safety and environmental quality. The methodology involved an initial geotechnical assessment, followed by soil preparation, hydroseeding with native seeds, installation of coconut fiber bio-mats to protect the slopes, and the use of bio-retainers to control surface runoff. The park team conducted continuous monitoring to adjust interventions using hydroseeding, bio-mats, and bio-retainers in the Serra do Mar State Park. The project faced challenges, especially because Vila Sahy is a high-risk area with the possibility of expropriations, which generated insecurity in the community. To overcome these obstacles, constant dialogue was maintained with residents and local leaders, ensuring the continuity of activities. As a result, the project strengthened community partnerships with the residents' association and local leaders, promoting engagement and awareness of the importance of the interventions. The results include slope stabilization, regeneration of native vegetation, and greater environmental security, benefiting the local community. The experience highlights the relevance of combining environmental solutions with social engagement, strengthening the resilience of protected areas and promoting a lasting positive impact.



## Coastal Erosion

The Coastal Erosion project has been supporting the construction of an energy dissipator aimed at containing the force of the tides to protect the natural and human heritage on Cardoso Island, through nature-based solutions.





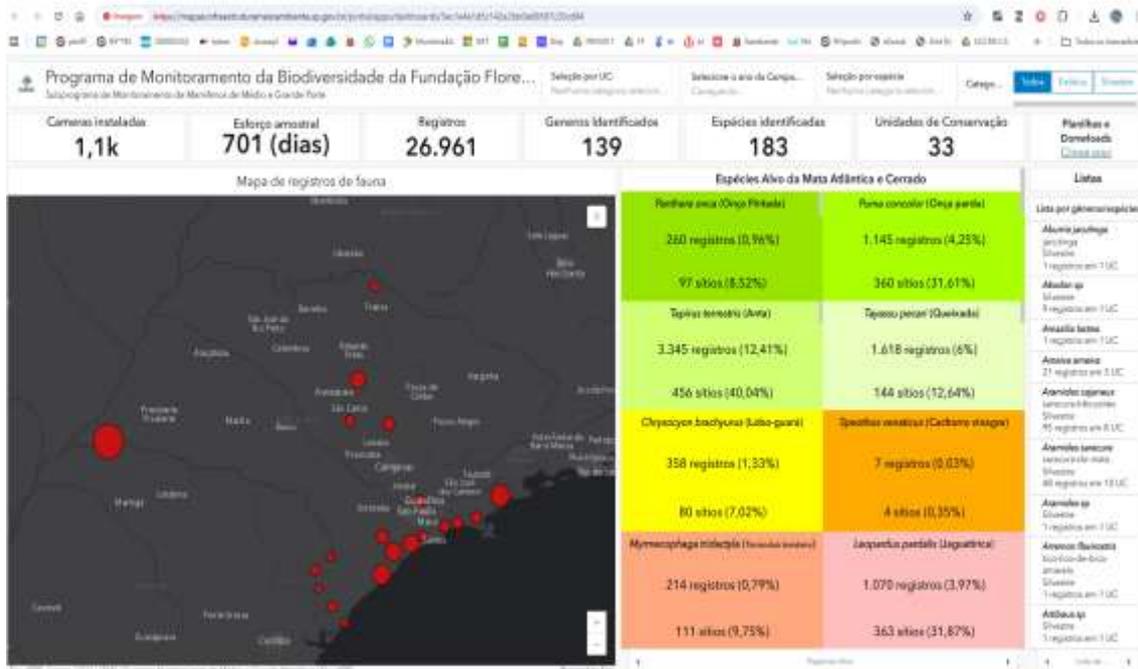
## Indigenous Peoples and Traditional Communities

In various locations, the local community collaborates with management to improve infrastructure and participate in environmental education activities. Environmental monitors are trained, and academic research is conducted. The community kitchen involves local women. Fishing Business Plans involve actions in the Community Reception area. Authorizations are granted for subsistence farming and ranch renovations, in addition to support for the regularization of oyster and crab stocks. Councils and workshops support the development of Management Plans, promoting conservation and sustainable development. Communities participate in payment for environmental services (PES) programs, receiving seeds for repopulating the juçara palm. Courses and technical assistance are also provided in meliponiculture, entrepreneurship, first aid, agriculture and post-harvest, sustainable tourism, infrastructure, indigenous training, restoration of degraded areas and food security, vaccination, territorial monitoring, environmental protection, appreciation of traditional cultures, management of invasive species, and planting of native species to combat illegal extraction.



## Guardians of the Forests

Initiated in 2023 with resources from the Forestry Foundation, the program aims to recognize and compensate Indigenous peoples who contribute to the preservation of the state's Conservation Units, whose lands and occupied areas overlap, in whole or in part, with these protected areas. Activities are structured around five areas of focus: territorial and environmental monitoring; biodiversity monitoring; restoration; intercultural qualification; and community-based tourism. By recognizing the relevance of the activities carried out by Indigenous peoples, their culture, and values for the conservation of natural areas, the program has embodied constitutional values and made the Indigenous peoples of São Paulo important allies and partners in the management of the state's Conservation Units. The titling of Indigenous lands is considered a priority, configuring them as areas of special protection and relevance to the state's environmental heritage. The program also stands out for having a Management Committee, with Indigenous leaders representing all regions of the state of São Paulo.



