

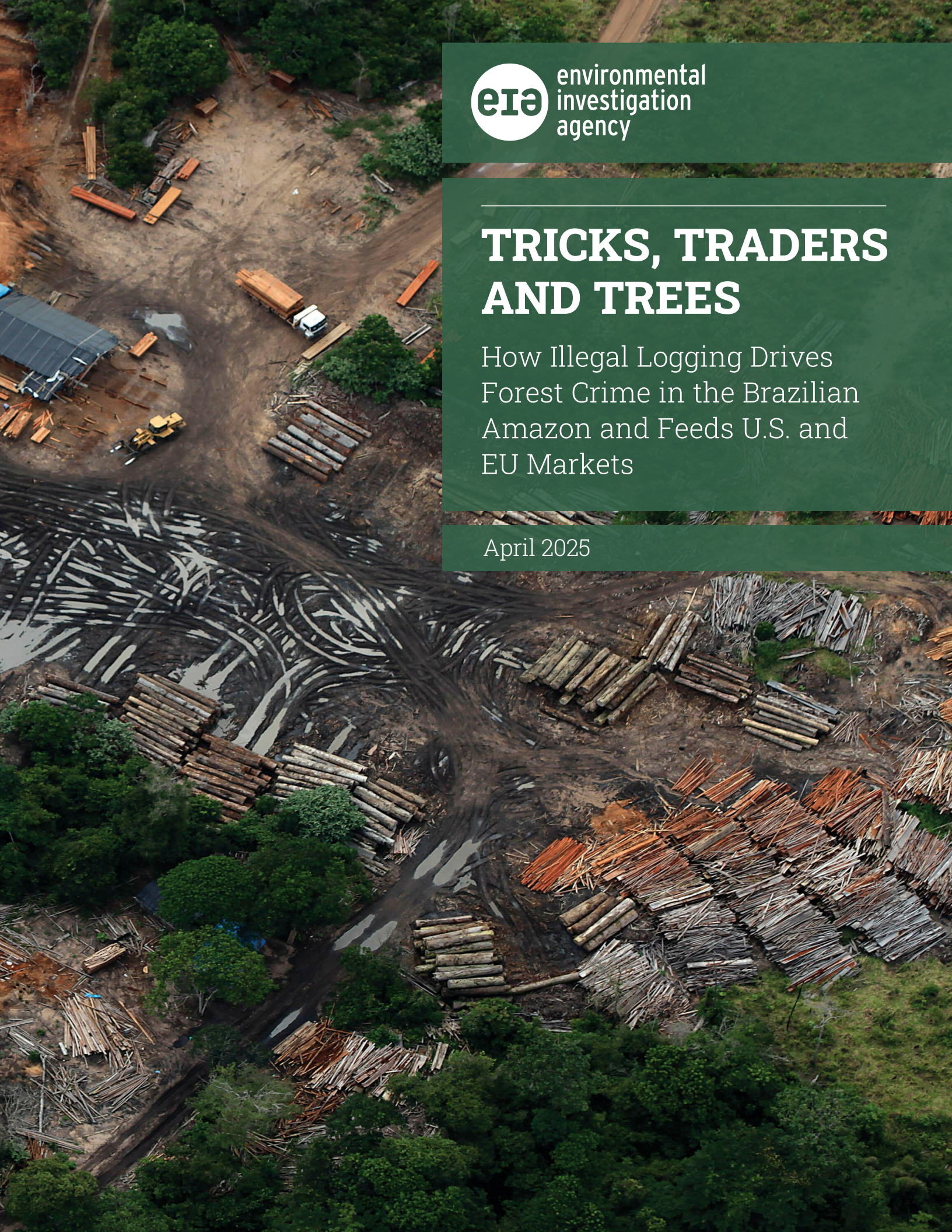


environmental
investigation
agency

TRICKS, TRADERS AND TREES

How Illegal Logging Drives
Forest Crime in the Brazilian
Amazon and Feeds U.S. and
EU Markets

April 2025





Source: EIA

CONTENTS

EXECUTIVE SUMMARY	2
INTRODUCTION	5
LUMBER LAUNDERING AND LAWLESSNESS	6
Case #1: Illegal Logging Disguised	6
Case #2: Illusion of Legality	9
Case #3: Embargoes and Exports	11
Case #4: Illegal Mines, Fines and U.S. -EU Lumber Lines	17
THE FOG OF CORRUPTION	23
BETTER CARE	25
CONCLUSION	27
RECOMMENDATIONS	28
ANNEX	29
REFERENCES	30

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ABOUT EIA

We investigate and campaign against environmental crime and abuse. Our undercover investigations expose transnational wildlife crime, with a focus on elephants and tigers, and forest crimes such as illegal logging and deforestation for cash crops like palm oil. We work to safeguard global marine ecosystems by addressing the threats posed by plastic pollution, bycatch and commercial exploitation of whales, dolphins and porpoises. Finally, we reduce the impact of climate change by campaigning to eliminate powerful refrigerant greenhouse gases, exposing related illicit trade and improving energy efficiency in the cooling sector.

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Unless otherwise stated, the sources for this report include EIA's internal investigative notes, photographs, audio and video recordings collected during the investigation, as well as publicly available data and satellite imagery.



Source: Wikimedia Commons, Brazilian Amazon

EXECUTIVE SUMMARY

More than a third of Brazil's Amazon timber is estimated to be of illegal origin¹ and logging is often a precursor to deforestation, opening remote areas to clearing and burning of forests for pasture and crops.²

An investigation by the Environmental Investigation Agency (EIA), supported with analysis by the Center for Climate Crime Analysis (CCCA), sheds new light on lumber crime in the Amazon state of Pará, where dense rainforests are being plundered by loggers and the timber laundered into international markets, including the United States (U.S.) and the European Union (EU). The investigation used big data, satellite imagery and insider sources to pull back the canopy on five illegal logging operations providing products like luxury decking to U.S. and EU markets and exposes some of the tricks of the unlawful trade. The report identifies approximately 19 sawmills, 16 Brazilian exporters and 30 American and European buyers - many with a checkered past - involved in supply chains of timber with evidence of illegality.³

EIA calls for reforms at the state and federal level in Brazil to improve oversight of the logging industry, including strengthening the country's timber traceability system through increased transparency and measures to prevent timber laundering, fraud and corruption. The U.S. should strengthen enforcement of the Lacey Act, while the EU must fully apply the EU Timber Regulation (EUTR) and ensure timely implementation of the EU Deforestation Regulation (EUDR) by year-end. A detailed set of recommendations is provided at the end of the report.

Key findings:

- Between 2021 and 2024, over 53,000 cubic meters (m³) of timber—enough to fill 1,828 shipping containers—were claimed to be extracted from five licensed harvest areas where satellite imagery shows either no logging, insufficient harvesting to justify the claimed transported volumes, and other illegal activities, indicating widespread timber laundering and wrongdoing.
- Some sites operated despite embargoes or were the scene of illegal deforestation for gold mining in protected areas. Others inflated ipê stocks— a dense hardwood used for decking and protected under CITES, a global treaty restricting trade in endangered species.
- At least 19 sawmills received timber from the illegal logging operations, 12 of them fined by Ibama, Brazil's environmental agency, for timber related crimes in separate cases.
- Sixteen Brazilian exporters, including Wood Brasil Pará Exportações, MSA Saraiva, Vimex, Tradelink Madeiras and Prime Industria e Comercio de Madeira, purchased timber claimed to be from the unlawful harvest sites via the sawmills and shipped it to the U.S. and EU. Fourteen of these exporters have been fined by Ibama for illegal wood purchases.
- Fifteen U.S. importers – such as Sabra International (previously flagged for buying illegal wood), Blue Lake Lumber, Lowcountry Lumber Company and General Woodcraft—then imported some of that timber, raising serious questions about compliance with the Lacey Act, a U.S. law prohibiting the import of illegal wood products.
- Fifteen European firms—including A/S Global (Denmark), Lumber Unipessoal, GWP International Wood Products, and Playmade Comercio (Portugal), Guillemette & Cie and Martiniere (France), Vogel Import Export (Belgium) and Hardus Trading (Netherlands)— also bought timber from the illegal logging enterprises, raising doubts about their compliance with EU laws.
- EIA discussions with industry insiders reveal that Pará's timber trade is plagued by crime, including allegations of timber laundering and bribery.

TRICKS OF THE TRADE


Using big data, satellite imagery and insider interviews, EIA's investigation, supported with analysis from CCCA, pulls back the canopy on five illegal logging operations in the state of Pará, the largest timber-producing state in the Brazilian Amazon, and exposes some of the tricks of the unlawful trade.

UNITED STATES

Fifteen U.S. companies imported the tainted timber from the illegal logging enterprises in Brazil, raising serious questions about compliance with the **Lacey Act**, a U.S. law prohibiting the import of illegal wood products.

BRAZIL

Sixteen Brazilian exporters purchased timber claimed to be from the unlawful harvest sites via the **19 sawmills** identified in our report – many fined by Brazil's environmental agency, Ibama in separate violations – and shipped it globally, predominantly to the EU and U.S. EIA conversations with industry insiders reveal a timber trade in Pará **rife with crime**, including allegations of timber laundering and bribery.



High-value timber is illegally harvested in **Pará** and laundered through legal areas



EIA identified approximately **19 sawmills** processing timber with illegal origin



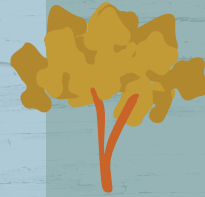
16 exporters further processed the sawn timber and shipped it around the world

EUROPEAN UNION

Fifteen European firms bought timber from the illegal logging outfits, raising doubts about their compliance with EU laws.

More than **1/3** of Brazil's Amazon timber is estimated to be of illegal origin

SPIN CYCLE



Our investigation found that highly coveted wood species like various types of ipê and cumaru are being extracted from forests **without proper permits**.



To avoid penalties, the timber is then laundered using legal harvest areas. Our report presents evidence of **two forms of timber laundering** occurring in Brazil:

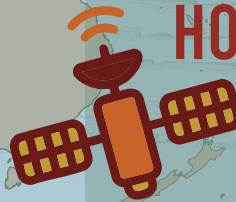


Cases where **no evidence of logging** was visible in satellite imagery, yet timber was officially recorded as transported from those sites.



Cases where some logging occurred but **not enough to justify the claimed transported volumes**. Other illegalities were also present, including Ibama embargos, illegal gold mining, and inflated ipê volumes to enable laundering. Yet timber was still claimed to have been sent from these sites after the violations.

HOW CAN WE TELL?



