



## Civil liability for illegal deforestation in the Amazon: an analysis of strict and joint liability.

*Civil liability for illegal deforestation in the Amazon: an analysis of strict and joint liability*

Lucas Vinicius P. De Lima Oliveira - Santa Teresa College

Email: [lucasviniciusoli19@gmail.com](mailto:lucasviniciusoli19@gmail.com)

### SUMMARY

This research examines the legal foundations of strict liability applicable to cases of illegal deforestation in the Brazilian Legal Amazon, focusing especially on the proper rem nature of environmental obligations and mechanisms for damage reparation. The study adopted a qualitative methodology based on bibliographic review and document analysis, examining Brazilian environmental legislation, the jurisprudence of the Superior Court of Justice, and official data from the National Institute for Space Research on annual deforestation rates. The results reveal that the Brazilian legal system has structured environmental civil liability with peculiar characteristics: objectivity (dispensing with proof of fault), joint and several liability (possibility of holding multiple agents responsible), and propter rem nature (linkage to property ownership). The Superior Court of Justice (STJ) jurisprudence consolidated these understandings through Precedent 623 and the judgment of Topic 1,204 of repetitive appeals, held in September 2023. It was found that, according to INPE's PRODES system, there was a 30.6% reduction in Amazonian deforestation in 2024 (6,288 km<sup>2</sup>), compared to the previous period. However, only approximately one-third of deforestation polygons larger than 50 hectares are the subject of civil liability lawsuits. The research concludes that there is a need to improve transparency instruments regarding environmental liabilities and to strengthen the structure of the bodies responsible for monitoring and overseeing environmental remediation actions.

**Keywords:** Strict liability. Illegal deforestation. Amazon. Obligation. propter rem. Repair of environmental damage.

### ABSTRACT

This research examines the legal foundations of strict liability applicable to cases of illegal deforestation in the Brazilian Legal Amazon, focusing especially on the proper nature of environmental obligations and mechanisms for damage reparation. The study adopted a qualitative methodology based on bibliographic review and document analysis, examining Brazilian environmental legislation, the jurisprudence of the Superior Court of Justice, and official data from the National Institute for Space Research on annual deforestation rates. The results reveal that the Brazilian legal system has structured environmental civil liability with peculiar characteristics: objectivity (dispensing with proof of fault), joint and several liabilities (possibility of holding multiple agents responsible), and proprietary rem nature (linkage to property ownership). The jurisprudence of the Superior Court of Justice (STJ) consolidated these understandings through Summary 623 and the judgment of Theme 1,204 of repetitive appeals, carried out in September 2023. It was found that, according to the INPE's PRODES system, there was a 30.6% reduction in Amazonian deforestation in 2024 (6,288 km<sup>2</sup>), compared to the previous period. However, only approximately one-third of deforestation polygons larger than 50 hectares are the subject of civil liability lawsuits. The research concludes that there is a need to improve transparency instruments regarding environmental liabilities and to strengthen the structure of the bodies responsible for monitoring and overseeing environmental remediation actions.

**Keywords:** Objective civil liability. Illegal deforestation. Amazon. Owner rem obligation. Environmental damage remediation



## 1. INTRODUCTION

The Brazilian Legal Amazon occupies approximately 5 million km<sup>2</sup> and represents 59% of the national territory. The Federal Constitution of 1988, in its article 225, §4, conferred upon The Amazon rainforest has been granted the status of national heritage, establishing that its use must... Observe conditions that ensure the preservation of the environment. Project Data Monitoring of Deforestation in the Legal Amazon by Satellite (PRODES), from the Institute

Data from the National Institute for Space Research (INPE) indicate that 6,288 km<sup>2</sup> have been deforested. of forest between August 2023 and July 2024. Despite the 30.6% reduction compared to In the previous period, illegal deforestation persists as a serious socio-environmental problem in region.