## Biodiversity Conservation Programs

The state of São Paulo has made significant progress in monitoring native fauna within its Conservation Units, aligning itself with the Kunming-Montreal Targets (which include protecting 30% of global ecosystems by 2030) and the Sustainable Development Goals (SDGs). These records contribute to the formulation of specific protection strategies for threatened species. Beyond environmental management, the program plays a fundamental role in environmental education, promoting public awareness of the importance of fauna and protected areas, and supporting national action plans. This work reaffirms Brazil's leading role in protecting global biodiversity and São Paulo's commitment to conservation and sustainable development.



## Juçara Palm Conservation Program

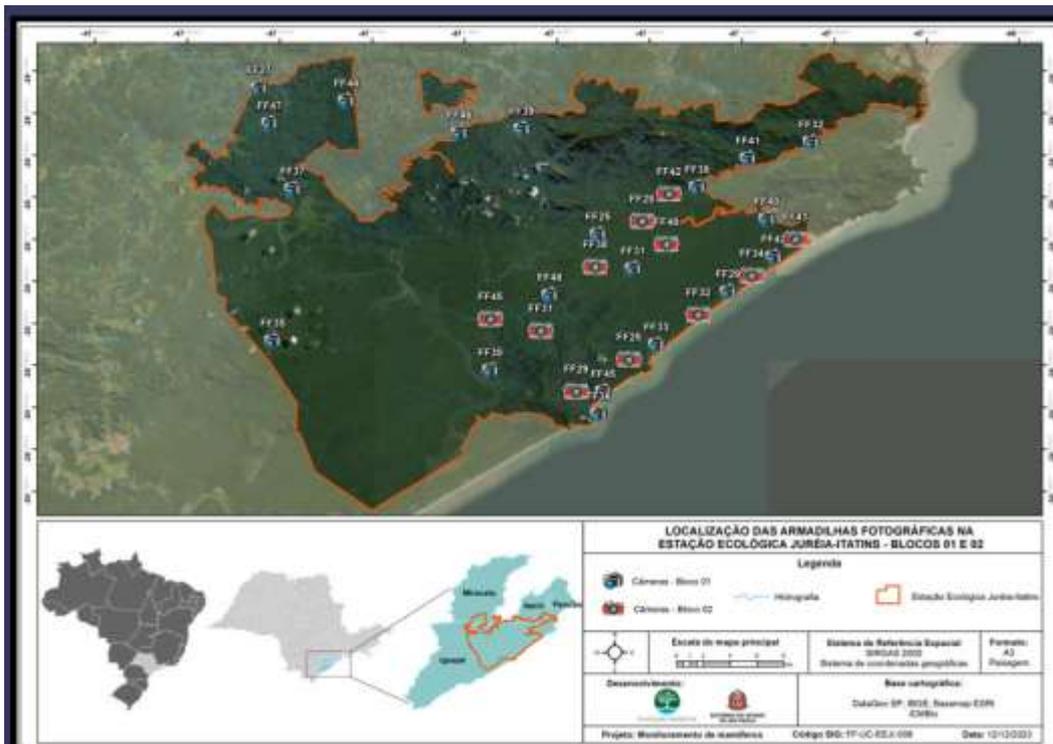
The juçara palm (*Euterpe edulis*) is a native species of the Atlantic Forest, essential to the food chain and the maintenance of the biome, feeding approximately 70 species of birds and mammals. However, due to the fragmentation of the Atlantic Forest and the illegal extraction of palm hearts, the species is threatened with extinction at the state and federal levels. To contribute to the population increase of the species and change the perception that the standing palm has more value than the cut palm for palm hearts, the Juçara Palm Conservation Program (ProJuçara) was created.

The fruits of the juçara palm are similar to the Amazonian açai in color and flavor, but with an even richer nutritional profile, containing high levels of antioxidant compounds and minerals such as potassium, iron, and zinc. Versatile, they can be consumed raw, combined with other fruits, or used in the production of juices, creams, ice creams, jams, sauces, and even cosmetics.



