

List of Acronyms

AAE	Strategic Environmental Assessment
Abin	Brazilian Intelligence Agency
APA	Environmental Protection Area
APP	Permanent Preservation Area
ASV	Vegetation Suppression Authorization
BDQueimadas	Fires Database
BNDES	Brazilian Development Bank
CAR	Rural Environmental Registry
CDB	Convention on Biological Diversity
CF	Federal Constitution
CIPPCD	Permanent Interministerial Commission for the Prevention and Control of Deforestation
CND	Nationally Determined Contribution
CNRH	National Council for Water Resources
CNUC	National Register of Conservation Units
CNUMAD	United Nations Conference on Environment and Development
CO₂	Carbon Dioxide
CONAMA	National Council for the Environment
CONAVEG	National Commission for the Recovery of Native Vegetation
COP	Conference of the Parties to any of the United Nations (UN) conventions
EMBRAPA	Brazilian Agricultural Research Corporation
EMBRATUR	Brazilian Agency for Promoting International Tourism
ENREDD+	National Strategy for Reducing Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks

List of Acronyms

EPANB	National Biodiversity Strategy and Action Plan
EVTEA	Technical, Economic, and Environmental Feasibility Study
FNSP	National Public Security Force
Funai	National Indigenous Foundation
GHG	Greenhouse Gases
Gt	Gigatonnes
ha	hectare
Ibama	Brazilian Institute of Environment and Renewable Natural Resources
IBGE	Brazilian Institute of Geography and Statistics
ICMBio	Chico Mendes Institute of Biodiversity Conservation
Incra	National Institute of Colonization and Agrarian Reform
Inpe	National Institute of Space Research
LC	Complementary Law
LPVN	Native Vegetation Protection Law
MaB	Man and Biosphere Program
Mapa	Ministry of Agriculture and Livestock
MCTI	Ministry of Science, Technology, and Innovation
MD	Ministry of Defense
MDA	Ministry of Agrarian Development
MDIC	Ministry of Development, Industry, Trade and Services
MIDR	Ministry of Integration and Regional Development
MJSP	Ministry of Justice and Public Security
MMA	Ministry of Environment and Climate Change
MME	Ministry of Mines and Energy
MPF	Federal Prosecution Service

List of Acronyms

MPI	Ministry of Indigenous Peoples
MPO	Ministry of Planning and Budget
MT	Ministry of Transportation
MTE	Ministry of Labor and Employment
MTur	Ministry of Tourism
NDC	Nationally Determined Contribution
PCT	Traditional Peoples and Communities
Parna	National Park
PEC	Proposal for Amendment to the Constitution
PF	Federal Police
PFNM	Non-Timber Forest Products
Planaveg	National Plan for the Recovery of Native Vegetation
PMMA	Municipal Plans for the Conservation and Recovery of the Atlantic Forest
Pnap	National Strategic Plan for Protected Areas
Pnapo	National Policy on Agroecology and Organic Production
PNLA	National Environmental Licensing Portal
PNMA	National Environmental Policy
PNMC	National Policy on Climate Change
PPCD	Action Plans for Deforestation Prevention and Control
PRA	Environmental Regularization Programs
PRF	Federal Highway Police
Prodes	Satellite-Based Deforestation Monitoring Program
RB	Biosphere Reserves
REED+	Reducing Emissions from Deforestation and Forest Degradation, Conservation, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks

List of Acronyms

RH	Drainage Basin
RL	Legal Reserve
RPPN	Private Natural Heritage Reserve
Sicar	Rural Environmental Registry
Sinaflor	National System for Controlling the Source of Forest Products
Snuc	National System of Conservation Units
TI	Indigenous Land
TQ	Quilombola Territory
UAS	Alternative Land Use
UC	Conservation Unit
UF	State
UNCCD	United Nations Convention to Combat Desertification, Land Degradation and Mitigate the Effects of Droughts
Unesco	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
Zarc	Agricultural Climate Risk Zoning
ZEE	Ecological-Economic Zoning

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1. EXECUTIVE SUMMARY

The Atlantic Forest is one of the most biodiverse biomes in the world, resulting from intricate interactions between climate change, geological events, and ecological dynamics throughout its evolutionary history. It is considered a global hotspot and, therefore, a priority for biodiversity conservation. Recognized as National Heritage by the Federal Constitution of 1988, the Atlantic Forest has specific legislation (Law No. 11428, 2006) that addresses the use and protection of native vegetation, also known as the Atlantic Forest Law. The PPMata Atlântica will implement actions to prevent and control deforestation and promote the restoration of native vegetation in the application area of Federal Law No. 11428/2006.

According to the Application Map of said Law, the biome is present in 17 Brazilian states, distributed across four geographic regions: Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, and Bahia (Northeast region); Goiás and Mato Grosso do Sul (Center-West region); Minas Gerais, Espírito Santo, Rio de Janeiro, and São Paulo (Southeast region); Paraná, Santa Catarina, and Rio Grande do Sul (South region).

The biome presents a wide climatic variation influenced by the high latitude gradient, extending from the Northeast to the South of the country; by the longitude, encompassing interior areas to the Brazilian Coastal Zone; and by the altitude, ranging from sea level to about 3,000 meters. Rainfall is also highly variable, with annual indices between 1,500 and 4,000 mm/year in mountainous regions. The diversity of phytoecological regions is remarkable, with Semideciduous Seasonal Forest as the predominant vegetation formation, followed by Dense Ombrophilous Forest and Mixed Ombrophilous Forest. Ecotones (transition regions between ecosystems) and enclaves account for approximately 15% of the biome's total area.

The native vegetation of the Atlantic Forest is essential for maintaining hydrological processes, ensuring the quantity and quality of drinking water for approximately 145 million Brazilians. However, about 71% of the biome's original area has been deforested since the arrival of colonizers in 1500, when the biome area began to decrease rapidly due to different economic cycles. Currently, the Atlantic Forest covers the most industrialized and productive areas of Brazil, including the country's largest metropolitan areas.

In 2023, the suppression of native vegetation in the Atlantic Forest totaled 765.15 km², according to data from the National Institute for Space Research (Inpe), and this dynamic is strongly linked to land use for agricultural and livestock activities. Other factors also contribute to the continuity of deforestation, such as urban expansion, weaknesses in environmental governance and management, infrastructure projects, among others. Regarding fires, it is important to note that although the historical average burned area in the Atlantic Forest is smaller compared to other biomes, in 2023 the burned area in the biome reached 16,135 km², representing an increase of approximately 70% compared

to 2022. In this context, fires are both a cause and a consequence of deforestation, amplifying its effects.

The protection and sustainable use of the Atlantic Forest rely on a variety of protected areas and territorial management instruments, such as conservation units, Ramsar Sites, Natural and Cultural World Heritage Sites, Indigenous Lands, Quilombola Territories, and Biosphere Reserves. The biome also hosts a rich cultural diversity, including indigenous peoples and traditional communities that maintain deep interaction with this ecosystem. In this regard, it is also worth highlighting that the creation, land tenure regularization, and effectiveness of protected areas, as well as the realization of economic benefits for those who conserve the Atlantic Forest, are important factors related to the deforestation dynamics and require improvement in the biome.

Despite conservation policies targeting the biome, the historical process of native vegetation suppression in the Atlantic Forest and its continuity have threatened habitats, biodiversity, genetic flow, species movement, ecosystem services, climate patterns, and the preservation of its environmental and cultural heritage. These consequences reinforce the urgency of intensifying continuous efforts to conserve and restore the Atlantic Forest.

With the objective of mitigating the effects of deforestation and fires in Brazilian biomes and achieving the goal of zero deforestation by 2030, the federal government established, through Decree No. 11367, 10 January 2023, the Permanent Interministerial Commission for the Prevention and Control of Deforestation (CIPPCD). Zero deforestation refers to the elimination of illegal deforestation and the compensation for the legal suppression of native vegetation and the resulting greenhouse gas emissions through strengthening the implementation of forest legislation and the recovery and increase of native vegetation stocks by means of economic incentives for conservation, recovery, and sustainable forest management. The decree also mandated the development of Action Plans for Deforestation and Fire Prevention and Control for all Brazilian biomes. The 1st phase of the Action Plan for Deforestation and Fire Prevention and Control in the Atlantic Forest Biome (PPMata Atlântica), as well as the other plans, was developed based on: (i) the analysis of effective actions from PPCDAm and PPCerrado; (ii) reports from the government transition working groups in the areas of environment, agriculture, justice, and indigenous peoples; (iii) technical-scientific seminars; (iv) inputs collected from meetings with federal stakeholders; (v) technical meetings with states and civil society.

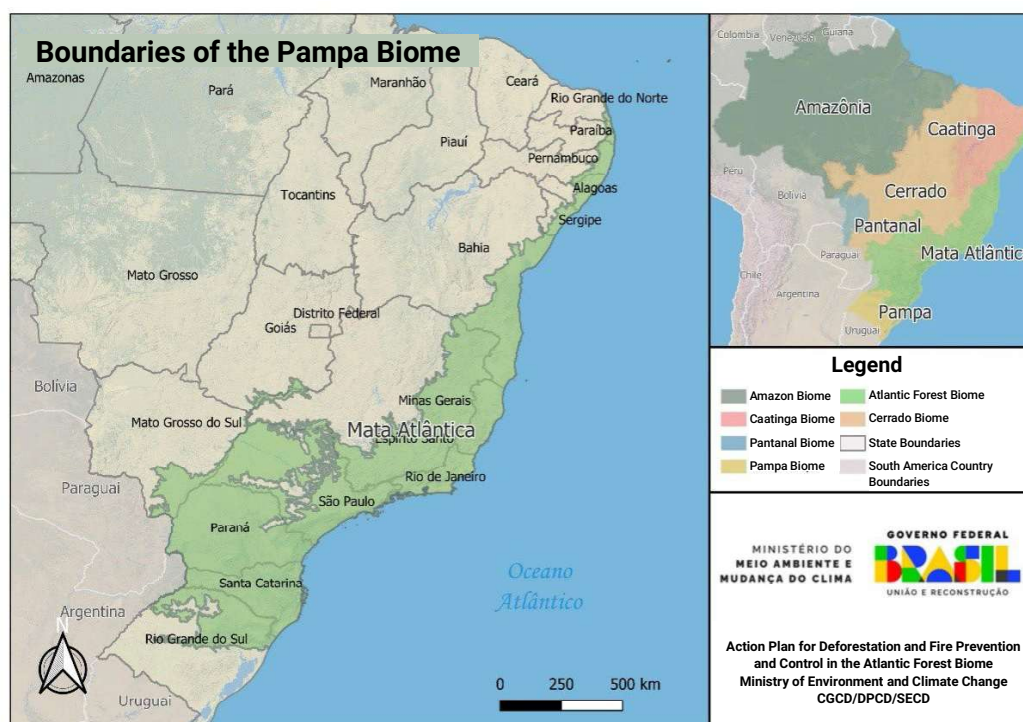
The actions of the PPMata Atlântica, as well as those of the other PPCDs, are organized into four axes, defined in Decree No. 11367: (i) sustainable productive activities; (ii) environmental monitoring and control; (iii) land tenure and territorial planning; and (iv) regulatory and economic instruments. These strategic pillars aim to integrate the social, cultural, economic, and environmental dimensions of the Atlantic Forest biome, promoting its protection, restoration, sustainable use, and more effective combat against deforestation and fires.

2.1 Biome characterization

The Atlantic Forest is one of the most biodiverse biomes in the world, resulting from intricate interactions between climate change, geological events, and ecological dynamics throughout its evolutionary history. Several mechanisms explain the diversification of flora and fauna in the Atlantic Forest, including: the Pleistocene refugia, formed during glaciations and resulting from the isolation of forest areas; the neotectonic hypothesis, concerning the emergence of mountain ranges, especially the Serra do Mar; river barriers, created by river systems such as São Francisco, Jequitinhonha, Doce, and Paranapanema; and the ecological gradient, characterized by the gradual transition from the humid forests of the Atlantic Forest core to drier biomes, such as the Cerrado and the Caatinga. These combined factors promoted genetic differentiation among isolated populations, contributing to speciation and the vast biological diversity found in the region (Marques et al., 2021).

The second largest tropical forest in South America, the Atlantic Forest is predominantly located in Brazil, with about 93% contained within the country, occupying 1,107,285 km² (13% of the Brazilian territory) and being the biome with the largest number of municipalities (3,082) distributed across 17 Brazilian states, according to the Atlantic Forest Application Map: Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, and Bahia (Northeast region); Goiás and Mato Grosso do Sul (Center-West region); Minas Gerais, Espírito Santo, Rio de Janeiro, and São Paulo (Southeast region); Paraná, Santa Catarina, and Rio Grande do Sul (South region). The states entirely within the Atlantic Forest are Santa Catarina, Espírito Santo, and Rio de Janeiro, while the states with the smallest areas are Goiás, Ceará, Rio Grande do Norte, Piauí, and Paraíba (IBGE, 2024) (Figure 1).

Figure 1. Location of the Atlantic Forest according to the biome boundaries defined by IBGE.



Source: Based on data from IBGE (2019).

The biome occurs along a latitudinal gradient of 8°-28°S, longitudinal (32°-58°W) (Muylaert et al., 2018), and the altitude in the biome ranges from sea level to 2,892 meters, located at Pico da Bandeira in the Caparaó National Park. This characteristic directly influences the climatic variation of the biome. Thus, the types of climate in the biome, according to the Köppen-Geiger classification and based on averages from the period 1961-2015, are Af, Am, As, Aw, BSh, Cfa, Cfb, Cwa, and Cwb (Dubreuil et al., 2018). Rainfall in the biome is also highly variable, with annual indices ranging from 1,500 to 2,000 mm/year, but in mountainous areas, these values can reach between 3,500 and 4,000 mm annually (Franke et al., 2005).

The main landform compartments associated with the biome are mountain ranges, predominant in the Southeast region; plateaus, especially in the Southeast and South regions; depressions, such as the São Paulo Peripheral Depression (in Portuguese *Depressão Periférica Paulista*); tablelands, predominant in the Northeast region; and plains, which, although less prominent, can be found in coastal regions and areas near large rivers (IBGE, 2006).

The soil of the Atlantic Forest displays great diversity, including eutrophic types (high fertility) and dystrophic types (low fertility), as well as floodplains, coastal sandbanks, and mangroves. The region also contains acidic, hydromorphic, and humic soils, as well as areas with rocky outcrops where soils are shallow or practically nonexistent (Marques et al., 2021).



Costas dos Corais Environmental Protection Area/PE. Photo: MMA

Because it is a region of high biological diversity, high endemism, and a high degree of threat, the Atlantic Forest is considered a global hotspot and a priority for biodiversity conservation (Myers et al., 2000). In the biome, there are 4,950 tree species, of which 2,025 are endemic and globally threatened with extinction (Lima et al., 2024). Epiphytes represent 15% of the total richness of vascular plants, with 2,000 species, 78% of which are endemic to this biome (Ramos; Mortara; Elias, 2021).

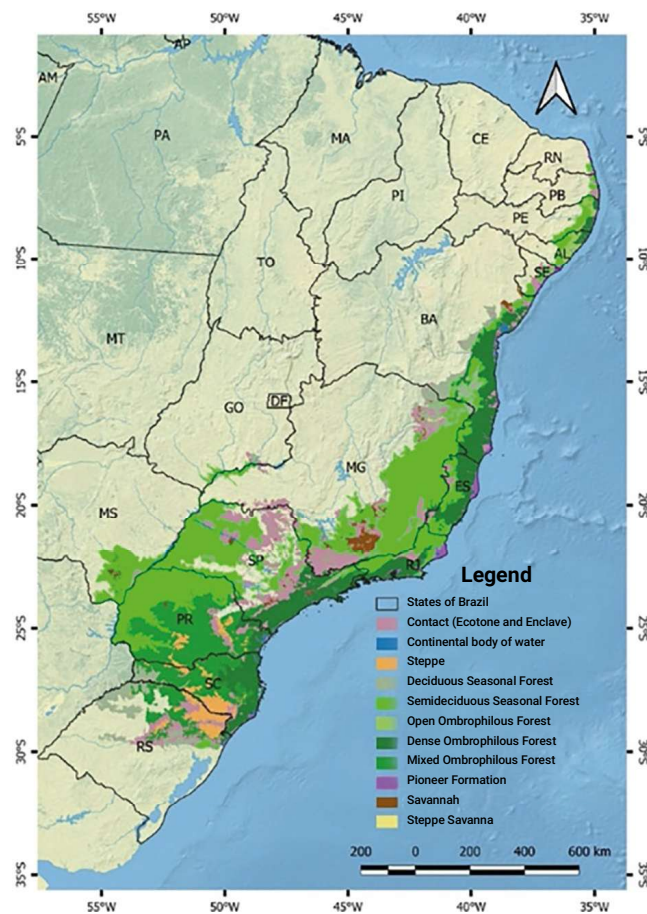
The Atlantic Forest biome encompasses a series of native forest formations and associated ecosystems, defined by Law No. 11428, 22 December 2006 (Atlantic Forest Law), and by Decree No. 6660, 21 November 2008. The Application Map of Law No. 11428, 2006, established by the Brazilian Institute of Geography and Statistics (IBGE), includes the following formations: Dense Ombrophilous Forest (FOD), Mixed Ombrophilous Forest (FOM, known as Araucaria Forest), Open Ombrophilous Forest (FOA), Semideciduous and Deciduous Seasonal Forest (FES and FED, respectively), montane grasslands, pioneer formations (mangroves, coastal sandbanks, saline fields, and alluvial areas), vegetation refuges, ecological tension areas (transition zones between environments or phytophysognomies), interior wetlands, and forest enclaves (represented by disjunctions of FOD, FOA, FES, and FED), as well as steppe, savanna, and savanna-steppe areas, and native vegetation of coastal and oceanic islands. This legal delimitation is particularly important because it encompasses, under the protection of the law, remnants of native vegetation present in ecotone areas with the Pampa, Cerrado, and Caatinga biomes, establishing more restrictive regulations for the exploitation of these enclaves and disjunctions.



Toco toucan. Photo: Werner Rudhart.

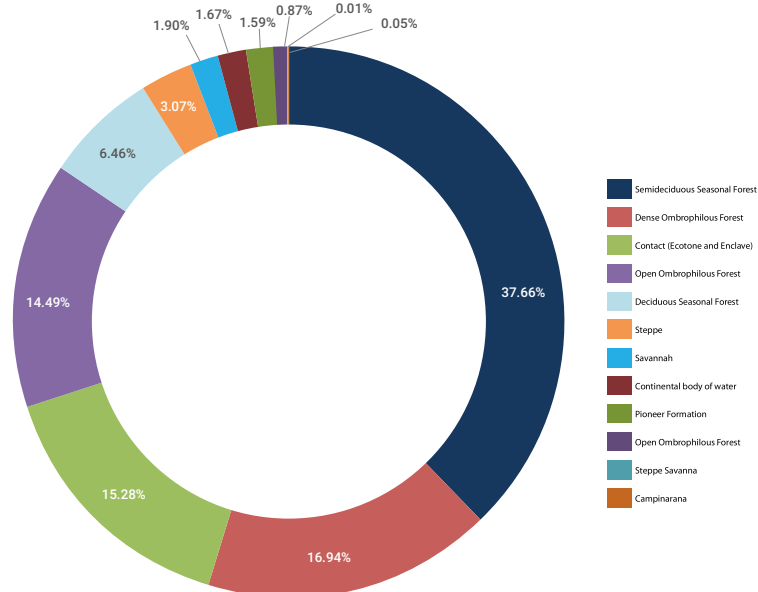
Regarding the predominant forest formations, it can be stated that the prevailing vegetation formation is the Semideciduous Seasonal Forest (37.68%), followed by the Dense Ombrophilous Forest (16.94%) and the Mixed Ombrophilous Forest (14.49%) (Figures 2 and 3).

Figure 2. Distribution of vegetation types in the Atlantic Forest biome.



Source: National Institute of Space Research (Inpe, 2024).

Figure 3. Area occupied by vegetation type in the Atlantic Forest biome.

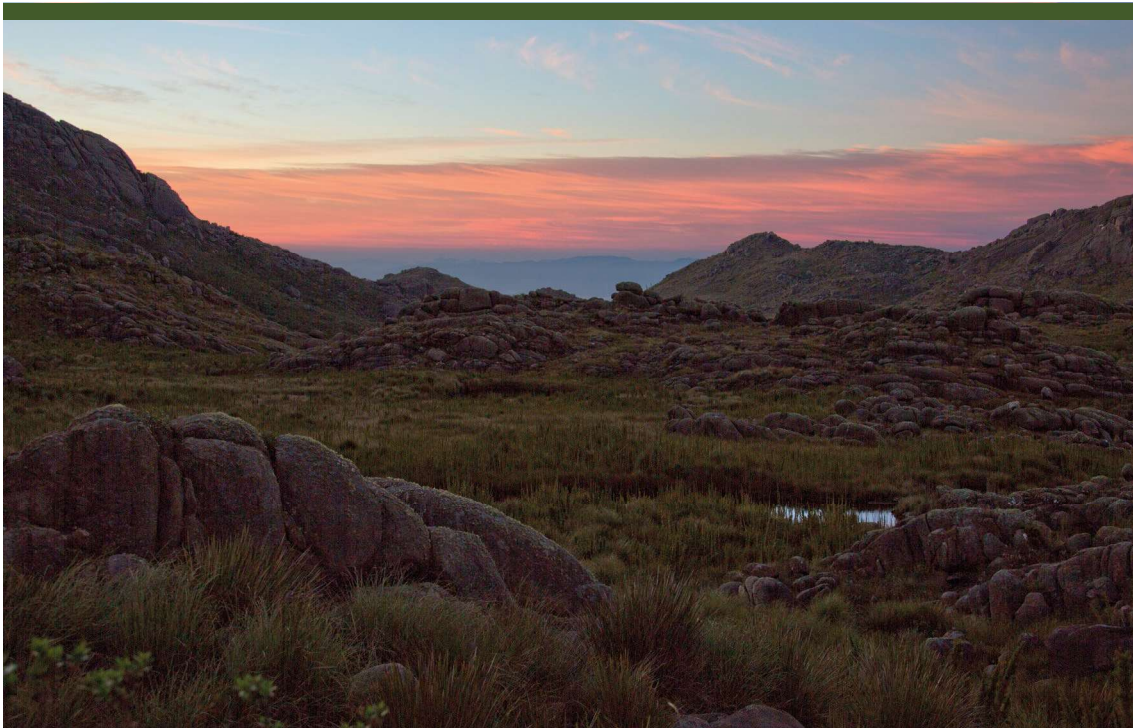


Source: Adapted from the Environmental Information Database (BDIA; IBGE, 2024).

The Atlantic Forest borders the Cerrado, Caatinga, and Pampa biomes (IBGE, 2019), and the transitions between these biomes can be gradual and difficult to classify. In this regard, the explanatory note included in the Application Map of Law No. 11428, 2006, establishes the vegetation typologies of the Atlantic Forest biome that occur as disjunctions in each biome, including FED and FES forest formations located in the Pantanal, which must be considered under the scope of the aforementioned law, in addition to the areas fully included within the polygon established by the map (Gaio, 2018). The transition between the Atlantic Forest and the Cerrado, for example, is characterized by a variety of vegetations, including savannas, grasslands, and forests, with a predominance of species typical of both biomes (Muyllaert et al., 2018). In the Caatinga, Oliveira et al. (2019) highlighted the environmental and floristic similarity with the Atlantic Forest, especially in the southern ecotone region. In the Pampa, the forest enclaves of FOM and FES located in the Serra do Sudeste and the western region of Rio Grande do Sul are noteworthy, as well as the Pioneer Formation Areas (arboreal, shrub, and grassland coastal sandbank formations and alluvial areas) that extend across the entire coastal plain of the state and fall under the scope of Federal Law No. 11428, 2006. It is worth noting that ecotones and enclaves account for approximately 15% of the total area of the biome (Figure 3).

The native vegetation of the Atlantic Forest is essential for maintaining hydrological processes, ensuring the quantity and quality of drinking water for approximately 145 million Brazilians. For this reason, the suppression of this vegetation can aggravate the water crisis in some regions and, consequently, cause floods, overflows, and landslides in others. For example, the Eastern Northeastern Atlantic and Eastern Atlantic regions have been facing challenges due to low water availability and changes in water quality caused by changes in land use (ANA, 2015). Since this is the biome with the highest population density in the country, housing 49.3% of the urban areas of the national territory, resulting from its history of occupation and urbanization (IBGE, 2020), ensuring water security for this population is a challenge.

In summary, the Atlantic Forest covers the most industrialized areas of Brazil, also hosting the country's largest metropolitan regions. It is a region highly dependent on the conservation of native vegetation to meet water supply needs and the demand for water for agricultural, industrial, and energy generation uses. Furthermore, it hosts a rich cultural diversity with indigenous peoples and traditional communities that maintain a deep interaction with the biome. This scenario highlights the importance of forest maintenance and restoration not only for biodiversity conservation but also as an essential measure to ensure critical ecosystem services and preserve traditional ways of life, given that the Atlantic Forest is the only Brazilian terrestrial biome whose predominant land use class is not natural cover (IBGE, 2020a).



Itatiaia National Park/RJ. Photo: MMA Archive.

2.2. Environmental commitments

Existing Brazilian regulations are aligned with several environmental commitments undertaken by Brazil, such as the conventions originating from the United Nations Conference on Environment and Development (ECO-92): the Convention on Biological Diversity (CBD); the United Nations Framework Convention on Climate Change (UNFCCC); and the United Nations Convention to Combat Desertification and Mitigate the Effects of Drought (UNCCD).

At the domestic level, the Atlantic Forest is considered National Patrimony by the Federal Constitution of 1988 (art. 225.4). Moreover, the legal framework concerning the biome dates to the 1990s. Federal Decree No. 99547, 1990 prohibited, indefinitely, the cutting and exploitation of native vegetation in the Atlantic Forest, being revoked by Federal Decree No. 750, 1993. This decree established rules for the use, exploitation, and suppression of native vegetation in the biome, prohibiting, as a rule, the suppression of primary vegetation or vegetation in advanced and medium regeneration stages. In addition, the decree established the need for the federal government to detail and regulate specific aspects of biome protection, such as defining criteria for environmental licensing and classifying the successional stages of vegetation (art. 4, 6, and 12). Consequently, the National Environmental Council (Conama) initiated the development of a set of resolutions (Table 1) that currently covers all states of the Atlantic Forest¹.

¹ The states covered by the Conama resolutions before the publication of the Atlantic Forest Law were São Paulo, Paraná, Santa Catarina, Bahia, Rio de Janeiro, Ceará, Piauí, Alagoas, Espírito Santo, Mato Grosso do Sul, Pernambuco, Rio Grande do Norte, Rio Grande do Sul, and Sergipe. The states of Paraíba, Minas Gerais, and Goiás were covered by Conama resolutions after the publication of the Atlantic Forest Law.

Table 1. Conama Resolutions for vegetation classification in the Atlantic Forest.

Resolution	Date	Summary
Conama Resolution No. 505	17 October 2023	Provides for the definition of primary and secondary vegetation for the regeneration of the Atlantic Forest in the state of Goiás.
Conama Resolution No. 417	23 November 2009	Provides for basic parameters for the definition of primary vegetation and the secondary successional stages of coastal sandbank vegetation in the Atlantic Forest and other provisions.
Conama Resolution No. 392	25 June 2007	Definition of primary and secondary vegetation for the regeneration of the Atlantic Forest in the state of Minas Gerais.
Conama Resolution No. 391	25 June 2007	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest in the state of Paraíba.
Conama Resolution No. 388	23 February 2007	Provides for the validation of the resolutions that define [REDACTED]
Conama Resolution No. 261	30 June 1999	Approves the basic parameter for the analysis of the successive stages of coastal sandbank vegetation for the state of Santa Catarina.
Conama Resolution No. 7	23 July 1996	Approves the basic parameters for the analysis of coastal sandbank vegetation in the state of São Paulo.
Conama Resolution No. 34	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Sergipe.
Conama Resolution No. 33	7 December 1994	Defines the successional stages of the vegetation formations that occur in the Atlantic Forest region of the state of Rio Grande do Sul, aiming to establish criteria, rules, and procedures for the management, rational use, and conservation of natural vegetation.
Conama Resolution No. 32	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Rio Grande do Norte.
Conama Resolution No. 31	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Pernambuco.
Conama Resolution No. 30	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Mato Grosso do Sul.