EIA and CCCA used satellite imagery and NDFI – a tool for detecting forest loss – alongside interviews with officials, insiders and lawyers, and used public data on deforestation, fines, and embargos to support our findings. The timber from the five sites was then traced via official documents to buyers in the EU and U.S.



EIA documented **30 companies in the EU and U.S.** importing timber from the illegal logging sites



The tainted timber was then sold for **luxury decking** and other high-end projects. Brazilian ipê has been used in **iconic public works**, including New York City's High Line Park

INTRODUCTION

Illegal logging harms forests, hurts ecosystems and feeds organized crime, undercutting the rule of law.⁴ Brazil ranks fourth in the global tropical hardwood industry,⁵ with the U.S. and EU its largest export markets.⁶ Yet almost one third of the timber extracted from the country's Amazon states is thought to be illegal – a conservative assessment.⁷ In the state of Pará, the area of forest estimated to be illegally logged increased from 17,800 hectares between 2021 and 2022 to 21,800 hectares the following year, making up 42% of the total area logged.⁸ In addition to the severe forest degradation caused by illegal logging, studies show it is often followed by clearance of forests for cattle and soy,⁹ frequently involving land grabbing schemes.¹⁰ President Lula's administration has announced several initiatives to tackle the problem, such as the 2023-2027 Action Plan for the Prevention and Control of Deforestation.¹¹ Federal police and environmental agencies have also launched operations targeting illegal loggers and timber laundering.¹² Brazil's largest international markets for timber have laws in place that oblige companies to ensure they do not import illegally produced wood - the Lacey Act in the U.S. and the European Union Timber Regulation (EUTR) - soon to be replaced by the more stringent EU Deforestation Regulation (EUDR).

Despite these efforts and laws, a new investigation by EIA, with analytical input from CCCA, reveal how timber was moved from five logging sites with strong evidence of illegal activity, to sawmills and exporters in the state of Pará - the country's top Amazon hardwood producer¹³ - and then sent to buyers in the U.S. and EU. EIA and CCCA used NDFI (Normalized Difference Fraction Index), a tool that analyses satellite images to detect signs of logging like road openings, tree removals and stockyards in the sites. The tool, used by Brazil's environmental agency (Ibama), was paired with Planet imagery to spot two key scams: cases where no logging could be seen on the ground, but where timber was falsely reported as harvested in official documents, and cases where some logging was visible, but the amount of timber claimed to be transported was much higher than what appears as logged, in addition to other illegalities. The analysis was corroborated by the review of harvest plans and expert interviews that flagged more evidence of illegalities, inflated numbers, suspicious claims and fines from Brazil's environmental agencies. The wood was then traced all the way to U.S. and EU firms using export transport permits. Together, these findings indicate significant timber laundering and other illegalities, which enforcement authorities in Brazil, the EU and the U.S. should investigate (for the full methodology see the Annex).

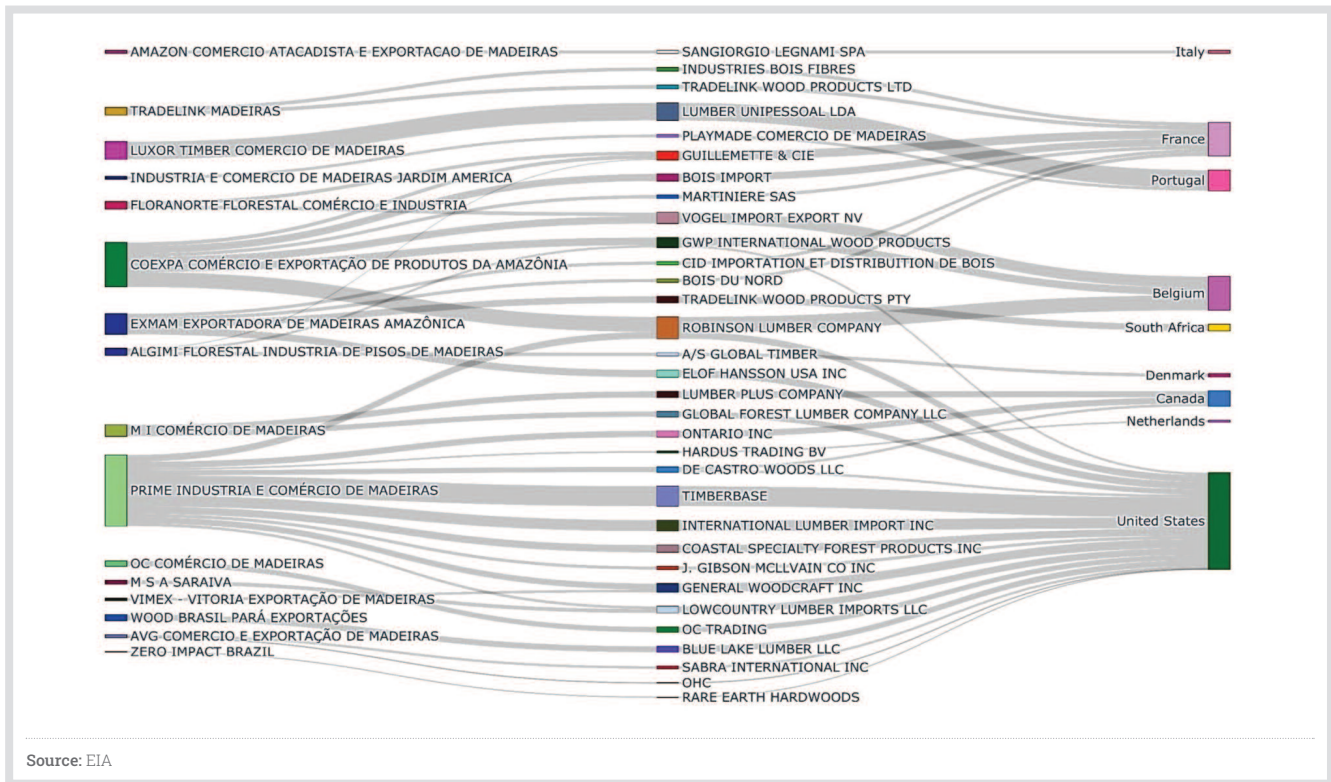


Figure 1
Brazilian timber exporters linked to illegal logging in Pará and their importers in the U.S. and EU.



Source: Rafael Leão, Unsplash

LUMBER LAUNDERING AND LAWLESSNESS

CASE #1: Illegal Logging Disguised

What passed as a legal logging site was a front, masking stolen trees cut elsewhere at the Amazon's expense.

Sítio Santo Antonio, in the municipality of Anapu, Pará, a region notorious for illegal logging,¹⁴ is a 93-hectare logging site – roughly the size of 130 football fields¹⁵ – officially authorized to harvest 1,042 m³ of timber, or 197 trees, laid out over 35 hectares.¹⁶

The logging permit allowed the owner to extract the wood between October 2021 and 2023.¹⁷ In February 2022, transport documents then claimed 1,039 m³ of timber - nearly the entire approved amount - was sent from the site to Arnaldo Lopes Silva,¹⁸ a sawmill that was later fined by Ibama for illegal timber purchases in a separate case.¹⁹ Yet satellite imagery analyzed by EIA and CCCA shows no indication of logging in the site.

The approved management plan claimed a skidder would be used to cut a central road through the site's forest, with smaller branches extending from it.²⁰ The plan also included stockyards for temporary log storage, each due to measure 20 by 25 meters.²¹ However, satellite imagery shows no signs of roads, stockyards or logging. An independent expert consulted by EIA with 25 years of experience in monitoring logging explained that



Source: EIA

Figure 2
Map of the municipality of Anapu in red, within the Amazon state of Pará.

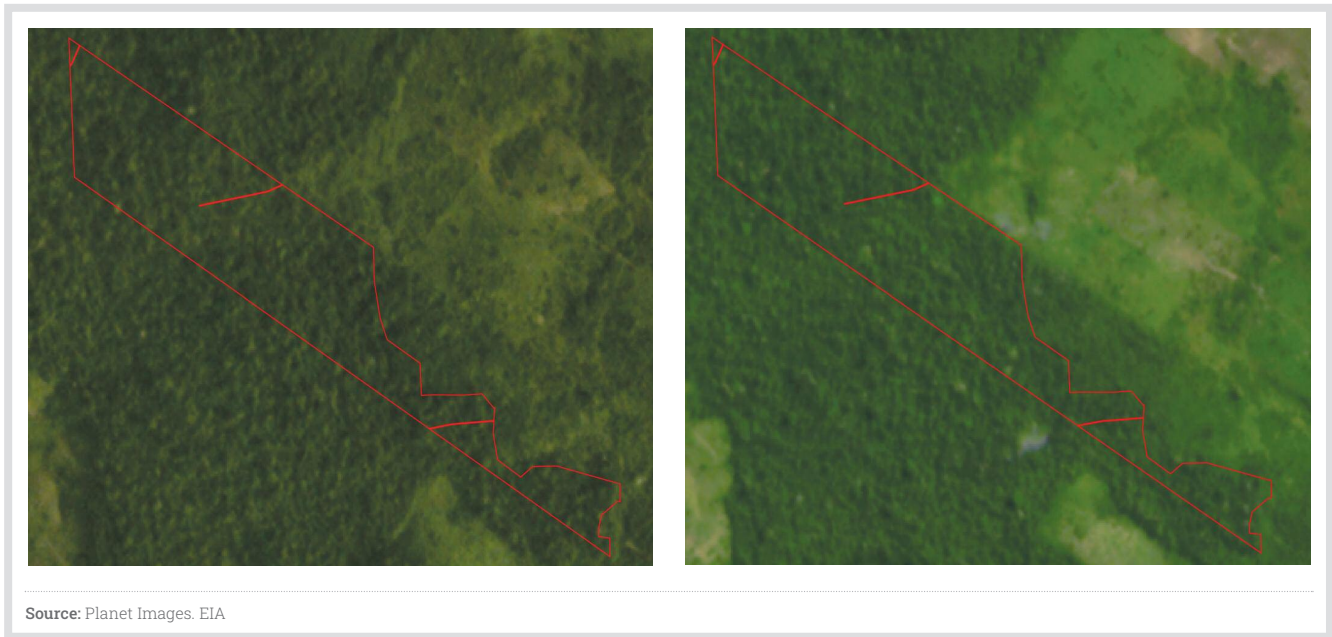


Figure 3
Planet satellite imagery of Sitio Santo Antonio harvest area as of November 2021, left, to May 2022, right.