Civil liability arises as a legal instrument for repairing damages. environmental. The Brazilian legal system has established a special regime for liability for environmental damage, based on strict liability. as provided for in Article 14, §1 of Law 6.938/1981 (National Environmental Policy), regulated by the Forest Code (Law 12.651/2012) and the Environmental Crimes Law (Law 9.605/1998). The Superior Court of Justice consolidated its understanding on the subject through Summary 623: "environmental obligations are of a propter rem nature, and it is permissible to collect them." "The rights of the current owner or possessor and/or previous owners, at the creditor's choice."

This research analyzes the legal foundations of strict liability in... cases of illegal deforestation in the Amazon, examines the jurisprudence of the Superior Court of Justice (STJ) and assesses the The effectiveness of this institution in repairing environmental damage. The relevance of the study lies in the need to understand how the Brazilian legal system addresses the challenge of To hold accountable those responsible for damaging the largest rainforest on the planet.

## 2. THEORETICAL FRAMEWORK

The 1988 Federal Constitution inaugurated a new paradigm in environmental protection. Brazilian government elevating an ecologically balanced environment to the status of a right. fundamental. The opening paragraph of article 225 establishes: "Everyone has the right to a healthy environment." ecologically balanced, a common good for the people and essential to a healthy quality of life, imposing on the Public Authorities and the community the duty to defend and preserve it for the "present and future generations."



Section 3 of article 225 established the threefold environmental liability: "the conduct and activities deemed harmful to the environment will subject offenders, whether individuals or legal, criminal and administrative sanctions, regardless of the obligation to repair the damage. "damages caused." This constitutional provision enshrined the independence between the spheres of accountability, allowing for the accumulation of sanctions.

Specifically regarding the Amazon, paragraph 4 of article 225 states that "the Forest The Brazilian Amazon, the Atlantic Forest, the Serra do Mar mountain range, the Pantanal wetlands, and the Zona da Mata region. Coastal areas are national heritage, and their use will be carried out, as provided by law, under certain conditions. that ensure the preservation of the environment, including with regard to the use of natural resources." This provision grants the Amazon rainforest special constitutional protection.

### **2.1 Strict liability for environmental damage**

Environmental civil liability in Brazil is based on the theory of strict liability. as established in article 14, §1 of Law 6.938/1981: "Without prejudice to the application of The polluter is obligated, regardless of the existence of penalties stipulated in this article, to comply with the penalties provided for in this article. fault, to indemnify or repair the damage caused to the environment and to third parties affected by your activity".

The adoption of strict liability means that, for the establishment of the duty to To repair the damage, it is sufficient to prove the environmental damage and the causal link between the conduct and the outcome. The harmful result does not require proof of fault or intent on the part of the agent.

The doctrine identifies the principles as the foundation of this objective liability. The polluter-pays principle, prevention, and precaution. The polluter-pays principle determines that whoever causes environmental damage must bear the costs of remediation. The principles of Prevention and precaution guide proactive action against the risks of environmental damage.

### **2.2 The propter rem nature of environmental obligations**

Obligations propter rem are attached to property, affecting whoever owns it. The ownership or possession of the property. The Forest Code (Law 12.651/2012) establishes in its article 2, §2 that "the obligations provided for in this Law are of a real nature and are transmitted to the successor, of any nature, in the case of transfer of ownership or possession of rural property."

The Superior Court of Justice consolidated this understanding through Precedent 623. Published in December 2018: "Environmental obligations are of a propter rem nature, it is permissible to charge them to the current owner or possessor and/or previous owners, at the owner's discretion. creditor".