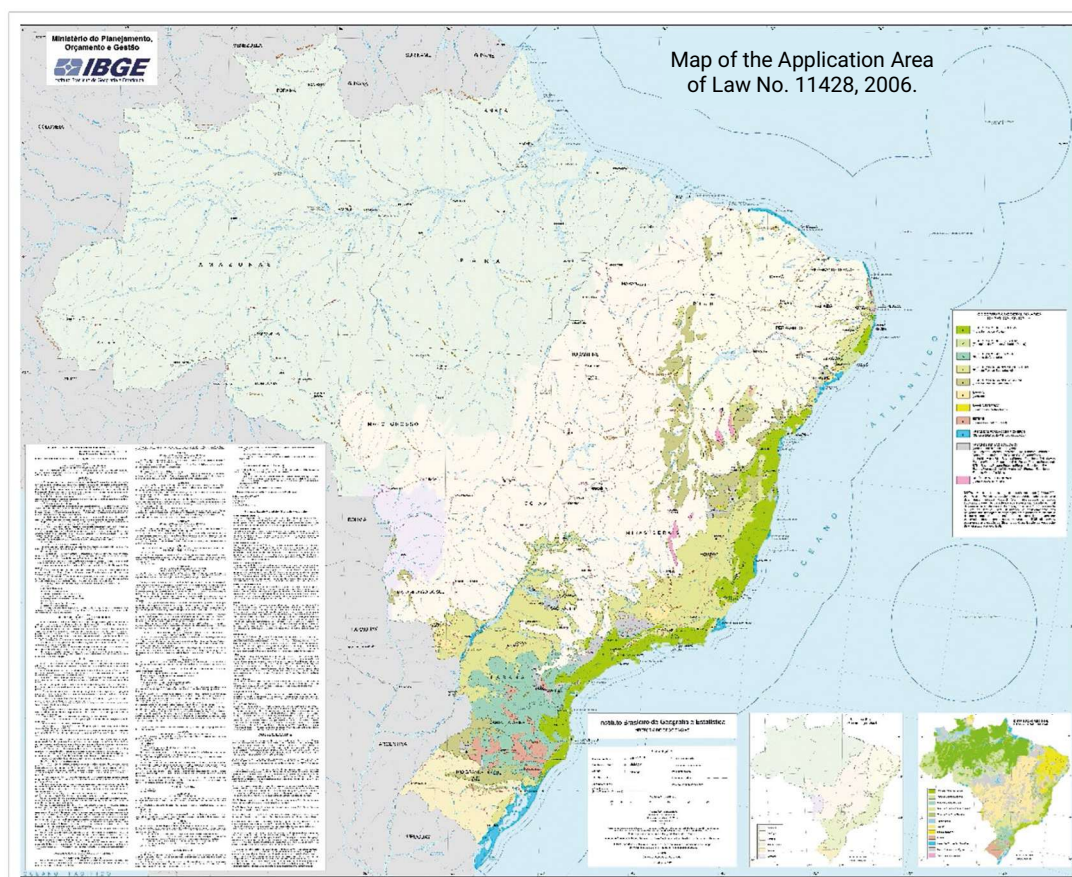
Resolution	Date	Summary
Conama Resolution No. 29	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest, considering the need to define cutting, exploitation, and suppression of secondary vegetation in the initial stage of regeneration in the state of Espírito Santo.
Conama Resolution No. 28	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Alagoas.
Conama Resolution No. 26	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Piauí.
Conama Resolution No. 25	7 December 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Ceará.
Conama Resolution No. 6	4 May 1994	Establishes definitions and measurable parameters for the analysis of ecological succession of the Atlantic Forest in the state of Rio de Janeiro.
Conama Resolution No. 5	4 May 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Bahia.
Conama Resolution No. 4	4 May 1994	Defines primary and secondary vegetation in the initial, medium, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for forestry activities in the state of Santa Catarina.
Conama Resolution No. 2	18 March 1994	Defines primary vegetation formations and successional stages of secondary vegetation to guide the licensing procedures for the exploitation of native vegetation in the state of Paraná.
Conama Resolution No. 1	31 January 1994	Defines primary and secondary vegetation in the pioneer, initial, and advanced stages of regeneration of the Atlantic Forest to guide the licensing procedures for the exploitation of native vegetation in the state of São Paulo.

Source: MMA.

In 2006, after 14 years of proceedings, Federal Law No. 11428, 2006, known as the Atlantic Forest Law, was enacted, characterized as a more robust and comprehensive legal framework for the biome, establishing rules for its protection, restoration, and sustainable use. To enable the proper application of the Law, IBGE prepared the Application Map of Law No. 11428, 2006 (IBGE, 2012), at a 1:5,000,000 scale (Figure 4). This map depicts the original vegetation cover of the Atlantic Forest, showing the distribution of its typologies, and serves as the reference for the application of the Law. It is worth highlighting that the Explanatory Note included in the map specifies that the vegetation typologies to

which Federal Law No. 11428, 2006 applies are both those that occur entirely within the Atlantic Forest biome and those that occur as vegetation disjunctions in ecotone areas with the Caatinga, Cerrado, Pantanal, and Pampa biomes, defining the forest formations and associated ecosystems to be considered in those biomes. Therefore, the polygon defined by the map is an important basis for legal application; however, any enclaves and disjunctions located in neighboring biomes must also be considered under the scope and protection of the law (Gaio, 2018).

Figure 4. Map of the Application Area of Law No. 11428, 2006.



Source: IBGE (2012). High-resolution map available at: https://geofp.ibge.gov.br/informacoes_ambientais/estudos_ambientais/biomas/mapas/lei11428_mata_atlantica.pdf

Federal Law No. 11428, 2006 establishes a series of restrictions on the use, exploitation, and suppression of native vegetation. In this sense, it sets forth prohibitions and exceptional cases in which cutting may be authorized, defining a compensatory system and a percentage limitation of the area to be suppressed, to be determined according to the successional stage of the vegetation and the intended location of the project. This system seeks to maintain a percentage balance of the total remnants of native vegetation in the Atlantic Forest, thus aiming for the sustainable exploitation of the biome.

The application of the Atlantic Forest Law at the state level takes place according to the guidelines of Conama resolutions (Table 1), with activities licensed and enforced by state environmental agencies. Municipalities within the biome have as a territorial planning and management tool the Municipal Plans for the Conservation and Restoration of the Atlantic Forest (PMMA), provided for by the Atlantic Forest Law (art. 38).

Another fundamental law for the prevention and control of deforestation in the Atlantic Forest is Federal Law No. 12651, 25 May 2012, the Native Vegetation Protection Law (LPVN). This law, together with the Atlantic Forest Law, establishes a dual regime of protection for native vegetation in Permanent Preservation Areas (APPs), Legal Reserves (RLs), and Urban Green Areas, introducing essential measures for the maintenance of ecosystem services, sustainable forest management, control of the origin of forest products, and fire control and prevention.

In the context of the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, also known as the Ramsar Convention, the Atlantic Forest has seven listed sites (areas created to preserve, promote the sustainable use of these areas through rational planning, create nature reserves, train qualified personnel, and foster international cooperation): State Environmental Protection Area of Cananéia - Iguape - Peruíbe; Ilha Grande National Park; State Environmental Protection Area of Guaratuba; Lagoa do Peixe National Park; Rio Doce State Park; Taim Ecological Station; and Guaraqueçaba Ecological Station.

Additionally, the Atlantic Forest has three areas recognized as Natural World Heritage Sites by UNESCO: Iguaçu National Park; the Discovery Coast Atlantic Forest Reserves; and the Atlantic Forest Southeast Reserves. There is also the site Rio de Janeiro - Carioca Landscapes between the Mountain and the Sea - considered a Cultural and Natural World Heritage Site due to the development of the city having shaped a fusion between natural and cultural elements. Finally, the biome also has three biosphere reserves, within the framework of UNESCO's Man and the Biosphere Program: Atlantic Forest (encompassing all 17 states of the biome); Serra do Espinhaço; São Paulo Green Belt.

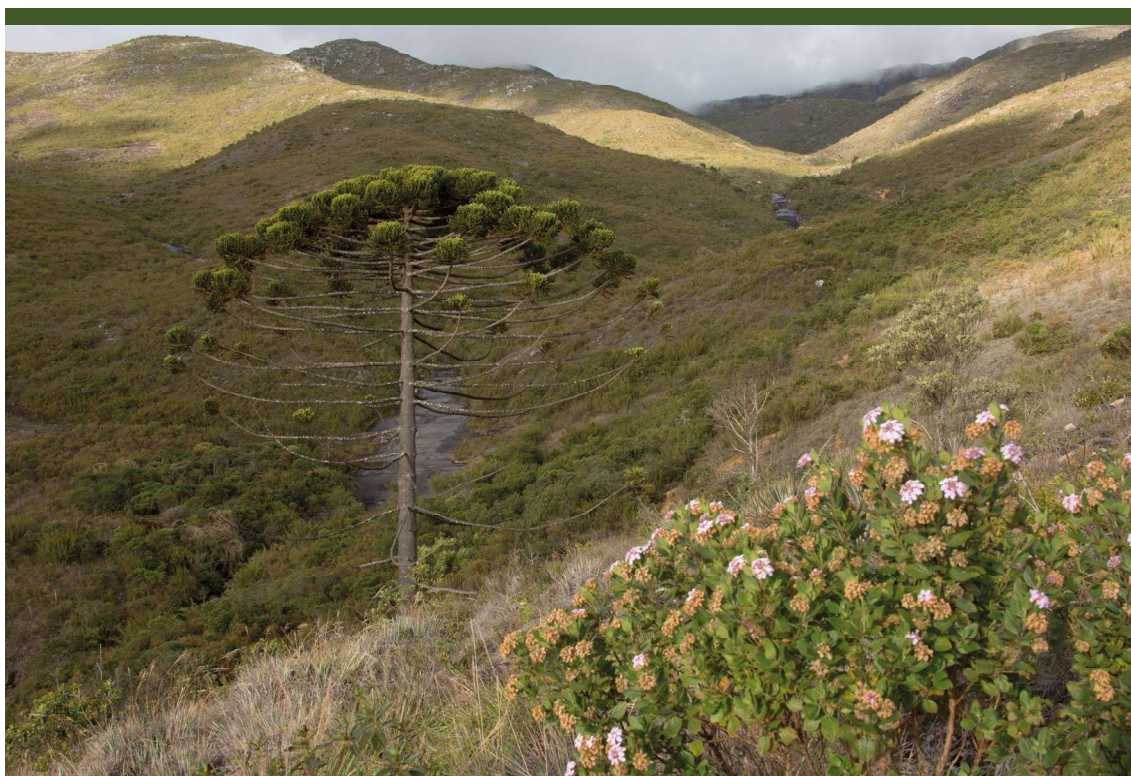
3.1. Federal government policies for deforestation control in the Atlantic Forest

With the publication of Decree No. 11367, 1 January 2023, the Action Plans for Deforestation and Fire Prevention and Control (PPCDs) for the Amazon and Cerrado biomes were resumed, and plans were proposed for the other biomes, including the Atlantic Forest. The PPCDs are considered tools for implementing the National Policy on Climate Change (PNMC), established by Law No. 12187, 29 December 2009. In addition, they contribute to the implementation of the National Strategy for Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks in Brazil (ENREDD+), established by Decree No. 11548, 5 June 2023. The PPCDs also act in synergy with: the National Biodiversity Policy (Decree No. 4339, 22 August 2002); the National Policy to Combat Desertification and Mitigate the Effects of Drought (Federal Law No. 13153, 30 July 2015); the National Plan for the Recovery of Native Vegetation (Planaveg) (Decree No. 8972, 23 January 2017); the National Policy on Integrated Fire Management (Law No. 14944, 31 July 2024); thus contributing to the implementation of national and international commitments.

It is worth noting that at COP-21, held in 2015 in Paris, the Government of Brazil presented to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) its Nationally Determined Contribution (NDC) (MMA, 2019). In this commitment, Brazil pledged to increase the share of sustainable bioenergy in the country's energy matrix to 18% by 2030, to scale up the sustainable management of native forests, and to reach a 45% share of renewable energy in the national energy matrix by 2030. After going through update cycles in 2020, 2022, and 2023, the NDC is committed to eliminating illegal deforestation and restoring 12 million hectares of native vegetation throughout Brazil, including in the Atlantic Forest, by 2030, for multiple uses, in addition to implementing the ABC+ Plan by 2050.

Regarding the monitoring of deforestation and fires, official deforestation data for the country are made available through the Satellite Monitoring Program of Brazilian Biomes (BiomassBR Program), coordinated by the National Institute for Space Research (Inpe). In addition to quantifying the annual deforestation increments, Inpe also provides data on hotspots detected by satellites and on burned areas in each Brazilian biome (TerraBrasilis Platform and Fires Program).

In the context of protected areas, Law No. 9985, 2000 establishes the National System of Nature Conservation Units (SNUC), as well as criteria and standards for the creation, implementation, and management of Conservation Units. Within the scope of the Law, and specifically for the Atlantic Forest, which has a high degree of fragmentation, it is worth highlighting the importance of establishing ecological corridors, mosaics of protected areas, and biosphere reserves. Currently, the Atlantic Forest does not have any federal ecological corridors under the SNUC framework, but two corridors were defined under the Atlantic Forest Ecological Corridor Project² for the Atlantic Forest: the Central Atlantic Forest Corridor (CCMA) and the Serra do Mar Corridor (MMA, 2005). Additionally, the National Strategic Plan for Protected Areas (Pnap), established by Decree No. 5758, 2006, indicated as protected areas the categories of UCs under the SNUC, natural world heritage sites, Ramsar sites, Indigenous Lands (TI), Quilombola Territories (TQ), Permanent Preservation Areas (APPs), Legal Reserves (RLs), and legally established fishing exclusion zones (Brazil, 2006).



Caparaó National Park/MG. Photo: MMA Archive.

Another important initiative is the National Forest Inventory (NFI), coordinated by the Brazilian Forest Service (SFB), a project that generates information about forests throughout the Brazilian territory (SFB, 2022). This is a fundamental tool to guide restoration processes in the biome. Among the Atlantic Forest states that already have their inventories are Ceará, Espírito Santo, Paraíba, Paraná, Rio de Janeiro, Rio Grande do Norte, Santa Catarina, and Sergipe. Some states, such as São Paulo, have their own inventories of native vegetation cover.

² Demonstrative Projects Subprogram - PDA/PPG7.

Considering territorial planning, another public policy instrument that guides decision-making for the implementation of measures aimed at conservation, restoration, and sustainable use of ecosystems within the biome is the definition of priority areas and actions for biodiversity conservation. The definition of these areas began in the late 1990s, and the process of the 2nd update of the “Priority Areas and Actions for Biodiversity Conservation, Sustainable Use, and Benefit Sharing”³ took place between 2017 and 2018, including the Atlantic Forest biome. This instrument, among other things, makes it possible to direct the creation of protected areas, offers support in the licensing process for activities that cause environmental degradation, contributes to monitoring and promotes sustainable use and environmental regularization.

Regarding policies for fire control and the reduction of forest fires, the MMA, together with Ibama and ICMBio, has for several years been engaged in the prevention and combat of forest fires throughout the national territory through the Federal Brigades Program for the Prevention and Combat of Forest Fires, specifically hired for this purpose. This work takes place primarily in federal areas (indigenous lands, quilombola territories, and federal conservation units), based on the historical occurrence of burnings and fires and the socio-environmental relevance of each area.

Moreover, under Complementary Law No. 140, 8 December 2011, federal government actions in areas outside its powers must be of a subsidiary nature and formally requested by the states or municipalities originally holding power for administrative action. This implies the shared responsibility among state and municipal governments, which have primary power, and the federal government for responding to burnings and fires occurring in the region.

Another policy being developed by federal institutions in response to fires, also provided for in the National Integrated Fire Management Policy, is the recognition, appreciation, and strengthening of community and volunteer brigades and brigade members operating throughout the national territory. This is being carried out through the development of the Federal Volunteering Strategy for Integrated Fire Management actions by the MMA and its affiliated agencies, Ibama and ICMBio, in partnership with other organizations and representatives of civil society. These collectives, increasingly present in environmental protection and conservation, are a valuable resource for preserving Brazil’s natural heritage, as they are located in the territory and can assist the federal government with primary and immediate actions to prevent fires, such as community awareness, execution of prescribed and controlled burns, construction of firebreaks, fire monitoring and detection, and the recovery and restoration of areas affected by fires.

³ Ordinance No. 463, 18 December 2018.

In 2023, Decree No. 11367, 1 January 2023, reestablished the National Commission for the Restoration of Native Vegetation (Conaveg), which coordinates the implementation, monitoring, and evaluation of the National Policy for the Restoration of Native Vegetation (Proveg) and the execution of the National Plan for the Restoration of Native Vegetation (Planaveg). Among its provisions are measures to recover degraded areas, including those affected by fires.

In addition, a new version of the National Climate Change Plan (Climate Plan) is being prepared, according to Decree No. 11550, 2023, amended by Decree No. 12040, 2024. In the Climate Plan, it is foreseen that the Sectoral Plan for Land Use and Forest Change will function as a strengthening element for policies, programs, and actions, acting in convergence with the PPCDs and Planaveg.

Finally, also in 2023, a new commitment was proposed: to reduce native vegetation loss and achieve zero deforestation by 2030 in all biomes of the country. In the context of PPMata Atlântica, zero deforestation refers to the elimination of illegal deforestation and the offsetting of legally authorized vegetation suppression and the resulting greenhouse gas emissions. This will be achieved through stronger implementation of forest legislation and the restoration and enhancement of native vegetation stocks, supported by economic incentives for conservation and sustainable forest management.

3.2. State policies for deforestation control in the Atlantic Forest

The protection of the environment, the fight against pollution, and the preservation of forests, fauna, and flora are matters defined by the Federal Constitution as common powers of the federal government, the states, the Federal District, and municipalities. Complementary Law No. 140, 2011 assigned the states an important role in controlling and preventing deforestation, granting them the powers to approve the management and suppression of native vegetation on rural properties, except for attributions belonging to the federal government. Moreover, it allows states to perform municipal administrative actions in locations where there is no qualified environmental agency or environmental council.

In the states where the Atlantic Forest is present, administrative actions are particularly guided by the provisions of Federal Law No. 11428, 2006 and Federal Decree No. 6660, 2008, which establish that authorization for cutting, suppression, and exploitation of vegetation shall be granted by the competent environmental agency only in exceptional cases. This regulatory framework, combined with the fact that the suppression of native vegetation represents the main threat to the biome, highlights the importance of involving states in deforestation prevention and control, especially considering the characteristics and particularities of each region. Among the 17 states covered by the Atlantic Forest, only Minas Gerais developed a Prevention and Control Plan for Deforestation in the Atlantic Forest Biome, which is no longer in effect, and recently Espírito Santo established the State Program for Monitoring and Combating Illegal Deforestation. Table 2 presents a survey of other state initiatives, although not exhaustive.

Table 2. State initiatives that have contributed to the prevention and control of deforestation in the Atlantic Forest.

State	Normative	Approach
Bahia	Inema Ordinance No. 22387, 25 February 2021	The Harpy Native Vegetation Management Program originated from remote monitoring actions, detection of suppression areas and enforcement operations in priority areas of the Atlantic Forest biome, which began in 2016. In 2021 and 2022, the program was expanded to cover the entire state, extending to the Caatinga and Cerrado biomes. In addition, restoration and dissemination measures were incorporated.
Espírito Santo	Sate Decree No. 5736-r, 24 June 2024	The State Program for Monitoring and Combating Illegal Deforestation aims at receiving, generating, and managing alerts for the identification of illegal deforestation, as well as monitoring forest restoration, especially in areas targeted by the Environmental Regularization Program (PRA).
Minas Gerais	Sate Decree No. 46315, 23 September 2013	The Plan to Prevent and Combat Deforestation in the Atlantic Forest Biome, drawn up in 2014, included measures related to five main themes: forestry promotion, enforcement, forestry policy, environmental regulation and regularization, as well as the implementation of new technologies. Although it was completed in 2017, the plan did not receive subsequent updates.
	Not found	The Action Plan to Combat Deforestation is part of the Annual Environmental Enforcement Plan (PAF), under the attributions of the State Department for the Environment and Sustainable Development. It aims to respond to detections identified by Continuous Monitoring, carried out by the State Forestry Institute (IEF), and includes repressive operations conducted by the Military Environmental Police and Semad's enforcement units. The plan also includes return operations to areas previously fined for deforestation.
Paraná	Sate Decree No. 8937, 3 October 2021.	The State of Paraná Climate Action Plan 2024-2050 provides for the development of plans, including a Plan for Vegetation Restoration, Prevention, and Control of Deforestation in the Paraná biomes (Cerrado and Atlantic Forest), within five years.

Source: MMA.

In addition to these, other measures arising from state policies can contribute to the prevention and control of deforestation. Among them are ecological restoration policies, payment for environmental services, protection of water resources, and environmental

regularization. For example, the State Policy on Ecological Restoration of the State of Rio de Janeiro (Rio de Janeiro, 2019) aims to undertake restoration actions in the Atlantic Forest, using administrative instruments and financial mechanisms to promote and strengthen the ecological restoration production chain. In the state of Paraná, the Payment for Environmental Services Projects for Private Natural Heritage Reserves (RPPNs) seek to provide economic incentives to RPPN owners and promote the conservation and restoration of ecological processes (Paraná, n/d). The Nascente Viva Project in Paraíba works on the diagnosis, recovery, and preservation of springs and riverbanks in the Paraíba River basin (Consórcio Nordeste, 2022). In São Paulo, the Refloresta - SP Program aims to adopt measures focused on mitigating climate change, payment for environmental services, bioeconomy, conservation of biodiversity and water resources, restoration, and land-use change (São Paulo, 2022). Also noteworthy is the Reflorestar Project, an initiative of the State Government of Espírito Santo that aims to promote the restoration of the hydrological cycle through the conservation and recovery of forest cover, generating opportunities and income for rural producers and encouraging the adoption of sustainable land-use practices.

From a regional perspective, there is the work of consortia, such as the South and Southeast Integration Consortium (Cosud), which defined a "Protocol of Intentions among the States of the South and Southeast Region - Mata Treaty." This agreement aims primarily at the preservation, conservation, and rational use of the natural resources of the Atlantic Forest biome through joint efforts. The Northeast Consortium, in turn, focuses its planning on combating climate change, sustainability, and hunger, in addition to protecting biodiversity and respecting traditional peoples and communities (Consórcio Nordeste, 2022).

Launched by the Prosecution Service of the State of Paraná in 2016, the Operation Standing Atlantic Forest today encompasses state Public Prosecutor's Offices and environmental agencies in the 17 states of the biome. The operation aims to provide an appropriate state response to illegal deforestation of native vegetation remnants in the Atlantic Forest biome.

Regarding fires, Federal Law No. 12651, 2012 assigns states the power for authorizing controlled burning in cases of agropastoral or forestry practices. In addition, most of the states where the Atlantic Forest biome is present have or have had some instrument for the prevention and control of fires, whether a plan, program, or policy (Table 3).

Table 3. State instruments for fire prevention and control in the Atlantic Forest.

State	Normative	Approach
Alagoas	Not found	It monitors hotspots and provides regular and detailed reports on occurrences in the state ¹ .
Bahia	Sate Decree No. 8394, 13 December 2002	Establishes the Interagency Action Plan for the Prevention and Combat of Forest Fires in the State of Bahia, which sets forth administrative and operational mechanisms, in partnership with public agencies, companies, and civil society organizations, for the prevention, enforcement, and combat of forest fires.
	Not found	Establishes the Bahia Without Fire Program, which distributes equipment, promotes training courses for experts, trains firefighters, holds meetings and workshops with rural communities, and conducts prevention, awareness, and information campaigns.
Ceará	Sate Decree No. 27596, 20 October 2004	Establishes the Program for the Prevention, Monitoring, Control of Fires, and Combat of Forest Fires (Previna), aimed at strengthening monitoring and combat actions for forest fires in the state. Previna is also responsible for coordinating the hiring of forest fire brigades to operate in state Conservation Units (UCs).
Goiás	Semad Ordinance No. 72, 27 February 2024	Establishes the Working Group for the preparation of the 1st phase of the State Plan for the Prevention and Control of Deforestation, Fires, and Forest Fires in the State of Goiás (PPCDQIF).
	Not found	Establishes the Fire Monitoring System, in June 2022, a technological tool that uses satellites and geotechnology to detect hotspots in areas as small as three square meters. This initiative enables a rapid and effective response in fire prevention and combat
Mato Grosso do Sul	Decree No. 15654, 15 April 2021	Establishes the State Integrated Fire Management Plan (PEMIF).
Mato Grosso do Sul	Not found	Establishes the Integrated Action Plan, under which the State Military Fire Department, in partnership with other institutions, carries out monitoring and prevention of forest fires, using advanced technology such as satellite monitoring in collaboration with Inpe and NASA.

State	Normative	Approach
Minas Gerais	Sate Decree No. 48767, 26 January 2024	Establishes the Fire Prevention Task Force, which carries out prevention, control, and combat actions for forest fires and educational campaigns, especially with communities living around UCs.
	Not found	Deforestation Control Plan.
Paraná	State Law No. 10233/2018	Establishes the State Policy for Fire Control and Prevention of Forest Fires, which sets out the responsibilities of environmental agencies and the penalties applicable in case of violations.
Piauí	Sate Decree No. 15513, 27 January 2014	Establishes the State Plan for the Prevention and Combat of Forest Fires and Fire Control.
	Not found	Establishes the Action Plan for Fire Prevention and Control, integrating the ECO Piauí Program, in order to strengthen municipal fire brigades.
Rio Grande do Norte	Not found	Establishes the State Plan for Environmental Prevention and Combat of Burnings and Forest Fires (RN Without Flames), launched to reduce the occurrences of burnings and fires in the state, with strategies that include the development of monitoring maps, environmental education actions, and the joint efforts of various state institutions, such as the Institute for Sustainable Development and Environment (Idema) and the Fire Department.
São Paulo	State Law No. 17460, 25 November 2021	Establishes the State Policy for Integrated Fire Management, which sets out guidelines for the controlled use of fire, as well as prevention and combat measures for forest fires. This law also addresses the traditional use of fire by indigenous and traditional communities.

Source: MMA.