Figure 4
An example of a logged site in Pará, with roads shown on satellite imagery and a stockyard showing piles of logs.

harvested sites with cleared roads and stockyards often show up on satellite images. When they do not, it is a red flag.²² Brazil's Federal Prosecutors' office has also warned that an absence of logging on satellite imagery can be considered evidence of illegality.²³

Sitio Santo Antonio's logging permit also claimed the site was packed with ipê-amarelo trees— its wood prized for decking exports – at 4.4 m³ per hectare,²⁴ but this volume is unlikely. Studies across Pará state the density of ipê trees commonly ranges between 0.2–0.5 m³²⁵ per hectare, suggesting the volumes of the species were fraudulently inflated to launder timber cut elsewhere. Additionally, the authorities responsible for implementing the EUTR, which prohibits the import of illegal wood,

have warned of an elevated risk of illegal logging in Pará when declared ipê densities in timber harvest plans exceed 0.52m³ per hectare.²⁶

The improbably close correlation between the volume of logs authorized for harvest and the volume transported from the site is also a red flag for laundering. The independent expert consulted by EIA noted that the 1,039 m³ allegedly sent from the area matched up too well with the estimated 1,042 m³ of standing timber on the site. In reality, estimates of standing timber volumes are always imprecise – once trees are felled, the actual transported amount typically drops by 10% to 20%, according to studies.²⁷ When looking at individual species, the estimated volumes of timber match almost

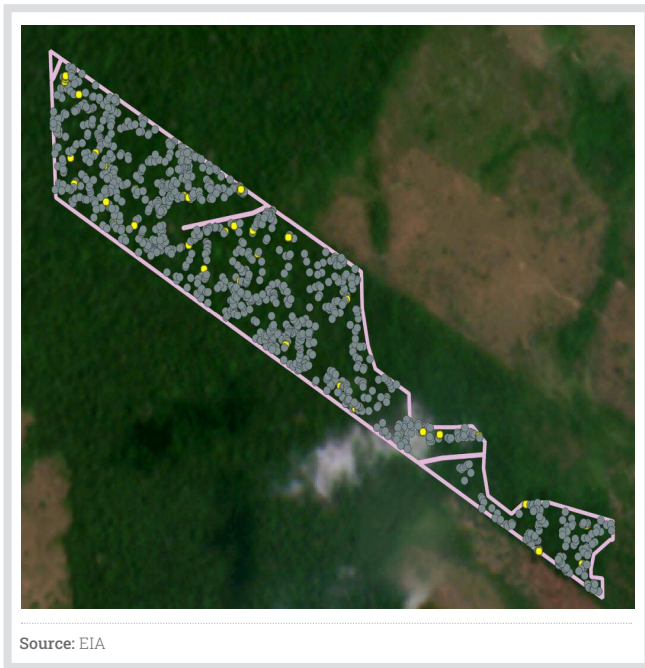


Figure 5
Location and quantity of the trees scheduled to be harvested in Sitio Santo Antonio's management plan.²⁹

down to the decimal. The ipê-amarelo species in the site, for example, was claimed at 156.9m³ of standing timber, with 156.7m³ cut and transported out. Taken together, these observations are further evidence the site was being used to launder logs that were illegally cut elsewhere.²⁸

The tainted wood destined for U.S. and EU markets

The Ibama fined Arnaldo Lopes Silva sawmill, which received the timber falsely claimed on transport permits to come from Sitio Santo Antonio,³⁰ then sold the ipê-amarelo to **Wood Brasil Pará Exportações** in February 2022.³¹ By May 2022, the ipê timber had wound its way to Miami,³² imported by a U.S. company called **Blue Lake Lumber**.³³ Wood Brasil Pará Exportações was fined by Ibama in 2023 for two unrelated violations, including failure to document the legal origin of its wood purchases.³⁴ This, along with its role in the case presented here, indicates clear evidence of illicit activity.

The U.S. firm boasts it is “the largest and most environmentally conscious exporter of tropical wood in Latin America,” claiming its wood comes from “sustainable practices” in tropical rainforests.³⁵ The company’s Brazilian CEO, Giovanni Miguel,³⁶ is no stranger to the business—he worked in Brazil’s timber trade before heading to the U.S. In a podcast, he claims to own harvest areas in Brazil and relies on Forest Stewardship Council (FSC) certification because he does not trust state agencies there. He acknowledges the risk of illegal logging and how it impacts protected areas and claims to be able to trace every tree from his harvest sites.³⁷ Given his deep knowledge of Brazil’s timber trade and its widespread illegalities, the owner was well-positioned to

recognize and avoid laundering schemes like those of Sitio Santo Antonio—but appears not to have done so in this instance. As a result, questions remain about the company’s green credentials and its compliance with the U.S. Lacey Act, which prohibits imports of illegal timber and requires companies to exercise due care to ensure adherence to the law.³⁸ American consumers ultimately bought tainted ipê-amarelo decking from a company that claims to source wood responsibly, with the Amazon rainforest and the rule of law in Brazil paying the price.

The tainted timber also infiltrated the European market. Another batch of ipê decking, claimed on transport permits to come from Sitio Santo Antonio, was exported by the Brazilian company **Indústria e Comércio de Madeiras Jardim América** to **Playmade Comércio de Madeiras** in Portugal in March 2022.³⁹ Playmade, like Blue Lake Lumber, professes a commitment to legality, stating that it is “not directly or indirectly involved in illegal logging or the illegal trade.”⁴⁰ Yet the evidence suggests otherwise, pointing to a violation of the EUTR, which mandates that importers verify the legality of their timber.

In 2019 and 2020, the EUTR Expert Group, a body advising EU regulators and industry on timber legality, published guidance that importers should use when buying high-risk timber like ipê from the Brazilian Amazon. These included: choosing suppliers with closed supply chains and single-source logs; checking documents like harvest and transport permits to ensure timber volumes and densities align with scientific data; using satellite imagery to verify logging occurred in the authorized area; ensuring transported logs match the volume of processed timber outputs; and avoiding suppliers embargoed by Ibama or that have engaged in illegal activity.⁴¹

The guidance was available on the EU’s website well before Playmade Comércio de Madeiras imported the laundered timber and could have been used to detect the clear irregularities in the Sitio Santo Antonio case. Failure to do so raises questions about its compliance with the EUTR’s due diligence requirements. The next case presents a similar laundering scheme linked to U.S. markets.



Figure 6
Blue Lake Lumber's logo and web page entry.



Source: Wikimedia Commons, European Space Agency



Source: EIA

Figure 7
Map of the municipality of Uruará in red, within the Amazon State of Pará.

CASE #2: Illusion of Legality

On paper, a legal harvest. In reality, a front. **Fazenda California**, a licensed logging site in the municipality of Uruará – a frequent focus of press reports on timber crime⁴² – spans 89 hectares, or roughly 130 football fields. It was authorized to harvest 1,226.8 m³ of logs over a two-year period starting in January 2024, from 41.6 hectares, enough to fill 37 shipping containers.⁴³

By February 2024, official transport permits state that 1,225.4 m³ of logs were moved to two sawmills: **Industria e Comercio de Faqueados Uruará** and **Modelo Industria e Comercio de Madeiras**.⁴⁴ Yet an analysis of satellite imagery from February to March 2024 showed no signs of logging at the site, suggesting yet another case of timber laundering using fraudulent transport permits in violation of Brazilian law.⁴⁵

As in Case 1, the near-exact match between the estimated standing timber volume in the harvest plan (1,226.8 m³) and the reported transported volume (1,225.4 m³) is a strong red flag for timber laundering. Loggers estimate the timber volume of trees while they are still standing, but these estimates are often inaccurate; once felled, the actual volume—measured more precisely—tends to be 10–20% lower, as studies



Figure 8
Satellite image of Fazenda California dated on the left as 22nd of February 2024, on the right March 2024, with the NDFI analysis indicating no signs of logging.

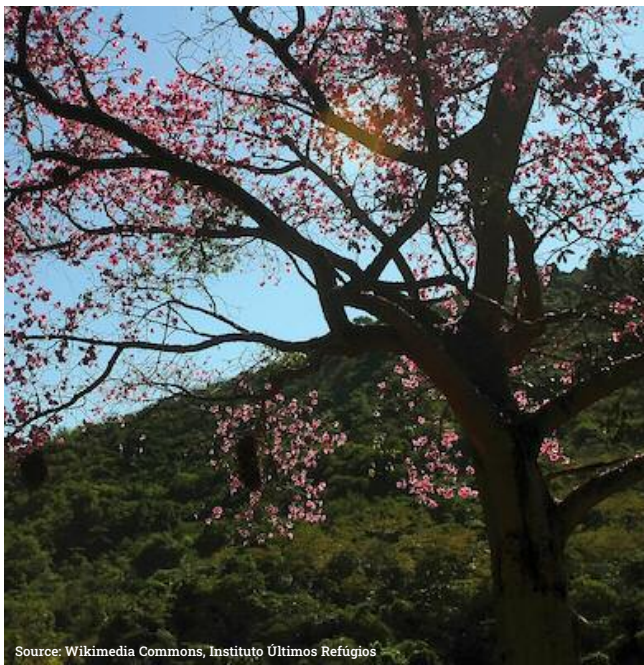


Figure 9
Ipê-roxo is a desired tree species for decking.

show.⁴⁶ At Fazenda California, the estimated standing volume of ipê-roxo (27.81 m³) was nearly identical to its reported transported volume (27.80 m³)—an implausible match that further signals fraud.⁴⁷

Official documents then show **Modelo Industria e Comercio de Madeiras** receiving ipê-roxo claimed to be from Fazenda California throughout February 2024.⁴⁸ Modelo subsequently sold the ipê-roxo to a business located next-door to its mill in the same month – the exporter **MSA Saraiva**.⁴⁹

Analysis of satellite imagery from February to March 2024 showed no signs of logging at the site, suggesting yet another case of timber laundering.

Export transport permits from February 2024 show that MSA Saraiva sent the laundered ipê-roxo to the U.S. firm **Low Country Lumber** in Charleston USA, which presumably sold the tainted wood to unwitting U.S. customers.⁵⁰ The Brazilian traders **MSA Saraiva** and **Modelo** were later fined by Ibama for separate violations in April and March 2024 for buying timber with fraudulent paperwork, showing a pattern of illicit activity.⁵¹ The case also indicates that **Low Country Lumber** appears to have failed to carry out the kind of due care needed to ensure the legal origin of its timber, raising questions about its compliance with the Lacey Act.

While the first two cases focused on timber laundering through harvest areas with no evidence of logging, the next one illustrates how other illegalities go unchecked, allowing yet more timber from illegal operators to enter U.S. and EU markets, indicating severe due diligence failures by the firms involved and highlighting further possible violations of the EUTR and Lacey Act.