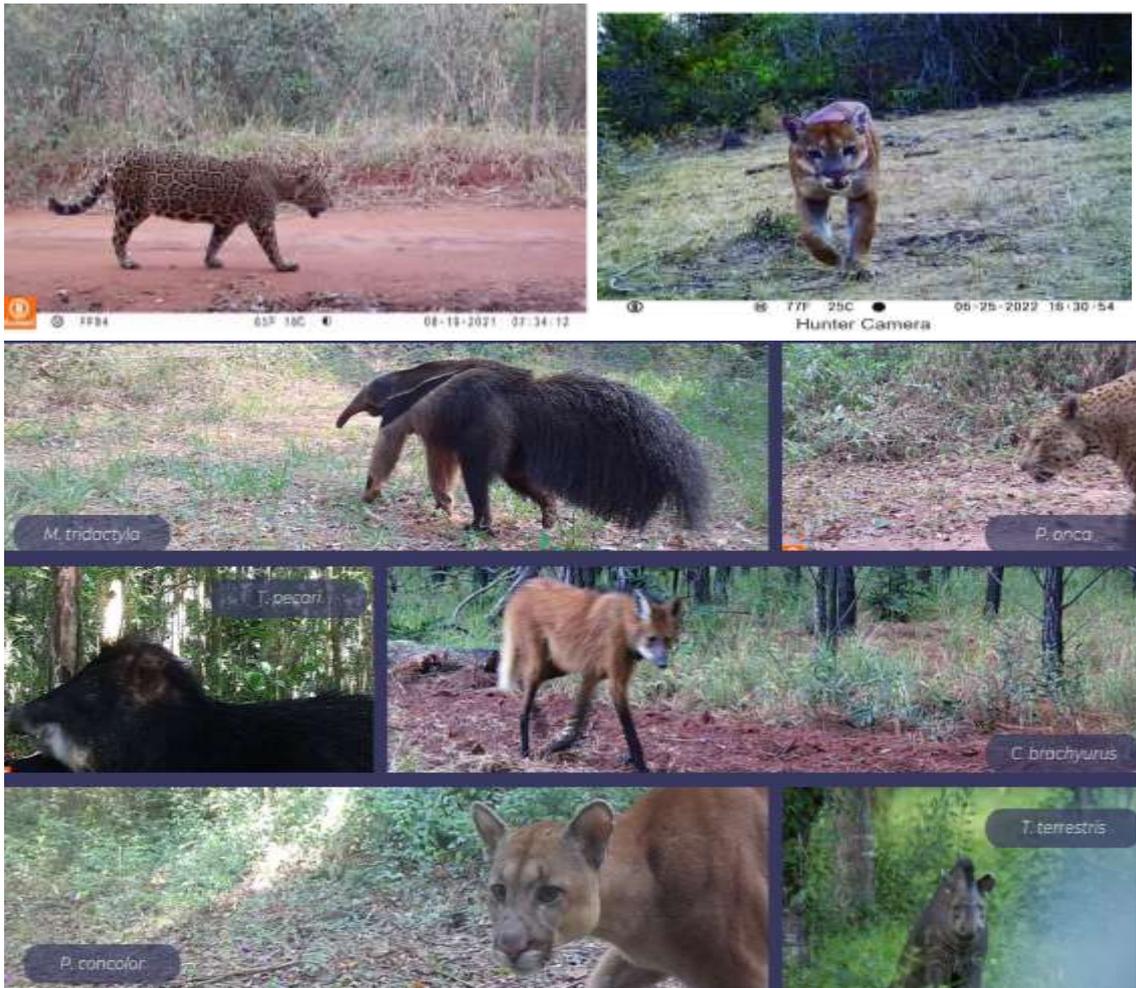
This potential makes the sustainable management of the fruit for pulp commercialization and the sale of seeds for restoration attractive economic alternatives for producers, with profitability superior to the illegal extraction of palm hearts. In this way, fostering a sustainable production chain for the juçara palm contributes to the appreciation of the standing palm tree. One of the program's main projects is the repopulation of the palm, which purchases depulped seeds from traditional communities and small producers around Conservation Units (CUs) to repopulate Integral Protection CUs. Seed dispersal is carried out by helicopters or drones. The project uses an adaptation of the Monitoring Protocol for Ecological Restoration Projects of the State of São Paulo to monitor the germination potential of

the seeds and the results of the dispersals. An application was developed to facilitate field monitoring, replacing the use of paper and integrating with the tool created the previous year for prior analysis of repopulation areas. To further promote safety in activities, "bunch-catcher" type equipment was acquired to assist in harvesting the seeds. Two refrigerated containers optimize dispersal logistics and maintain seed quality through proper storage. The Program has promoted research in partnership with universities and held events and training sessions to disseminate knowledge about the collection, pulping, and marketing of juçara pulp, aiming to strengthen this production chain. Regional events and events in other states are held, expanding the dissemination of the economic and environmental potential of the species.



## Medium and Large Mammals

Since 2021, the Medium and Large Mammal Monitoring Subprogram has expanded significantly and currently covers 38 protected areas, encompassing 364,000 hectares of the total 884,776.15 hectares of Atlantic Forest and Cerrado monitored with camera traps. The program has already recorded 52 taxa in the Atlantic Forest and 36 in the Cerrado, providing valuable data on species occupancy and coexistence. For data collection and analysis, the MONITORABIO program uses technologies such as Survey123 and Wildlife Insights, as well as a grid system that allows for broad coverage, including in hard-to-reach areas. This approach not only identifies threatened species but also monitors human pressures, such as hunting and roadkill, and assesses the impacts of climate change. The subprogram is constantly expanding and innovating its monitoring practices.



A highlight is the implementation of a pilot method integrating camera traps and transects, adapted for smaller protected areas with access restrictions. Additionally, drones have been used to detect species in release areas. In 2024, the program recorded important discoveries, such as the bush dog (*Speothos venaticus*), a critically endangered species that is difficult to observe, demonstrating the environmental quality and effectiveness of protected areas in maintaining suitable habitats for top predators. Another significant record was that of the marsh deer (*Blastocerus dichotomus*) in protected areas of western São Paulo state, identified by drones. Since 2022, pioneering work has been developed in the monitoring and treatment of maned wolves affected by sarcoptic mange, with promising results, showing improvements in the health conditions of the treated wolves and the emergence of new generations.