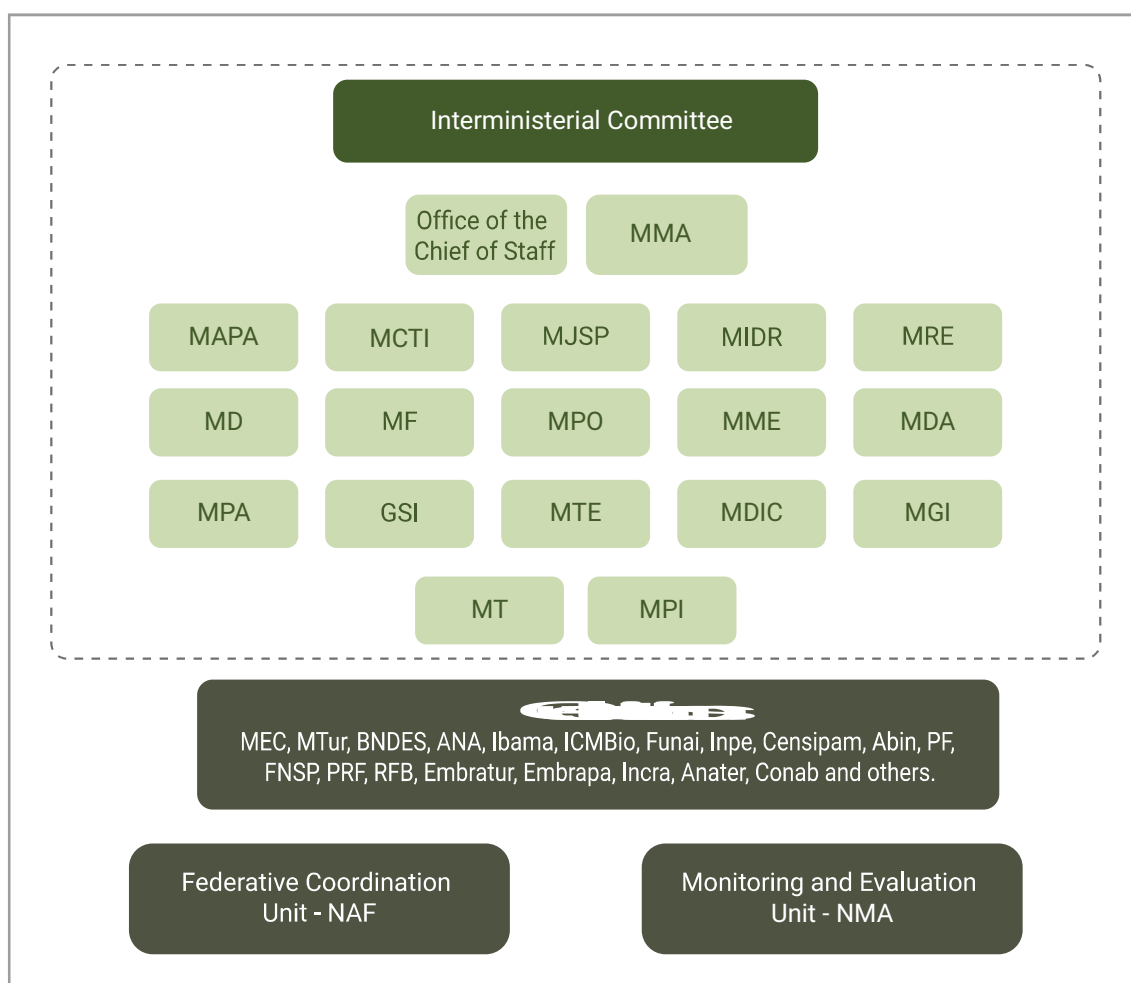
Note: 1 The IMA reports can be accessed at the link: <https://www2.ima.al.gov.br/relatorio-de-queimadas/>

3.3. Governance of the PPMata Atlântica

To demonstrate its commitment to biodiversity conservation and the responsible use of natural resources, and in response to the significant increase in deforestation rates in recent years in the country, the federal government established, through Federal Decree No. 11367, 10 January 2023, the Permanent Interministerial Commission for the Prevention and Control of Deforestation (CIPPCD), mandating the preparation of Action Plans for Deforestation and Fire Prevention and Control (PPCDs) in all biomes in Brazil.

The 1st phase of the PPMata Atlântica will be implemented over three years (between 2025 and 2027), in order to synchronize its actions with the execution of the Multi-Year Plan (PPA). In line with other plans and public policies, the PPMata Atlântica is structured to provide conditions for all ministries and other implementing agencies to achieve zero deforestation by 2030. The governance model for the 1st Phase of the PPMata Atlântica follows the provisions established by the decree, being managed by the CIPPCD, with mechanisms and instruments for transparency and social participation (Figure 5).

Figure 5. Governance structure of the 1st phase of the PPMata Atlântica.



Source: MMA.

At the ministerial coordination level, the CIPPCD serves as the deliberative forum for decision-making and strategic proposals for new action plans. Chaired by the Office of the Chief of Staff of the Presidency of the Republic (CC/PR) and coordinated by the Ministry of Environment and Climate Change (MMA), the Interministerial Commission includes the participation of seventeen other ministries.

As responsibilities, the CIPPCD was assigned the definition and coordination of actions to reduce deforestation rates throughout the national territory, as well as the evaluation, approval, and monitoring of the implementation of the PPCDs for all Brazilian biomes and the establishment of measures to overcome any execution difficulties. It is also the responsibility of CIPPCD to ensure that the actions outlined in the PPCDs promote the development and integration of environmental protection systems and contribute to the conservation of biological diversity and the reduction of greenhouse gas emissions resulting from deforestation, forest degradation, and fires. For this reason, it is also the role of the CIPPCD to monitor the development and implementation of public policies that affect the Action Plans, through coordinated actions with other federal institutions, states, the Federal District, and municipalities.

After the 1st Technical-Scientific Seminar on the Causes and Consequences of Native Vegetation Suppression in the Atlantic Forest, held on 3 July 2024, under the coordination of the MMA, dozens of meetings were held with CIPPCD members and guests, aiming to promote broad discussions on ways and mechanisms to address the identified issues. These discussions allowed for a detailed analysis of the characteristics, challenges, and opportunities of each thematic axis, in order to define the plan's objectives, expected outcomes, actions, targets, and indicators.

To enable integrated implementation with states and municipalities, the Federative Articulation Unit (NAF) will be established, with regular meetings between the MMA, other federal actors, and state and municipal environmental agencies. The NAF will serve as a forum for information sharing and for identifying potential challenges and opportunities for joint action between the federal government, states, and municipal authorities, with support and within the scope of the Tripartite National Commission, created by Complementary Law No. 140, 2011. In accordance with Article 11 of Federal Decree No. 11367/2023, an annual monitoring report on the Plan's implementation will be published, including the execution of each line of action led by members and guests of the Interministerial Commission. To this end, the Monitoring and Evaluation Unit (NMA) will be established, coordinated by the MMA, with participation from ministries, oversight agencies, and representatives of civil society and academia. The NMA may also propose adjustments to targets and indicators to improve the measurement of the effectiveness of the Plan's actions. Both the NMA and the Federative Articulation Center (NAF) will serve as platforms for supporting future revisions, as outlined in art. 2, Federal Decree No. 11367/2023, establishing a routine for generating information to continuously improve the plan.

Instruments related to transparency and social participation were also designed to ensure proper disclosure and transparency of the plan's actions, while expanding and strengthening channels for participation by states, the private sector, and organized civil society. The aforementioned decree provides public consultation, technical-scientific seminars, and the preparation of monitoring and follow-up reports on the implementation of actions as instruments for social participation.

The 1st Phase of the PPMata Atlântica is coordinated by the Special Department for Deforestation Control and Environmental Land Use Planning (SECD/MMA), which prepared the document based on: i) analysis of the effective actions of PPCDAm and PPCerrado; ii) reports from the government transition working groups in the areas of environment, agriculture, justice, and Indigenous Peoples; iii) inputs collected during the Technical-Scientific Seminar; iv) inputs collected in meetings with federal actors; v) technical meetings with states and civil society.

The 1st Technical-Scientific Seminar included the participation of representatives from the federal government, state governments, civil society, the private sector, and academia. The seminar served as a moment for analyzing intraregional social and economic dynamics to anticipate the planning of preventive actions against the emergence of new deforestation frontiers in the biome. In this context, several presentations were held on the causes and consequences of deforestation and fires in the biome, providing inputs for the preparation of this Plan.



Agricultural production in the surroundings of Caparaó National Park/MG. Photo: MMA.

4. DYNAMICS OF NATIVE VEGETATION SUPPRESSION AND FIRES IN THE ATLANTIC FOREST BIOME

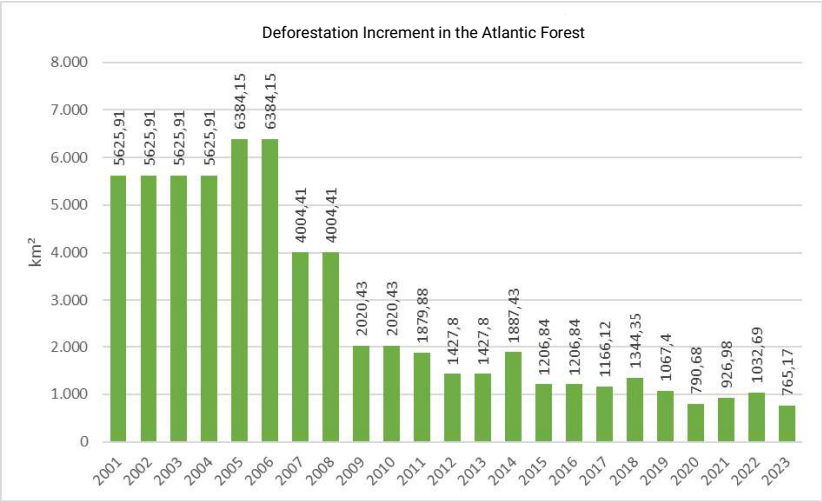
4.1. Dynamics of native vegetation suppression

Official deforestation data for the country are made available through the Satellite Monitoring Program of Brazilian Biomes (BiomassBR Program), coordinated by the National Institute for Space Research (Inpe). The BiomassBR Program encompasses three projects by Inpe: the Satellite Deforestation Monitoring Project (Prodes), the Real-Time Deforestation Detection System (Deter), and the Land Use and Land Cover Mapping Project (TerraClass), conducted in partnership with the Brazilian Agricultural Research Corporation (Embrapa). However, for the Atlantic Forest, only Prodes is available. In addition to quantifying the annual deforestation increments, Inpe also provides data on hotspots detected by satellites and on burned areas in each Brazilian biome (TerraBrasilis Platform and Fires Program). It is important to note that Inpe uses the Biomes of Brazil map (2004) as a reference, which does not include the states of Ceará and Piauí; therefore, these states do not appear in the analyses presented below.

The Inpe data show that from 2001 to 2023, there was a cumulative suppression of native vegetation of 63,451.60 km² (Inpe, 2024). This situation results from a historical process that began with the arrival of the colonizers when the original area of the Atlantic Forest began to decline rapidly due to different economic cycles. Between the 15th and 19th centuries, the extraction of brazilwood, sugarcane production, gold mining, coffee cultivation, and livestock farming were the main drivers of deforestation. Subsequently, this process was intensified by industrialization, urbanization, and the rapid economic development that occurred from the mid-20th century onward (Fischer, 2014).

In 2001, the deforested area of the Atlantic Forest biome amounted to 726,906.27 km², or 65.67%, and over 22 years there was a 5.73% increase in the suppressed native vegetation. As shown in Figure 6, starting in 2009 deforestation began to decline significantly, coinciding with the publication of the Atlantic Forest Law and Decree No. 6660, 2008. After 2011, the deforested area remained below 2,000 km², despite peaks in 2014, 2018, 2021, and 2022. The lowest value recorded in the historical series was in 2023, with 765.16 km² deforested, a reduction of 25.9% compared to 2022.

Figure 6. Deforestation increases in the Atlantic Forest biome from 2001 to 2023 (km²).



Source: adapted from Inpe (2024).

When evaluating the proportions among the territorial area, the Atlantic Forest area, and the deforested area by state in the biome between 2000 and 2023, it is possible to observe different dynamics (Table 4). States such as Goiás, Alagoas, Mato Grosso do Sul, and Pernambuco show the highest percentages of deforestation in relation to their original Atlantic Forest area. Conversely, Santa Catarina, which is 100% within the biome, was the state with the lowest percentage of deforested area, with 58% loss of native vegetation.

Table 4. Area occupied and deforested (between 2000 and 2023) by state in the Atlantic Forest.

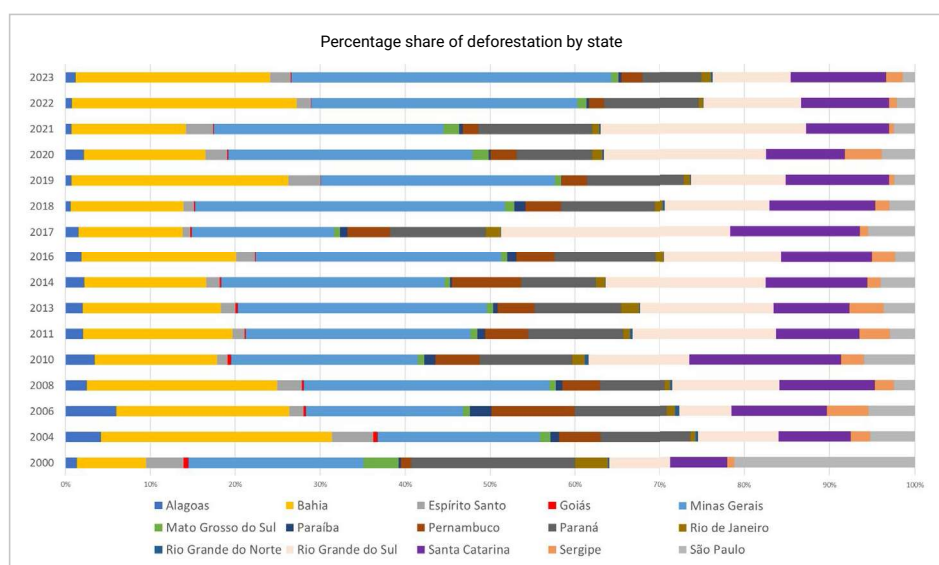
State	Territorial area ⁽¹⁾	Atlantic Forest area in the state ⁽¹⁾		Deforested Atlantic Forest area in the state ⁽²⁾	
	km²	km²	%	km²	%
Goiás	340,126	5,458	2	4,673	86
Alagoas	27,843	14,661	53	12,225	83
Mato Grosso do Sul	357,146	37,442	10	30,335	81
Pernambuco	98,068	15,522	16	12,626	81
São Paulo	248,219	202,054	81	156,723	78
Sergipe	21,927	9788	45	7,560	77
Paraná	199,305	196,183	98	146,793	75

Espírito Santo	46,074	46,074	100	33,792	73
Paraíba	56,467	4,095	7	3,002	73
Minas Gerais	586,521	236,826	40	164,279	69
Rio Grande do Sul	281,707	87,871	31	59,983	68
Bahia	564,723	109,927	19	73,165	67
Rio de Janeiro	43,750	43,750	100	28,410	65
Rio Grande do Norte	52,810	2,036	4	1,256	62
Santa Catarina	95,731	95,731	100	55,536	58
Total	-	1,107,418	-	790,358	-

Source: ⁽¹⁾ IBGE (2019); ⁽²⁾ Prepared by MMA (2024) based on data from Prodes/Inpe.

The temporal analysis of the contribution of deforestation percentages by state in the biome (Figure 7) allows the identification of existing patterns. Minas Gerais, for example, has consistently been the state with the highest deforestation percentages since 2008, except for 2017, when it was surpassed by Rio Grande do Sul. Bahia showed significant variations, with peaks in 2004, 2019, and 2022. Rio Grande do Sul also presented variations, being the state with the highest increase in deforestation in 2017 and the second-highest state for two consecutive years, in 2020 and 2021. Throughout the historical series, Paraná had a relatively constant share, accounting for about 10 to 15% of deforestation in the biome. Santa Catarina shows fluctuations, with peaks in 2010 (17.77%) and 2017 (15.22%), a decline in 2020, and a gradual increase in participation until 2023 (11.20%). In 2023, deforestation was most concentrated in the states of Minas Gerais, Bahia, Santa Catarina, Rio Grande do Sul, and Paraná, which together accounted for about 87.9% of the total deforestation in the biome (Figure 7).

Figure 7. Percentage share of states in the Atlantic Forest deforestation.



Source: adapted from Prodes/Inpe (2023).

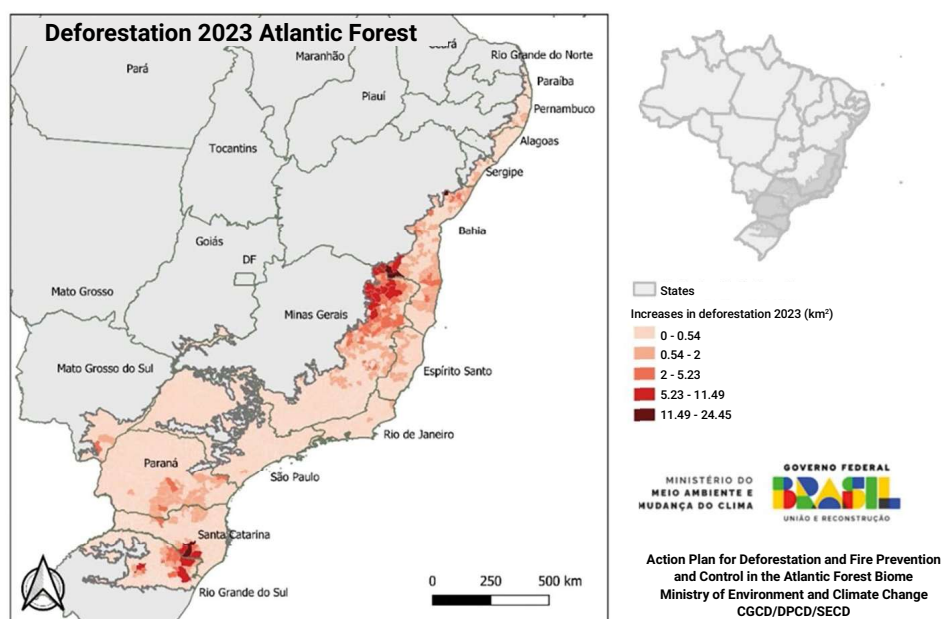
The analysis of cumulative deforestation in the ten municipalities that contributed most to native vegetation loss in the Atlantic Forest between 2001 and 2023 (Table 5) shows that most municipalities are located in states critical to deforestation, such as Rio Grande do Sul (four municipalities), Bahia (three municipalities), and Santa Catarina (two municipalities). Although Minas Gerais has the highest state-level deforestation percentages, only one municipality appears on the list of the 10 most critical. In 2023, deforestation was again concentrated in municipalities in the states of Minas Gerais, Bahia, Santa Catarina, and Rio Grande do Sul (Figure 8).

Table 5. Accumulated deforestation increases in the 10 most deforested municipalities of the Atlantic Forest between 2001 and 2023.

City	State	km ²	%
São Francisco de Paula	RS	705,55	1,11
Bom Jesus	RS	653,61	1,03
Ibicuí	BA	629,21	0,99
Vacaria	RS	624,66	0,98
Itapetinga	BA	520,47	0,82
Jequitinhonha	MG	463,66	0,73
Vitória da Conquista	BA	459,80	0,72
Água Doce	SC	459,71	0,72
Muitos Capões	RS	440,99	0,70
Lages	SC	437,06	0,69
Total		5.394,72	8,49

Source: adapted from Prodes/Inpe (2023).

Figure 8. Distribution of deforestation by municipalities of the Atlantic Forest in 2023 (km²).

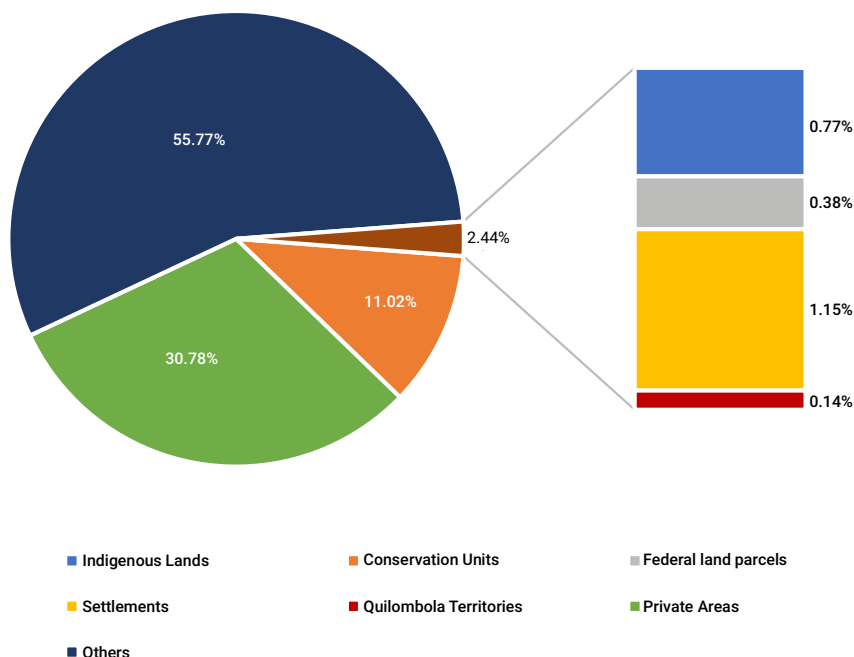


Source: Map prepared by MMA based on Prodes/Inpe (2023).

Understanding the land title profile of the biome is important to better comprehend the dynamics of deforestation and fires. To that end, analyses were conducted, including overlap removal, based on data from private areas (Land Management System/Sigef and the National Property Certification System/SNCI, both from Incra), federal settlements, undesignated federal land parcels, and quilombola territories (Incra), Indigenous Lands (Funai), and the National Registry of Conservation Units (MMA).

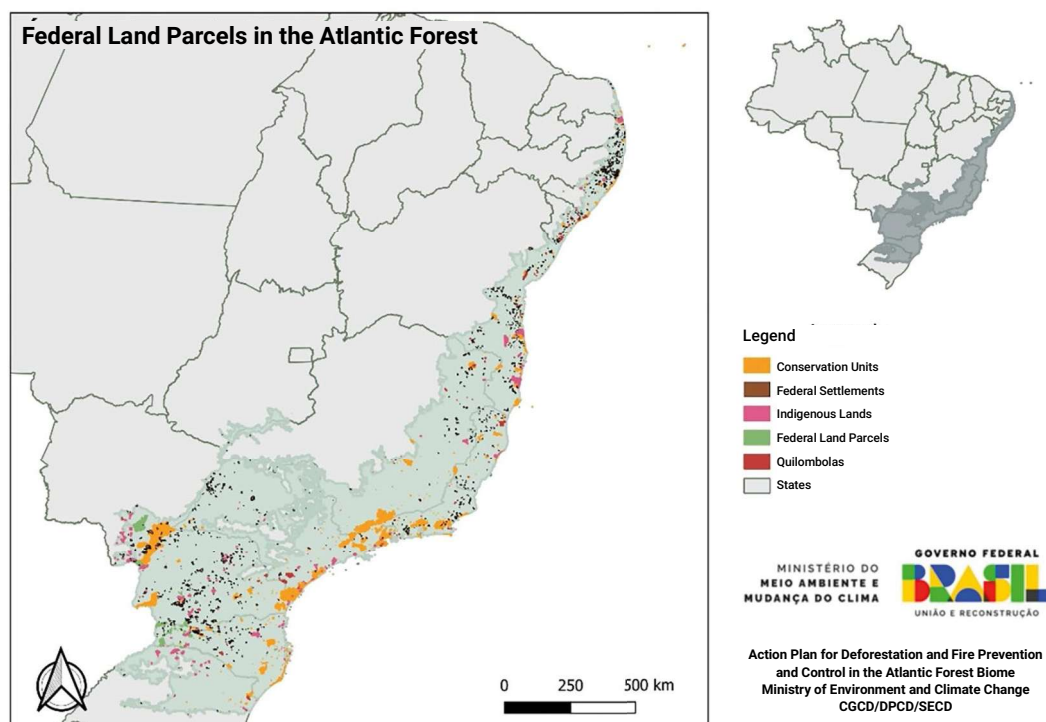
It can be observed that most of the biome (55.77%) is classified as “Others,” that is, state, municipal, military areas, areas without information, and similar, while 30.78% are private areas (Figure 9). Only 11.02% of the Atlantic Forest is under the protection of federal, state, and municipal UCs, a low proportion considering the importance of this biome for biodiversity and ecosystem services and still far from the commitments under the Convention on Biological Diversity. Indigenous Lands (0.77%) and Quilombola Territories (0.14%) have a low percentage, less than 1% each. Agrarian reform settlements, which promote family farming, account for 1.15% of the biome, while Federal Lands occupy 0.38%. Figure 10 shows the spatial distribution of federal lands in the biome.

Figure 9. Distribution of land tenure categories in the Atlantic Forest biome in 2023.



Source: Map based on data provided by Incra, MMA, and Funai.

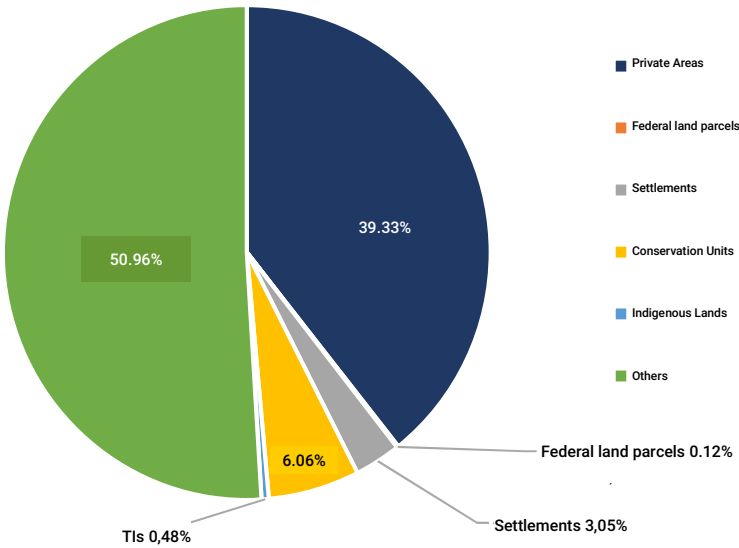
Figure 10. Federal land parcels in the Atlantic Forest biome.



Source: Map based on data provided by Incra, MMA, and Funai.

When evaluating 2023 deforestation in these land tenure categories, the “Others” category, which represents 55.77% of the biome’s territory, accounted for 50.96% of deforestation (Figure 11). In turn, the “Private Areas” category represents 30.78% of the Atlantic Forest territory and concentrated 39.33% of the suppressed vegetation. These numbers highlight that deforestation and fire prevention and control policies need to be adjusted to fit a biome composed of areas where the primary power does not belong to the federal government.

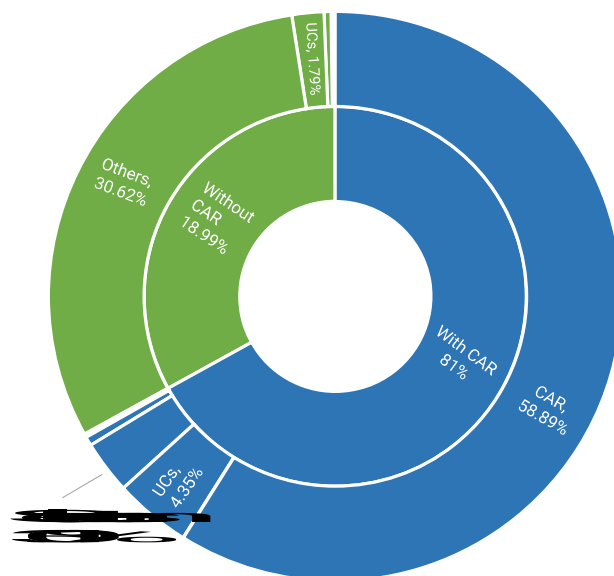
Figure 11. Distribution of deforestation in the Atlantic Forest biome by land tenure category in 2023.



Source: Prepared based on data provided by Prodes/Inpe (2023), Incra, MMA, and Funai.

It is also important to understand the distribution of deforestation in relation to the overlap of properties registered in the Rural Environmental Registry (CAR) with different land tenure categories (Figure 12). The CAR provides relevant information on the process of land occupation in the Atlantic Forest. It is noteworthy that 81% of deforestation occurred on properties with CAR, and of these, 4.35% overlap with Conservation Units.