Source: Wikimedia Commons, Ibama

CASE #3: Embargoes and Exports

From 2019, APAGRIFORT's logging sites ran amok—a vast timber laundering front, obscuring illegal deforestation and an Ibama embargo. By 2024, much of its wood had infiltrated U.S. and EU markets—the evidence of illegality papered over, the importers blind to the crime.

On paper, it started as a legal operation: 24,076.7 m³ of timber authorized for extraction from 881 hectares in the municipality of Placas, Pará, in July 2019.⁵² However, satellite images tell a different story. Only 14% of APAGRIFORT's logging site shows any evidence of logging—far too little to justify the near 23,000 m³ of wood claimed as transported from it between July 2019 and June 2021.⁵³

APAGRIFORT was fined for illegal deforestation within the authorised harvest area.

APAGRIFORT was fined by Ibama for illegal deforestation within the authorized harvest area soon after the logging operation began. Brazil's National Institute for Space Research (INPE) had registered deforestation in the site in July 2019,⁵⁴ and Ibama then issued an embargo to APAGRIFORT for that clearance in October 2019,⁵⁵ informing Para's Environmental Secretariat (SEMAS) – the agency that approves and oversees logging in the state – of the crime.⁵⁶

According to Brazilian law and the terms of the logging permit, any misuse should lead to the cancellation of all activities by SEMAS,⁵⁷ yet timber kept flowing after the illegal deforestation and after the embargo was issued, with many sawmills then buying the illegally sourced wood.⁵⁸

Sawmills on the take

The timber allegedly moved from the embargoed APAGRIFORT logging site was transported to seven sawmills between July 2019 and June 2021,⁶¹ five of which were subsequently fined by Ibama for other violations in separate and ongoing cases related to illegal logging. One of these sawmills, **Modelo Indústria e Comércio de Madeiras**, also featured in Case 2, in a pattern of action now spanning several years. Another sawmill, **Floranorte Florestal Comércio e Indústria**, was fined by Ibama five times in 2022 for faulty paperwork and moving undocumented timber.⁶² **J A Lara Madeiras** was fined nearly US\$100,000 in 2022 for selling, storing, transporting, or keeping wood without a valid license and for presenting information that was wholly or



Source: Planet Images. EIA

Figure 10

APAGRIFORT timber harvest area in yellow as of October 2020. The red polygons show where satellite analysis detected some evidence of degradation in 2019, accounting for only 14% of the total area authorized for logging. The green polygon indicates the location of the Ibama embargo of October 2019.



Source: Planet Images. EIA

Figure 11

Example of a harvest area approved to log over 18,000m³ in 662 hectares in the municipality of Santarem (left).⁵⁹ A harvest area approved to log over 23,000m³ in 812 hectares (right).⁶⁰

Sawmills receiving timber claimed to be from APAGRIFORT	Ibama fines
Avante Industria e Comercio de Madeira EIRELI	No fines
Floranorte Florestal Comercio e Industria EIRELI	5 fines in 2022
Renascer Industria e Comercio de Madeira EIRELI	2 fines in 2023
G M Batentes & Guarnicoes EIRELI – ME	No fines
J A Lara Madeiras EIRELI	2 fines in 2023
Madeira Império EIRELI	3 fines between 2023-2024
Modelo Industria e Comercio de Madeiras EIRELI	1 fine in 2024

Table 1
Timber sourced from APAGRIFORT’s embargoed site enters the supply chain.

partially false, misleading, or incomplete.⁶³ **Madeira Imperio** was fined over US\$43,000 in 2023-24 for buying illegal timber.⁶⁴ **Renascer Indústria e Comércio de Madeira** was fined US\$86,000 in 2023 for receiving timber without the necessary documentation.⁶⁵

Timber from embargoed harvests enters the U.S. market

In July 2021 the Renascer sawmill then sold wood claimed to be from the embargoed APAGRIFORT site to a Brazilian exporter, **AVG Comercio e Exportação de Madeiras (AVG)**,⁶⁶ a company also fined by Ibama in 2023 for buying illegal timber in a separate, ongoing case.⁶⁷

In November 2021, AVG then exported ipê decking made with timber purportedly from the embargoed APAGRIFORT logging site to U.S.-based **Sabra International**, a company with a history of dealing in illegal wood.⁶⁸ EIA recently investigated Sabra International for importing illegal Colombian timber. Its staff told EIA investigators they did not ask about the Colombian wood’s origin beyond the sawmill, despite its imports lacking the necessary legal paperwork and originating from a known conflict zone.⁶⁹ Sabra was also

embroiled in another scandal in 2015 when it attempted to import timber from Peru that was found to be illegal by Peruvian inspection authorities and impounded in Mexico while enroute to the U.S.⁷⁰

AVG supplied another U.S. company named **OHC**, headquartered in Alabama, with the ipê decking allegedly coming from the APAGRIFORT logging site.⁷¹ On OHC’s website the company claims to source only responsible and sustainable timber, hiring “reputable local agents who undertake due care in the source country and engage third party verification companies to inspect our chain of custody for every shipment.”⁷² Its purchase of suspect ipê from AVG, a company that itself recently fell afoul of Brazilian law enforcement, calls into question these claims.

Brazilian exporter **Exmam Exportadora de Madeiras Amazônica** also sent ipê decking timber claimed to come from the APAGRIFORT site, to the American firm **Elof Hansson** in early 2021.⁷³ The exporter has since been fined by Ibama nine times for other timber related violations.⁷⁴ The U.S. importer publicly states it prioritizes “sourcing products from sustainably managed forests” and that “for over a decade, Elof Hansson Trade has maintained traceability”.⁷⁵ These comments contrast with its purchase of APAGRIFORT timber in this instance, suggesting it may have violated the Lacey Act.

Then in May 2023, the exporter **Zero Impact Brazil LTDA** shipped maçaranduba decking, claimed to come from APAGRIFORT’s embargoed site, to its U.S.-based parent company, **Rare Earth Hardwoods** in Michigan. In 2015, Ibama fined the exporter three times for submitting false or misleading environmental information—part of an ongoing case.⁷⁶ Rare Earth Hardwoods provides little information on its compliance with the Lacey Act but claims to source “wood with minimal negative impact on the forests of the region”.⁷⁷ Given it purchased timber from its own fined subsidiary, questions remain as to

Timber allegedly moved from the embargoed APAGRIFORT logging site was transported to seven sawmills between July 2019 and June 2021.

Importing Country	Importers	Species imported	Volume in m ³	Product
Belgium	Vogel Import Export Nv	Itaúba	25.53	Decking
Denmark	A/S Global Timber	Cumaru	7.49	Decking
France	Bois du Nord	Itaúba	19.14	Decking
	CID Importation et Distribution de Bois	Maçaranduba	22.77	Decking
	Guillemette & Cie	Cumaru	7.65	Decking
		Itaúba	25.3	Decking
Portugal	Lumber Unipessoal Lda	Cumaru	61.09	Planed All Round (PAR) Lumber
		Itaúba	59.37	Decking + Planed All Round (PAR) Lumber
USA	Elof Hansson	Maçaranduba	13.67	Decking
	OHC	Ipê-amarelo	3.68	Decking
	Rare Earth Hardwoods	Maçaranduba	1.80	Decking
	Sabra International, Inc	Ipê-amarelo	9.42	Decking

Table 2
Timber imports claimed to originate from the embargoed APAGRIFORT site (2020–2023).⁷⁸

why it did not check whether the APAGRIFORT logging site had been embargoed by Ibama years earlier for illegal activity. The cases raise serious questions about adherence with the Lacey Act’s “due care” obligation to ensure wood products imported into the U.S. are produced in compliance with source country laws.

Suspect wood enters the EU market

Six European companies bought the timber claimed to be from APAGRIFORT in 2020 and 2022, via Brazilian exporters **Algimi Florestal Industria de Pisos de Madeiras, Luxor Timber Comercio de Madeiras, Exmam Exportadora de Madeiras Amazônica and Floranorte Florestal Comércio e Industria** (see Table 2). In addition to the previously mentioned fines for Exmam and Floranorte, Luxor and Algimi were also recently and historically fined by Ibama for buying illegal timber in separate and continuing cases.⁷⁹

The six EU-based importers make various claims on their due diligence practices. Belgian based **Vogel Import Export** asserts that its timber is “legally and sustainably harvested” and that its “deliveries are monitored by an independent third-party verifier who, furthermore, carries out annual forest audits to check whether the suppliers are adhering to their Forest Management Plan.”⁸⁰

French firm **Guillemette & Cie** states that it is “independently certified for the traceability of products from sustainably managed forests” and that its Latin American wood has “all the traceability documents recognized by the EUTR.”⁸¹

CID Importation et Distribution de Bois in France declares its “woods are the subject of an in-depth documentation on their origin and an assessment of the risks of origin from illegal sources”,⁸² while its competitor **Bois du Nord** publishes very little on its due diligence practices.⁸³

A/S Global Timber in Denmark claims that it “only purchases from approved suppliers complying with the EU Legal requirements and the respective national laws in the sourcing countries”⁸⁴ **Lumber Unipessoal** in Portugal says it “buys timber that was produced, processed and traded in conformity with the applicable legislation and where it is proved the trees were cut legally”.⁸⁵

A simple check by all of these firms of Ibama’s public database would have revealed APAGRIFORT’s embargo. Their failure to do so contradicts their own due diligence claims and suggests a violation of the EUTR.

Another suspect APAGRIFORT logging site with links to the EU market

Despite the previously mentioned illegal activities, SEMAS issued a new logging permit to APAGRIFORT in July 2022. This was in response to a request made by the loggers in November 2020, even though part of the newly authorized area overlapped with the previously embargoed zone. The permit allowed the harvest of an additional 34,472 m³ of timber.⁸⁶

According to Ibama officials consulted by EIA,⁸⁷ and under Brazilian law,⁸⁸ a new authorization should not

have been granted in an area where an embargo was still active. Ibama also confirmed to EIA that SEMAS had been formally notified about the embargo shortly after its issuance in October 2019, raising serious questions about SEMAS' approval process for the new logging permit.

Yet between December 2022 and January 2023 approximately 17,000 m³ of the tainted timber was declared as transported from the site to six sawmills.⁹⁹ Four of the sawmills have historic fines from either Ibama or SEMAS, three linked to buying illegal timber and some of which are ongoing (see Table 3).

Notwithstanding these signs of legal breaches, over the past two years the Belem based firm **Comércio e**



Figure 12
Planet satellite image with the second APAGRIFORT logging site in pink and with the Ibama embargo overlapping it in green.

Exportação de Produtos da Amazônia (COEXPA) has exported significant volumes of timber, claimed to originate from APAGRIFORT's second logging site, to France and Belgium.