In September 2023, the First Section of the Superior Court of Justice (STJ) ruled on Topic 1,204 of the appeals. repetitive cases (REsp 1,962,089/MS and REsp 1,953,359/SP), establishing the following thesis: "As Environmental obligations are of a propter rem nature, meaning they can be demanded at the discretion of the party. creditor, of the current owner or possessor, of any of the previous ones, or of both, remaining The seller whose real right ceased before the event is exempt from liability. "Damage, provided that the defendant did not contribute to it, directly or indirectly." The reporting minister Assusete Magalhães argued that the current owner or possessor who remains inactive In the face of pre-existing environmental degradation, one also commits an illegal act, since the areas of Permanent preservation and legal reserves are legal requirements that constitute limits. intrinsic to property rights.

### 2.3 Solidarity in environmental civil liability

Solidarity is an essential characteristic of civil liability for damages. environmental issues, allowing the creditor to demand reparations from any of those responsible. of some of them or of all of them together. This prediction stems from articles 3, IV and 14, §1. Law 6.938/1981 defines a polluter as "any natural or legal person, under public law." or private entity, directly or indirectly responsible for activity causing degradation environmental".

Solidarity aims to ensure the effectiveness of environmental remediation, preventing that... Discussions regarding the precise identification of the cause of the damage prevent the restoration of degraded ecosystem.

## 3. METHODOLOGY

The study is characterized as qualitative research, of an exploratory nature and descriptive, based on literature review and document analysis. Regarding the objectives, The research is exploratory and descriptive. Regarding the technical procedures, research was used. bibliographic and documentary. The bibliographic research was based on books, scientific articles and Academic papers on environmental civil liability. Documentary research.

It included an analysis of Brazilian environmental legislation and the jurisprudence of the Superior Court of Justice (STJ). The sources The primary sources included Brazilian environmental legislation and court decisions from the Superior Court of Justice. Courts related to Precedent 623 and Topic 1,204 of repetitive appeals, and official data from the National Institute for Space Research on deforestation rates in the Legal Amazon. through the PRODES system.



Secondary sources included specialized doctrines in environmental law. and civil liability, scientific articles and technical publications from environmental agencies. A The collection of case law data was carried out through the Superior Court's electronic portal. Ministry of Justice. The deforestation data was collected through the Terra Brasilis portal. INPE, which provides the annual PRODES rates.

The data analysis followed a hermeneutic-legal approach, interpreting Legislation and case law in light of the constitutional principles of environmental protection. The data Quantitative data on deforestation were analyzed descriptively. The study The case law was concentrated in the Superior Court of Justice, not encompassing systematically reviewing decisions of state and federal appeals courts. The study It focused specifically on civil liability for illegal deforestation, without going into detail. other forms of environmental degradation in the Amazon.

#### **4. Case Law Analysis of Civil Liability for Deforestation in the Amazon**

Summary 623 of the Superior Court of Justice, published in December 2018, This represents a milestone in consolidating the understanding of the nature of environmental obligations. By establishing that "environmental obligations are of a propter rem nature, it is admissible "to collect them from the current owner or possessor and/or previous owners, at the creditor's choice," the STJ settled a controversy that existed in Brazilian courts regarding the possibility of Holding the current landowner responsible for deforestation carried out by a predecessor.

The rationale for this guidance rests on the combination of two devices. Legal basis: Article 14, §1 of Law 6.938/1981, which establishes strict liability for damages. environmental obligations, and Article 2, §2 of Law 12.651/2012, which attributes real nature to obligations. environmental. On September 13, 2023, the First Section of the STJ judged the REsp. 1,962,089/MS and REsp 1,953,359/SP, submitted to the repetitive appeals procedure (Topic 1,204), definitively consolidating the possibility of holding the current owner liable. as much as the previous ones for repairing environmental damage.

The reporting minister, Assusete Magalhães, clarified that the previous holder of the position caused the... damage is subject to environmental liability by virtue of the joint liability provided for in articles 3, IV and Article 14, §1 of Law 6.938/1981. The thesis established an important exception: the following is exempt from liability: the transferor whose real right ceased before the damage occurred, provided that it does not apply to him. has contributed, directly or indirectly. The rapporteur considered that the previous holder who

lived with pre-existing environmental damage and subsequently sold the area in the state in which it was located.