Figure 12. Distribution of deforestation in the Atlantic Forest biome by land tenure category with and without CAR.



Source: Prepared with data on deforestation increments in the Atlantic Forest (Prodes/Inpe), Sicar, and other public databases.

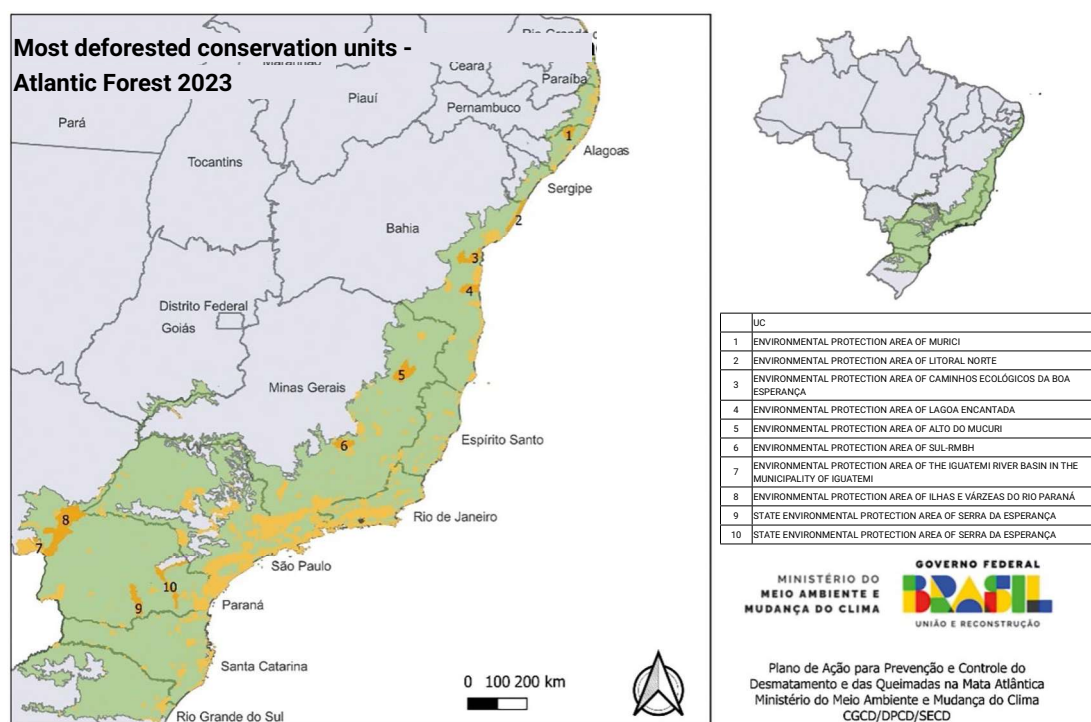
The list of the 10 Conservation Units with the highest deforestation in 2023 is composed of 10 Environmental Protection Areas (APAs), which represent 63% of total deforestation in UCs in the Atlantic Forest in 2023 (Table 6 and Figure 15). It is worth noting that between 2020 and 2023 these APAs presented between 36.12 and 52.03 km² of suppressed area. The Environmental Protection Areas (APAs) correspond to the largest territorial extension among the Atlantic Forest UC categories (93,729.91 km²; CNUC, 2024). As Sustainable Use UCs, their main objective is to reconcile biodiversity conservation with the rational use of natural resources. The Alto do Mucuri State APA, at the top of the ranking, is located in Minas Gerais and lies in a region where the economy is based on agriculture and livestock, characterized by small rural properties and by the difficulty faced by family farmers in accessing technology, from equipment to technical knowledge, and credit to maintain their activities (Pereira, 2016).

Table 6. List of the 10 most deforested UCs between 2020 and 2023.

Name of Conservation Unit	State	Annual Deforestation (km ²)				Contribution	Trend
		2020	2021	2022	2023		
ENVIRONMENTAL PROTECTION AREA OF ALTO DO MUCURI	MG	6,77	8,12	11,8	8,92	19%	
ENVIRONMENTAL PROTECTION AREA OF ILHAS E VÁRZEAS DO RIO PARANÁ	MS/PR/SP	10,55	9,44	8,92	3,18	7%	
ENVIRONMENTAL PROTECTION AREA OF LAGOA ENCANTADA	BA	1,94	3,74	8,65	2,63	6%	
ENVIRONMENTAL PROTECTION AREA OF THE IGUAZUEI RIVER BASIN IN THE MUNICIPALITY OF IGUAZUEI	MS	0,00	0,00	0,00	2,63	5%	
ENVIRONMENTAL PROTECTION AREA OF CAMINHOS ECOLÓGICOS DA BOA ESPERANÇA	BA	0,26	2,39	10,84	2,53	5%	
STATE ENVIRONMENTAL PROTECTION AREA OF SERRA DA ESPERANÇA	PR	2,22	2,48	4,27	2,37	5%	
ENVIRONMENTAL PROTECTION AREA OF MURICI	AL	4,58	1,56	0,67	2,14	4%	
ENVIRONMENTAL PROTECTION AREA OF SUL-RMBH	MG	4,74	2,20	2,81	2,05	4%	
ENVIRONMENTAL PROTECTION AREA OF LITORAL NORTE	BA	1,63	3,57	0,78	2,00	4%	
STATE ENVIRONMENTAL PROTECTION AREA OF ESCARPA DEVONIANA	PR	3,43	3,30	3,29	1,80	4%	
Sum of the 10 most deforested		36,12	36,80	52,03	1,72	63%	
Grand Total		62,43	65,41	90,25	46,38		

Source: Prepared based on data provided by Prodes/Inpe (2023), Incra, MMA, and Funai.

Figure 13. Location of the 10 most deforested UCs in 2023.



Source: Prepared based on data provided by Prodes/Inpe (2023), Incra, MMA, and Funai.

The 10 Indigenous Lands with the highest deforestation in 2023 show very low deforested area figures, all below 1 km², a behavior similar to what occurred between 2020 and 2023 (Table 7).

Table 7. List of the 10 most deforested TIs between 2020 and 2023.

Name of Indigenous Land	State	Annual Deforestation (km ²)				Contribution	Trend
		2020	2021	2022	2023		
Águas Belas	BA	0.00	0.00	0.00	0.94	26%	
Águas Claras	SC	0.00	0.00	0.00	0.40	11%	
Aldeia Escola Floresta	MG	0.00	0.00	0.00	0.34	8%	
Aldeia Katurama	MG	0.00	0.00	0.00	0.30	7%	
Aldeia Kondá	SC	0.00	0.00	0.00	0.25	7%	
Aldeia Velha	BA	0.00	0.00	0.00	0.24	4%	
Amambai	MS	0.00	0.00	0.00	0.15	3%	
Amaral/Tekoa Kuriy	SC	0.00	0.00	0.00	0.12	3%	
Amba Porã	SP	0.00	0.01	0.00	0.10	3%	
Apucarana	PR	0.02	0.32	0.00	0.10	3%	
Sum of the 10 most deforested		0.02	0.33	0.00	2.94	80%	
Overall Total		6.60	7.28	5.26	3.67		

Source: Prepared by the MMA based on Prodes/Inpe (2023).

Table 8 shows a continuous increase in deforestation in agrarian reform settlements between 2020 and 2023, with the area suppressed in 2023 (23.36 km²) almost doubling compared to 2020 (12.37 km²). It is noteworthy that only the Menino Jesus Settlement accounted for 60% of deforestation among the 10 settlements with the largest deforested areas. Together, the 10 settlements accounted for 73% of total deforestation in the

category during the analyzed period. Located in the municipality of Água Fria, Bahia, the settlement is situated in a region characterized by historical land tenure problems, such as the presence of large estates and land possession conflicts (Silva, 2014).

Agrarian reform settlements accounted for 3.05% of the suppressed native vegetation. This data indicates the need to reestablish technical assistance with sustainability-oriented guidelines for the settlements.

Table 8. List of the 10 most deforested settlements between 2020 and 2023.

Name of Settlement Project	State	Annual Deforestation (km ²)				Contribution	Trend
		2020	2021	2022	2023		
PA MENINO JESUS	BA	0.00	0.91	2.81	13.92	60%	
PA 27 DE OUTUBRO	PR	0.44	0.18	0.58	0.50	2%	
PA COM CULTIVO DE ESPECIES FLORESTAIS CELSO FURTADO	PR	0.37	2.99	1.01	0.44	2%	
PA REUNIDAS SANTA LUZIA AND OTHERS	BA	0.00	0.00	0.07	0.43	2%	
PA BELA VISTA	MG	0.28	0.03	0.04	0.37	2%	
PA RONDON III	PR	0.65	0.41	0.64	0.37	2%	
PA GOVERNADOR MIGUEL ARRAES	PE	0.46	0.23	0.07	0.29	1%	
PA VIROTE	BA	0.01	0.00	0.13	0.23	1%	
PA CANOA RACHADA	PE	0.09	0.00	0.00	0.22	1%	
PA ZUMBI DOS PALMARES	RJ	0.02	0.01	0.02	0.22	1%	
Total of the 10 most deforested areas		2.32	4.76	5.37	16.99	73%	
Overall Total		12.37	13.17	16.96	23.36		

Source: Prepared by the MMA based on Prodes/Inpe (2023).

The analysis of the size of deforestation polygons also helps to understand fragmentation patterns and land use conversion dynamics. In the Atlantic Forest, there has been a significant increase in deforestation polygons smaller than 10 hectares, which accounted for 33.18% in 2004 and 64.06% in 2023 (Table 9), showing a progressive fragmentation of deforestation, with increasingly smaller areas being cleared.

On the other hand, deforestation between 10 and 50 hectares remained within the range of 20 to 30% throughout the historical series. Polygons between 50 and 100 hectares, which accounted for 10.50% of deforested areas in 2004, fell to 4.58% in 2023, a reduction by half. Polygons larger than 100 hectares showed a significant decrease, going from 27.56% in 2004 to less than 10% from 2008 onward. However, the increase from 2.82% in 2022 to 7.07% in 2023 is noteworthy.

The reduction in larger areas over time demonstrates the effectiveness of the Atlantic Forest Law, which served as a watershed. But the fragmentation of deforestation is challenging, as the suppression of small, scattered areas in the biome is more difficult to monitor and enforce.

Therefore, the Prodes data presented show a trend of reduced deforestation in the Atlantic Forest, with small fluctuations and peaks over the past few years that need to be understood. They also show that deforestation is concentrated in certain states and municipalities, requiring targeted actions. Moreover, they indicate that deforestation is

centered in small polygons, which demands conservation and sustainable management policies aimed at small and medium-sized landowners.

Below are some of the main causes of native vegetation suppression in the Atlantic Forest, identified during the 1st Technical-Scientific Seminar on the Causes and Consequences of Native Vegetation Suppression in the Atlantic Forest.

Table 9. Evolution of deforestation polygon sizes in the Atlantic Forest between 2004 and 2023.

Year	Less than 10ha	Between 10 and 50 ha	Between 50 and 100 ha	Greater than 100 ha
2004	29%	11%	28%	
2005	30%	10%	19%	
2006	29%	8%	13%	
2007	29%	7%	8%	
2008	30%	7%	6%	
2009	29%	7%	8%	
2010	28%	6%	5%	
2011	27%	6%	5%	
2012	23%	5%	3%	
2013	23%	4%	1%	
2014	21%	3%	2%	
2015	23%	4%	3%	
2016	23%	4%	3%	
2017	24%	4%	3%	
2018	24%	5%	7%	

Source: MMA (2024) prepared with data from Prodes/Inpe.

4.1.1. Agrosilvopastoral expansion

The suppression of native vegetation in the Atlantic Forest is strongly linked to land use for cattle ranching and agricultural production (Guimarães et al., 2023; Pinto; Metzger; Sparovek, 2022), in line with the global pattern (Curtis et al., 2018). In 2017, the biome accounted for 27% of the country's agricultural area and for a large share of agricultural and livestock production, particularly 52% of the plant-based food production for direct consumption (excluding the commodities corn, soy, and sugarcane) and 62% of the cattle, sheep, poultry, and swine herds in the country⁴ (Pinto; Metzger; Sparovek, 2022).

In 2021, agricultural and livestock use occupied 60.1% of the biome's territory; pastures covered 24.6%; agriculture, 17.6%; a mosaic of agriculture and pasture, 14.4%; and silviculture, 3.5%⁵ (Pinto; Metzger; Sparovek, 2022). Data from the same year indicate that 19.5% of Brazil's severely degraded pastures were in the Atlantic Forest (Dutra et al., 2024). Silviculture, in turn, increased by 33.89% between 2000 and 2018⁶, a growth driven mainly by production aimed at the paper and pulp industries, with emphasis on the states of Santa Catarina, Paraná, and Espírito Santo (IBGE, 2020a). Forest plantations of monocultures

⁴ Data from the 2017 Agricultural Census organized for the Atlantic Forest by GeoLab - Esalq/USP.

⁵ Data from MapBiomas Collection 7.0 (2022).

⁶ Data used by IBGE come from the 2018 Production of Vegetal Extraction and Silviculture (PEVS).

tend to be located on steeper terrains, with an average slope of approximately 10°, as well as pastures and agricultural-use mosaics, while native forests converted to croplands occurred on flatter terrains (6.1° on average) (Rosa et al., 2021).



Agricultural production in the surroundings of Caparaó National Park/MG. Photo: MMA Archive.

In 2017, the biome concentrated about 40% of Brazil's rural establishments, which represented 24.2% of the country's total agricultural area⁷. Most of these establishments were small properties, with less than four fiscal modules, accounting for 93% of the total number of properties. However, these small establishments occupied only 39% of the total area, a characteristic typical of family farming. On the other hand, large properties, with more than 15 fiscal modules, represented only 1% of the establishments but occupied 29% of the total area, meaning few landowners controlled large tracts of land (Pinto; Metzger; Sparovek, 2022).

Therefore, designing strategies aimed at promoting sustainable agricultural and livestock activities and restoration, accompanied by technical assistance and financial incentives, can help reduce pressure on the biome's native vegetation.

⁷ Data from the 2017 Agricultural Census organized for the Atlantic Forest by GeoLab - Esalq/USP.

4.1.2. Urbanization advancement and municipal policies

The Atlantic Forest biome stands out for hosting more than 50% of the Brazilian population, although it occupies only 13.0% of the country's area (IBGE, 2020b); and, in 2021, it accounted for 53% of the urbanized areas in Brazil (MapBiomias, 2022). The urban growth rate of the biome was 3% per year, from 1985 to 2021 (MapBiomias, 2024).

Urban expansion, although small in terms of area, represents a cluster of small deforestations around metropolises, urban centers, and tourist areas. These deforestations often occur in water sources and risk areas, increasing the environmental vulnerability of these regions. Romero et al. (2018) found that in 49 years (from 1962 to 2011), around the Billings Reservoir in the municipality of Diadema, Metropolitan Region of São Paulo, more than half of the Atlantic Forest was suppressed. According to the authors, if this trend is not reversed or controlled, there could be serious impacts on the availability and quality of water in the reservoir, which is an important water source for the region. Since 1991, the occurrence of disasters in urbanized areas (per 1,000 hectares) in the biome has increased by 30%, with hydrological disasters prevailing (MapBiomias, 2023a), such as the one that occurred in Porto Alegre and other urban areas in Rio Grande do Sul in early 2024.

The biome showed a significant proportional increase in risk areas (MapBiomias, 2022). Among Brazilian cities with the greatest growth in risk areas, Salvador ranks at the top, recording an expansion of almost 5,000 hectares between 1985 and 2022. São Paulo, Recife, and Belo Horizonte are also among the capitals with significant urbanization growth in risk areas (MapBiomias, 2022). The lack of control over deforestation in these areas contributes to environmental degradation and increases the frequency of natural disasters such as floods and landslides.

4.1.3. Legality of deforestation

The Atlantic Forest Law, as already mentioned, establishes that the authorization for suppression must occur in a differentiated manner, depending on the stage of regeneration of the native vegetation remnant. This characterization is one of the main pieces of information to be presented by the developer in forest inventory studies. However, the current parameters for classifying forests into successional stages are imprecise and complex, making vegetation studies susceptible to uncertainty and lack of compliance (Resende et al., 2024). This complexity, combined with economic pressures and the limited technical staff of environmental agencies, can hinder the stages prior to issuing the authorization to suppress vegetation, such as the on-site verification of the forest inventory submitted and the preparation of inspection reports and technical opinions.

In addition, other criteria are established by the Atlantic Forest Law and by Decree No. 6660/2008 for the issuance of Authorization for Vegetation Suppression (ASV), such as the analysis of the area's history, verification of prohibition hypotheses for

suppression, locational alternatives, environmental compensation, and, for urban properties, the date of inclusion in the urban perimeter. Such criteria must be observed and made public by environmental agencies, aiming for the fair application of regulatory provisions and the improvement of the environmental licensing process.

It is important to point out that the application of the Atlantic Forest Law must also occur in the enclave areas, where deforestation increased significantly by 54% between 2022 and 2023. In some cases, vegetation suppression in these areas is authorized by the competent environmental agencies under the argument of difficulty in defining the limits of the IBGE Law Application Area Map, at a 1:5,000,000 scale. Thus, these institutions, by considering that some areas belong to the Cerrado and Caatinga biomes, apply the Native Vegetation Protection Law instead of the Atlantic Forest Law. However, according to the Explanatory Note accompanying the IBGE Map⁸, the location of native vegetation remnants of the different vegetation types and the identification of their respective successional stages must comply with the provisions of art. 4 of the Atlantic Forest Law of 2006, as well as the provisions of Decree No. 6660 of 2008 and Conama Resolutions, with environmental agencies required to observe phytophysiological parameters, predominant strata, species diversity and dominance, in addition to the biome boundary map.

One of the cases in which the suppression of secondary vegetation in medium and advanced stages of regeneration may be authorized is in situations of public interest (Brasil, 2006), which include infrastructure projects. Thus, the planning of infrastructure projects requires the application of compensatory and mitigation measures that consider the impact of implementing such infrastructures in an already heavily degraded and fragmented biome.

A study conducted by Vancine et al. (2024) showed that linear infrastructures, such as highways and railways, cause significant impacts on large forest remnants, especially those larger than 500,000 hectares, by fragmenting them and compromising their ecological integrity and connectivity. The reduction in connectivity between vegetation fragments alters fauna movement patterns, decreasing genetic flow and intensifying population isolation, which can lead to local extinctions and a reduction in biodiversity. Furthermore, fragmentation accentuates the edge effect, impairing microclimates and habitat conditions essential for the survival of species dependent on internal forest environments, and increases wildlife roadkills, contributing to the decline of various animal populations.

It is worth noting that the lack of integrated analysis in environmental licensing processes prevents the assessment of the synergistic impacts generated by large projects. In many cases, the licensing of large projects is carried out in isolation, without considering the cumulative impacts of other projects in the region. In this way, the implementation of

⁸ See: https://geoftp.ibge.gov.br/informacoes_ambientais/estudos_ambientais/biomas/mapas/lei11428_mata_atlantica.pdf

projects of social interest and public utility must be based on planning instruments, such as the Strategic Environmental Assessment (SEA), the Technical, Economic and Environmental Feasibility Study (EVTEA) and the Ecological Economic Zoning (ZEE), which allow for temporal and spatial understanding, playing a preventive role and contributing to the reduction of deforestation.

The irregular delegation or decentralization of licensing and authorizations to municipal entities can also result in null administrative acts. Cases of abuse of authority, violation of authorization limits, lack of information, absence of Municipal Environmental Councils, and non-compliance with other legal requirements have led to the annulment of vegetation suppression authorizations (Abrampa, 2024).

The Atlantic Forest Law provides a protection regime that restricts the possibility of authorization for exploration, cutting, and suppression of vegetation in the biome to exceptional cases. Therefore, any deforestation that does not fall under these situations, as it constitutes illegal deforestation, requires an appropriate response from state entities. It is worth noting that ICV (2024) analyzed public data and authorizations for vegetation suppression in the biome, made available by Sinaflor/Ibama and the states, revealing concerning results (Table 10). The comparison between Prodes database data and state and federal authorizations showed that between 2018 and 2023, 12,417.55 hectares of deforestation were authorized in the Atlantic Forest. However, the total deforested area was significantly larger, reaching 592,725.90 hectares in the same period.

Table 10. Authorized deforestation resulting from the cross-referencing of the Prodes/ Inpe Atlantic Forest 2018-2023 database with the unified database (per year).

Year	Authorized area (ha)	Total Deforested Area (Prodes)	% Without Authorization
2018	1,520.04	134,434.58	98.87
2019	1,519.48	106,739.99	98.58
2020	1,137.47	79,067.81	98.56
2021	2,374.24	92,698.14	97.44
2022	3,527.28	103,268.87	96.58
2023	2,339.04	76,516.52	96.94
Total	12,417.55	592,725.90	97.91

Source: Prepared by MMA based on the document "Vegetation Suppression Analyses - Atlantic Forest" (ICV, 2024) and Prodes/Inpe data.

4.2. Proposed changes to the regulatory framework

Currently, there are several legislative proposals aimed at modifying the regulatory framework related to the environment, whose implications extend throughout the entire country and have the potential to alter the current level of protection of Brazilian biomes. Regarding the Atlantic Forest, a set of Bills (PLs) and a Proposed Constitutional Amendment (PEC) is currently under consideration in the National Congress (Table 11) that affects the legal regime applicable to the Atlantic Forest.

Table 11. Main proposals (PLs and PEC) that amend the current regulatory framework related to the biome.

Proposal	Details
PL No. 1282/2019	Amends Law No. 12651 (Forest Code), 25 May 2012, to allow, in Permanent Preservation Areas (APPs) of rural properties, the construction of reservoirs for irrigation under specified conditions.
PL No. 364/2019	Provides for the use of High-Altitude Grasslands associated with or encompassed by the Atlantic Forest biome.
PL No. 5967/2019	Establishes rules for the economic exploitation of <i>Araucaria angustifolia</i> .
PL No. 195/2021	Amends Law No. 12651/2012 regarding the occasional use of wood in small family-owned rural properties.
PL No. 2633/2020	Amends Law No. 11952, 25 June 2009, which provides for land tenure regularization of occupations in areas owned by the Federal Government.
PL No. 2159/2021	Amends environmental licensing, changing the list of activities and enterprises not subject to environmental licensing, among other provisions.
PL No. 686/2022	Waives the requirement for authorization for vegetation suppression in cases of secondary vegetation outside the Legal Reserve (RL) and APP, among other provisions.
PEC No. 3/2022	Repeals the Federal Government's exclusive ownership of marine land, impacting the prevention and control of native vegetation suppression in the Atlantic Forest biome and the marine-coastal system.
PL No. 5019/2023	Amends Law No. 11428, 22 December 2006, and Law No. 11326, 24 July 2006, aiming to improve and standardize the concept of family farmer in Brazilian legislation.

Source: MMA.

Another issue is the attempt to relax the protection of the Atlantic Forest through the application of provisions 61-A and 61-B of the Native Vegetation Protection Law (LPVN) in the biome, which has been under discussion since 2015. These provisions concern the exemption of landowners from fully restoring native vegetation in Permanent Preservation Areas (APPs) in consolidated rural areas, which are those deforested before 22 July 2008 for agrosilvopastoral, ecotourism, and tourism activities. The application of the LPVN provisions would imply the exemption from restoring 329,700 hectares of deforested areas in APPs on private properties, with 329,200 hectares in riparian APPs (except springs), 199 hectares in APPs due to altitude above 1,800 meters, and 265 hectares in APPs due to slope above 45° (except hilltop APPs) (MapBiomias, Rosa and Azevedo, 2020).

4.3. Fire dynamics

In the Atlantic Forest, natural fires are rare due to the biome's high humidity levels, which make most of its species poorly adapted to fire, leaving them particularly vulnerable (Alencar et al., 2022). Despite the historically low average of fires and their less severe occurrence compared to other biomes, careful monitoring is required. In 2023, 11,702 hotspots were recorded, corresponding to 6.16% of all hotspots in Brazil that year. With 16,135 km² burned (4.33%), the biome showed a relatively low number of burned areas compared to other biomes (Table 12).

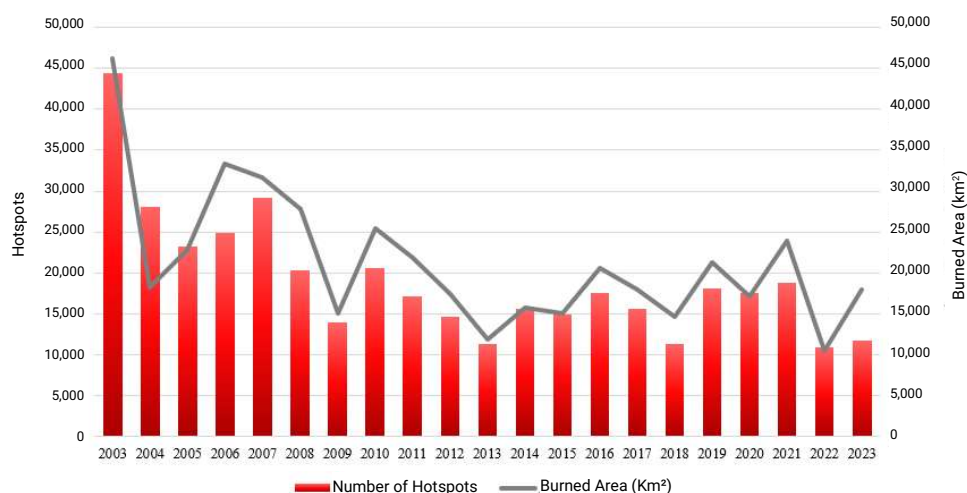
Table 12. Number of hotspots and burned area in 2023.

Biome	Number of hotspots in 2023	%	Burned area (km ²) in 2023	%
Cerrado	50.713	26,70%	149.864,00	40,25%
Caatinga	21.550	11,35%	100.311,00	26,94%
Amazon	98.639	51,94%	91.860,00	24,67%
Atlantic Forest	11.702	6,16%	16.135,00	4,33%
Pantanal	6.580	3,46%	12.996,00	3,49%
Pampa	717	0,38%	1.180,00	0,32%
Total	189.901	100%	372.346,00	100%

Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

The number of hotspots in the Atlantic Forest between 2003 and 2023 has decreased considerably since the peak in 2003, when the number reached nearly 45,000 fires. The same occurred with the burned area, which peaked above 41,000 km² in 2003 (Figure 14).

Figure 14. Hotspots and burned area in the Atlantic Forest between 2003 and 2023.



Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

The fire dynamics in the biome show a seasonal variation that coincides with the dry season, between April and September, with the highest concentration of fires between July and October, peaking in September and facilitating fire spread (Abreu et al., 2022).

Climatic factors, such as increased temperature and solar radiation, together with human interventions, have intensified the vulnerability of forests to fire (Singh; Huang, 2022; Jesus et al., 2022). The expansion of deforestation and the intensive use of land, mainly for agriculture and pasture, are key factors driving the increase in fires in fragmented regions of the Atlantic Forest (Singh; Huang, 2022).