In 2023, exports included 49.28 m³ of itaúba decking to **Bois Import** in France, 101.91 m³ of itaúba decking to **Robinson Lumber Company** in Belgium between April and June, as well as 50.23 m³ of itaúba decking and 23.07 m³ of maçaranduba decking to **Vogel Import Export**, also in Belgium, between July and August.⁹⁵ In 2024, COEXPA then exported 23.59 m³ of itaúba decking in March to **Martinier SAS** in France, followed by 52.30 m³ of cumaru decking to **GWP International Wood Products** in Belgium. In October, **Guillemette & Cie** in France imported 52.01 m³ of itaúba decking.⁹⁶

COEXPA was fined by Ibama every year between 2021 and 2024, for buying illegal timber, information that was publicly accessible to the importers well before these transactions.⁹⁷ GWP International Wood Products also imported 16.73 m³ of angelim-pedra flooring to the U.S., via Brazilian exporter Algimi in June 2023.⁹⁸ Additionally, between July and August 2023, itaúba timber, again declared to originate from APAGRIFORT's second logging site, was sold by **Indústria e Comércio Madeira Nascimento**, based in Santarém to the Brazilian exporter **Tradelink Madeiras**, in Pará.⁹⁹ In November 2023, Tradelink then exported 33.6 m³ of APAGRIFORT's itaúba timber via its parent company, **Tradelink Wood Products**, in the United Kingdom, which sent the timber to its own subsidiary in France and to the French overseas department of Saint-Paul, Réunion to the firm **Industries Bois Fibre**.¹⁰⁰ Tradelink Madeiras has also been fined by Ibama every year between 2016 and 2024, barring 2021, for buying illegal timber.¹⁰¹

Apart from the array of fines issued to its Brazilian subsidiary, Tradelink has been involved in a well reported controversy linked to the import of Brazilian timber to the U.S. In January 2020 U.S. Fish and Wildlife

Sawmill	Fines
Industria e Comercio Madeira Nascimento LTDA	2021 SEMAS fine for contravening environmental law ⁹¹
ICOMPA - Industria e Comércio de Madeiras Paraná	2017 Ibama fine for timber related infractions ⁹²
ALECRIM - Indústria de Madeiras	2018-2023 Ibama fines for timber related infractions ⁹³
Beel Industria e Comercio de Madeiras	No fines
Grupo Mais Ind Comercio e Beneficiamento de Madeiras	2023-2024 Ibama fines for timber related infractions ⁹⁴
IPEM - Industria Paraense e Exportação de Madeiras	No fines

Table 3
Six sawmills that received timber from the second APAGRIFORT logging permit between November 2022 and January 2023.⁹⁰

Service inspectors detained three containers in the port of Savannah, Georgia, containing ipê and jatobá decking belonging to the firm, the legal origin of which was under question. High-ranking managers at Ibama, appointed by then President Bolsonaro, reportedly intervened to release the cargo—an action that was investigated by Brazilian authorities. Suspicions were also raised about the possible involvement of the office of then-Minister of Environment Ricardo Salles in the incident.¹⁰²

All of the European firms publicly claim to carry out due diligence on their imports. Bois Import states it complies with the EUTR by carrying out “analysis and traceability of purchases” ensuring that it “imports legal timber” into the EU.¹⁰³ Robinson Lumber says it has “developed due diligence programs to ensure ... compliance with the U.S. Lacey Act and the European Union’s Deforestation Regulation”.¹⁰⁴ Vogel, also implicated in the first APAGRIFORT logging site, claims its timber is “legally and sustainably harvested” and that its “deliveries are monitored by an independent third-party verifier who, furthermore, carries out annual forest audits to check whether the suppliers are adhering to their Forest Management Plan.”¹⁰⁵ EIA was unable to find any claims made by Martiniere or Industries Bois Fibre on the matter.

Meanwhile GWP states it has “all the needed evidence to comply with the EUTR” and that it does “third party checks for the legality of its products” and also “checks the consistency of all information and documents” as well as “the official status of all the companies involved.”¹⁰⁶

Guillemette & Cie, which also bought timber from the previous embargoed APAGRIFORT logging site, declares

that its Latin American wood has “all the traceability documents recognized by the EUTR” but does not say whether it checks the validity of those documents or the credibility of the exporters it buys from.¹⁰⁷

Finally, the UK-based importer Tradelink has timber sales offices in Canada, the USA, the EU, as well as procurement hubs in South and North America.¹⁰⁸ Tradelink publicly declares it has a “comprehensive and robust due diligence system” through which it collects “information about each supplier and every shipment made in order to assess the risk of illegally harvested timber being present and take appropriate mitigating actions if any risks are identified.”¹⁰⁹

Despite these claims, the evidence shows that all of these EU firms purchased timber from an Ibama-embargoed logging operator and from exporters with a history of Ibama fines—both easily verifiable before import. As noted in Case 1, publicly available guidance from an EUTR expert group, which advised checking Ibama’s website, was accessible on the EU’s official site well before these transactions. Any EU firm committed to responsible due diligence should have used this as a first step to comply with the EUTR and prevent timber with evidence of illegal origin from entering the EU market. The fact that such timber still made its way into the EU raises serious concerns about possible breaches of EU legislation.

The next case reveals how illegal logging activities in the Amazon are commonly combined with various other illegalities, such as illegal mining, and further links between contaminated Amazon wood and the U.S. and EU markets.



Figure 13
EU ports like Amsterdam are a top destination for hardwoods from the Brazilian Amazon.



Source: Wikimedia Commons, Vinicius Mendonça/Ibama

In June 2022, Brazil's Space Institute (INPE) detected illegal mining inside the logging site meant for sustainable forest use.

CASE #4: Illegal Mines, Fines and U.S.-EU Lumber Lines

The municipality of Itaituba in Pará has been called the "gold laundering capital of Brazil".¹¹⁰ It is also beset by illegal logging.¹¹¹ The two industries combine in the case of Fazenda Pinheiro I – a timber harvest area of 540 hectares registered to Manoel Costa Souza and authorised for the removal of over 16,144 m³ of timber between November 2021 and November 2023.¹¹² The logging site is located within a protected area where sustainable use, including logging, is permitted. However, this area, a stretch of wild Amazon known as the "Área de Proteção Ambiental Tapajos", has recently become infamous for being one of the protected areas hardest hit by deforestation.¹¹³

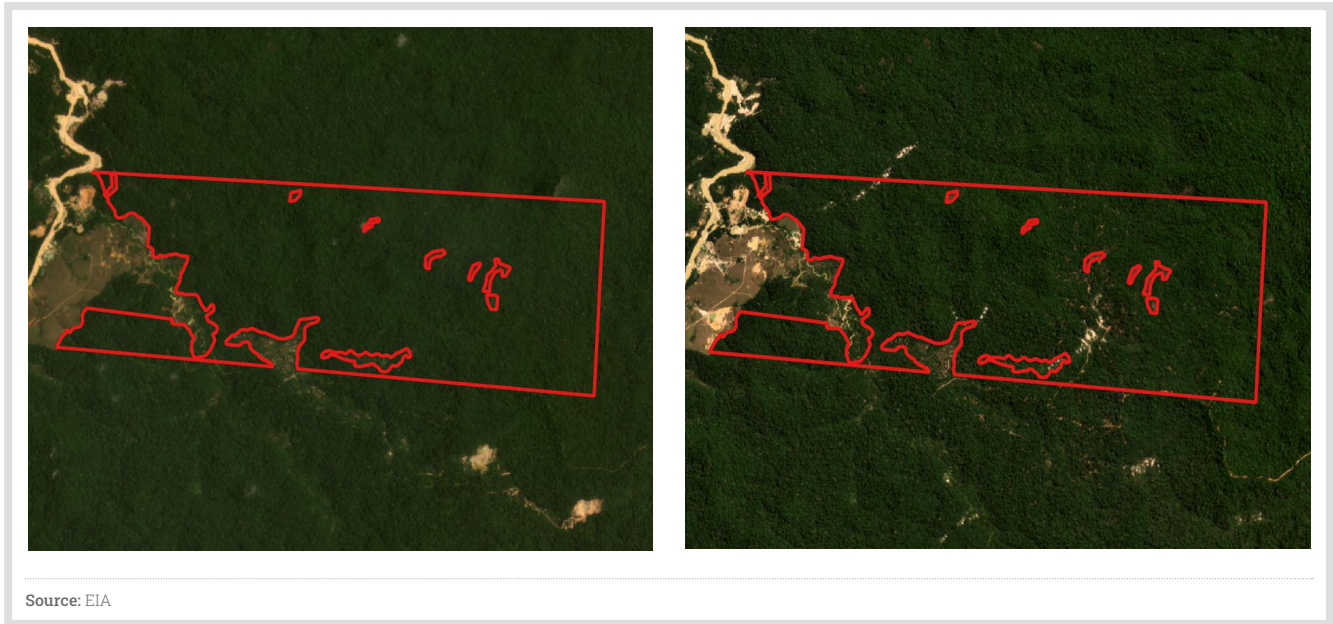


Figure 14
Fazenda Pinheiro I as of September 2021, left. Right, the area as of August 2023, with mining detected by INPE in June 2022 and with some signs of logging.