## Bird Monitoring

Birds are important ecological indicators of environmental change. The MONITORABIO Program has a monitoring protocol for terrestrial and aquatic birds in Strictly Protected Conservation Units, with the aim of documenting species diversity and generating data to guide the protection and management of these areas. The methodology combines fixed sampling points and autonomous bioacoustic recorders, expanding species detection and allowing for long-term monitoring. The monitoring recorded rare and emblematic birds, such as the Southern Green Flycatcher (*Onychorhynchus swainsoni*), the White-throated Antbird (*Laniisoma elegans*), the Black-masked Antshrike (*Conopophaga melanops*), the Tiny Pygmy Owl (*Glaucidium minutissimum*), the Chestnut-winged Swallow (*Platyrinchus mystaceus*), and the Ornate Hawk-Eagle (*Spizaetus ornatus*), highlighting the environmental quality of the protected areas and the importance of continued monitoring for the conservation of these species. T



The monitoring of aquatic birds in the mangroves was based on the training offered by the Forestry Foundation in the second half of the year and will contribute to the assessment of the health of these ecosystems, essential for coastal biodiversity and protection against climate change. In addition to collecting data on species distribution, the protocol aims to identify "hotspots" and areas vulnerable to human pressure, such as hunting and urbanization, providing information for management actions, ecological restoration, and environmental education. This data will help assess the ecological integrity of protected areas and create replicable conservation strategies in other protected areas of the state.



### Monitoring of Fruit-eating Butterflies

Due to the increasing transformations caused by human actions in natural landscapes, especially in tropical regions, biodiversity monitoring in protected areas is essential to support the decisions of management bodies. Butterflies, which represent about 9% of global biodiversity, are excellent environmental bioindicators due to their vital ecological role and well-defined seasonal pattern. Their presence or absence can signal the need to mitigate environmental impacts before they become irreversible.

Frugivorous butterflies comprise approximately 50% of the Nymphalidae family, and their tribes are divided into three categories: those that inhabit preserved areas, those in more degraded regions, and those in intermediate zones. The monitoring methodology is based on the model developed by the ICMBio Monitora Program, with specific adaptations for the Conservation Units of São Paulo. Entomological traps are used, installed in secondary transects opened perpendicularly to the main transect, where primate monitoring takes place. Monitoring frugivorous butterflies generates site-specific data, providing a comprehensive view of the environmental situation and

enabling the evaluation and planning of improvements in protected areas. Several protected areas have been trained to participate in the monitoring, involving more than two hundred people, including monitors, staff, managers, and members of the Institute for Environmental Research (IPA). In addition, volunteers are key to carrying out biodiversity monitoring. Their participation highlights the importance of knowledge sharing between institutions and universities, as well as with the communities surrounding the protected areas. This program involves the installation of thousands of traps, reviews, and identification of individuals. With the important support of volunteers, butterfly monitoring has provided, every year, an opportunity for many people, especially students, to be in the field, collecting information and learning about the species and groups of frugivorous butterflies.



### Primate Monitoring

With the goal of supporting decision-making by the management of the state's Conservation Units, knowledge about the biodiversity present in the territory of protected areas becomes essential. Given the constant threats faced by primate populations, such as deforestation and habitat fragmentation, hunting and trapping, illegal trafficking, roadkill and accidents involving power lines, as well as catastrophic events caused by climate change, knowledge and monitoring of the groups present in the Conservation Units are necessary. Thus, the Biodiversity Monitoring Program Primates Subprogram was established in 2022 and has been yielding good results.



Since its inception, more than 200 people, including biodiversity and environmental monitors, managers, unit employees, volunteers, and IPA members, have been trained. The categories of units included in the program encompass State Parks, State Forests, Biological Reserves, Experimental Stations, and Ecological Stations, which together total more than 615,000 hectares of monitored area. Since its implementation in the state, more than 6,700 kilometers have been covered in search of primates using the linear transect method (an adaptation of the ICMBio Monitoring Program), resulting in approximately 5,400 individual primate sightings. As in 2023, the most frequently sighted species were the Black-tufted Capuchin Monkey (*Sapajus nigritus*), the Black-tufted Marmoset (*Callithrix penicillata*), and the Southern Muriqui (*Brachyteles arachnoides*). An important outcome of the Primate Monitoring Subprogram is the ability to find and track endangered species.





According to the International Union for Conservation of Nature and Natural Resources (IUCN), five species present in the state of São Paulo are currently at risk of extinction: *Alouatta guariba* (Vulnerable, VU), *Brachyteles arachnoides* (Critically Endangered, CR), *Callithrix aurita* (Endangered, EN), *Leontopithecus caissara* (EN), and *Leontopithecus chrysopygus* (EN). The remaining species are classified as Near Threatened (NT) or Least Concern (LC). Therefore, monitoring these species promotes a better understanding of their biology, enabling conservation actions. One example is the use of information obtained from monitoring, along with bibliography, to promote environmental education and awareness activities for the communities surrounding the protected areas. This monitoring subprogram also collects opportunistic records, such as footprints, feces, vocalizations, and sightings of other animals. Combining this information with primate records increases management efficiency, as it offers a comprehensive view of conservation areas, even enabling the identification of new species.