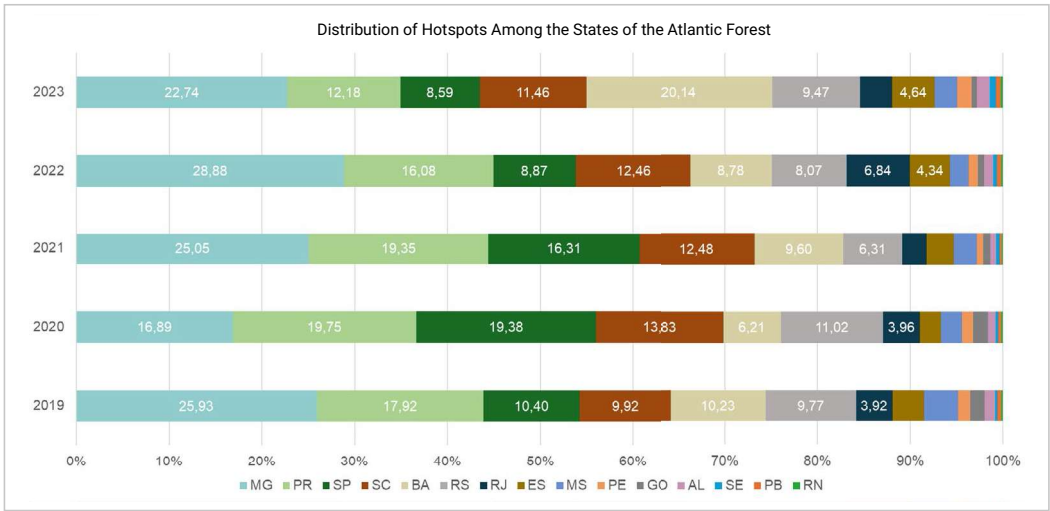


Pontões Capixabas Natural Monument/ES. Photo: MMA Archive.

In terms of size, most fires are small-scale, predominantly under 50 hectares. Where it occurred, fire affected 41.9% native vegetation and 58.1% anthropized areas. The distribution of burned areas by land use and cover type in the biome shows that the largest proportion occurs in pasturelands (31.9%), followed by grassland formations (18.3%), land use mosaics (17.1%), agriculture (8.1%), and silviculture (0.9%), indicating a significant interaction between land use practices and fire incidence. Furthermore, areas of forest formations (11.1%) are also affected, although to a lesser extent, highlighting the potential loss of biodiversity (Mapbiomas Fire, 2024).

In 2023, of the 11,702 hotspots recorded in the Atlantic Forest, Minas Gerais led with 22.74%, followed by Bahia (20.14%), Paraná (12.16%), Santa Catarina (11.46%), Rio Grande do Sul (9.47%), and São Paulo (8.59%). The states of Pernambuco, Alagoas, Sergipe, Paraíba, and Rio Grande do Norte showed low percentages over the years in the biome, ranging between 0.1% and 1.5%. Minas Gerais maintained the highest percentages in almost all analyzed years, while Bahia recorded a significant increase in outbreaks between 2022 (8.78%) and 2023 (20.14%). In São Paulo, there was a considerable increase in 2020, reaching 19.38%, followed by a decrease in the following years, reaching 8.59% in 2023 (Figure 15).

Figure 15. Distribution of hotspots among the states of the Atlantic Forest between 2019 and 2023.



Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

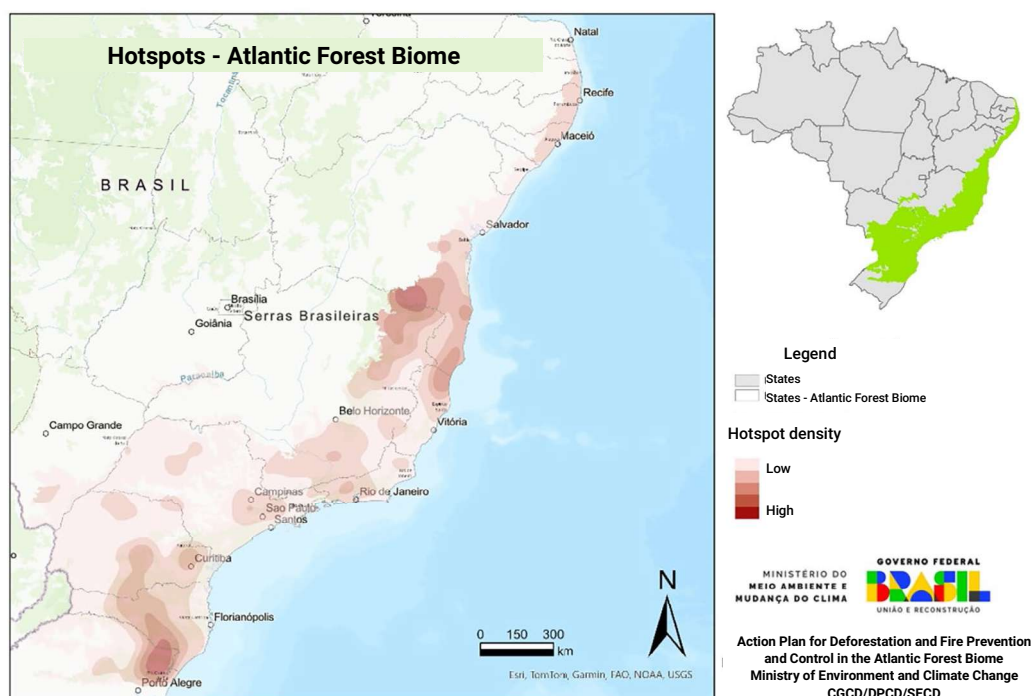
Regarding the distribution of hotspots among municipalities, ten of them combined accounted for 12.38% of the fires in the Atlantic Forest in 2023 (Table 13). São Francisco de Paula, in Rio Grande do Sul, recorded the highest number, with 276 hotspots. Bahia, which showed the largest increase among states in 2023, with an 11.36% rise compared to the previous year, had 26.77% of the fires concentrated in the municipalities of Vitória da Conquista, Cândido Sales, Belmonte, Encruzilhada, and Caravelas (Figure 16).

Table 13. Distribution of hotspots among the ten municipalities with the highest incidence in the Atlantic Forest in 2023.

City	State	No. of hotspots	%
São Francisco de Paula	RS	276	2.36
Conceição da Barra	ES	156	1.33
Vitória da Conquista	BA	151	1.29
Bom Jesus	RS	146	1.25
Cândido Sales	BA	141	1.20
Lages	SC	127	1.09
Belmonte	BA	123	1.05
Encruzilhada	BA	117	1.00
Prudentópolis	PR	113	0.97
Caravelas	BA	99	0.85
Total		1,449	12.38

Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

Figure 16. Concentration of hotspots in the Atlantic Forest in 2023.



Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

In the distribution of hotspots by land tenure category (Table 14), private areas and the “Others” class account for over 90% of the total outbreaks in the biome, respectively 32.26% and 58.35%. This pattern is similar when considering the burned area (Table 15). Private areas and “Others” concentrated, respectively, 37.73% and 53.70% of the biome’s burned area.

Table 14. Distribution of hotspots (%) by land tenure category in the Atlantic Forest in 2023.

Distribution of hotspots (%) by land tenure category in the Atlantic Forest in 2023								
State	Settlement	Undesignated Federal Land Parcels	TI	Conservation Unit *	Quilombo	Private Properties	Others	State Contribution to Hotspots in the Biome
MG	0.08%	0.00%	0.00%	4.62%	0.71%	31.53%	63.06%	22.74%
BA	2.33%	0.00%	3.10%	7.55%	0.13%	33.81%	53.08%	20.14%
PR	3.16%	0.00%	0.70%	5.68%	0.42%	28.42%	61.61%	12.18%
SC	1.27%	0.52%	1.19%	1.19%	0.22%	34.30%	61.30%	11.46%
RS	0.00%	0.00%	0.63%	4.06%	0.00%	30.32%	64.98%	9.47%
SP	0.90%	0.00%	0.10%	12.74%	0.10%	38.61%	47.56%	8.59%
ES	1.29%	0.00%	0.18%	1.47%	5.34%	34.25%	57.46%	4.64%
RJ	5.69%	0.00%	0.00%	16.58%	0.00%	18.32%	59.41%	3.45%
MS	0.00%	1.42%	9.22%	9.22%	0.00%	42.55%	37.59%	2.41%
PE	7.28%	1.68%	0.00%	3.91%	0.00%	32.40%	54.75%	1.53%
AL	5.99%	0.00%	0.00%	7.19%	0.00%	35.33%	51.50%	1.43%
SE	11.54%	0.00%	0.00%	0.00%	0.00%	23.08%	65.38%	0.67%
GO	0.00%	0.00%	0.00%	0.00%	0.00%	19.40%	80.60%	0.57%
PB	3.28%	0.00%	6.56%	0.00%	0.00%	26.23%	63.93%	0.52%
RN	0.00%	0.00%	0.00%	12.50%	0.00%	25.00%	62.50%	0.21%
Category contribution to the biome (%)	1.64%	0.12%	1.18%	5.93%	0.52%	32.26%	58.35%	

Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

* Does not include military areas

Table 15. Distribution of burned area (%) in Federal land parcels in the Atlantic Forest in 2023.

State	Settlements	Undesignated Federal Land Parcels	Private Properties	Quilombos	TI	Conservation Units	Others
SP	0.42%	0.00%	44.89%	0.00%	0.18%	8.18%	46.33%
MG	0.26%	0.00%	33.88%	0.52%	0.24%	3.78%	61.32%
BA	2.45%	0.00%	38.98%	0.05%	3.03%	5.48%	50.01%
PR	1.93%	0.00%	33.53%	0.10%	0.05%	8.62%	55.76%
SC	0.71%	1.16%	35.49%	0.01%	0.56%	0.69%	61.37%
MS	0.00%	4.78%	60.71%	0.00%	12.60%	11.37%	10.53%
RS	0.00%	0.00%	30.68%	0.00%	0.00%	4.01%	65.31%
RJ	5.55%	0.00%	15.95%	0.03%	0.00%	13.86%	64.60%
ES	2.53%	0.00%	37.49%	3.55%	0.00%	0.95%	55.47%
GO	0.00%	0.00%	74.89%	0.00%	0.00%	0.00%	25.11%
AL	0.00%	0.00%	55.55%	0.00%	0.00%	0.54%	43.92%
PB	14.81%	0.00%	41.85%	0.00%	1.47%	0.70%	41.17%
PE	5.41%	1.25%	19.10%	0.00%	0.00%	0.07%	74.17%
SE	14.13%	0.00%	30.02%	0.00%	0.00%	0.00%	55.85%
RN	0.00%	0.00%	39.67%	0.00%	0.00%	55.01%	5.32%
Category contribution to the biome (%)	1.22%	0.28%	37.73%	0.22%	0.97%	5.87%	53.70%

Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

*Does not include military areas

The distribution of hotspots and burned areas among “Federal, Private,” and “Other” areas in the Atlantic Forest in 2023 (Table 16) shows that “Federal Areas” account for 9.39% of the hotspots and 8.57% of the burned area, demonstrating a close relationship between the number of hotspots and the affected area. On the other hand, “Other” areas represent the majority of the hotspots (58.35%) and of the burned area (53.70%). In this regard, it is important to highlight that the burnings and fires occurring in the Atlantic Forest mainly

affect private areas, whose primary jurisdiction lies with the states or municipalities, or in areas whose ownership and jurisdiction have not yet been identified.

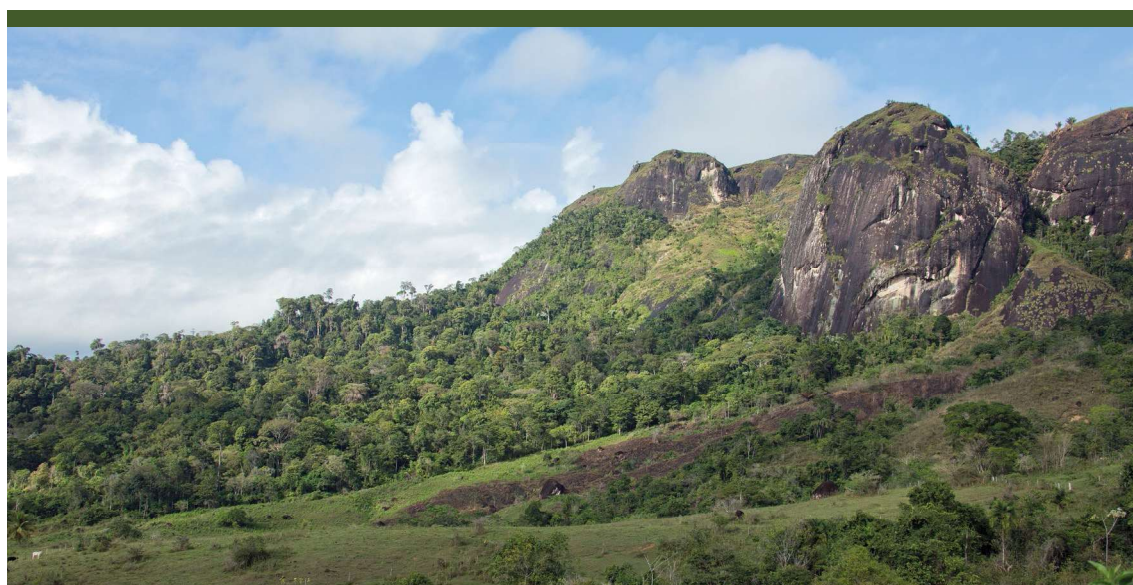
Table 16. Distribution of hotspots and burned areas among federal, private, and other areas in the Atlantic Forest in 2023.

Type of Area	Hotspots (%)	Burned Area (%)
Federal Land Parcels 2023 ¹	9.39%	8.57%
Private Areas 2023	32.26%	37.73%
Others ²	58.35%	53.70%
Total	100.00%	100.00%

Source: Prepared by the MMA with data from the BDQueimadas/Inpe Program.

Note: ¹ Does not include military areas. ²State and municipal land parcels, areas without information and others.

The biome data reinforce the need to advance the implementation of the National Policy on Integrated Fire Management, since most fires occur in private areas, which may be inferred as a result of the use of fire for agricultural practices. Fires can be considered both a cause of deforestation and, at the same time, amplified by deforestation, making it essential to address both issues in an integrated manner. Based on the analyzed data, it is evident that there is a need for strategies for fire prevention and control adapted to the spatial and temporal dynamics and to the environmental, social, cultural, and economic characteristics of the Atlantic Forest biome.



Alto Cariri National Park/BA. Photo: MMA Archive.

The analysis of the historical and current context of deforestation in the Atlantic Forest biome, along with the perspective on the dynamics of its drivers in the future, made it possible to define the strategic objectives of the PPMata Atlântica (Table 17). The details of the objectives, expected outcomes, lines of action, goals, and indicators will be presented in Annex B, to be included in the final version of the Plan. It is worth noting that the actions planned in the PPMata Atlântica will be implemented within the area of application of Federal Law No. 11428/2006 and that the progress of the Plan's implementation can be monitored through the indicators presented, which may be updated based on annual monitoring and evaluation, as provided for in Decree No. 11367/2023, Articles 4 and 11.

Table 17. Axes and strategic objectives of the PPMata Atlântica.

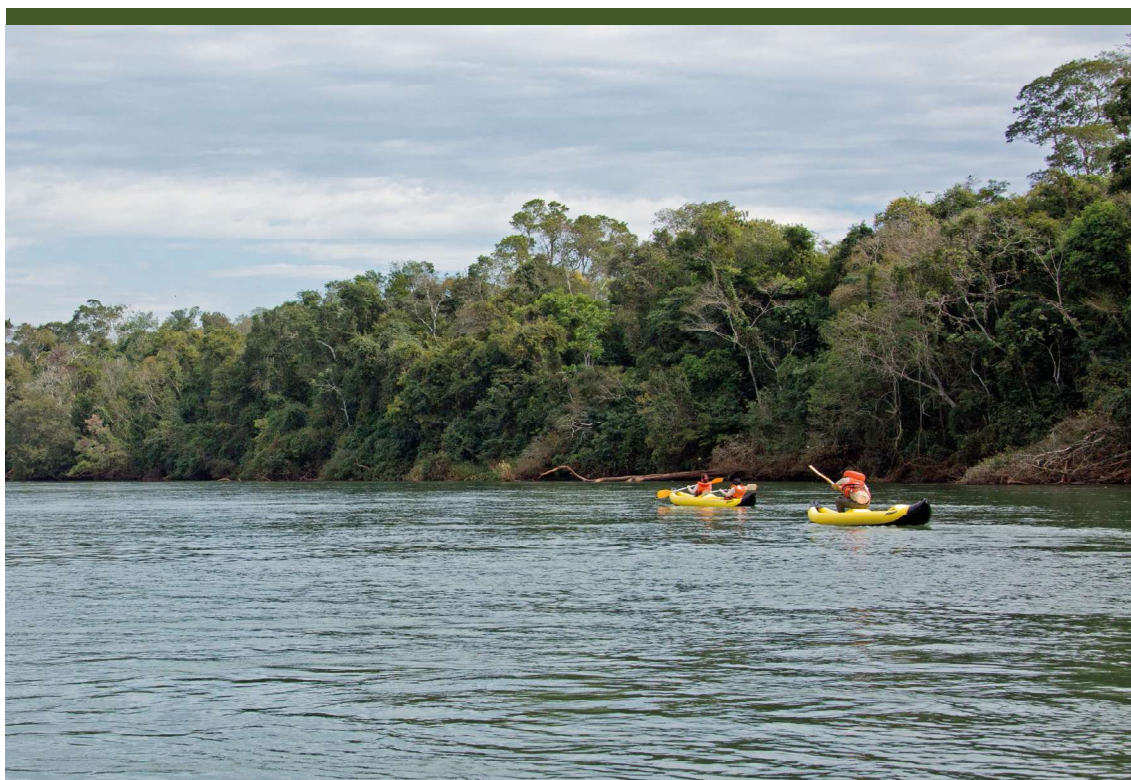
Axes	Strategic Goals
Axis I. Sustainable productive activities	Objective 1. Promote sociobioeconomy, sustainable forest management, and the recovery and restoration of deforested or degraded areas.
	Objective 2. Encourage sustainable agricultural and livestock activities.
	Objective 3. Expand research, knowledge production, training, and technical assistance for sustainable production activities.
Axis II. Environmental monitoring and control	Objective 4. Strengthen the role of federal institutions and ensure accountability for environmental crimes and administrative violations related to deforestation, fires, and forest degradation.
	Objective 5. Improve the capacity for control, prevention, analysis, and monitoring of deforestation, degradation, and productive chains.
	Objective 6. Implement Integrated Fire Management to prevent and combat fires in native vegetation.
	Objective 7. Improve systems and integrate data on deforestation authorizations, embargoes, and infraction notices issued by state and municipal authorities into federal systems.
	Objective 8. Strengthen federative coordination to promote actions to control deforestation and fires and implement the Native Vegetation Protection Law.

Axis III. Land and territorial planning	Objective 9. Ensure the designation of public land parcels for protection, conservation, and sustainable use of natural resources, especially for Indigenous Peoples, quilombola communities, other traditional peoples and communities, and family farmers.
	Objective 10. Expand and strengthen the management of protected areas.
	Objective 11. Coordinate and/or align the planning of major projects and infrastructure developments in the region with the goal of achieving zero deforestation by 2030.
	Objective 12. Conduct territorial planning and implement existing legal instruments to ensure the role of native vegetation in maintaining and restoring water regimes and water quality.
Axis IV. Regulatory and economic instruments	Objective 13. Create, improve, and implement regulatory and economic instruments for controlling deforestation and fires.

Source: MMA

5.1. Axis I: Sustainable productive activities

The long history of deforestation and degradation of the Atlantic Forest imposes challenges for the implementation of sustainable productive activities that respect the ecological limits of the biome, requiring an integrated approach that considers environmental, social, and economic issues, aiming to reconcile conservation with development. Habitat fragmentation hampers the conservation and restoration of ecosystems, demanding careful planning to maintain and restore native vegetation remnants and ensure connectivity between these areas. Water resource management is another critical issue, given the conflict between water use for domestic, industrial, and agricultural consumption and its protection. Implementing sustainable practices requires balancing these demands, promoting the rational use of water in productive activities. Furthermore, the restoration of degraded areas and the implementation of alternatives, such as ecological tourism, are essential to restoring the biome. Finally, to make these changes feasible, public policies and economic incentives promoting sustainable agriculture are needed (Buainain et al., 2020).



Iguaçu National Park/PR. Photo: MMA Archive.

In this context, Axis I of the PPMata Atlântica has its three strategic objectives aimed at promoting the sociobioeconomy, sustainable forest management, and the restoration of degraded areas; encouraging sustainable agricultural and livestock activities; and expanding research, knowledge production, and technical assistance for sustainable production practices. To achieve each objective, lines of action have been outlined, presented below (Annex B).

Strategic Objective 1 seeks to promote the sociobioeconomy, sustainable forest management, and the recovery of deforested or degraded areas, integrating conservation and economic development. In the scenario of Atlantic Forest degradation, it is essential to implement programs that strengthen the bioeconomy **(1.1.1)** by adding value to sociobioeconomy products, with technical and financial support, as well as access to markets for sociobiodiversity products. In this context, the National Bioeconomy Strategy⁹, one of whose main instruments is the National Sociobioeconomy Plan, currently under development and resulting from coordinated action among various ministries, such as MMA, MDA, and MDS, may contribute to expanding the participation of these economies in markets and increasing the income of Indigenous peoples, traditional communities, and family farmers.

At the same time, strengthening and expanding public policies such as government direct purchase programs **(1.1.2)**, such as the Food Acquisition Program (PAA) and the National School Feeding Program (PNAE), or to ensure income stability for rural producers, such

⁹ Established by Decree No. 12044, 5 June 2024.

as the Minimum Price Guarantee Policy (PGPM), and to guarantee minimum prices for sociobiodiversity products from traditional communities and Indigenous peoples, such as the Minimum Price Guarantee Policy for Sociobiodiversity Products (PGPM-Bio), in addition to the certification and valorization of family farming products through the Family Farming Seal Program, will enable an economic boost for local producers and family farming, promoting the distribution of sustainable and agroecological products.

Furthermore, the creation of sustainable businesses¹⁰ and green jobs¹¹ **(1.1.3)**, targeting small, medium, and large properties and companies, offers a viable alternative to integrate conservation and income generation, also focusing on ethnodevelopment and the agroecological transition. Another focus of this objective is to promote sustainable tourism modalities, such as nature tourism, ethnotourism, regenerative tourism, rural tourism, community-based tourism, and tourism in Protected Areas (UCs), according to management categories **(1.2.1)**. These modalities have the potential to become powerful tools to combine biodiversity conservation with regional development, while also promoting sustainable businesses and green jobs within the tourism chain.

The Ministry of Tourism (MTur), in collaboration with other ministries, is already implementing national policies, programs, and projects¹² that address tourism sustainability. Examples include the National Green Growth Program, which aims to provide financing for sustainable projects and economic activities, and the Parque+ Program, which aims to expand ecotourism in UCs and their surroundings, prioritizing environmental and socioeconomic sustainability, both in partnership with MMA.

Sustainable multiple-use forest management is another priority **(1.3.1)**, aiming to sustainably exploit different goods and services through planned forest use, allowing for the exploitation of forest resources, whenever possible, according to the law, in an integrated manner. In addition to the economic exploitation of native timber species and the production of goods such as honey and pollen from native bees, sustainable forest management seeks to promote income generation without compromising the ecological integrity of the forest.

Finally, the recovery and restoration of native vegetation **(1.4.1)** are urgent actions to mitigate the damage caused by the suppression of native vegetation. Initiatives such as forest concessions, in which public areas are sustainably managed by companies or communities with the commitment to restore the ecosystem, and the silviculture of native

¹⁰ In sustainable businesses, environmental products and services base their strategies on environmental advantages that go beyond simple technological innovation, covering the entire product life cycle, from raw material extraction to final disposal (MMA, n/d-b).

¹¹ Green jobs are defined as “decent jobs in economic activities that contribute significantly to reducing carbon emissions and/or improving/conserving environmental quality” (Muçouçah, 2009).

¹² The compilation of ongoing PPPs can be accessed in the document “Responsible Tourism - Sustainable Tourism Dimension: survey and systematization of policies, programs, and projects developed at national and state levels,” 2023, available at: <https://www.gov.br/turismo/pt-br/acesso-a-informacao/acoes-e-programas/turismo-responsavel/TurismoResponsvelDimensoTurismoSustentavel.pdf>.

species¹³ to reintroduce native trees in degraded areas, restoring the original vegetation and its ecological functions, are strategies to be expanded. The restoration of native vegetation not only contributes to reducing degradation, combating desertification, conserving biodiversity, and capturing carbon but also creates jobs in rural areas, reinforcing the importance of integrated public policies such as PSA and Planaveg. It is worth highlighting the actions of the Atlantic Forest Restoration Pact, a collaborative initiative that, since 2009, has brought together public and private institutions, governments, companies, the scientific community, and landowners with the goal of promoting the restoration of degraded areas and the conservation of biodiversity in the Atlantic Forest. The Pact's goal is to restore 15 million hectares by 2050¹⁴.

Considering that the native vegetation of the Atlantic Forest is essential for maintaining hydrological processes, it is crucial to integrate native vegetation recovery and restoration actions with those provided under the Watershed Revitalization Program (1.4.2).

Strategic Objective 2 aims to stimulate sustainable agricultural and livestock activities, encouraging agricultural and livestock production in a way that reduces pressure on critical deforestation areas (2.1.1). The Sustainable Agriculture and Livestock Program/MDA contributes to this objective by expanding access to rural credit and climate risk mitigation instruments, facilitating the adoption of more efficient production practices, which helps prevent agricultural expansion into native vegetation areas. Furthermore, by encouraging productive diversification, such as meliponiculture, fruit growing, and family farming, the program adds value to production. By promoting the sustainable use of forests in private agricultural areas, integrating forest production chains, the program helps already used areas remain productive and conserved, thereby reducing pressure on critical ecosystems¹⁵. Family farming plays an essential role in supplying the national market and ensuring food security in the country. Therefore, strengthening access to markets and public policies (2.1.2), such as the National Program for Strengthening Family Farming (Pronaf)/MDA, the National Plan for Agroecology and Organic Production (Planapo), and the Family Farming Harvest Plan, enables the continuation of sustainable and inclusive practices by reducing bureaucracy and facilitating access to financing.

Strategic Objective 3 highlights the need to expand research, knowledge production, training, and technical assistance for sustainable production activities. To advance biodiversity conservation and the adoption of sustainable production and consumption practices, it is important to invest in knowledge production, information dissemination, awareness, and training for different social actors (3.1.1).

¹³ The Brazil Climate, Forests, and Agriculture Coalition has supported, since 2016, the establishment of a Research and Development Program for the Silviculture of Native Species (P&D-SEN), launched in 2021. The program brings together Brazilian teaching and research institutions, the private sector, governments, and civil society, and creates a network of long-term research sites called Rede-SELD, in addition to promoting research in areas designated as Reference Poles. For the Atlantic Forest, 15 tree species have been selected (Brazil Climate, Forests, and Agriculture Coalition, 2023; n/d).

¹⁴ For more information, see: <https://www.pactomataatlantica.org.br/o-movimento/>.

¹⁵ For more information, see: <https://www.gov.br/agricultura/pt-br/aceso-a-informacao/aco-es-programas/programas-projetos-aco-es-obras-e-atividades/ppa>.

5.2. Axis II: Environmental monitoring and control

Information on monitoring deforestation and fires is increasingly accessible, enabling its cross-referencing with databases, which improves environmental control strategies. However, there are several institutional challenges to the effective implementation of environmental legislation and the accountability of offenders for violations, as well as institutional difficulties in converting imposed fines into actual payments and damage remediation.

In Brazil, the Federal Constitution provides for the possibility of triple environmental liability, subjecting offenders to administrative and criminal sanctions regardless of the obligation to fully repair the damage. The main regulations on criminal and administrative sanctions are Law No. 9605, 12 February 1998 (Environmental Crimes Law), and Decree No. 6514, 22 July 2008. In the civil sphere, the priority lies in promoting full reparation of environmental damage, considering recovery measures at the site, environmental compensation, and compensation for collective moral damages.

In addition to the behaviors classified by Law No. 9605/1998, specifically for the Atlantic Forest, Law No. 11428/2006 included Article 38-A in the Environmental Crimes Law, which establishes as a crime the destruction or damage of primary or secondary vegetation, in advanced or medium stages of regeneration, in the biome, or its use in noncompliance with protection regulations.