The recipient also bears responsibility. Failure to repair the damage constitutes an unlawful act.

#### 4.1 Emblematic cases of deforestation in the Amazon

Analyses of concrete cases reveal the practical application of the fundamentals of Strict liability. In a 2024 decision, the Second Panel of the Superior Court of Justice (STJ) recognized damages. collective environmental moral damage resulting from the illegal deforestation of 126.43 hectares of forest. native to the Aripuanã/MT region.

The reporting judge stated that the jurisprudence of the Superior Court of Justice (STJ) establishes that moral damages Environmental collective responsibility is presumed, arising from the environmental infraction itself, without need for proof of suffering within the community. The Court of Justice of Mato Grosso applied STJ Precedent 623 to hold liable the owner who acquired rural property in The decision was based on the principle of propter rem (real property) and other legal obligations arising from deforestation that occurred in 2022. of environmental obligations and strict liability, determining the restoration of 25.84 hectares of degraded area.

The jurisprudence of the Superior Court of Justice (STJ) recognizes the applicability of the reversal of the burden of proof in Public civil actions for environmental protection, based on the precautionary and polluter principles. payer. Recent decisions have reiterated that "the obligation to repair the damage caused to the environment "The environment is objective, supportive, and imposes a reversal of the burden of proof." Once the damage is proven... Environmental responsibility and ownership of the real right over the degraded property belongs to the owner or The possessor must demonstrate that they did not contribute to the damage and that they are taking steps to protect themselves. reparation. Case law considers the following to be sufficient proof of deforestation: Satellite images and maps produced by environmental agencies. The Superior Court of Justice (STJ) recognizes their validity. Full use of satellite images from the PRODES/INPE system as evidence in environmental lawsuits.

The Superior Court of Justice (STJ) issued Ruling 652: "the civil liability of the Public Administration for The damage to the environment, resulting from its failure to fulfill its duty of oversight, is of a certain nature. "Jointly and severally liable, but with subsidiary execution." The State can be held jointly and severally liable. when, through omission in the constitutional duty to monitor and protect the environment, it contributes for the occurrence of environmental damage. Enforcement is subsidiary, and one must first seek [further action]. Reparation will be carried out by those directly responsible for the damage.

## 5. ANALYSIS OF DEFORESTATION DATA IN THE AMAZON

### 5.1 Overview of Amazon deforestation

Official data released by the National Institute for Space Research in November 2024 indicates that the deforestation rate in the Legal Amazon for the period of August 2023 to July 2024, the area was 6,288 km<sup>2</sup>, representing a reduction of 30.6% compared to the previous period (9,001 km<sup>2</sup>).

The investigation by state reveals that Pará leads in deforestation contributions, with 2,362 km<sup>2</sup> (37.56% of the total), followed by Mato Grosso with 1,264 km<sup>2</sup> (20.10%) and by Amazonas with 1,143 km<sup>2</sup> (18.17%). Seven of the nine states in the Legal Amazon region recorded reduction in deforestation, with the largest decreases observed in Rondônia (62.51%) and Mato Grosso (38.28%). Roraima showed an increase (53.52%). These reductions are attributed to intensification of command and control actions, with a 98% increase in the average number of reports. fines imposed by IBAMA in the Amazon between January 2023 and October 2024. compared to the period from January 2019 to December 2022.

A significant portion of deforestation occurs in undesignated public forests. In Amazonas, Roraima, and Rondônia, 62.4%, 92.7%, and 58.2% of deforestation occurred, respectively. respectively, they concentrated in these areas. Indigenous lands showed a reduction. Deforestation was reduced by more than 50% in 2023, demonstrating the effectiveness of demarcation and protection. these territories as a forest conservation strategy.