### Conservation of the Black-faced Lion Tamarin

The management of protected areas and the protection of fauna are carried out through direct and indirect actions, projects, and programs in the areas of enforcement, environmental education, research, public use, management, restoration, socio-environmental interaction, and land regularization. In the state of São Paulo, there are 10 native primate species, some of which are threatened with extinction (IUCN) due to habitat loss, forest fragmentation, hunting, and the presence of exotic species. Within this context, the black-faced lion tamarin (*Leontopithecus caissara*), officially described in 1990, is one of the rarest and most critically endangered primate species in the world, due to its low population density and the restriction of its range, located on the coastal plain of the states of São Paulo and Paraná, in the Atlantic Forest biome. This species is endemic and does not have an ex situ population, that is, there are no individuals in captivity. In 2023, the Forestry Foundation initiated the Black-faced Lion Tamarin Conservation Program, aiming to determine the occupation and use of the groups' habitats, monitor behaviors and ecological aspects using radio transmitters, assess the animals' health conditions in relation to yellow fever and other diseases, and promote local educational activities for the conservation of the species. Population monitoring is being carried out using different methods, such as active searches with playback, installation of camera traps, and acoustic monitoring. In 2024, the monitoring results indicated areas of greater use by the species, especially locations near watercourses and marshy areas that flood during the rainy season. Activities such as workshops, video screenings, and

distribution of educational materials were carried out to promote awareness about the conservation of the species. In a communication and environmental education action, informative posters about the project were affixed in high-traffic locations (restaurants, markets, inns, and community spaces) and on bulletin boards and strategic points in schools. The project's communication strategy focuses primarily on the YouTube platform and also on the production of a podcast.



### Monitoring and Control of Wild Boar

Monitoring wild boars involves defining priority areas for managing this exotic and invasive species, better known as wild boar or feral pig (*Sus scrofa*), in the protected areas of the state of São Paulo to protect biodiversity. Invasive exotic species are those that have been introduced into an environment to which they are not native, intentionally or accidentally, and cause negative impacts on biodiversity and local ecosystems. When the invasion and/or introduction occurs in Conservation Units, the impacts can be even more severe, since these areas have as their main objectives the protection of native fauna and flora and guarantee their conservation. The presence of wild boar/feral pig is a significant threat to wildlife, whether through competition for resources, habitat destruction, or even disease transmission. As a consequence, there are records of various environmental impacts, such as the deterioration of water resource quality, erosion, changes in vegetation cover, destruction of habitats and nests, as well as threats to human safety. The Forestry Foundation has approved funding for contracting monitoring and control services for wild boars in priority Conservation Units.



### Capybara Management Plan

In 1983, animals were introduced to the on Anchieta Island, off the coast of São Paulo, by the São Paulo Zoo, among them seven capybaras (*Hydrochoerus hydrochaeris*). Throughout this period, the capybaras negatively impacted the vegetation regeneration processes on Ilha Anchieta, as they prey on seedlings and seeds, contributing to the disruption of the ecological balance of the environment. Also, capybaras have shown paralysis of its hind legs from encephalitis caused by the rabies virus. The Forestry Foundation is developing a project for the capture, reproductive management, and marking of the capybaras present on the island. The capture of the capybaras uses techniques with the highest efficiency and least possible impact. Reproductive management prevents mortality and maintains the animals' quality of life, organizing the social structure of the groups. In the long term, this introduced species should be eradicated.





### Conservation Project for the Purple-breasted and Red-faced Parrots

Among the various existing fauna groups, we highlight birds as important ecological indicators of the conservation status of a given area. With the aim of increasing knowledge regarding two endangered bird species, the red-tailed parrot (*Amazona brasiliensis*) and the vinaceous-breasted parrot (*Amazona vinacea*), the Forestry Foundation began, in 2023, population and reproductive monitoring of these two parrot species in Conservation Units. Population monitoring is carried out through interviews with residents of the Conservation Units and surrounding areas, as well as using a technique defined as a "specific point count method," designed to count all individual birds belonging to a single species living in a given area. Monitoring of breeding sites was carried out through the active search for already registered nests and the search for new breeding sites, in addition to identifying locations for the installation of artificial nests. Another stage of the project is the development and implementation of a communication plan for the conservation program of the two parrot species, aiming to give greater visibility to the actions carried out in the Conservation Units where the species occurs. During the population monitoring phase of the two species, interviews were conducted with residents of the Conservation Units and surrounding areas included in the project. Environmental education and awareness actions complement the program.