Recently, Decree No. 6514/2008 was amended by Decree No. 12189, 20 September 2024, due to the alarming increase in fires in the first half of 2024, which prompted the federal government to strengthen legal measures to discourage and combat criminal fires. This amendment raised the number of fines, included new administrative offenses, and provided for the possibility of embargoes in areas outside APP and RL, not only for deforestation but also for unauthorized fires.

The agencies and entities of the federal government, states, the Federal District, territories, and municipalities, as well as foundations instituted by the Public Administration, make up the National Environmental System (Sisnama)¹⁶ and are responsible for ensuring the protection, conservation, and improvement of the environment in Brazil. Environmental management, regulated by Complementary Law No. 140, depends on cooperation in carrying out administrative environmental actions under shared competence.

Institutional strengthening and cooperation among federal, state, and municipal governments help ensure the effective implementation of laws such as the Atlantic Forest Law, the Native Vegetation Protection Law, and the National Policy for Integrated Fire Management. The integration of these institutions, as well as their databases and information systems, enables more effective monitoring, increases control, and improves the public administration's capacity to respond adequately to deforestation and fires, which is essential for efficient environmental management.

¹⁶ Created by Law No. 6938, 31 August 1981, which establishes the National Environmental Policy (PNMA).

In this context, Axis II of the PPMata Atlântica has five strategic objectives aimed at strengthening federal institutions and ensuring accountability for environmental crimes and administrative infractions; improving deforestation and degradation monitoring and control; implementing integrated fire management; integrating deforestation, fire, embargo, and enforcement data systems across government levels; and promoting coordination among the federal government, states, and municipalities for law enforcement. To achieve each objective, action lines have been outlined and are presented in Annex B.

Strategic Objective 4 aims to strengthen the role of federal institutions and ensure accountability for environmental crimes and administrative infractions related to deforestation, fires, and forest degradation. It is important to establish ways to strengthen institutions so that the preservation of natural resources and the integrity of the Atlantic Forest ecosystems can be ensured, as well as guaranteeing accountability for crimes and administrative infractions related to deforestation, fires, and forest degradation **(4.1.1)**. This includes the strict enforcement of environmental laws by public authorities, ensuring that offenders are held accountable in all three spheres and that accountability fulfills its role of deterring environmental violations, promoting full remediation of environmental damage, and protecting remaining native vegetation.

Furthermore, strengthening human, technological, and logistical resources **(4.2.1)** is essential for the effective response to fires and other environmental crimes and infractions. This entails enhancing the technical and operational capacity of institutions and providing adequate tools and technologies to improve the efficiency of monitoring and control teams in addressing deforestation and fires.

Strategic Objective 5 aims to improve the capacity for control, prevention, analysis, and monitoring of deforestation, degradation, and production chains in the Atlantic Forest biome. This objective seeks to address the environmental challenges that threaten the integrity of this biome by combining technology, institutional integration, and community participation. To this end, it is necessary to enhance the systems for monitoring the suppression and degradation of native vegetation, including the detection of vegetation physiognomies and conservation status **(5.1.1)**. This is essential to ensure that interventions are based on accurate and detailed data, thus enabling the effective application of the protective regime of the Atlantic Forest Law, which is linked to the capacity to detect vegetation physiognomies and the conservation status of native vegetation remnants (primary or secondary vegetation in early, intermediate, or advanced stages). Furthermore, improving monitoring systems allows for the identification of deforestation patterns, enabling not only agile responses but also preventive actions.

The implementation of monitoring mechanisms, as well as the establishment of parameters and procedures for measuring the impact of suppression and degradation on native vegetation, air, soil, and water resources **(5.1.2)**, contributes to understanding the complexity of ecological interactions and the damage caused by human activity.

This enables, when necessary, the formulation of systemic action policies, as well as communicating and raising awareness in society about the serious environmental and socioeconomic impacts of deforestation and fires.

The participation of local communities through the strengthening of community initiatives for monitoring deforestation and fires in native vegetation, and the provision of safety mechanisms for the actors involved **(5.1.3)**, is especially important in areas where government monitoring may be limited. Ensuring the safety of these communities is equally essential since they frequently face risks related to illegal activities affecting the environment in the territories where they live.

Strategic Objective 6 focuses on implementing integrated fire management to prevent and combat fires in native vegetation. Integrated fire management seeks to balance the need to prevent large-scale fires with the controlled and planned use of fire as a tool for sustainable management.

The first line of action under this objective proposes the implementation and equipping of the Federal Brigades Program to reduce the number of fires in native vegetation in priority federal land parcels **(6.1.1)**. Equipping and training specialized brigades improves prevention and enables faster and more effective responses to fires, mitigating environmental damage and protecting local communities. This is especially relevant in regions where fire risk is high and local firefighting capacities are limited.

Additionally, efforts will be made to implement the National Integrated Fire Management Policy **(6.1.2)**, which promotes a sustainable approach to the use of fire in agricultural and forestry management practices. This policy seeks to encourage the replacement of fire use in agropastoral practices and, in cases where this is not feasible, to employ fire in a controlled and safe manner, preventing fires from escaping control and causing large-scale degradation while recognizing the role of fire in certain ecosystems. Furthermore, it establishes that the federal government, states, and municipalities have the duty to implement strategies for biodiversity protection and climate change mitigation.

Beyond direct combat actions, supporting awareness and training campaigns related to the prevention and control of deforestation and fires **(6.1.3)** is an important measure to educate both local communities and those responsible for environmental management about the importance of fire prevention and best control practices. These campaigns play a key role in disseminating information and reducing risky behaviors that could lead to fires.

Strategic Objective 7 seeks to improve systems and integrate deforestation authorization data, embargoes, and state and municipal environmental infraction records into federal systems, aiming to create a more robust and unified database for environmental control and enforcement. Integrating information across different levels of government is

essential to increase transparency and effectiveness in implementing environmental policies while facilitating the monitoring of land use activities and natural resource conservation.

The proposal to integrate data from Authorizations for Vegetation Suppression (ASVs) and Authorizations for Alternative Land Use (UASs), under the responsibility of the state and municipal agencies, into federal systems (7.1.1) enables federal authorities to more effectively monitor authorizations granted at the state and municipal levels, allowing the detection of potential irregularities or inconsistencies, as well as improving cooperation and integration among environmental agencies, thereby enabling a better understanding of authorized deforestation nationwide.

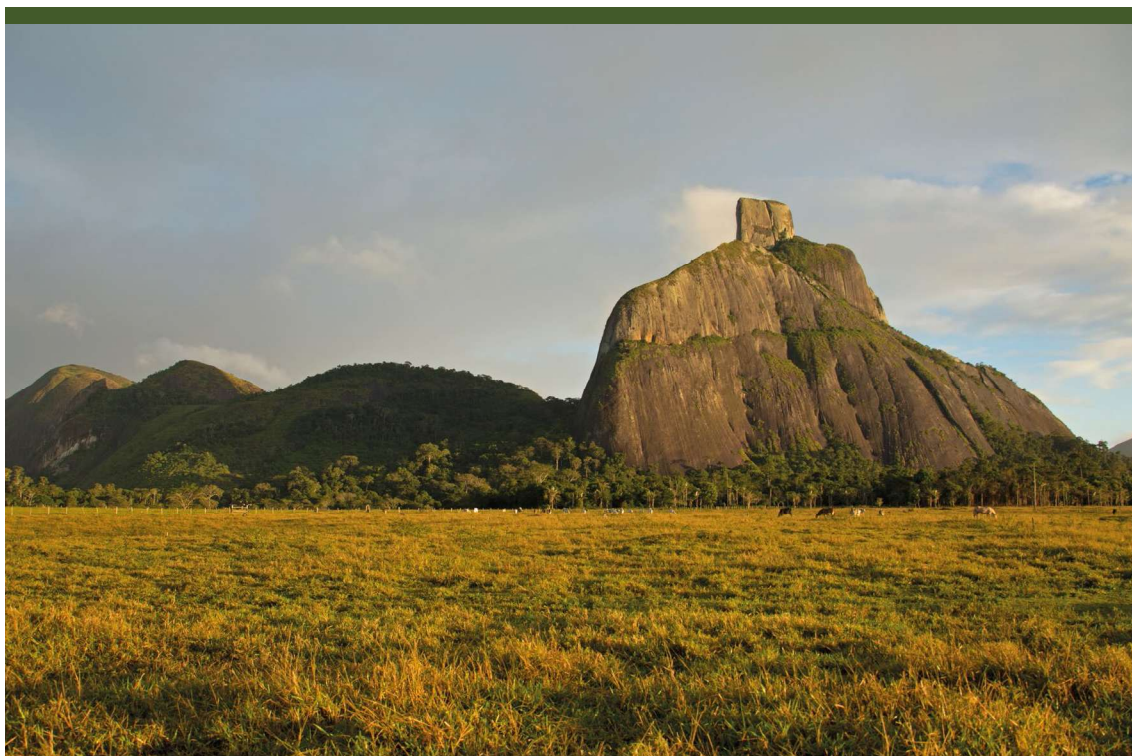
Finally, it is necessary to promote the improvement and availability of a platform that integrates data on environmental infraction notices and embargoes under the responsibility of state and municipal agencies into federal systems (7.1.2) to consolidate information on environmental violations into a single system, facilitating access and enabling coordinated and efficient action by the competent authorities.

Strategic Objective 8 aims to strengthen cooperation among federal, state, and municipal entities for promoting deforestation and fire control actions, as well as for the effective implementation of the Native Vegetation Protection Law. This integration between different levels of government is essential to ensure the effectiveness of public policies since the challenges related to deforestation and fires require coordination and cooperation among the federal government, states, and municipalities.

Therefore, the first line of action seeks to support the development and updating of State and Municipal Plans for Deforestation and Fire Prevention and Control (PPCDQs), as well as other strategic actions (8.1.1). These plans are essential tools for guiding local deforestation and fire prevention and control actions, aligning them with national guidelines and strengthening local response capacity. By ensuring that states and municipalities have updated and effective plans, a solid foundation is created for implementing preservation and control actions across all levels of government.

The second line of action aims to promote coordination with state and municipal agencies that work in fire prevention and response to implement integrated fire management (8.1.2), allowing for rapid and coordinated responses to fires, as well as providing adequate technical training for sustainable fire management. Integration among different agencies facilitates the exchange of knowledge and resources, making actions more efficient.

Finally, another key aspect addressed in this objective is strengthening the CAR as a management tool. The line of action **(8.2.1)** proposes making available to the states the improvement of the CAR as a deforestation control tool. The CAR, being a strategic database that allows monitoring and environmental regularization of rural properties, is a key instrument to ensure that registered areas comply with environmental laws.



Monte Pescoço in Itamaraju/BA. Photo: MMA Archive.

5.3. Axis III: Land and territorial planning

Land and territorial planning in Brazil face historical challenges, including irregular occupation, land title insecurity, and land-use conflicts, factors that aggravate the occurrence of native vegetation suppression, fires, and environmental degradation. The growing pressure on natural resources and protected territories, such as those of Traditional Peoples and Communities (PCTs) and UCs, requires the implementation of public policies aimed at the regularization and consolidation of these territories, as well as a series of other measures. The allocation of federal land parcels for the creation of new protected areas, combined with the implementation of environmentally differentiated agrarian reform settlements, especially in regions vulnerable to deforestation, emerges as a key strategy for nature conservation and the sustainable use of land.

Connectivity between protected areas, through territorial planning that includes ecological corridors and mosaics, is essential to enable the sustainable use of natural resources, the recovery or maintenance of ecological processes, ecosystem services, and biodiversity protection. The land tenure regularization of territories occupied by PCTs is fundamental to ensuring their rights and, at the same time, supporting nature conservation, given that these populations have historically and generally practiced sustainable land management.

Aligning Brazil's economic development with its environmental commitments requires that the licensing process for large enterprises and infrastructure projects incorporate preventive, planning, and monitoring instruments such as the Technical, Economic, and Environmental Feasibility Study (EVTEA) and the Strategic Environmental Assessment (SEA), which contribute to achieving the goal of zero deforestation by 2030.

The protection of native vegetation and the recovery of degraded areas are crucial for regulating hydrological regimes and maintaining water resources. The decreasing interval between severe droughts reinforces the need to integrate ecosystem conservation and restoration into territorial planning, especially in critical watersheds. Thus, prioritizing the conservation of springs, aquifer recharge zones, and wetlands is essential as a measure to ensure the availability and quality of water resources. In this regard, the information from the National Water Resources Information System (Snirh)¹⁷, coordinated by the National Water and Basic Sanitation Agency (ANA) in conjunction with state systems, which complement it and address regional specificities, is essential for the planning, monitoring, and efficient management of water resources.

The implementation of public policies that ensure forest conservation and restoration, as well as the sustainability of agricultural production, based on planning instruments such as ZEE¹⁸, and technical-scientific guidance instruments such as the Agricultural Climate Risk Zoning (Zarc)¹⁹ – is vital to preserving the ecosystem services associated with water. These services are essential not only for biodiversity but also for water security and sustainable development, especially in the context of climate change.

In this context, Axis III - Land and Territorial Planning of the PPMata Atlântica has its strategic objectives aimed at ensuring the allocation and protection of federal land parcels; expanding and strengthening the management of protected areas; ensuring land tenure regularization of Indigenous Territories (TIs) and Quilombola Territories (TQs); and aligning the planning of large enterprises with national environmental goals. These objectives include the creation and consolidation of UCs, the promotion of ecological connectivity between protected areas, and the integration of preventive instruments to mitigate environmental impacts.

¹⁷ Established by Law No. 9433, 8 January 1997, the Water Law.

¹⁸ The ZEE is an instrument of the National Environmental Policy, regulated by Decree No. 4297, 10 July 2002. 4297/2002.

¹⁹ Zarc is legally established in Decree No. 9841/2019.

Strategic Objective 9 focuses on ensuring the allocation of federal land parcels for the protection, conservation, and sustainable use of natural resources, with special attention to the needs of Indigenous peoples, Quilombola communities, other traditional peoples and communities, as well as family farmers. For this purpose, a set of coordinated actions is required. The first is the allocation of federal land parcels for the purposes of protection, conservation, and use of natural resources, in addition to the recognition of territorial rights and the prevention and control of deforestation (9.1.1). At the same time, the creation of interinstitutional bodies and programs for land conflict management will be encouraged and strengthened (9.1.2), a measure that proves crucial in areas where there is overlapping of interests and where land tenure conflicts can lead to deforestation.

Strategic Objective 10 aims to expand and strengthen the management of protected areas to ensure the conservation of biodiversity in critical and high ecological value territories and to promote the sustainable use of natural resources.

For this purpose, the creation and consolidation of UCs focusing on critical deforestation areas (10.1.1) are extremely important to halt the loss of native vegetation and environmental degradation in vulnerable regions, ensuring that these areas are protected by specific legislation and have adequate management mechanisms.

In addition, it will be necessary to strengthen, recognize, and implement management instruments and integrated territorial governance for the connectivity of protected areas (10.1.2). This includes mosaics, ecological corridors, biosphere reserves, Ramsar sites, world heritage sites, restoration plans, among others, as well as the identification and implementation of Priority Areas for Biodiversity Conservation, allowing integrated management of protected areas to promote landscape connectivity, enabling the maintenance and creation of genetic flows and the conservation of essential habitats for biodiversity. The Atlantic Forest, as seen earlier, has nine recognized mosaics of protected areas and three biosphere reserves but lacks federal ecological corridors that favor territorial planning between UCs and promote connectivity between native vegetation fragments.

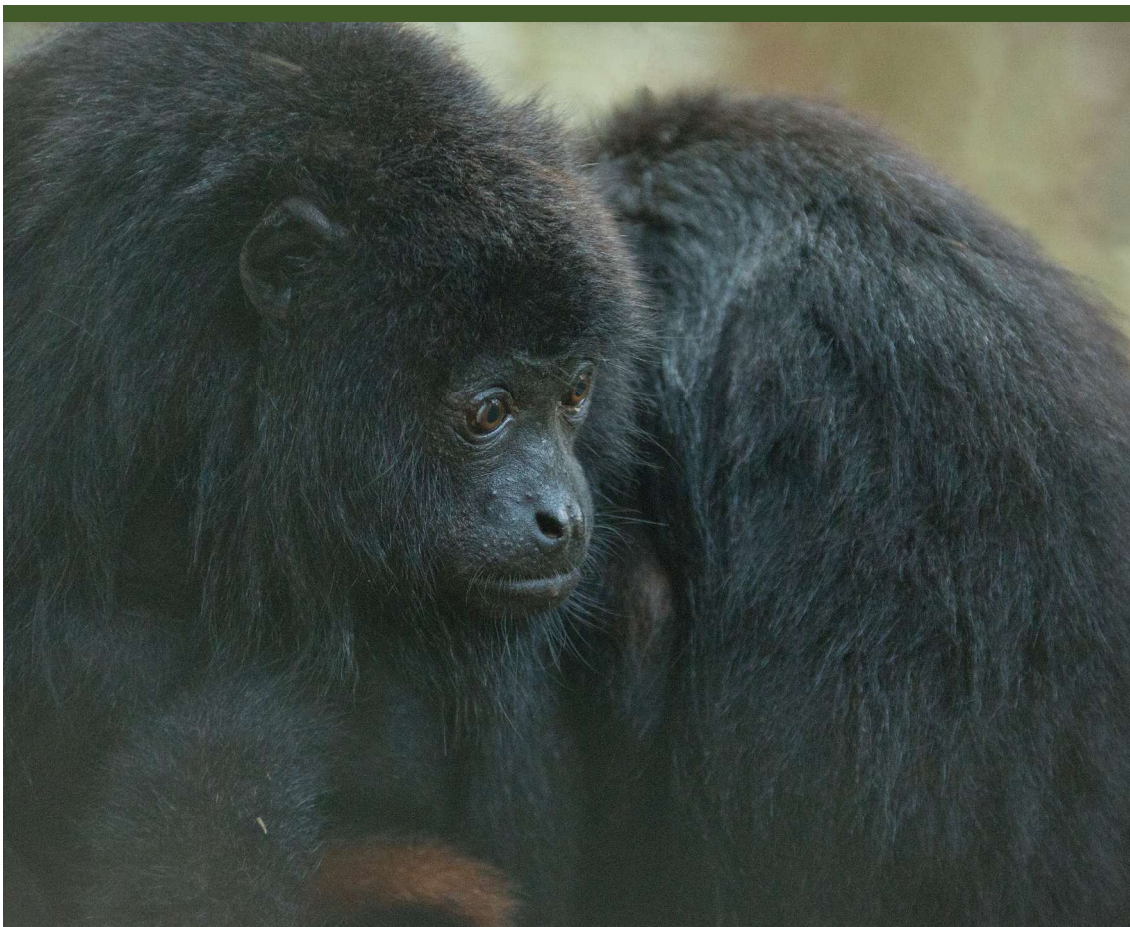
Additionally, identifying, delimiting, demarcating, approving, and regularizing TIs and QTs to ensure the recognition of their territories (10.2.1). This measure aims to consolidate the territorial rights of these populations. In addition, the development and implementation of territorial and environmental management plans for TIs, QTs, and territories of other traditional peoples and communities (10.2.2) aim to provide technological and economic support, as well as the technical assistance necessary for these populations to carry out their sustainable activities.

Strategic Objective 11 proposes the coordination and/or alignment of the planning of large enterprises and infrastructure and development projects in the region, with the goal of achieving zero deforestation by 2030. This objective is fundamental to ensure that economic development and large infrastructure works are planned and executed in a way that minimizes environmental impacts, especially with regard to the suppression of native vegetation.

To achieve this goal, one of the main proposed actions is to regulate, develop, and implement instruments such as EVTEA and SEA (11.1.1). These instruments, in a preventive manner, contribute to environmental and territorial governance for deforestation control, restoration actions for deforested areas, and mitigation actions for GHG emissions resulting from land-use change in the area of influence of large enterprises and infrastructure and regional development projects. Through these strategic planning tools, it is possible, before project approval, to also assess their environmental feasibility, taking into account both economic and ecological aspects, aligning regional development with Brazil's environmental protection goals.

Strategic Objective 12 focuses on territorial planning and the implementation of legal instruments to ensure the role of native vegetation in maintaining and restoring hydrological regimes and water quality. A key action is the development of proposals for priority areas for RL compensation, focusing on the recovery of spring areas, aquifer recharge zones, and wetlands, the creation of ecological corridors, and the conservation or restoration of vegetation, soil, and threatened ecosystems and species (12.1.1). Territorial planning for RL compensation can assist in regulating the hydrological cycle and water quality, contributing to improving human quality of life and biodiversity.

In summary, these actions represent a set of integrated solutions to protect the hydrological regime and water quality in the Atlantic Forest, promoting the sustainable use of natural resources and ensuring the conservation of the biome, especially in watersheds under pressure.



Brown Howler (in Portuguese *Macaco Guariba*) photographed in the Guaribas Biological Reserve/PB.
Photo: MMA Archive.

5.4. Axis IV: Regulatory and economic instruments

The loss of native vegetation impacts not only biodiversity but also the climate, quality of life, and economic activities, requiring the implementation of efficient public policies that combine regulatory and economic instruments to promote the sustainable use and conservation of natural resources.

The creation of an integrated approach is essential to address these issues comprehensively. This involves establishing clear legal frameworks, regulating sustainable practices, and using economic incentives to encourage the conservation of the Atlantic Forest. Legal standards combined with financial mechanisms that protect native vegetation are fundamental to building environmental governance that is both effective and fair, involving all social actors, from the private sector to traditional communities.

The development of policies that encourage sustainable practices and the responsible use of natural resources requires a solid foundation of instruments that promote economic development with environmental responsibility.

In addition to legal and financial instruments, the strengthening of environmental governance also depends on the creation of spaces for dialogue and education and the regulation of TQs and other traditional peoples and communities (PCTs). Cooperation among different levels of government, civil society, and local communities is essential for implementing policies that are effective and adapted to regional realities.

Efforts to align economic interests with environmental concerns include the transition to a greener and more sustainable economy and the promotion of businesses based on the bioeconomy as strategies that must be strengthened to achieve zero deforestation within the framework of this Plan.

Strategic Objective 13 aims to create, improve, and implement regulatory and economic instruments to control deforestation and fires, in order to promote sustainable management of natural resources and ensure biodiversity conservation. For this purpose, one necessary action is the implementation of initiatives for the development of a Brazilian sustainable taxonomy²⁰ **(13.1.1)**, which can be directed and supported by the Brazilian Sustainable Taxonomy Action Plan²¹, coordinated by the Ministry of Finance. In addition, consolidating the bioeconomy as a strategy for sustainable socioeconomic development involves promoting various instruments. Thus, actions are planned related to the proposal of regulations and tax incentives for the bioeconomy and subsidies for socio-bioeconomy products from sustainable and biodiverse production systems, including sustainable extractivism and agroforestry systems, especially those from Indigenous lands, territories of traditional peoples and communities, and family farming **(13.2.1)**.

Decree No. 9640/2016 regulates the issuance, registration, use, transfer, cancellation, and responsibilities associated with Environmental Reserve Quotas (CRAs), representing an important step and incentive toward the green economy and the promotion of tools for environmental regularization. Thus, with a revision of the decree regulating the CRAs, these quotas could be widely used in the forest economy market, backed by the guarantee and environmental integrity of the instrument **(13.5.1)**. Along the same lines, advancing the implementation of forest compensation instruments for the Atlantic Forest biome must include intensifying the issuance of quota certificates and negotiations over areas for legal reserve replacement.

The National REDD+ Strategy (ENREDD+) Brazil aims to reduce greenhouse gas emissions, deforestation, and forest degradation; promote the sustainable conservation of forests; and lower carbon dioxide levels. The initiative is part of Brazil's commitments under the United Nations Framework Convention on Climate Change (UNFCCC), which regulates the role of tropical forests in mitigating climate change. The strategy was developed

²⁰ Green taxonomy is one of the most common modalities, focusing on activities that contribute to environmental objectives. Sustainable taxonomy, on the other hand, encompasses climate, environmental, and social objectives (MF, 2023, p. 15).

²¹ Link to the document: <https://www.gov.br/fazenda/pt-br/orgaos/spe/taxonomia-sustentavel-brasileira/arquivos-taxonomia/taxonomia-sustentavel-brasileira-dezembro-v2.pdf>

through a participatory process involving the government, civil society, and the private sector. The Amazon Fund, administered by the National Bank for Economic and Social Development (BNDES), is one of ENREDD+'s main funding sources. Globally, Brazil is a key player in REDD+ implementation, particularly in the Amazon. Thus, reviewing and implementing the National Strategy for REDD+ (ENREDD+) with access to the Atlantic Forest biome will enable an action that should contribute to climate change mitigation, conservation, and restoration of ecosystems affected by illegal deforestation and fires resulting from inadequate fire management, as well as promote the development of a low-carbon sustainable forest economy, generating economic, social, and environmental benefits for the biome **(13.4.1 e 13.6.1)**.

The Green Grant Program, established by Law No. 12512, 2011, is an initiative aimed at promoting environmental conservation and sustainable development in rural areas, offering financial support to families in poverty living in environmental conservation areas, such as extractive reserves, national forests, and agrarian reform settlements with preservation characteristics. Payments are made quarterly, and the incentive is conditional upon the families' commitment to sustainable resource use practices in the areas where they live. The program's goals include promoting environmental conservation in priority areas, reducing poverty in communities dependent on natural resources, and integrating environmental and social policies, thereby providing both environmental protection and economic development for the most vulnerable populations. Therefore, expanding the Green Grant Program in the Atlantic Forest region will boost activities and projects focused on socioeconomic development, as well as encourage the collective management of territories and their traditional systems, especially in protected areas **(13.8.1)**.

Another important measure is the regulation of the carbon market in Brazil **(13.9.1)**. Law No. 15042, 2024 establishes the Brazilian Greenhouse Gas Emissions Trading System (SBCE). Regulating the carbon market by defining rules and standards is a significant step toward creating incentives aimed at curbing greenhouse gas emissions and reducing the anthropogenic impact on the climate. This regulation is a strategic approach to achieving environmental goals in alignment with international commitments, such as those set forth in the Paris Agreement. The carbon credit trading system not only contributes to the reduction of global emissions but also promotes an effective approach to tackling climate change by aligning the economic interests of companies with environmental objectives.

Traditional and quilombola territories contribute to deforestation control, as these communities traditionally make sustainable use of natural resources. To support this, it is vital to strengthen actions aimed at improving the regulatory process for the regularization of quilombola territories and those of traditional peoples and communities **(13.10.1)**. Moreover, such action will also help reduce land concentration, distribute

wealth, combat land grabbing and rural violence, and provide greater legal security for these groups, who generally rely on family farming as their primary livelihood.

Finally, permits for vegetation suppression, which may go by various names such as Authorization for Vegetation Suppression (ASV), are at the center of several national discussions. Currently, integration between national, state, and municipal databases remains inadequate, which hinders clear identification of legal and illegal deforestation and limits transparency in tracking this issue. Moreover, there is no federal regulation detailing the criteria and minimum standards for granting vegetation suppression authorizations, and there is also a monitoring gap to verify whether the authorizations were actually carried out. It is evident that the entire process involving vegetation suppression authorizations in Brazil, including the Atlantic Forest, needs adjustments to make the instrument suitable for deforestation control and monitoring. In light of this need, PPMata Atlântica proposes the creation of a regulatory instrument to standardize the criteria for issuing and integrating data on Vegetation Suppression Authorizations (ASVs) and Authorizations for Alternative Land Use (UASs) issued by the federal, state, or municipal agency in the Sinaflor system (Ibama), as well as to define standards for making this information publicly accessible **(13.11.1)**.