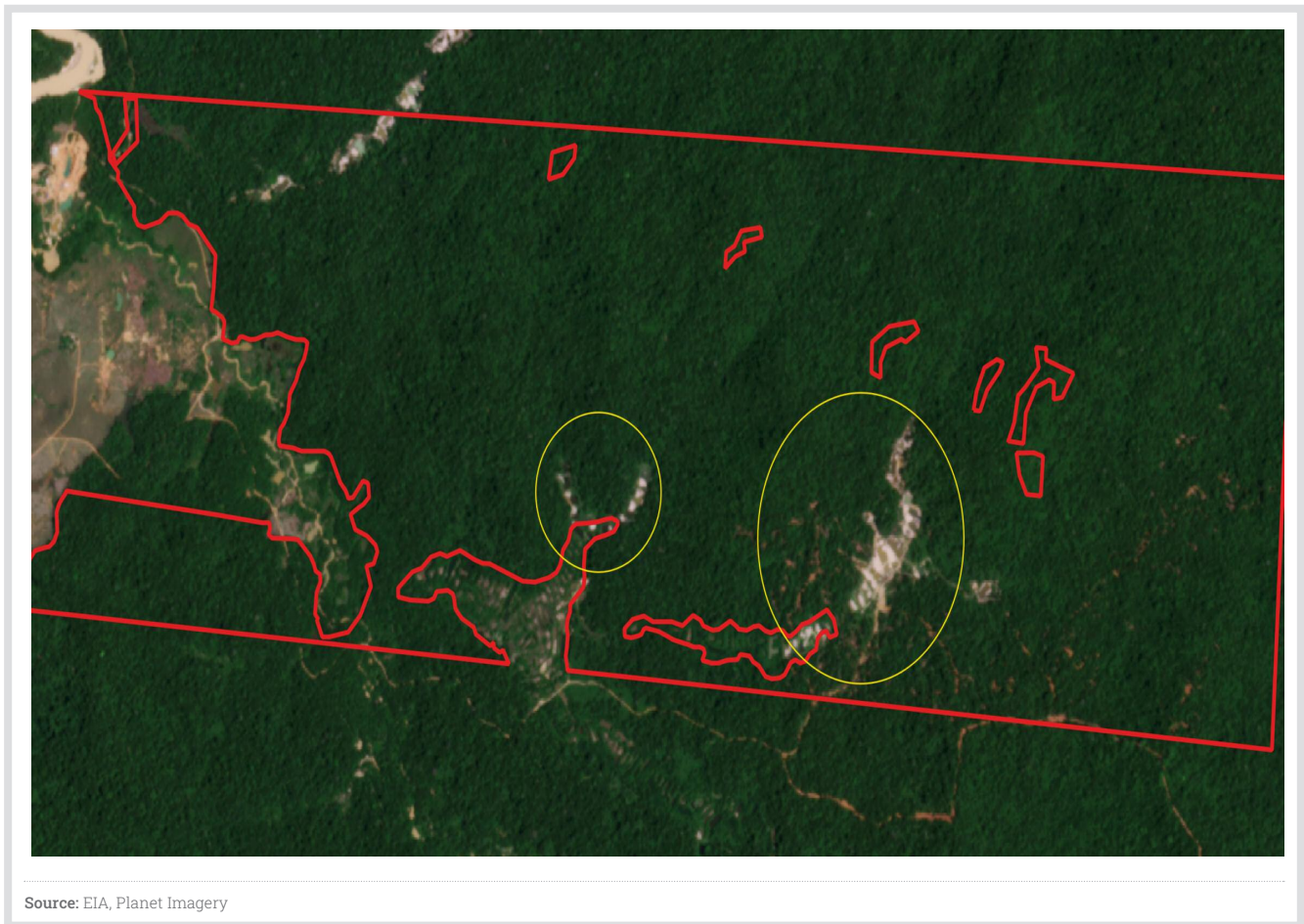


Figure 15
Two illegal mine sites in Fazenda Pinheiros I in yellow, identified by Brazil's INPE in June 2022.

Transport permits suggest that over 11,000 m³ of timber were transported from the site to four sawmills between November 2022 and February 2024.¹¹⁴ Yet well before the timber left, in June 2022, Brazil's Space Institute (INPE) detected illegal mining inside the logging site. The site's permit explicitly states there should be no deforestation outside the approved plan, meaning no unauthorized mining or other forest clearance, and that if such illicit activities occur it will result in the immediate cancellation of the permit.¹¹⁵ The owner, Manoel Costa Souza, had applied for permits to mine gold in the area, but none had been approved for mining inside the logging site.¹¹⁶

Satellite imagery accessed by EIA also shows illegal mining within the logging site, and nearby areas of forest degradation typically associated with logging, as well as roads that appear to provide transport infrastructure for the two operations. Following the detection of illegal mining by INPE, the logging permit should have been invalidated by Pará's environmental secretariat (SEMAS).¹¹⁷ Instead, the logging was allowed to proceed unimpeded, apparently in close concert with the development of illegal mining operations. Finally in August 2024, Ibama cracked down on the illegal operations, issuing an embargo on the mining areas and invalidating the logging management plan¹¹⁸ – the cases are ongoing.¹¹⁹ By this time, transport permits state that over 11,000 m³ of timber had already been moved from the site to four sawmills in the area (listed below),¹²⁰ three of which were previously fined by Ibama for other instances of violating environmental laws:

1. C. Luis Burim: buyer of over 90% of the timber claimed to come from Fazenda Pinheiro I and fined by Ibama in 2021 for buying illegal timber,¹²¹

2. GD Industria Comércio e Exportação de Madeiras: fined by Ibama in 2023 for purchasing unlawful timber,¹²²

3. Madex Norte;

4. Zimmer Industria e Comercio de Madeiras e Transporte: fined by Ibama in 2021 for buying illegal timber.¹²³

A repeat offender and its U.S. and EU customers

Throughout 2023 and 2024, the Ibama fined sawmill C.Luis Burim sold timber claimed to be from Fazenda Pinheiro I to Brazilian exporter **Prime Industria e Comercio de Madeira**,¹²⁴ which amassed 14 fines from Ibama for violations of environmental laws between 2019 and 2024. The firm was charged nearly US\$200,000¹²⁵ for a range of crimes including exporting ipê without a valid licence and buying undocumented wood.¹²⁶ A further four Brazilian exporters also purchased the Fazenda Pinheiro I linked timber: **Vimex - Vitoria Exportação de Madeiras**, which between 2015 and 2024 received 104 Ibama fines worth almost US\$900,000,¹²⁷ **Amazon Comercio Atacadista e Exportacao de Madeiras**, fined four times by Ibama between 2022 and 2023,¹²⁸ **M I Comércio de Madeiras**, fined six times between 2019 and 2024,¹²⁹ as well as **OC Comércio de Madeiras**, the only one without fines.

Yet this unsavory track record did not stop U.S. and EU importers from buying ipê timber from the fined exporters between 2023 and 2024 – all of which according to official transport permits originated from Fazenda Pinheiro I, with clear signs of illegal activity.¹⁴⁵



Figure 16
Image of a river in the Área de Proteção Ambiental Tapajós.



Source: Tim Keating

Figure 17
Ipê wood imported into the U.S. has been used in iconic locations, including the Long Beach boardwalk in New York.

Between 2023 and 2024, a total of 14 importers—including nine from the U.S. and three from the EU—purchased the tainted timber from exporters fined by Ibama. Among the buyers were Lowcountry Lumber, also linked to the second case study in this report, and Global Forest Lumber, owned by Blue Lake Lumber’s proprietor,¹⁴⁶ exposed in Case 1.

Many of these companies assert they source responsibly, yet the evidence challenges these claims, suggesting violations of the Lacey Act and of the EUTR. J. Gibson McIlvain insists it performs due diligence by working only with “suppliers we know and trust,” claiming it rejects more wood than it buys due to sourcing uncertainties.¹⁴⁷ General Woodcraft describes its ipê as “sustainably harvested,” displaying an FSC logo in a way that suggests certification,¹⁴⁸ while Robinson Lumber touts its due diligence program to ensure

compliance with the Lacey Act and EU regulations—despite being linked to suspect sourcing in the previous case.¹⁴⁹

Sabra International, once again, appears implicated in a potential Lacey Act violation. Coastal Specialty Forest Products and Timberbase both advertise their ipê as “sustainably sourced”¹⁵⁰ and “chain-of-custody certified,”¹⁵¹ while De Castro Woods and International Lumber Import provide little transparency on sourcing practices. Meanwhile, Italian importer Sangiorgio Legnami Spa claims to select suppliers with environmental responsibility in mind,¹⁵² and Dutch firm Hardus Trading offers almost no information on its sourcing standards.

All of these firms should have checked their exporters for Ibama fines and used publicly available INPE data



Brazilian Exporter	Importer	Country of import	Species imported	Product	Volumes in m ³
M I Comércio de Madeiras Ltda	Lumber Plus Company ¹³⁰	Canada	Ipê-roxo	Decking	42.82
Prime Industria e Comércio de Madeiras Ltda	2583319 Ontario ¹³¹	Canada	Ipê-roxo	Processed Wood	43.03
	De Castro Woods ¹³²	Canada	Ipê-roxo	Processed Wood	18.25
Amazon Comercio Atacadista e Exportacao de Madeiras Ltda	Sangiorgio Legnami Spa ¹³³	Italy	Ipê-roxo	Decking	21.52
Prime Industria e Comércio de Madeiras Ltda	Hardus Trading B.V. ¹³⁴	Netherlands	Ipê-roxo	Processed Wood	13.36
	Robinson Lumber Company ¹³⁵	St Barthelemy (France)	Ipê-roxo	Processed Wood	46.87
OC Comércio de Madeiras Ltda	Sabra International (via OC Trading) ¹³⁶	U.S.	Ipê-roxo	Decking	36.31
M I Comércio De Madeiras Ltda	Global Forest Lumber Company ¹³⁷	U.S.	Ipê-roxo	Decking	37.09
Prime Industria e Comércio de Madeiras Ltda	Coastal Specialty Forest Products ¹³⁸	U.S.	Ipê-roxo	Processed Wood	50.79
	General Woodcraft ¹³⁹	U.S.	Ipê-roxo	Processed Wood	42.13
	International Lumber Import ¹⁴⁰	U.S.	Ipê-roxo	Processed Wood	74.85
	J. Gibson Mcllvain Co ¹⁴¹	U.S.	Ipê-roxo	Processed Wood	21.75
	Lowcountry Lumber Imports ¹⁴²	U.S.	Ipê-roxo	Processed Wood	19.33
	Timberbase ¹⁴³	U.S.	Ipê-roxo	Processed Wood	158.79
Vimex - Vitoria Exportação de Madeiras Ltda	General Woodcraft ¹⁴⁴	U.S.	Ipê-roxo	Processed Wood	17.99

Table 4
Exports of timber sourced from Fazenda Pinheiro 1 to the U.S., Canada and the EU 2023-2024.

from June 2022 to identify illegal mining in Fazenda Pinheiro I – well before importing timber between September 2023 and May 2024. Despite purchasing the timber before the official embargo of August 2024, they did so long after clear warning signs of illegalities had emerged. By failing to investigate the risks linked to their suppliers, they may have violated the due diligence and due care requirements of the EUTR and Lacey Act respectively.

The five cases presented above are just one layer of the story of widespread illegality in the Brazilian timber sector. In the next section, EIA discussions with industry insiders reveal a culture of corruption in Pará's logging industry, further enabling the crimes and timber laundering documented above.

These firms should have checked their exporters for Ibama fines and used publicly available INPE data well before importing timber from Fazenda Pinheiro I.