### Native Bee Conservation Program

Pollinators are fundamental for maintaining biodiversity, ecosystem services, and agricultural food production at all scales. In this context, protected areas (PAs) are of great importance as they provide shelter for diverse species, functioning as centers for the dissemination of biodiversity, especially in degraded rural areas. The program also aims to monitor the effect of pesticides on native bee hives and pilot communities. Virtual activities are also carried out with teams and registration of PAs in the Integrated Environmental Management System of Fauna of São Paulo (Gefau), for the installation of bait hives and capture of swarms that will compose the meliponaries of the PAs. The dissemination of scientific content has been highlighted in the program's actions, with the transposition of technical language into a more accessible language that can be understood by all audiences. Participating PAs receive hotels for solitary bees and rational hives. To support the implementation of the Program, volunteers, mostly meliponiculturists from the surrounding area, and specific Environmental Education programs are involved.



## Pro-Species Project and Territorial Action Plans

The Pro-Species Project, coordinated by the federal government and funded by the Global Environment Facility (GEF), aims to develop and implement public policies for the conservation of endangered flora and fauna species in 12 target territories in Brazil, covering 9 million hectares and directly benefiting 290 species. The project involves various partners, including public agencies, universities, and social organizations, with an emphasis on the conservation, management, and prevention of threats to species. In São Paulo, two Territorial Action Plans (PATs) stand out. The Caminho das Tropas (Troops Path) covers 12.5 million hectares and focuses on the conservation of ecosystems such as grasslands, savannas, and Mixed Ombrophilous Forest. The Cinturão Verde (Green Belt), in turn, focuses on urban and peri-urban areas of São Paulo, aiming to restore and connect urban and aquatic ecosystems. The results include field expeditions that have yielded important discoveries, such as the recording of rare and endangered cave-dwelling and pollinator species. Throughout its implementation, the project sought to integrate conservation actions with the socioeconomic reality of the territories, ensuring the implementation of long-term public policies for the preservation of biodiversity and endangered species in various regions of Brazil.





### Marine and coastal environment conservation

In the state of São Paulo, marine and coastal ecosystems are fundamental to coastal and inland communities, supporting economic activities such as fishing and tourism. Environmental Protection Areas and State Marine Parks protect these natural resources, essential for biodiversity conservation and the renewal of fish stocks. The main objective of strategic planning is to develop the necessary management tools to implement the Management Plans for Coastal-Marine Units, with technical and scientific support and the application of ecosystem-based management principles.



The Oceans Project involves identifying the key structure and processes of ecosystems, mapping threats, and developing ecosystem models, promoting continuous training and capacity building to guide integrated management that ensures ecosystem resilience and the well-being of local communities. The project operates through 11 interconnected and complementary axes that form a cohesive strategy and promote the conservation of marine ecosystems, maximizing social benefits and improving the management of protected areas. These axes encompass diagnostics, data platforms and georeferenced information interfaces, communication and environmental education, identification of geohabitats, practical integration of ecosystem-based management, sustainable use of coastal and marine environments, information on seabed environments, management, reintroduction, repopulation and translocation of species, identification and control of exotic and invasive marine species, effects of climate change, and adaptation strategies.



The Toninha à Vista! Project is a citizen science campaign to map the occurrence of the Franciscana dolphin (*Pontoporia blainvillei*) on the central coast of São Paulo, a

critically endangered species. The initiative seeks to fill knowledge and conservation gaps, as well as integrate the community in monitoring the species. Alignment meetings with partners, social mobilization meetings and training of volunteers as citizen scientists, educational materials and communication groups encourage the exchange of information and community engagement. In the pilot phase, the target audience consisted of canoeists, surfers and schooner crews, as they are frequently in the areas where Franciscana dolphins occur, facilitating data collection. Their participation strengthened the integration between society, management and biodiversity.



The Integrated Management Program for Mangroves in the Conservation Units of the State of São Paulo works in 15 marine and coastal Conservation Units in the state, encompassing approximately 10,000 hectares of mangrove area. The program seeks to promote and adapt specific management actions for the conservation, recovery, enhancement, and generation of knowledge about mangroves and is divided into four thematic areas: biodiversity; bioeconomy; environmental education and communication; research; and addressing climate change. Within the Bioeconomy area, the program collaborates with CCarbon (Esalq-USP) on a pioneering initiative to determine the carbon stock in the state's mangroves, using analyses of 2,000 soil samples collected during monitoring. Management protocols have been published to address invasive exotic species. The Invasive Exotic Oyster Action Network, led by the Forestry Foundation, coordinates efforts with institutions such as IBAMA, ICMBio,

UNESP, and oyster farmers to combat the invasion of the tampkin oyster (*Saccostrea cucullata*). In addition, the exotic vegetation *Sonneratia apetala* was suppressed in the Cubatão estuary in partnership with IBAMA, applying the principles of Early Detection and Rapid Response. The program participated in important events, including COP24 and the Ocean Conference, presenting advances in biodiversity monitoring and results from diagnostic reports. Within the framework of international agreements, the program became a signatory of the Global Mangrove Alliance, coordinated by The Nature Conservancy, aiming to conserve and restore mangroves with sustainable financing, and is also linked to Mangrove Breakthrough, which seeks to accelerate actions and investments in mangrove conservation.