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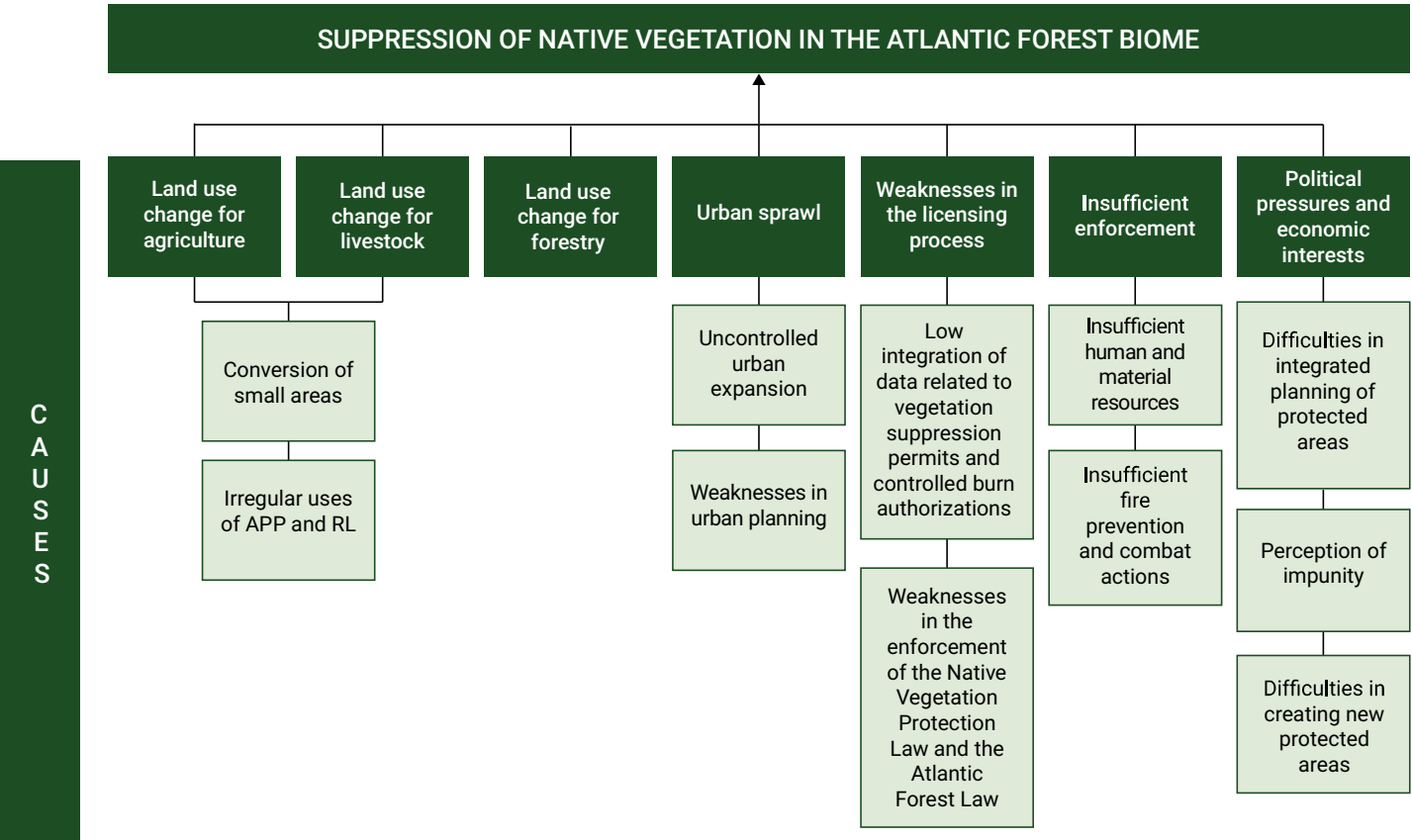
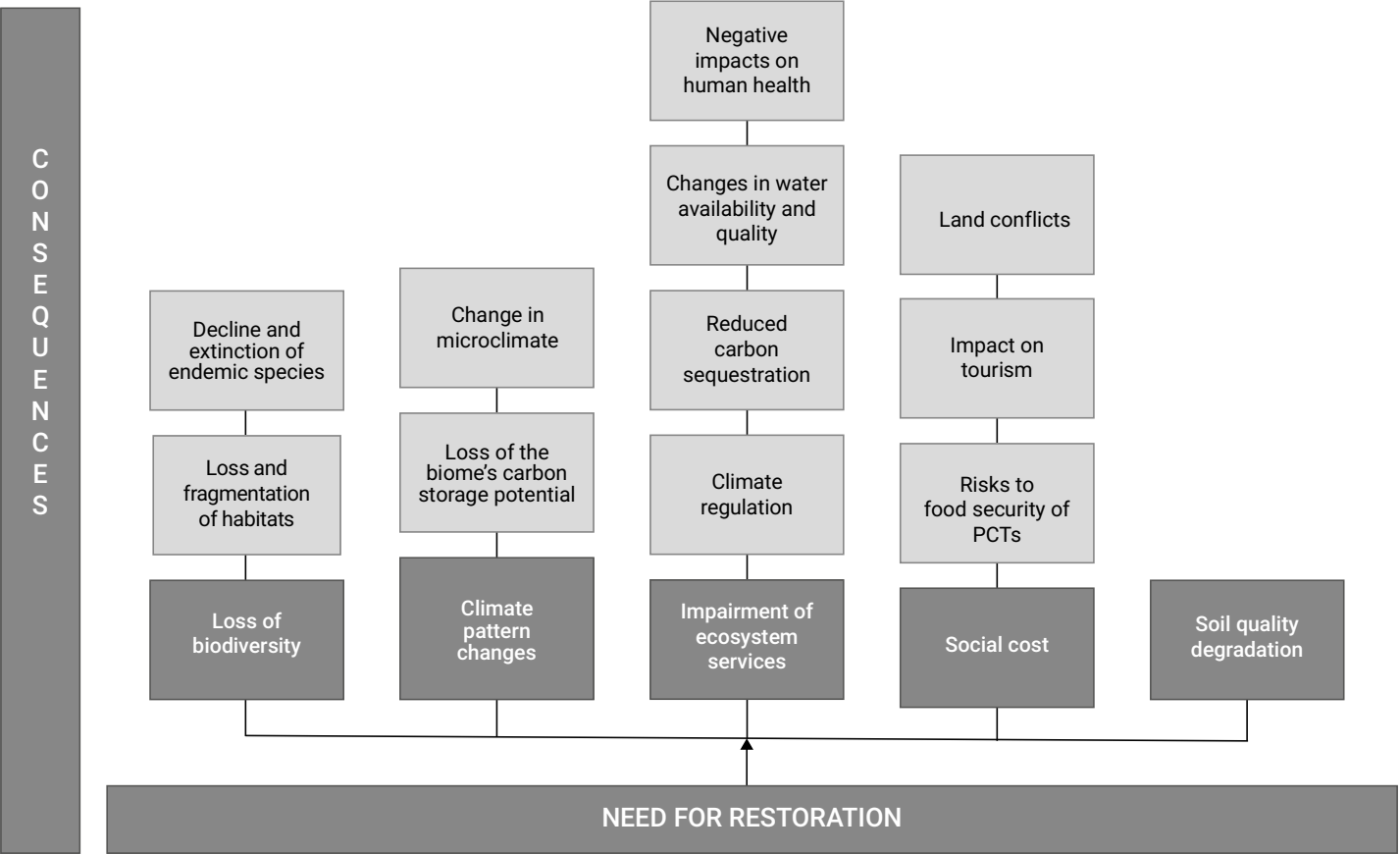
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ANNEX A - PROBLEM TREE



Source: MMA

ANNEX B - SUMMARY CHART OF STRATEGIC OBJECTIVES, EXPECTED RESULTS, AND LINES OF ACTION

Axis 1 - Sustainable Productive Activities				
Strategic Objective 1. Promote sociobioeconomy, sustainable forest management, and the recovery and restoration of deforested or degraded areas.				
Expected Result 1.1. Bioeconomy, sociobiodiversity, and agroecological transition expanded and strengthened.				
Action Line 1.1.1. Develop and implement programs and actions to support the bioeconomy.				
Goal	Indicator	Deadline	Key Actor	Partners
1.1.1.1. Develop the National Bioeconomy Plan.	No. of completed stages to prepare and approve the plan	2025	SBC - MMA	MIDR, MCTI, MDIC, Mapa, Conab, MF, MDS, SFB, and members of the National Bioeconomy Commission
1.1.1.2. Establish a priority bioregional territory in the Atlantic Forest biome	Number of selected territories / year	2027	MIDR	MMA
1.1.1.3. Promote the sustainable use of natural resources, aligned with the cultural and economic needs of traditional communities	Sustainable management projects developed and implemented with community participation	2026	ICMBio	CNPCT and SFB
1.1.1.4. Map species of socioeconomic importance for Atlantic Forest communities.	Structuring of a biocultural community protocol and monitoring of Atlantic Forest sociobiodiversity	2025	ICMBio	
1.1.1.5. Create a database of traditional knowledge associated with Atlantic Forest biodiversity.	Database created and publicized	2025	ICMBio	
1.1.1.6. Increase by 50% support for sustainable productive inclusion projects for Indigenous peoples, traditional peoples and communities, family and small-scale farmers, and community enterprises, enhancing sociobiodiversity product chains.	a) Number of supported projects b) Number of territories and families benefited	2027	MDA	SNPCT - MMA, MDIC, MAPA, MPA, MCTI, Funai - MPI and SFB
1.1.1.7. Implement 15 projects to stimulate sociobiodiversity and agroecological product chains through productive support and/or expansion of local infrastructure for transport, sanitation, connectivity, and renewable energy.	a) No. of projects implemented/year b) Total investment amount (BRL)/year	2027	Mapa	ICMBio, SBC and SNPCT-MMA, ANA, MD, MDS, SNPCT, GSIPR, SFB and Secom

1.1.1.8. Implement 10 projects to stimulate sociobiodiversity and agroecological product chains through productive support and/or expansion of local infrastructure for transportation, sanitation, connectivity, and renewable energy.	a) No. of projects implemented/year b) Total investment amount (BRL)/year	2027	MIDR	ICMBio, SBC and SNPCT-MMA, ANA, MD, MDS, SNPCT, GSIPR, SFB and Secom
1.1.1.9. Implement 30 projects to stimulate sociobiodiversity and agroecological product chains through productive support and/or expansion of local infrastructure for transportation, sanitation, connectivity, and renewable energy.	a) No. of projects implemented/year b) Total investment amount (BRL)/year	2027	MDA	ICMBio, SBC and SNPCT-MMA, ANA, MD, MDS, SNPCT, GSIPR, SFB and Secom
1.1.1.10. Promote and strengthen research networks for the development and application of new technologies and social technologies aimed at socio-biodiversity chains and agroecological products with a focus on native species.	No. of Science and Technology Institutes involved in sociobioeconomics research/year	2026	SBC – MMA	MCTI
1.1.1.11. Create economic instruments and/or adapt existing ones (e.g. fiscal stimuli, payment for environmental services) to foster community-based bioeconomy.	No. of community-based projects/enterprises benefited/year	2027	SBC/MMA	
Action Line 1.1.2. Strengthen and expand government procurement policies and programs (PAA, PNAE, PGPM, PGPM-Bio, and the Family Farming Seal).				
Goal	Indicator	Deadline	Key Actor	Partners
1.1.2.1. Increase commercialization actions through government procurement programs (PAA, PNAE) compared to 2022 values.	% increase/year	2027	Conab	Seab and Conab - MDA/MDS/MPI/MMA/MDIC
1.1.2.2 Inclusion of Atlantic Forest products in the PGPMBio agenda.	Number of products included / year	2027	Conab and MF	IBGE - MPO
Action Line 1.1.3. Promote sustainable businesses and create green jobs, strengthening the bioeconomy, agroecological transition, and ethnodevelopment.				
Goal	Indicator	Deadline	Key Actor	Partners
1.1.3.1. Increase support for sustainable productive inclusion projects for Indigenous peoples, traditional communities, family and peasant farming, and community enterprises, valuing sociobiodiversity product chains compared to the average of the past 4 years.	No. of productive inclusion projects supported/year	2027	SNPCT - MMA	MDIC, MAPA, MCTI, MD, MDIC, SFDT, Conab -MDA, Funai - MPI and SFB
1.1.3.2. Increase support for sustainable productive inclusion projects for Indigenous peoples, traditional communities, family and peasant farming, and community enterprises, valuing sociobiodiversity product chains compared to the average of the past 4 years.	No. of productive inclusion projects supported/year	2027	MDA	MDIC, MAPA, MCTI, MD, MDIC, MMA, Funai - MPI

1.1.3.3. Adjust and strengthen the Pronatec Extrativista program.	Number of people assisted / year	2027	SNPCT - MMA	Seteq-MDA, Conab, MPI, MEC, and SFB
1.1.3.4. Implement a program of economic incentives and support for production organization, rural extension and technical assistance for forestry and agroforestry enterprises, including those of a community nature	No. of forestry and agroforestry projects supported / year	2026	SBC - MMA	MTE
1.1.3.5. Develop and implement support programs for micro and small business enterprises and community-based ventures and enable access to technological development applied to sustainable businesses.	Number of projects for micro and small business enterprises and community-based ventures supported / year	2026	SBC - MMA	MTE
1.1.3.6. Promote the management of sustainable fishing, focusing on producing a protein source for self-consumption, income generation, monitoring, and territorial management.	No. of initiatives/year: 2 local fisheries management initiatives, plans or projects (scientifically based and participatory)	2026	SBC - MMA	MTE
1.1.3.7. Launch a call for proposals to accelerate businesses focused on environmental conservation and the green economy in Brazilian biomes.	a) No. of accelerated businesses/year b) Income generated (BRL)/ year	2026	SBC – MMA	MTE
Expected Result 1.2. Nature tourism, ethnotourism, and regenerative tourism promoted and expanded.				
Action Line 1.2.1. Expand nature, rural, community-based, and conservation unit tourism.				
Goal	Indicator	Deadline	Key Actor	Partners
1.2.1.1. Establish pilot projects to promote ecotourism and regenerative tourism per year.	Number of projects established/year	2027	MTur	Embratur, SBC – MMA, MDIC, MPI
1.2.1.2. Establish a community-based and ethnotourism program in the Atlantic Forest.	Community-based and ethnotourism program established	2027	MTur	Embratur, SBC – MMA, MDIC, MPI
1.2.1.3. Ensure 100% of Conservation Units (UCs) in categories where visitation is a primary goal (National Parks and Natural Monuments) have visitor number monitoring.	annual % of UCs with monitoring of the number of visits, in accordance with Normative Instruction No. 05/2018	2027	ICMBio	Setor privado
1.2.1.4. Offer training slots to 20% of staff in Atlantic Forest conservation units in courses promoted by the general coordination of public use and environmental services or on the theme of visitation management in conservation units.	Number of training slots offered to develop powers related to visitation management in conservation units/year	2025	ICMBio	

1.2.1.5. 200 km of long-distance trails marked and recognized by MMA.	Kilometers of long-distance trails cumulatively marked/ year in federal UCs under Joint Ordinance MMA/MTur/ICMBio No. 407/2018, and recognized by MMA under Joint Ordinance MMA/MTur/ICMBio No. 500/2020	2025	ICMBio	MMA
1.2.1.6. Strengthen visitation in federal UCs, including RPPNs, and promote sustainable and responsible tourism, contributing to valuing sociobiodiversity and boosting the local economy through the implementation of the Program for Visitation and Sustainable Tourism in federal CUs.	a) Phases of the Program implemented b) Number of UCs benefited / year	2027	ICMBio	MMA, MTur, Embratur
1.2.1.7. Implement the National Development Plan for Recreational and Sport Fishing (PNPA), taking into account the particularities of the biome	Number of fishers benefited per year	2027	MPA	MMA
Expected Result 1.3. Expanded sustainable forest management				
Action Line 1.3.1. Promote sustainable multiple-use forest management (including timber, non-timber, and livestock use) and good production practices for the economic exploitation of native timber and non-timber species and fauna.				
Goal	Indicator	Deadline	Key Actor	Partners
1.3.1.1. Implement actions under the National Program for Productive Forests and support for productive organization, rural extension, and technical assistance for forest and community enterprises.	No. of forestry and agroforestry projects supported	2025	MDA	SFB and SBC-MMA, MEC, MF, MAPA, MDIC
1.3.1.2. Draw up a plan to include national forests in the National Productive Forests Program, in a way related to restoration actions.	Plan published	2026	ICMBio	SFB, MMA, research institutions, civil society organizations
Expected Result 1.4. Expansion of native vegetation restoration, with social participation and the establishment of community-based and collaborative foundations, income generation for the local population, and technological innovation in the ecological restoration of semi-arid areas.				
Action Line 1.4.1. Promote the recovery and restoration of native vegetation, supporting and strengthening the National Policy for the Recovery of Native Vegetation (Proveg), through the implementation of Planaveg, contributing to reducing degradation, combating desertification, conserving biodiversity, increasing carbon stocks, and generating employment and income.				
Goal	Indicator	Deadline	Key Actor	Partners
1.4.1.1. Implement the macro-actions outlined in Planaveg, focusing on arrangements for recovering native vegetation in APP and RL areas, in public areas (UCs and indigenous lands) and in rural areas with low productivity in the Atlantic Forest.	Number of completed steps for plan implementation.	2027	SBio - MMA	Members of Conaveg

1.4.1.2. Incorporate actions to promote the recovery of native vegetation into state public policies in the Atlantic Forest and strengthen other forms of collective organization at the landscape scale through the work of the Planaveg Territorial Articulation Center.	Number of state public policies and other forms of collective organization aligned with Planaveg	2027	SBio-MMA	SFB and members of the Planaveg Territorial Articulation Center
1.4.1.3. Improve the monitoring of native vegetation recovery in public and private areas.	area monitored/year	2027	PF-MJSP	MMA, SFB, Inpe and OEMAs
1.4.1.4. Develop a portfolio of projects for the restoration and recovery of natural vegetation.	Project portfolio developed.	2027	MIDR	SBio - MMA, SFB and OEMAs
1.4.1.5. Promote integrated management of micro-basins, including actions for soil and water conservation, vegetation cover recovery, and social mobilization.	Sum of areas benefiting from soil and water conservation actions.	2027	SNSH/MIDR, DFLO/SBIO/ MMA and ANA	OEMAs, OGERHs and CBHs
1.4.1.6. Execute projects from the Management Committee of the Accounts of the Endangered Species (PAN) Basins Revitalization Program and from the Thematic Climate Adaptation Plan for Water Resources aimed at soil recovery in the Atlantic Forest river basins.	a) Number of drainage basins served; b) hectares recovered/year	2027	SQA – MMA	OEMAs
1.4.1.7. Implement measures to reintroduce and preserve native fauna species in degraded forest areas, aiming to contribute to ecosystem recovery and restoration, resilience, pollination, seed dispersal, and ecological balance.	Number of pollinator insect projects developed and implemented/year	2027	ICMBio	SBio-MMA, Ibama, SFB, OEMAs, NGOs and local organizations
1.4.1.8. Carry out compensatory planting due to road and railway construction, duplication, capacity increase, modernization, maintenance, etc., and indicate priority areas for planting.	a) Area with compensatory planting carried out/year	2027	MT	MMA
1.4.1.9. Promote actions of diagnosis, implementation, or monitoring of ecological restoration of ecosystems in at least 10,000 hectares of degraded areas within federal UCs, corridors, and critical areas for species conservation in the Atlantic Forest.	Degraded area (ha) with diagnosis, implementation, or monitoring of restoration.	2027	ICMBio	MMA, Ibama, SFB, NGOs and local organizations
1.4.1.10. Make available the polygons of degraded areas in federal UCs in the Atlantic Forest that are eligible to receive restoration projects.	Website implemented providing polygons of degraded areas available for restoration projects in federal UCs as open data.	2025	ICMBio	MMA
1.4.1.11. Train more than 90% of managers of federal Conservation Units in the Atlantic Forest in ecological restoration project management.	a) % of Atlantic Forest UC with staff trained in ecological restoration project management b) Number of staff trained/year	2027	ICMBio	MMA, Ibama, SFB, NGOs and local organizations

1.4.1.12. Implement actions of the National Program for Productive Forests to disseminate sustainable and biodiverse productive systems, through rural credit and other instruments, with incentives for the recovery of degraded pastures, extractivism, and the implementation of sustainable productive activities.	a) Number of milestones achieved for project/program implementation; b) Area of recovered pasture/year and other low-carbon technologies (ha); c) Area of SAF implemented/supported/year	2027	SAF – MDA	SBC- MMA, MF, Mapa and SFB
Action Line 1.4.2. Promote the integration of native vegetation recovery and restoration actions with those provided in the Drainage Basin Revitalization Program.				
Goal	Indicator	Deadline	Key Actor	Partners
1.4.2.1. Five integrated micro-watershed management projects supported annually through partnership agreements.	Number of projects supported per year.	2027	MIDR	SBio, SQA - MMA
1.4.2.2. Integrate 10 water and soil conservation projects that are in line with its guidelines into the Water Producer Program portfolio	Number of projects incorporated into the Water Producer Program portfolio	2026	ANA	OGERHs, CBHs, municipalities, civil society organizations, sanitation companies and water user sectors
Strategic Objective 2. Encourage sustainable agricultural and livestock activities.				
Expected Result 2.1. Expansion of sustainable agriculture and livestock.				
Action Line 2.1.1. Encourage sustainable livestock and agricultural production, reducing pressure on critical areas of deforestation, while ensuring the social, environmental, and economic promotion of agriculture and livestock.				
Goal	Indicator	Deadline	Key Actor	Partners
2.1.1.1. Develop and implement the National Program for Rural Environmental Management.	a) Number of phases completed for program development b) Program under implementation in priority territories.	2027	SNPCT – MMA	MDA, MAPA, MIDR
2.1.1.2. Implement the National Program for the Recovery and Conversion of Degraded Pastures into Sustainable Agricultural and Forestry Systems to integrate and intensify agricultural and livestock production on pasturelands and other degraded areas, ensuring cost-effectiveness, productivity levels, and competitiveness, while reducing the pressure to clear new areas of native vegetation.	Program implemented	2026	Private sector	MAPA

2.1.1.3. Drawing up technical parameters for extensive livestock farming in the countryside of southern Brazil	Parameters for extensive livestock farming drawn up	2026	SUPES/RS and SUPES/SC (Ibama)	MMA, OEMAS and Emater
Action Line 2.1.2. Strengthening and expanding access to markets and public policies for family farming.				
Goal	Indicator	Deadline	Key Actor	Partners
2.1.2.1. Design and implement the Socio-environmental Development Program for Rural Family Production (Proambiente).	a) Number of phases completed for program development b) Program under implementation in priority territories.	2027	SNPCT-MMA	SFB and MDA
Strategic Objective 3. Expand research, knowledge production, training, and technical assistance for sustainable production activities.				
Expected Result 3.1. Research, training, capacity building, and knowledge for use and conservation expanded and disseminated.				
Action Line 3.1.1. Produce knowledge, disseminate information, raise awareness, and train and empower different social agents on the importance of conservation by adopting sustainable production and consumption practices to reduce deforestation and fires.				
Goal	Indicator	Deadline	Key Actor	Partners
3.1.1.1. Survey and publication of informational panels on bioeconomy initiatives in the Atlantic Forest.	Panels published	2025	SFB – MMA	
3.1.1.2. Develop and implement a training and capacity-building program in technical assistance and rural extension with a focus on agroecological transition to address climate change.	a) Number of phases completed for program development b) Program under implementation in priority territories.	2027	SNPCT – MMA	SFB, IFSP and GPP-Esalq/USP
3.1.1.3. Implement the National Forest Inventory in the Atlantic Forest biome.	Percentage of the biome area with IFN field data collection/ year	2026	SFB – MMA	Universities; state governments
3.1.1.4. Support the Atlantic Forest biome sub-network of the Biodiversity Research Program.	a) Number of projects supported per year b) Amount (BRL) allocated per year	2027	MCTI	UFMG, UFMS

3.1.1.5. Expand applied research, the production of technical-scientific and traditional knowledge, and strengthen training and technical assistance in sustainable practices for the productive activities of traditional communities in the Atlantic Forest, focusing on bioeconomy, sustainable management, and strengthening of sociobiodiversity.	a) Number of research projects carried out/year focusing on sustainable productive practices and natural resource management in Atlantic Forest communities. b) Number of publications and educational materials produced/year based on scientific and traditional knowledge about sustainable productive activities. c) Number of training sessions and capacity-building events held with local communities promoting sustainable management and production techniques. d) Number of families or communities assisted/year with technical support from CNPT to implement sustainable productive activities.	2027	ICMBIO	SFB
3.1.1.6. Implement a fisheries research and monitoring system to support sustainable fishing activity in the biome.	Search system implemented	2027	MPA	MMA, MCTI
Axis II - Environmental Monitoring and Control				
Strategic Objective 4. Strengthen the role of federal institutions and ensure accountability for environmental crimes and administrative violations related to deforestation, fires, and forest degradation.				
Expected Result 4.1. High level of resolution and administrative, civil, and criminal accountability for illegal deforestation and forest degradation achieved.				
Action Line 4.1.1. Ensure accountability for crimes and administrative violations related to deforestation, forest fire occurrence, and forest degradation.				
Goal	Indicator	Deadline	Key Actor	Partners
4.1.1.1. Monitor, through intensive patrolling, federal highways and areas of interest to the Federal Administration.	No. of vehicles and people inspected	2027	PRF- MJSP	Ibama, ICMBio and other environmental enforcement agencies
4.1.1.2. Provide support through personnel deployment upon request by other agencies.	No. of staff employed to support actions to preserve the Atlantic Forest	2027	PRF- MJSP	Ibama, ICMBio and other environmental enforcement agencies
4.1.1.3. Establish 400 administrative proceedings per year to investigate administrative violations against flora in the Atlantic Forest	Number of proceedings opened/year	2027	Ibama	
4.1.1.4. File 10 public civil actions (ACP) per year to seek compensation for damage to Atlantic Forest flora.	Number of proceedings opened/year	2027	AGU	Ibama

4.1.1.5. Carry out at least one national-level enforcement activity (as a priority UC) in federal UCs of the Atlantic Forest by 2027.	Number of inspection activities carried out in federal UCs/year	2027	ICMBio	PM, PRF, PF and Ibama, and others
4.1.1.6. Carry out at least two regional-level enforcement activities (as a priority UC) in federal UCs of the Atlantic Forest by 2027.	Number of inspection activities carried out in federal UCs/year	2027	ICMBio	PM, PRF, PF and Ibama, and others
4.1.1.7. Carry out at least 30 local-level enforcement activities in federal Conservation Units of the Atlantic Forest by 2027.	Number of inspection activities carried out in federal UCs/year	2027	ICMBio	PM, PRF, PF and Ibama, and others
4.1.1.8. Investigate liability for fires started on private properties through monitoring of hotspots (FIRMS) and cross-checking with the Rural Environmental Registry (CAR).	Number of infraction notices in federal UCs issued/year	2027	ICMBio	GEMA, Environmental Battalion
4.1.1.9. Increase by 40% the number of operations related to deforestation, fires, and forest degradation in the Atlantic Forest biome, by strengthening investigations and implementing effective accountability measures, using 2024 as the baseline year.	Number of operations related to crimes of deforestation, fires and forest degradation in the Atlantic Forest biome	2027	PF-MJSP	
Expected Result 4.2. Human, technological, and logistical resources available to effectively combat environmental crimes and violations.				
Action Line 4.2.1. Human, technological, and logistical resources available to effectively combat fires and other environmental crimes and violations.				
Goal	Indicator	Deadline	Key Actor	Partners
4.2.1.1. Support the implementation of license plate recognition equipment to assist in the enforcement of native timber transportation on federal highways.	Number of federal highways with equipment installed per year	2027	DNIT	MT, Ibama, MMA
4.2.1.2. Adjust maintenance, environmental management, and concession contracts to include specific technological and logistical resources to support environmental monitoring and control in the biome.	Number of federal highways covered/year	2027	DNIT	MT, Ibama, MMA
4.2.1.3. Hire 200 environmental analysts through public examination to work on combating deforestation and fires by 2027.	Number of environmental analysts hired per year.	2027	Ibama	MMA, MGI
4.2.1.4. Provide support through personnel deployment upon request by other agencies.	No. of staff employed to support actions to preserve the Atlantic Forest	2027	PRF/MJSP	Ibama
Strategic Objective 5. Improve the capacity for control, prevention, analysis, and monitoring of deforestation, degradation, and productive chains.				
Expected Result 5.1. Monitoring capacity of deforestation and degradation in the biome expanded.				