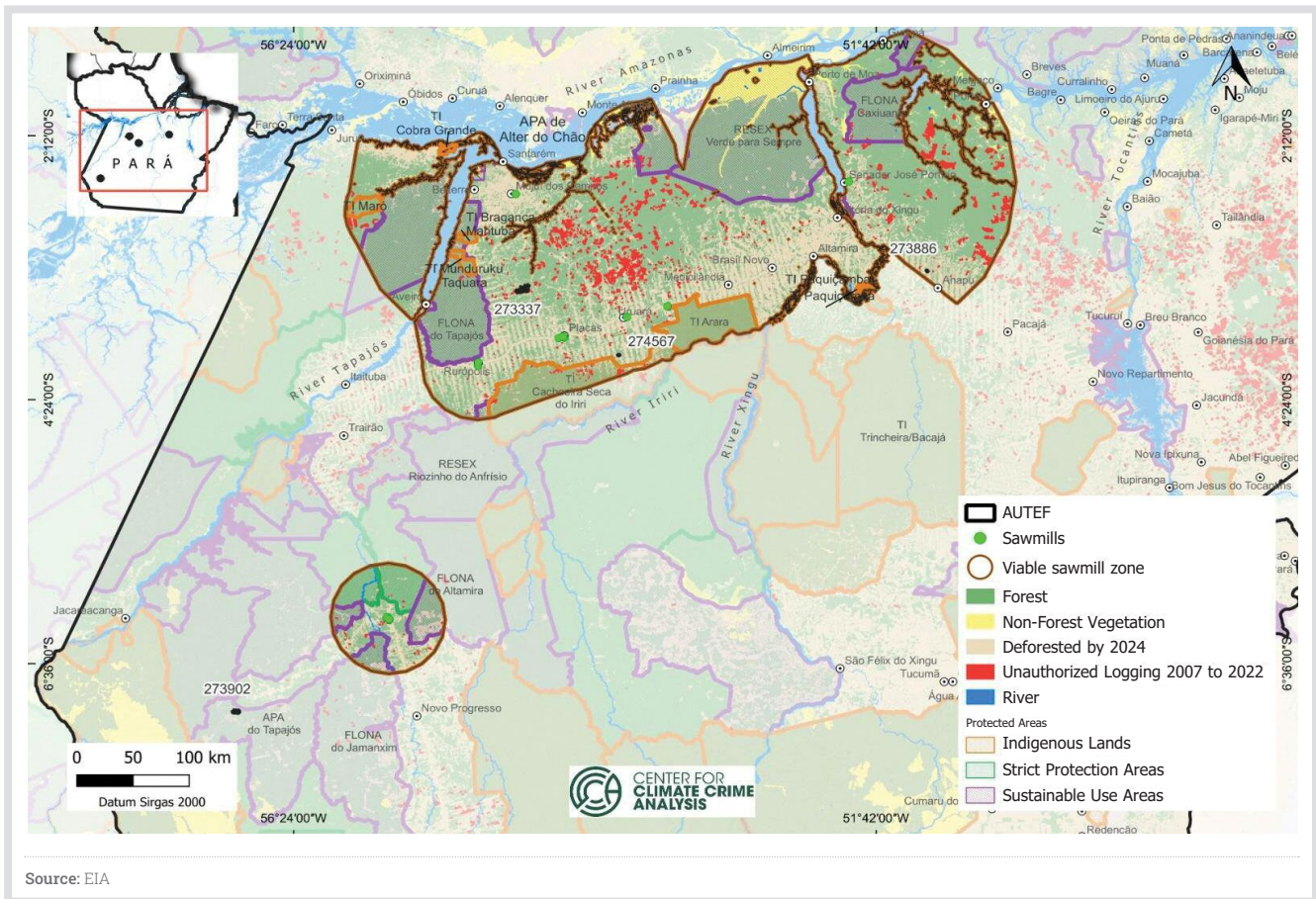


Figure 18
 This map reveals deforestation and illegal logging in western Pará, Brazil, pinpointing sawmills (green dots) linked to the timber laundering that occurred through the logging sites (in black) that were investigated by EIA with support from CCCA. The “Viable sawmill zone” marks areas where the timber laundered through the logging sites were likely sourced from, assuming logs travel up to 50 km by land and 150 km by river.

Though the exact origin of the laundered timber is unknown, these zones overlap with 8 Indigenous territories and 14 protected areas, putting 4 million hectares of forest—an area the size of Switzerland or the Netherlands—at risk of being the source of the illegally logged timber.

The map also highlights estimates of unauthorized logging (2007–2022) in red, produced by Brazilian NGO coalition SIMEX, and deforestation up to 2024, underscoring the urgent need for stronger enforcement to stop the destruction of protected areas and Indigenous territories.



Source: Wikimedia Commons, Amazônia Real

THE FOG OF CORRUPTION

In Brazil's Pará state, EIA investigators spoke with sawmill representatives, timber traders, and exporters, uncovering allegations about how illegal logging is disguised as legal using fraudulent paperwork and bribery. Among the many claims, they heard that a Pará congressman had manipulated a bid for logging concessions, while a local mayor was secretly profiting from logging sites as a silent partner.¹⁵³

Timber credits

One of the most common ways to launder illegally harvested timber is through timber credits—documents meant to track legally sourced wood. Sawmill operators openly admitted to EIA that these credits are regularly bought and sold, allowing loggers to disguise unauthorized wood as coming from approved areas. A representative from one sawmill casually admitted that selling timber credits was standard practice, saying, *"Everyone does it."* Another sawmill confirmed that undocumented timber could easily be legalized with fraudulent paperwork.

In a separate case, a sawmill representative in Pará admitted they could buy undocumented ipê and obtain the necessary paperwork to launder it, stating, *"You can get it easily."* They also revealed that a federal timber concession was being used as a front, issuing timber credits to disguise illegally sourced ipê from elsewhere, explaining that *"the timber that comes out is bad, but their strong point is the documentation."*

This is not the first time that a federal timber concession was alleged to have been used as a laundering vehicle

"Everyone does it"

Representative of a sawmill in Pará describing timber laundering

for illegally logged timber. In March 2020, the export company Tradelink, previously mentioned in Case 3, reportedly declared that timber in a container destined for the US was sourced from a designated area within the Altamira National Forest concession. However, the Brazilian Federal Police claimed that satellite imagery revealed no logging activity in that area, contradicting the company's claims.¹⁵⁴ The Brazilian government recently announced its intent to massively expand these kinds of federal timber concessions, covering an area of 1.4 million hectares.¹⁵⁵

Bribery and corruption: business as usual

Throughout their investigation, EIA heard multiple accounts of industry insiders claiming to bribe officials to speed up timber harvest approvals, manipulate inspections and secure logging permits. One sawmill owner described how he provided perks to state officials inspecting his harvest areas—such as renting cars for them and giving them spending money to enjoy a weekend at the beach—to expedite approvals for his operations. He described these transactions with a government official as *"a way of giving back to him what he did for you"*.¹⁵⁶



Figure 19
Brazil's Congress where the Chamber of Deputies meet.

Another businessman detailed an attempt to bribe a Federal Deputy in exchange for manipulating the bidding process for logging concessions.

The corruption extended beyond individual bribes. One sawmill operator claimed that a mayor in Pará positioned himself as a silent partner in numerous logging operations, using landowners as fronts while quietly taking half the profits. *"The mayor got a lot of management plans approved"*, he noted.

EIA also met with a representative of a major timber export company who admitted that laundering illegal timber is so widespread that exporters struggle to verify the true origin of their wood. *"You always have the Brazilian way,"* he said. *"They buy some wood without documents and... cover it with documentation."*¹⁵⁷

The investigation uncovered allegations of corruption and fraudulent practices deeply embedded in Pará's timber industry. From alleged timber credit scams and bribery of state officials to claims of political involvement in illegal logging, the findings suggest a pervasive culture where corrupt deals and the manipulation of legal frameworks are widespread. The open boasting and normalization of these alleged illegal activities paint a troubling picture of a sector that disregards both the law and sustainable forestry practices, underscoring the need for rigorous due diligence by importers purchasing timber from the state.

In the next section, we review laws in the U.S. and EU prohibiting imports of illegal timber and present recommendations for measures law enforcement agencies and companies must take to ensure compliance.

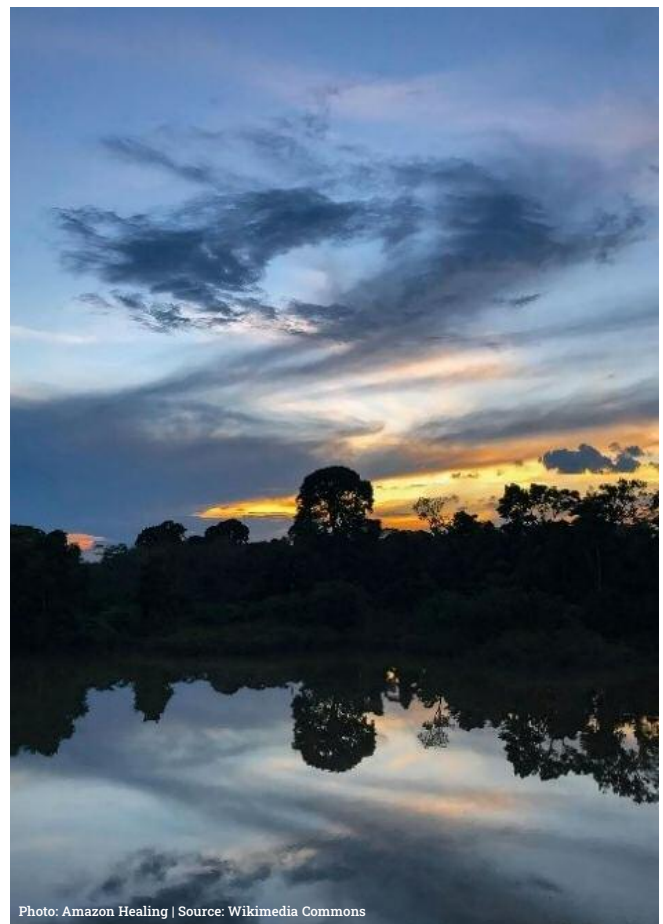


Figure 20
Altamira National Forest along the bank of the Xingu River.