### Payment for Environmental Services (PES)

The Juçara Palm Conservation Program aims to encourage its planting in strategic and traditional private or community territories, such as quilombola communities and small rural properties, in order to foster sustainable income alternatives for the families involved, who often relied on the extraction of juçara palm hearts as a source of income or who see the species as an opportunity for livelihood.

The Marine Litter Prevention and Control Program in Conservation Units, or simply the Sea Without Litter Program, aims to prevent and combat the escape and release of litter into the ocean, seeking the conservation of the marine environment, especially protected by Marine Environmental Protection Areas and other Coastal and Insular Conservation Units, with the involvement of artisanal fishermen and contributing to a change in societal behavior. The program operates through four interdependent and equally important components: Payment for Environmental Services (PES) to artisanal fishermen; Educational actions with Conservation Units and Municipalities; Data collection, generation and analysis; and Securing partnerships and sponsorships to

increase the scale, reach and sustainability of the program. The target audience of the PES of the Sea Without Litter Program are artisanal shrimp trawlers operating on the coast of the state of São Paulo who voluntarily wish to participate in the initiative. These fishermen deliver waste accidentally caught in their nets during fishing to Marine Waste Collection Points (PRRM), where the waste is sorted and its weight is converted into proportional financial value. Based on the analysis of the waste, samples are identified and classified by material type and, when possible, by origin based on the commercial brand of the discarded products. Part of the waste is sent to local recycling cooperatives, while the remainder, classified as rejects, is sent to licensed landfills. Mechanically recyclable waste represents a very small portion of the total waste delivered by fishermen due to the degradation conditions characteristic of the bycatch from shrimp trawling removed from the seabed. Given this scenario, the program seeks to establish partnerships with initiatives to reuse these materials, aiming at the creation of new products and the possible supplementation of income for the communities involved.



Among the positive impacts of the program's implementation, the following stand out: closer ties with the fishing sector, contributing to the reduction of conflicts and the promotion of climate justice. The program has also become a benchmark for other states and for policies to combat plastic pollution and promote corporate social responsibility, in addition to promoting behavioral changes and increased environmental awareness in communities. Future challenges for the program include

the possibility of expansion to new municipalities and the inclusion of providers of other fishing methods, the expansion of actions in coastal and island Conservation Units, and the establishment of partnerships for the reuse of waste removed from the sea, as well as the gradual implementation of plastic-free zones in Conservation Units.



The Atlantic Forest Connection Project, funded by the GEF (Global Environment Facility), began in February 2017 and aimed to recover and preserve ecosystem services associated with biodiversity and climate in the southeastern corridor of the Atlantic Forest, encompassing São Paulo, Rio de Janeiro, and Minas Gerais. In the state of São Paulo, under the coordination of the Forestry Foundation, the project includes improvements in the management of protected areas. It is an innovative experience investing in Conservation Units, including sustainable use categories, and in surrounding private areas through intensive technical assistance to farmers, Payment for Environmental Services (PES), support for certification (CERT), and support for sustainable value chains (SVCs). Farmers who joined the PES were rewarded for changes in land use that contribute to biodiversity and water resources, such as replacing degraded pastures with managed and paddock-based pastures, agroforestry and/or agroecological systems. They receive compensation for adopting sustainable practices, such as sanitation, composting, soil conservation, native beekeeping, and many others. Rural producers interested in certification could choose between organic (SisOrg), forestry (FSC), and agroecological (PTA) certification seals. The project funded

the certification, offered technical assistance, and provided financial support for initial adjustments.

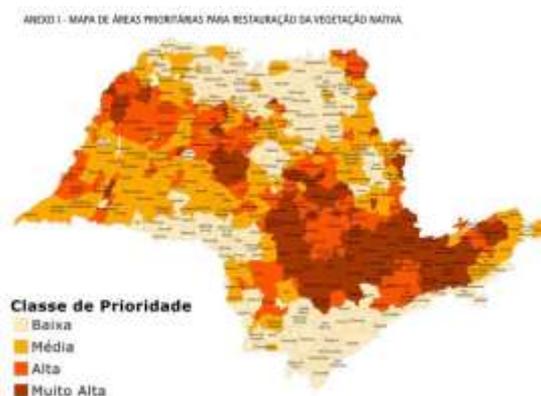


Rural producers selected in the calls for proposals supporting sustainable value chains were able to count on technical assistance, including the development of individual business plans, and financial support to invest in production. In addition, the project supported seven rural producer organizations (associations and unions) that bring together farmers from the project and contribute to the processing of production and access to markets. The main sustainable value chains supported were: fruits (including native fruits), milk, and honey (encompassing the raising of native stingless bees). The financial investments and technical assistance led to environmental improvements and improvements in the lives of farmers. The diversification of production, the adoption of good practices, and the regularization of production opened up new opportunities.