Action Line 5.1.1. Improvement of monitoring systems for vegetation suppression and degradation, including the detection of vegetation physiognomies and conservation status.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.1.1. Expand the monitored area in the biome.	% increase in the monitored area in the biome.	2027	Inpe	PF, Censipam, Ibama, ICMBio, MMA
5.1.1.2. Develop a technological solution using SAR imagery for deforestation detection.	No. of completed stages related to the development of the solution (during the development of the solution) / No. of operations carried out in critical locations identified from the technological solution for forecasting deforestation/year	2025	Censipam	ICMBio, Ibama, SECD - MMA/ Inpe - MCTI and PF/MJSP
5.1.1.3. Produce compilations of radar-detected deforestation and forest degradation maps and alerts	No. of deforestation and forest degradation alerts/month	2025	Censipam	SECD - MMA, Ibama, Inpe
Action Line 5.1.2. Implement monitoring mechanisms and establish parameters and procedures to measure the impact of native vegetation suppression and degradation on air, soil, and water resources.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.2.1. Include in highway maintenance contracts, DNIT's environmental management contracts, and concession contracts, monitoring and even firefighting actions within the right-of-way of highways and railways, with greater intensity in federal road sections that cross the biome Number of contracts adjusted per year.	Number of contracts adjusted per year	2027	DNIT	MT, MMA
Action Line 5.1.3. Strengthen community monitoring initiatives of deforestation and fires in native vegetation, and provide safety mechanisms for the actors involved.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.3.1. Training in fire prevention and combat.	Number of training events held per year.	2027	ICMBio	Ibama
5.1.3.2. Train and equip communities to fight fires.	Number of communities trained per year.	2027	ICMBio	Ibama
5.1.3.3. Reforest the surroundings of communities with native species.	a) Number of seedlings produced and planted b) Number of communities served/year	2027	ICMBio	Ibama

Action Line 5.1.4. Strengthen governance and institutional cooperation for monitoring, including through a joint communication protocol on deforestation and fire events, enabling risk identification (prevention) and a more coordinated and efficient response.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.4.1. Establish communication protocols between its own agents and contracted companies for carrying out construction and/or maintenance upon detection of deforestation and fire events.	Communication protocol established.	2027	DNIT	MMA, MT
Action Line 5.1.5. Implement / develop air pollution monitoring, inventories, and State Plans for Air Emissions Control in the Atlantic Forest biome states, as well as promote awareness campaigns against burnings and fires.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.5.1. Enforcement, through ostentatious patrols focused on vehicle emissions, on federal roads and areas of interest to the federal government.	No. of Police Report (TCO) issued in relation to crimes involving emissions of pollutants from vehicles	2027	PRF- MJSP	
5.1.5.2. Implement air pollution monitoring in the states of the Atlantic Forest biome.	Percentage of states of the Atlantic Forest Biome with air pollution monitoring	2027	SQA - MMA	OEMAs, civil society
5.1.5.3. Support the preparation of inventories and State Atmospheric Emissions Control Plans in the states of the Atlantic Forest biome.	% of states in the Atlantic Forest biome with inventories and State Atmospheric Emissions Control Plans prepared	2027	SQA-MMA	OEMAs, universities and civil society
Action Line 5.1.6. Strengthen and integrate deforestation prevention and control actions provided for in the National Action Plans for the Conservation of Endangered Species (PANs) as a strategy for conserving endangered species.				
Goal	Indicator	Deadline	Key Actor	Partners
5.1.6.1. At least 80% of actions integrated and implemented.	% of PAN actions implemented and integrated/year	2027	ICMBio	MMA, IBAMA, Education and research institutions, NGOs, OEMAs, Civil Society
Strategic Objective 6. Implement Integrated Fire Management to prevent and combat fires in native vegetation.				
Expected Result 6.1. Capacity for prevention, preparedness, and response to fires improved.				
Action Line 6.1.1. Implement and equip the Federal Brigades Program, aiming to reduce the number of fires in native vegetation in priority federal areas.				
Goal	Indicator	Deadline	Key Actor	Partners
6.1.1.1 Increase the number of brigade members hired in federal UCs.	% increase in the number of firefighters hired compared to the previous year	2027	ICMBio	Ibama

6.1.1.2. Implement a qualification/certification system for federal forestry brigades.	Content of the knowledge trail standardized at federal level	2027	ICMBio	Ibama, International Cooperation with USAID
Action Line 6.1.2. Implement the National Policy for Integrated Fire Management.				
Goal	Indicator	Deadline	Key Actor	Partners
6.1.2.1. Preparation and implementation of Integrated Fire Management Plans for federal UCs.	100% of federal UCs with brigades hired and an IFMP prepared and approved	2027	ICMBio	
6.1.2.2. Establish a specialization course in Integrated Fire Management at ACADEBio, with the aim of training specialists to act in the implementation of the National Policy for Integrated Fire Management and managing fire in territories.	One class opened and completed for the Integrated Fire Management specialization program	2027	ICMBio	MMA, Ibama
6.1.2.3. Strengthen practices for prevention and control of fires in military areas.	a) Number of containment zones established and monitored in the highest-risk areas b) % reduction in fire events detected in critical areas over time c) Annual total reduction of fires in monitored areas	2027	MD	Censipam, Ibama, ICMBio
6.1.2.4. Equip and train Defense Agencies for prevention and control of fires in areas under their jurisdiction.	a) Average response time of brigades and battalions after detecting hotspots by the Fire Panel b) Number of alerts issued by the Fire Panel and actions taken as a result of these alerts c) % of fire events controlled before becoming large fires	2027	MD	Censipam, Ibama, ICMBio
Action Line 6.1.3. Support awareness campaigns and training related to deforestation and fire prevention and control.				
Goal	Indicator	Deadline	Key Actor	Partners
6.1.3.1. Environmental education through lectures on deforestation/suppression and fire in the biome for users of federal highways and areas of interest of the Federal Administration.	No. of users attending lectures on deforestation/suppression and fire in the biome	2027	PRF- MJSP	Ibama, ICMBio and other environmental enforcement agencies
Strategic Objective 7. Improve systems and integrate data on deforestation authorizations, embargoes, and infraction notices issued by state and municipal authorities into federal systems.				
Expected Result 7.1. Authorizations for vegetation suppression, embargoes, and infraction notices integrated into federal systems.				
Action Line 7.1.1. Integrate the data on Vegetation Suppression Authorizations (ASVs) and Alternative Land Use Authorizations (UASs) under the responsibility of federal, state, and municipal agencies into the federal systems.				

Goal	Indicator	Deadline	Key Actor	Partners
7.1.1.1. Integrate state databases into Sinaflor/Ibama.	Number of states with databases integrated into Sinaflor/year	2026	Ibama	MMA
Action Line 7.1.2. Improve and make available a platform to integrate data on environmental infractions and embargoes under the responsibility of federative entities into a federal system.				
Goal	Indicator	Deadline	Key Actor	Partners
7.1.2.1. Integrate state databases of infraction notices and forest embargoes into the federal database.	Number of states with integrated databases/year	2026	Ibama	SECD – MMA
Strategic Objective 8. Strengthen federative coordination to promote actions to control deforestation and fires and implement the Native Vegetation Protection Law.				
Expected Result 8.1. State and municipal initiatives for deforestation and fires prevention and control aligned with federal plans for deforestation and fire prevention and control in the biomes.				
Action Line 8.1.1. Support the development and updating of State and Municipal Plans for Deforestation and Fire Prevention and Control (PPCDQs) and other strategic actions.				
Goal	Indicator	Deadline	Key Actor	Partners
8.1.1.1. Engage and support Atlantic Forest states in the development of PPCDQs.	Number of states with PPCDQs developed.	2027	SECD – MMA	
Action Line 8.1.2. Promote coordination with state and municipal agencies involved in the prevention and response to fires for the implementation of Integrated Fire Management.				
Goal	Indicator	Deadline	Key Actor	Partners
8.1.2.1. Engage states and municipalities in participation in the Federal Ciman.	Number of states and municipalities participating in Ciman per year.	2027	Ibama	SECD – MMA
Expected Result 8.2. Sicar improved to support states in the implementation of the Native Vegetation Protection Law.				
Action Line 8.2.1. Improve the environmental regularization process through the analysis of properties in the CAR conducted by states, support for implementation of PRAs and other mechanisms under the Native Vegetation Protection Law.				
Goal	Indicator	Deadline	Key Actor	Partners
8.2.1.1. Solutions for promoting and monitoring the environmental regularization of rural properties made available.	Number of solutions provided	2027	SFB – MMA	MGI
Axis III - Land and territorial planning				
Strategic Objective 9. Ensure the designation of public land parcels for protection, conservation, and sustainable use of natural resources, especially for Indigenous Peoples, quilombola communities, other traditional peoples and communities, and family farmers.				
Expected Result 9.1. Federal and state land parcels designated, land tenure databases with improved controls, and land tenure insecurity reduced.				

Action Line 9.1.1. Designate federal land parcels for protection, conservation, sustainable use of natural resources, recognition of territorial rights, and deforestation prevention and control.				
Goal	Indicator	Deadline	Key Actor	Partners
9.1.1.1. Recognize and protect the territories of artisanal fishers under the Artisanal Fishing Peoples Program established by Decree No. 11625, 2 August 2023.	Number of territories recognized and protected/year	2027	MPA	MMA, MDA, Incra
9.1.1.2. Implement the Sustainable Use Authorization Term (TAUS), established by Ordinance No. 89, 15 April 2010, and, where applicable, the Concession of Real Right of Use (CDRU), crucial for the protection of the territorial rights of traditional communities, including artisanal fishing	Number of TAUS and CDRUs implemented/year	2027	MPA	MMA, MDA, Incra
9.1.1.3. Identify Priority Areas for Biodiversity Conservation.	Number of areas identified per year	2026	SBio-MMA	ICMBio, academia and civil society
Action Line 9.1.2. Encourage and strengthen the creation of interinstitutional bodies and programs for land conflict management.				
Goal	Indicator	Deadline	Key Actor	Partners
9.1.2.1. Establish free, prior, and informed consultation protocols, according to the principles established by ILO 169, for resolving land issues related to traditional communities, including fishing communities.	Number of protocols established per year	2027	MPA	MMA, MDA, Incra
9.1.2.2. Implementing Resolution No. 510 of the National Council of Justice in the instances of executive power through the institutionalization of mechanisms for access to justice in territorial conflicts	Resolution implemented	2027	MJSP	CNJ
Strategic Objective 10. Expand and strengthen the management of protected areas.				
Expected Result 10.1. Protected areas created, consolidated, and with strengthened management.				
Action Line 10.1.1. Create and consolidate Protected Areas focusing on critical deforestation areas.				
Goal	Indicator	Deadline	Key Actor	Partners
10.1.1.1. Proposal of 200,000 hectares in Conservation Units.	Area of UCs created	2027	ICMBio	MMA, OEMAs, GEF
10.1.1.2. 80% of conservation units with advisory committees established and active	Number/proportion of Conservation Units with advisory/deliberative councils established and active/year	2027	ICMBio	Civil society, community representatives.

10.1.1.3. Four instruments for rights compatibility developed or made permanent in overlapping or dual-affectation areas between federal conservation units and territories of traditional peoples and communities.	Number of rights compatibility instruments developed or made permanent, or with negotiations or development initiated.	2027	ICMBio	Civil society, community representatives, research institutions.
10.1.1.4. Provide five training courses on the National Registry of Protected Areas (CNUC) or the Management Analysis and Monitoring System (SAMGe), with the aim of expanding and updating the registries of Protected Areas on the platforms.	No. of trainings made available on the MMA's distance learning platform, and/or virtual and synchronous with the states	2025	MMA	OEMAs, ICMBio, civil society
Action Line 10.1.2. Strengthen, recognize, and implement territorial governance and management instruments for protected area connectivity, such as mosaics, ecological corridors, biosphere reserves, Ramsar sites, RPPNs, restoration plans, and others.				
Goal	Indicator	Deadline	Key Actor	Partners
10.1.2.1. Submit two processes for recognition of mosaics of protected areas.	Mosaic of protected areas recognized	2026	ICMBIO	MMA, REMAP, OEMAs, MIR, Funai, MPI
10.1.2.2. Update the application map for Law 11428/2006	Updated map	2025	IBGE and Ibama	
Action Line 10.1.3. Strengthen and integrate habitat connectivity actions provided in the National Action Plans for the Conservation of Endangered Species (PANs) as a strategy for species conservation.				
Goal	Indicator	Deadline	Key Actor	Partners
10.1.3.1. 80% of integrated and implemented actions.	% of PAN actions implemented and integrated	2027	ICMBio	MMA, IBAMA, Education and research institutions, NGOs, OEMAs, Civil Society
Expected Result 10.2. Indigenous Lands, Quilombola Territories, and Territories of Traditional Peoples and Communities identified, delimited, demarcated, approved, regularized, and with improved management.				
Action Line 10.2.1. Identify, delimit, demarcate, approve, and regularize Indigenous Lands and Quilombola Territories to ensure recognition of their territories.				
Goal	Indicator	Deadline	Key Actor	Partners
10.2.1.1. Develop a normative instrument to regulate the identification, recognition, and regularization of the territories of traditional peoples and communities.	Normative instrument prepared	2027	SETEQ – MDA	SNPCT – MMA / GSIPR/ MME
Action Line 10.2.2. Develop and implement territorial and environmental management plans for Indigenous Lands, Quilombola Territories, and territories of traditional peoples and communities, with technological and economic support and technical assistance for carrying out sustainable activities.				

Goal	Indicator	Deadline	Key Actor	Partners
10.2.2.1. Develop the National Sustainable Development Plan for Traditional Peoples and Communities.	a) Number of phases completed for Plan development. b) Plan published. c) Plan under implementation.	2027	SNPCT – MMA	CNPCT and SFB
10.2.2.2. Promote the development of territorial and environmental management plans for Indigenous Lands, Quilombola Territories in accordance with the Indigenous and Quilombola Territorial and Environmental Management Policy.	Number of territorial management plans developed per year.	2027	FUNAI – MPI	MDA, MGI, MMA
10.2.2.3 Promote the development of territorial and environmental management plans for Quilombola Territories, and territories of traditional peoples and communities in accordance with the Indigenous and Quilombola Territorial and Environmental Management Policy.	Number of territorial management plans developed per year.	2027	MDA	MGI, MMA
Strategic Objective 11. Coordinate and/or align the planning of major projects and infrastructure developments in the region with the goal of achieving zero deforestation by 2030.				
Expected Result 11.1. Improved planning and decision-making processes for the implementation of major infrastructure and development projects, in line with Brazil's environmental and development goals.				
Action Line 11.1.1. Regulate, develop, and implement instruments (Technical, Economic, and Environmental Feasibility Studies - EVTEA, Strategic Environmental Assessment - AEE, etc.) to, preventively, contribute to environmental and territorial governance for deforestation control; promote restoration of deforested areas; prevent or mitigate impacts and ensure the rights of affected populations; and promote mitigation of greenhouse gas emissions resulting from land use change in the area of influence of large-scale developments and infrastructure and regional development projects.				
Goal	Indicator	Deadline	Key Actor	Partners
11.1.1.1. Identify infrastructure projects and developments with significant impact related to deforestation/suppression and GHG emissions in the Atlantic Forest.	Number of enterprises identified/year	2027	SECD – MMA	MMA, MPO, MF, MGI, RFB, MME, MT
11.1.1.2. Establish an interinstitutional working group to propose regulation, development, and implementation of environmental and territorial governance instruments related to large infrastructure and development projects in the Atlantic Forest.	Working group established	2026	SECD – MMA	MMA, MPO, MF, MGI, RFB, MME, MT
11.1.1.3. Reduce deforestation and GHG emissions resulting from land use change in the area of influence of large infrastructure and development projects.	Number of actions carried out in the areas of influence of major enterprises and infrastructure projects	2027	SECD - MMA	Ibama, ICMBio, MME, MT and MF, OEMAs
11.1.1.4. Align National Sectoral Plans with national deforestation reduction targets.	% of National Sectoral Plans aligned.	2027	MT	MF, MMA, Ibama and ICMBio

11.1.1.5. Increase the recovery of degraded areas in the area of influence of major enterprises and infrastructure projects.	Number of hectares of degraded areas recovered/year	2027	SECD - MMA	Ibama, ICMBio, MME, MT, MF, MT, MME, ANTT, ANM, MDIC, MIDR, DNIT and INFRA S.A, and OEMAs
11.1.1.6. Implement integrated planning instruments for major enterprises and infrastructure projects.	Number of enterprises with integrated planning instruments	2027	SECD - MMA	Ibama, ICMBio, MME, MT, MF, MT, MME, ANTT, ANM, MDIC, MIDR, DNIT and INFRA S.A, and OEMAs
11.1.1.7. Reduce the social and environmental impact of enterprises in the territories of traditional communities.	Number of enterprises with proposed and implemented actions/year	2027	SECD - MMA	Ibama, ICMBio, MME, MT, MF, MT, MME, ANTT, ANM, MDIC, MIDR, DNIT and INFRA S.A, and OEMAs
11.1.1.8 Drawing up and revising agro-ecological zoning (ZAE) and agricultural climate risk zoning (ZARC) for the main agricultural crops (soy, corn and sugar cane) and forestry, guiding the expansion of these activities in accordance with the environmental conditions of the biome.	Number of Zarcs for agricultural crops prepared/revised	2027	MAPA	
Strategic Objective 12. Conduct territorial planning and implement existing legal instruments to ensure the role of native vegetation in maintaining and restoring water regimes and water quality.				
Expected Result 12.1. Instruments provided in the Native Vegetation Protection Law (Law No. 12651/2012) implemented				
Action Line 12.1.1. Develop a proposal for priority areas for Legal Reserve compensation, focusing on spring restoration, aquifer recharge zones, wetlands, creation of ecological corridors, and conservation or restoration of vegetation, soil, ecosystems, and endangered species.				
Goal	Indicator	Deadline	Key Actor	Partners
12.1.1.1. Establish criteria for defining priority areas for recovery (within Proveg), to be compiled and agreed upon in a prioritization protocol that can be replicated or adapted at the state and municipal levels, considering the specificities of each land use typology.	Prioritization protocol for restoration areas prepared	2025	SBio-MMA	SFB, MPI, Funai, Incra, ICMBio, biome networks and collectives, IIS and PlanaFlor
12.1.1.2. Define priority areas for Legal Reserve compensation, including criteria and restrictions for CRA allocation, and pre-approval criteria for compensation and/or restoration projects in priority areas (regulation of Art. 7.7, Law No. 12651 / 651).	Number of maps of priority areas for recovery prepared	2027	SBio-MMA	States and SFB

12.1.1.3. Mapping the areas with the greatest potential for aquifer recharge in 2 interstate basins	No. of interstate basins with mapping of areas with the greatest potential for aquifer recharge	2027	ANA	
Axis IV - Regulatory and economic instruments				
Strategic Objective 13. Create, improve, and implement regulatory and economic instruments for controlling deforestation and fires, and conserving biodiversity.				
Expected Result 13.1. Incentive instruments for mitigation and adaptation activities implemented.				
Action Line 13.1.1. Implement initiatives for building a green and sustainable taxonomy.				
Goal	Indicator	Deadline	Key Actor	Partners
13.1.1.1. Develop a proposal for a Brazilian Sustainable Taxonomy in partnership with government stakeholders, covering activities that integrate the climate change mitigation and adaptation strategy, to guide public and private activities.	Taxonomy proposal developed and approved.	2027	MF	MDIC, MGI, RFB, MPOR, MMA
Expected Result 13.2. Tax incentives, subsidies, and financing for productive activities and sustainable biodiversity businesses created and implemented				
Action Line 13.2.1. Propose standards and promote tax incentives for the bioeconomy and subsidies for sociobioeconomy products from sustainable and biodiverse production systems, sustainable extractivism, and agroforestry systems, especially from indigenous lands, territories of traditional peoples and communities, and family farming.				
Goal	Indicator	Deadline	Key Actor	Partners
13.2.1.1. Execute the transfer of credit benefits to beneficiaries from Quilombola, Indigenous, and traditional peoples and communities.	Number of beneficiaries served per year.	2027	MDA	MMA, MPI
13.2.1.2. Present a draft regulatory instrument to promote tax incentives for the bioeconomy and subsidies for sociobioeconomy products.	Draft regulatory instrument presented.	2026	SBC – MMA	SFB, MPI, MDA/ MAPA
13.2.1.3. Revise Decree No. 10282/2021, which creates the Green Rural Production Bond (CPR-Green), and encourage public banks to use this financial instrument as a credit operation, so that it becomes an effective mechanism for forestry investment	a) Decree revised b) Proposal for a new decree presented	2026	MAPA/MMA/ MDA	MF/MDIC

Expected Result 13.3. Rural credit improved.				
Action Line 13.3.1. Expand financing for pasture and degraded area restoration in critical deforestation areas, considering public and private sources.				
Goal	Indicator	Deadline	Key Actor	Partners
13.3.1.1. Provide financial support to pasture and degraded area recovery projects.	Number of beneficiaries supported per year.	2026	Mapa	MMA
12.3.1.2. Improve guidelines related to zero deforestation in the annual guidance documents for granting rural credit.	Number of steps taken to improve the guidelines	2026	MAPA/MDA/ MMA	MF
12.3.1.3. Expand funding for the recovery of pastures and degraded areas in municipalities critical to deforestation.	Resources mobilized	2026	MF/MAPA/ MDA	MMA
Expected Result 13.4. ENREDD+ aligned with current climate change mitigation challenges through forest policies.				
Action Line 13.4.1. Revise and implement the National REDD+ Strategy (ENREDD+).				
Goal	Indicator	Deadline	Key Actor	Partners
13.4.1.1. Revise and implement the National REDD+ Strategy (ENREDD+).	Number of states eligible for REDD+ resource mobilization.	2027	SECD – MMA	
Expected Result 13.5. Environmental compensation instruments implemented				
Action Line 13.5.1. Review the decree regulating the Environmental Reserve Quota to guarantee the environmental integrity of the instrument.				
Goal	Indicator	Deadline	Key Actor	Partners
13.5.1.1. Review regulation of operational Environmental Reserve Quota.	Decree revised		SFB-MMA	State Departments of the Environment / Private Sector
Expected Result 13.6. Technical assistance, sustainable use in federal conservation units, and community and family forest management strengthened.				
Action Line 13.6.1. Regulate existing normative instruments to encourage the sustainable use of resources in conservation units, with suitable management, considering aspects related to technical assistance, community forest management, the National Climate Change Policy, and ENREDD+.				
Goal	Indicator	Deadline	Key Actor	Partners
13.6.1.1 Develop and implement regulatory standards that encourage the sustainable use of natural resources in conservation units, with suitable management, especially in areas where traditional communities operate, integrating the principles of the National Climate Change Policy and ENREDD+.	a) Number of developed and innovative regulatory standards focused on the sustainable use of natural resources in conservation units. b) Number of traditional communities trained in community forest management practices and climate change mitigation policies.	2027	ICMBio	SFB, Funai, Incra, MMA, CNPCT, ONGs

Expected Result 13.7. Bills, or other legal acts relevant to the prevention and control of deforestation and fires presented.				
Action Line 13.7.1. Improve infra-legal regulation related to Integrated Fire Management.				
Goal	Indicator	Deadline	Key Actor	Partners
13.7.1.1. Establish and improve norms, resolutions, and other infra-legal acts on Integrated Fire Management.	Number of legal acts established or improved.	2026	SECD – MMA	CCPR
13.7.1.2. Present a proposal for regulatory change with adjustments to the environmental parameters of the Rural Environmental Registry, to expand control, monitoring, and combat of deforestation and fires.	Regulatory proposal submitted.	2026	SECD – MMA	MGI
Action Line 13.7.2. Revise provisions of the Environmental Crimes Law, the Native Vegetation Protection Law, and Decree No. 6514/2008 to increase penalties related to environmental crimes against flora, including fires.				
Goal	Indicator	Deadline	Key Actor	Partners
13.7.2.1. Propose legal and infra-legal changes to increase penalties and sanctions related to environmental crimes and infractions against flora, including fires.	Number of proposals submitted.	2027	SECD – MMA	CCPR, Ibama, ICMBio
Expected Result 13.8. Law No. 14119/2021 regulated and new economic instruments and mechanisms for Payment for Environmental Services (PES) created or revised.				
Action Line 13.8.1. Implement the Bolsa Verde Program (Environmental Conservation Support Program) as a mechanism to encourage sustainable use and support local socio-economic development projects, with an emphasis on the collective management of territories and their traditional systems in protected areas.				
Goal	Indicator	Deadline	Key Actor	Partners
13.8.1.1. Promote sustainable fishing and the inclusion of artisanal fishers in social and economic support programs, such as Bolsa Verde and Pronaf.	Number of people assisted per year.	2027	MPA	MMA, MDA
Action Line 13.8.2. Implement incentives for sustainable activities and penalties for predatory practices aimed at conserving native vegetation and water resources, including for sustainable irrigation, such as those already developed in other contexts, like the Water Producer Program, supported by MIDR and implemented by the National Water and Basic Sanitation Agency.				
Goal	Indicator	Deadline	Key Actor	Partners
13.8.2.1. Regulate the Federal PES Program for priority assistance to family farming, indigenous peoples and traditional peoples and communities	Regulation approved.	2026	SBC - MMA	MPI, Funai, MDA
13.8.2.2 Carry out the water PSA under the Water Producer Program	Sum of the amount paid in Reais.	2027	ANA	OGERs, CBHs, municipalities and water users

Expected Result 13.9. Brazilian Emissions Reduction Market (MBRE) regulated.				
Action Line 13.9.1. Regulate the carbon market in Brazil, defining rules and operational standards, considering the specificities of the biome.				
Goal	Indicator	Deadline	Key Actor	Partners
13.9.1.1. Propose a normative instrument with a view to regulating the Brazilian emissions reduction market.	Regulatory instrument proposed.	2027	SMC – MMA	MF
Expected Result 13.10. Land regularization of Quilombola Territories and territories of traditional peoples and communities strengthened.				
Action Line 13.10.1. Improve the regulatory process for regularizing Quilombola territories and those of traditional peoples and communities.				
Goal	Indicator	Deadline	Key Actor	Partners
13.10.1.1 Draw up a normative instrument to regulate the identification, recognition, and regularization of territories collectively occupied and used by traditional peoples and communities.	Regulatory instrument developed and approved.	2027	MDA	MMA
Expected Result 13.11. Regulatory standardization for issuing and integrating permits for suppression and alternative land use.				
Action Line 13.11.1. Establish a normative instrument to standardize the criteria for issuing and integrating data from Vegetation Suppression Authorizations (ASVs) and Alternative Land Use Authorizations (UASs) issued by federal, state, and municipal agencies into Sinaflor (MMA), and define criteria for publicizing the information.				
Goal	Indicator	Deadline	Key Actor	Partners
13.11.1.1. Establish a Conama Resolution on minimum criteria for issuing ASVs and UASs.	Conama Resolution published.	2026	SECD - MMA	Ibama, states