Analysis of DETER data (Real-Time Deforestation Detection System) (Real) indicates a trend of change in the deforestation pattern. Approximately 27% of Deforestation corresponds to the final stage of the progressive degradation of the forest, percentage higher than the 20.49% recorded in 2023 and the 7.23% of 2022. This change suggests an increase in the use of progressive degradation techniques, making early detection and the Holding those responsible for the damage accountable.

The data show a correlation between increased enforcement and a reduction in deforestation rates. Among the 70 municipalities considered a priority by the Ministry of Environment: 78% recorded a decrease in deforestation between August 2023 and July 2024. 2024.

This finding reinforces the importance of both preventive and repressive action by the agencies. environmental issues. The effectiveness of environmental protection requires coordination between the spheres administrative, civil and criminal liability.

## 6. DISCUSSION

The jurisprudence of the Superior Court of Justice (STJ) has consolidated its understanding regarding the legal regime of Civil liability for illegal deforestation is addressed through Precedent 623 and Topic 1.204. This The jurisprudential advancement brought legal certainty and eliminated procedural discussions about fault, which would delay environmental remediation. Research indicates that only about a third of Deforestation polygons with an area exceeding 50 hectares in the Amazon are the subject of legal action. of civil liability, revealing a structural deficit in the Ministry's capacity to act. Public and environmental agencies.

Case law favors in-kind reparation over compensation. pecuniary. The practical execution of sentences that determine environmental recovery faces challenges. obstacles such as difficulty in monitoring compliance, technical complexity of Forest restoration and resistance from convicts to implementing recovery projects.

The Superior Court of Justice (STJ), in ruling on Topic 1.204, established that the current owner is liable for... failure to repair pre-existing damage. This reasoning brings liability closer to Theory of unlawful omission: by remaining inactive in the face of environmental degradation, the owner commits a specific offense, establishing a new causal link. This understanding harmonizes- based on the principles of civil liability. The current owner is not liable for the event. not only through deforestation carried out by a third party, but also through one's own actions (failure to comply with legal obligations to maintain the Legal Reserve and Permanent Preservation Areas).

Solidarity in environmental civil liability promotes remediation by allowing that the creditor may sue any of the responsible parties. The current owner who acquired the property with The environmental liability holder is jointly liable with the original perpetrator, and has the right of recourse. against the latter.

The effectiveness of the right of recourse is frequently compromised by the difficulty identifying the original perpetrator, either through their insolvency or the passage of time. In In practice, the burden of repairs falls on the current owner. This reality demands improving transparency mechanisms regarding the environmental status of properties. rural areas. The Rural Environmental Registry (CAR) represents an important step forward, but it still does not provide detailed information on outstanding environmental liabilities, administrative fines or Ongoing legal actions.

The Superior Court of Justice's recognition of the *inherent nature* of collective moral damages. Environmental law represents a jurisprudential evolution. By dispensing with the need to demonstrate suffering. Distinguishing the individual from the collective, jurisprudence recognizes that harm to property

Environmental damage affects the intangible values of society, justifying non-pecuniary damages in addition to other forms of compensation. of the material restoration of the ecosystem.

This understanding strengthens the punitive and educational function of civil liability. A conviction for collective moral damages makes environmental degradation economically... disadvantageous. The absence of objective criteria for quantifying collective moral damages. Environmental issues generate disparities in sentencing, compromising predictability and... deterrent effectiveness of the institute.

The enforcement phase of court decisions faces significant obstacles. Converting convictions into effective reparations requires technical monitoring. specialized, ongoing monitoring and enforcement of high-level obligations to perform. Complexity. The recovery of degraded areas in the Amazon requires technical knowledge. specialized in native species, forest restoration methods and monitoring of long term. Many court decisions generically determine the "restoration of the area." "degraded" without specifying methodologies, intermediate deadlines, or success indicators. making it difficult to monitor compliance.

Accurately identifying those responsible in cases of progressive degradation constitutes An additional challenge. The use of fragmented degradation techniques makes it difficult to determine the causal link and the individualization of responsibilities.