The CAP-RPPN, Paulista Environmental Credit for Private Natural Heritage Reserves, is a program focused on the conservation and ecological restoration of these areas. The action is carried out through the evaluation, selection, and approval of units registered in calls for proposals, in addition to monitoring to guarantee the payment for Environmental Services (PES). The initial focus is on the execution of the RPPN management plans, an essential condition for the payment of PES. Contracts with the State Fund for Nature Conservation (Fecop) have been established for terms of up to five years. The payment for environmental services, made in monthly installments, also includes bonuses for initiatives such as the approval of the Management Plan and the creation of wildlife release areas. These actions aim to encourage the conservation and restoration of ecological processes in RPPNs, with an emphasis on expanding the ecosystem services of biodiversity and improving water production. The program provides resources to strengthen the sustainable management of these areas, with additional support for the implementation of specific actions. The project reinforces the incentive for the preservation of biodiversity and the recovery of essential ecosystems.





## Carbon Credits

The Forestry Foundation is developing legal and economic models to reforest degraded areas and foster sustainable supply chains in Conservation Units and their surroundings, using carbon credit generation. The Conservation Units managed by the Forestry Foundation have great potential for carbon offsetting, both in the conservation and restoration of degraded areas. In the state of São Paulo, the vegetation of the Cerrado and Atlantic Forest biomes removes approximately 9 million tons of CO<sub>2</sub> (MtCO<sub>2</sub>) per year. The carbon stock in the protected areas managed by the Forestry Foundation is approximately 800 MtCO<sub>2</sub>. To improve the monitoring of deforestation, fires, and sequestered carbon, the Foundation integrates its Areas for Restoration Platform with national platforms (INPE-PRODES), promoting greater efficiency in environmental management. The jurisdictional REDD+ (Reduced Emissions from for Avoided Deforestation and Forest Degradation) system is also under development, inspired by experiences in the Legal Amazon. A major challenge is combating forest fires, requiring additional safeguards to ensure the permanence of carbon stored in the vegetation. To this end, the Foundation has been seeking partnerships and technological solutions. Furthermore, the Foundation is studying the creation of a Payment for Environmental Services (PES) system focused on the bioeconomy and the evolution of biodiversity credits, aligning with the growth of global and national carbon markets. The implementation of Nature-Based Solutions (NBS) requires extensive physical areas to generate carbon credits, positioning Conservation Units as fundamental actors in this process. The active participation of local communities is considered essential to ensure that environmental, social, and economic benefits are collectively shared, promoting sustainability and social justice in the regions impacted by the initiatives.



## Environmental Education

Environmental Education at the Forestry Foundation aims to raise awareness, train, and engage society in the preservation of Conservation Units, aligning with the Sustainable Development Goals (SDGs). The training of environmental monitors is a priority, with online modules and field activities. Expanding the reach of educational actions, partnerships with the Paula Souza Center (MOOC Platform) and the Ministry of the Environment (Territorial Action Plans of the Pro-Species Project) stand out, with a strong focus on monitoring and conserving native bees, in addition to the Foundation's other programs. The main challenges are to integrate Education into all Unit management programs and to assess how much the educational processes reach the populations and bring about any change in attitudes, as integrative strategies for the conservation of these territories.

## Public Use and Partnerships for Sustainability

With a focus on promoting sustainable public use and enhancing the visitor experience, the Business and Partnerships for Sustainability Center (NNPS) of the Forestry Foundation has developed management models that reconcile environmental conservation and cultural appreciation. Partnerships with local tour operators have enabled the offering of trails, rappelling, zip-lining, and nature observation, always focusing on visitor safety and minimizing environmental impacts on Conservation Units. A pilot project for controlling and regulating visitation was initiated with the implementation of a symbolic fee for access to natural attractions. Based on economic and financial models by the Institute of Administration Foundation (FIA), the project aims to regulate access, promote more effective visitation management, and strengthen the sustainability of ecotourism in the region. The funds raised are managed by local operators and associations, ensuring continuous investment in tourism infrastructure and contributing to local economic development.



The Forestry Foundation also continued the process of delegating services related to ecotourism, through permission to use and concession of areas for ecotourism to qualified companies. A responsible and innovative ecotourism model includes training teams from protected areas, independent environmental monitors, and surrounding communities in sustainable tourism and entrepreneurship, as well as security and rescue activities, strengthening local economic development.



The Trail Revitalization Project aims to improve infrastructure, ensuring greater safety, accessibility, and clear information for visitors, strengthening and enhancing public use activities in Conservation Units, as well as improving support structures and signage, preventing detours and potential environmental damage, as well as accidents and incidents. Improved visual communication signs and spaces for special vehicles (motorhomes and caravans) aim to diversify visitation options and stimulate sustainable ecotourism, offering differentiated experiences of contact with nature. Tickets are purchased in advance through the Foundation's website, ensuring efficient control of visitor flow and preservation of the environmental integrity of protected areas.

The Adopt a Park program aims to establish strategic partnerships with the private sector, NGOs, individuals, and the public sector, directing investments to the Conservation Units of São Paulo. The program trains managers, security teams, visitors, and the surrounding community of various Conservation Units. The main actions carried out focus on territorial protection and the prevention and combating of forest fires, through private donations. The program also invests in studies for the management of exotic plant species (*Pinus elliottii* and *taeda*), wildlife crossings, recorders for bird monitoring, training and environmental education, stewardship, and technological innovation.





## Further information

Fundação para Conservação e Produção Florestal do Estado São Paulo  
(Forestry Foundation)

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