## 7. CONCLUSION

Civil liability for illegal deforestation in the Amazon is based on... special legal regime, characterized by objectivity, solidarity and propter rem nature. of environmental obligations. The analysis of legislation, of the jurisprudence of the Superior Court of Justice and deforestation data allowed for the identification of significant progress in Consolidation of this regime, but also the persistence of structural challenges. Summary 623 of The Superior Court of Justice (STJ) and the ruling on Topic 1,204 in September 2023 consolidated the possibility of... liability of both the current and previous owners for repairing damages. environmental.

Case law recognizes the *inherent nature* of collective environmental moral damages. strengthening the punitive and educational function of civil liability. Data from PRODES/INPE data reveals a 30.6% reduction in deforestation in the Legal Amazon in 2024. attributed to the intensification of command and control actions. Deforestation persists. significant (6,288 km<sup>2</sup>), especially in undesignated public forests. Only about

One third of deforestation polygons with an area greater than 50 hectares are the subject of actions of civil liability, revealing a structural deficit in the system's capacity to act.

justice and environmental agencies. The enforcement of sentences that mandate restoration.

The environmental impact faces significant obstacles, including difficulty in monitoring.

The technical complexity of forest restoration and the resistance of the convicts.

Based on the findings, measures are recommended to improve the system of Civil liability for deforestation in the Amazon:

**In the legislative sphere:** Amendment to the Forest Code to require a detailed declaration of liabilities. environmental issues in the Rural Environmental Registry, including information on administrative fines, actions Ongoing legal proceedings and areas with pending remediation obligations. Creation of a specific fund for Funding for environmental remediation in cases of insolvency of those responsible. This fund could... to be funded by a percentage of the judgments for collective environmental moral damages.

**In the context of case law:** Establishing objective criteria for quantifying moral damages. environmental collective, considering variables such as the extent of the degraded area, ecological importance of The affected ecosystem, the degree of reversibility of the damage, and the economic capacity of the responsible party. Improving judicial decisions that mandate environmental remediation, with specific consideration of methodologies, timelines with intermediate goals and objective success indicators of restoration.

**In the context of public policy:** Structural strengthening of the Public Prosecutor's Office and related bodies. environmental initiatives, with an expansion of specialized technical staff for the recovery of degraded areas. Development of an integrated information system on liability for environmental damage. in the Amazon, connecting data from inspections, legal proceedings, and satellite monitoring.

Implementation of economic incentive programs for the voluntary recovery of degraded areas, including payment for environmental services and priority in credit lines Rural credit for landowners who maintain preservation areas above the legal minimum.

Effective protection of the Amazon requires coordination between law, science, and economics. and politics. Strict liability for illegal deforestation represents an instrument Important, but it cannot be considered the sole or sufficient solution.

The jurisprudential advances consolidated by the Superior Court of Justice They provided legal certainty and facilitated holding those responsible for damages accountable. environmental. The practical effectiveness of these advances depends on structural improvements in justice system, strengthening of oversight bodies and integration of instruments of command and control with economic incentives for preservation.

The challenge of achieving zero deforestation in the Amazon by 2030 will require investment. strict enforcement of environmental legislation and holding violators accountable, as well as implementation of



a sustainable development model that reconciles forest conservation with job creation.

income for Amazonian populations.

## REFERENCES

**BENJAMIN, AH.** *Civil liability for environmental damage.* Environmental Law Review, São Paulo, v. 9, p. 5–52, 1998.

**BRAZIL.** *Constitution of the Federative Republic of Brazil.* Brasília, DF: Federal Senate, 1988.

**BRAZIL.** *Law No. 6,938, of August 31, 1981.* Provides for the National Environmental Policy. *Official Gazette of the Union*, Brasília, DF, September 2, 1981.

**BRAZIL.** *Law No. 9,605, of February 12, 1998.* Provides for criminal and administrative sanctions arising from conduct and activities harmful to the environment. *Official Gazette of the Union*, Brasília, DF, February 13, 1998.

**BRAZIL.** *Law No. 12,651, of May 25, 2012.* Provides for the protection of native vegetation. *Official Gazette of the Union*, Brasília, DF, May 28, 2012.

**BRAZIL. SUPERIOR COURT OF JUSTICE.** *Summary 623.* Environmental obligations are of a *propter rem nature*, and it is permissible to collect them from the current owner or possessor and/or previous owners or possessors, at the creditor's choice. *Electronic Official Gazette*, Brasília, DF, December 17, 2018.

**BRAZIL. SUPERIOR COURT OF JUSTICE.** *Summary 652.* The civil liability of the Public Administration for environmental damage, arising from its omission in the duty of supervision, is of a joint and several nature, but of subsidiary execution. *Electronic Official Gazette*.  
Brasilia, DF, September 29, 2021.

**BRAZIL. SUPERIOR COURT OF JUSTICE.** *Special Appeal No. 1,962,089/MS (Topic 1,204 of repetitive appeals).* Rapporteur: Justice Assusete Magalhães. First Section. Decided on September 13, 2023. Available at: <https://www.stj.jus.br>. Accessed on: September 30, 2025.

**BRAZIL. SUPERIOR COURT OF JUSTICE.** *Special Appeal No. 1,953,359/SP (Topic 1,204 of repetitive appeals).* Rapporteur: Justice Assusete Magalhães. First Section. Decided on September 13, 2023. Available at: <https://www.stj.jus.br>. Accessed on: September 30, 2025.

**BRAZIL. SUPERIOR COURT OF JUSTICE.** *Special Appeal No. 1,644,195/SC.* Rapporteur: Justice Herman Benjamin. Second Panel. *Electronic Official Gazette*, Brasília, DF, May 8, 2017.



**NATIONAL INSTITUTE FOR SPACE RESEARCH.** *Deforestation estimate in the Legal Amazon for 2024.* Technical Note, São José dos Campos, Nov. 2024. Available at: [https://data.inpe.br/wp-content/uploads/2024/11/NT\\_Amz\\_tx\\_Prodes2024\\_T.pdf](https://data.inpe.br/wp-content/uploads/2024/11/NT_Amz_tx_Prodes2024_T.pdf). Accessed on: Sep. 30, 2025.

**LEITE, JRM; AYALA, P. de A.** *Environmental damage: from individual to collective non-patrimonial: theory and practice.* 7th ed. São Paulo: Revista dos Tribunais, 2015.

**LIMA, A.** *The Judiciary and illegal deforestation in the Amazon.* Consultor Jurídico, Dec. 21. 2022. Available at: <https://www.conjur.com.br/2022-dez-21/andre-limajudiciariodesmatamentos-ilegais-amazonia>. Accessed on: September 30, 2025.

**MACHADO, PAL.** *Brazilian environmental law.* 27th ed. São Paulo: Malheiros, 2019.

**MILARÉ, É.** *Environmental Law.* 11th ed. São Paulo: Revista dos Tribunais, 2018.

**MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE.** *Deforestation falls 30.6% in the Amazon and 25.7% in the Cerrado in 2024.* Brasília, November 6, 2024. Available at: <https://www.gov.br/mma/pt-br/assuntos/noticias/taxa-de-desmatamento-na-amazonia-cai-306-e-25-7-no-cerrado>. Accessed on: September 30, 2025.

**FEDERAL PUBLIC PROSECUTOR'S OFFICE.** *Amazon Protects: Expert Evidence.* Available at: <https://amazoniaprotege.mpf.mp.br/prova-pericial>. Accessed on: September 30, 2025.

**STEIGLEDER, AM.** *Environmental civil liability: the dimensions of environmental damage in Brazilian law.* 3rd ed. Porto Alegre: Livraria do Advogado, 2017.