Source: Dominik Luckman, Unsplash

BETTER CARE

This report reveals significant failures in due diligence by U.S. and EU importers, allowing Amazon timber from operations that acted illegally to enter markets, likely in violation of the U.S. Lacey Act and the EUTR - laws that prohibit the import of illegal wood.¹⁵⁸

The Lacey Act prohibits the trade of illegally sourced plants or plant products, including wood, requiring importers to exercise "due care" – defined as a standard of caution expected from a reasonable person under similar circumstances – to ensure compliance with the law. While the law does not specify what constitutes due care, as distinct from the EUTR which provides more detail about how due diligence needs to be carried out, guidance can be found in a plea agreement between the Department of Justice and Lumber Liquidators, a flooring company found to have imported illegal timber in violation of the Lacey Act. A Compliance Plan elaborated in the plea agreement offers a framework for meeting the Lacey Act's due care obligation. The plan has four key components that can serve as a model for companies when considering sourcing from high-risk regions like the Brazilian Amazon:¹⁵⁹

1. Risk Assessment

To exercise due care, companies sourcing timber from the Brazilian Amazon must assess the risks of illegal logging. There is ample information in the public domain, much of it published prior to the imports described in this report, showing the high risk of

Both the Lacey Act and EUDR could significantly contribute to reducing demand for illegal timber if properly enforced.

illegality associated with timber from forests in the Amazon, including media stories, academic studies, NGO reports, law enforcement actions, and legal cases. As previously noted, an EU expert group report published in 2019 and 2020 concluded that timber from the Brazilian Amazon was associated with a risk of illegality and put forward a detailed set of due diligence recommendations. Some of the importers named in this report have themselves publicly acknowledged the extremely risky nature of sourcing from the Brazilian Amazon. Based on the information available, all importers should reasonably be expected to carry out additional careful due diligence on their Amazon supply chains to mitigate the well-documented risks of buying illegal timber.¹⁶⁰

2. Vendor Validation and Evaluation

Importers of high-risk timber such as that coming from the Brazilian Amazon should carefully vet their suppliers for evidence of involvement in current or past legal violations. Brazilian law enforcement agencies maintain publicly accessible lists of entities that have been fined or embargoed for illegal operations and regularly issue communications regarding law enforcement actions, lawsuits and prosecutions. Media and NGO reports are another useful source of information about the involvement of companies along timber supply chains in questionable operations. Three of the logging operators in the cases in this report had embargoes for illegal mining or deforestation within their logging permit area, while 12 sawmills and 14 exporters have been charged by Ibama for violating environmental laws. Importers exercising due care should avoid doing business with companies that have a history of involvement in illegal activity.

3. Purchase Order and Review

Due to the high risk of sourcing wood from the Brazilian Amazon, a critical aspect of due care is the ability to trace timber supply chains back to the forest. Importers must carry out independent assessments of the validity of any documentation provided by suppliers in light of the well-documented risks of timber laundering and fraud in the Brazilian timber sector. This entails a careful review of documents along each step in the supply chain - from timber harvest to processing to export - to ensure that authorized timber volumes are accurate and consistent with reasonable species abundance and extraction and conversion rates. A critical step is requiring suppliers to provide detailed information about harvest locations and dates and reviewing relevant satellite imagery of logging sites. EIA's investigation revealed numerous red flags in timber harvest and transport data that should have prompted additional scrutiny by U.S. buyers prior to any decision to purchase and import the wood.

4. Auditing and Monitoring

Due care when sourcing high risk timber requires ongoing monitoring that includes independent verification steps, such as the use of satellite technology, field visits, and routine in house and third-party audits. The findings of this investigation raise serious questions about whether importers took any of these steps as part of their due care to comply with the Lacey Act.

The EUTR similarly prohibits placing illegally produced timber on the EU market and obliges companies to exercise due diligence, while providing more detail about the required measures than the Lacey Act. As previously mentioned, an expert group, convened by



Figure 21
The U.S. and EU markets are driving demand for illegal Amazon wood products.

the European Commission to provide advice on implementation of the EUTR, published a report in 2019 concluding that the risk associated with importing timber from natural forests in the Brazilian Amazon warranted additional due diligence measures.¹⁶⁰

The report put forward recommendations for risk assessment and mitigation measures as part of operators' due diligence that include: independent, third-party verification of documentation that involves regular site visits, review of satellite imagery of logging sites, and analysis of timber credits at each step in timber transport and processing. The report recommended against sourcing from areas or companies embargoed by Ibama, with a track record of illegal activity, or involved in social conflict related to land or forest rights. None of the timber imported by EU operators in the cases presented in this report would have been compliant with these due diligence criteria.

In June 2023, the EU passed the European Union Deforestation Regulation (EUDR), which will replace the EUTR once it comes into effect on December 30, 2025, for timber products produced after June 29, 2023.¹⁶¹ The EUDR prohibits wood products sourced from areas of forest that were deforested or degraded after December 31, 2020 from being placed on the EU market. The law will require traceability back to the specific geographical area where wood was harvested, and products sourced from countries or sub-national regions deemed to be at risk for deforestation or forest degradation would need to be subject to due diligence requirements detailed in the regulation. The findings of this report add to a large body of evidence demonstrating why the Amazon region of Brazil must be categorized as high risk for wood products during the EU's risk assessment process, which is expected to be completed by mid-2025.



Figure 22
Importers should improve their due diligence practices to comply with the law.

CONCLUSION

The investigation by EIA, supported with analysis from CCA, reveals a troubling pattern of illegal logging and timber laundering in Pará, the largest timber-producing state in the Brazilian Amazon.

The findings show how five key harvest areas where evidence of illegal logging and other environmental crime was detected were used to send over 53,000 m³ of timber, to at least 19 sawmills, 12 of which have been fined by Brazil's environmental agency, Ibama. The report shows how 16 Brazilian exporters— 14 of which were also fined by Ibama—have supplied the tainted wood to 15 U.S. and 15 EU companies, indicating violations of the U.S. Lacey Act and EU Timber Regulation. EIA's discussions with timber traders across Pará reveal a culture of corruption and fraud that stains the sector, further increasing the risks to companies sourcing timber from the region. In order to bring the necessary transformational changes to Brazil's lumber industry, state and federal governments must increase law enforcement action and put in place systemic reforms to policies and procedures governing the issuance of harvest permits, timber supply chain traceability and data transparency. U.S. and EU governments must fully implement and enforce laws preventing the import of illegal or unsustainable wood. On the following page are detailed recommendations for how these objectives can be achieved.

RECOMMENDATIONS

Brazilian Federal Government:

- Require sawmills and Brazilian timber exporters to conduct due diligence on both the origin of their timber and the authenticity of supporting legal documents
- Investigate the evidence of legal violations in this report, including document fraud used for timber laundering and possible corruption
- Introduce a national integrated traceability system, mandatory for all states, that tracks timber across the entire supply chain and that provides real-time, publicly accessible data
- Ensure public transparency of all relevant data from the timber sector, such as information on forest management plans, post-exploration reports, and sawmill conversion rates
- Simplify and speed up the fine appeal process for illegal timber purchases to ensure supply chain actors that commit illegalities face swift and visible consequences
- Cease allocations of new federal concessions and instead direct resources toward effective controls against illegal logging and timber laundering

Environmental Secretariat of Pará (SEMAS):

- Investigate the evidence of legal violations in this report, including document fraud used for timber laundering and possible corruption
- Improve remote satellite monitoring of harvest areas to identify those being used as laundering vehicles and to prioritize supervision
- Prevent corruption in logging inspections by randomly assigning inspectors, rotating them regularly, using surprise follow-ups, tracking their work with GPS and by publicizing their reports.
- Improve the state traceability system by introducing transparency of information, direct digital inputs through apps that enable real time monitoring, and connect it to the federal traceability system
- Ensure public transparency of relevant data from the timber sector, such as information on forest management plans, post-exploration reports, sawmill geolocation
- Cease allocation of new state concessions and instead direct resources toward effective controls against illegal logging and timber laundering

U.S. government:

- Enforcement agencies should investigate the import of illegal or high-risk timber from the cases identified in this report and strengthen oversight of wood products entering the U.S. from the Brazilian Amazon to ensure compliance with the Lacey Act
- Increase coordination with and support for Brazilian federal and state law enforcement agencies to halt illegal logging and associated trade in the Amazon

EU governments:

- Investigate the import of illegal or high-risk timber from the cases identified in this report for violations of the EUTR
- Treat all hardwood products from the Brazilian Amazon as non-negligible risk under the EUTR and increase checks on operators to ensure appropriate due diligence and compliance with the prohibition on placing illegal timber on the EU market
- Increase coordination with and support for Brazilian federal and state law enforcement agencies to halt illegal logging and associated trade in the Amazon
- Categorize the Amazon region of Brazil as high risk for wood products under the EUDR assessment

U.S. and EU importers:

- Treat all wood products from the Brazilian Amazon as high risk and put in place due diligence systems (see Section 3) to ensure effective risk assessment and mitigation; do no source wood for which the risks cannot be fully mitigated
- Apply the EUTR Expert Group's due diligence recommendations to all timber purchases, including using satellite imagery to confirm legal harvests, verifying timber volumes and conversion ratios against scientific data, tracking logs from entry to processing, and avoiding sourcing from embargoed areas or companies fined by Ibama

ANNEX: METHODOLOGY

EIA, supported with analysis from the Center for Climate Crime Analysis (CCCA),¹⁶² has uncovered five timber harvest areas in the Amazon state of Pará, some used as laundering vehicles and others involved in breaking laws. Timber from these areas was then traced via official documents to U.S. and EU markets.

EIA and CCCA used the Normalized Difference Fraction Index (NDFI) method to detect whether logging occurred in each of the harvest areas. NDFI is a satellite monitoring tool that enables detection and mapping of forest degradation and deforestation. Using a computer algorithm applied to satellite images from Landsat and Sentinel, the NDFI highlights the forest scars left by logging. This includes the opening of roads, the construction of yards and the removal of trees, which are clear signs of human intervention in the forest. It is especially useful in tropical forests, where it identifies the impacts of logging infrastructure and damage to the tree canopy.

It is a method recognized and used by the Amazon state of Pará's environmental secretariat (SEMAS),¹⁶³ Brazil's environmental agency (Ibama)¹⁶⁴ and National Institute for Space Research (INPE)¹⁶⁵ to detect illegal logging. The NDFI analysis was complemented with additional visual verification using Planet satellite imagery. In some cases, a data set that estimates illegal logging in the Brazilian Amazon was used, produced by the Brazilian NGO Imazon and partners, titled: SIMEX

(Sistema de Monitoramento da Exploração Madeireira – Logging Monitoring System). In other cases, data from INPE was used, titled: DETER (Sistema de Detecção de Desmatamentos em Tempo Real – Real-Time Deforestation Detection System) and PRODES.

Additionally, we used high-resolution images from the Planet satellite when clouds obstructed visibility or when Landsat or Sentinel satellite images were unavailable for the analyzed period. This strategy ensures continuity and accuracy in mapping logging scars in the harvest area (AUTEF), enabling an effective analysis of the presence or absence of logging activity. This analysis unearthed two different kinds of timber laundering and other illegalities covering the five harvest areas:

- 1) where no evidence of logging was apparent from satellite imagery, but from where timber was claimed to have been transported according to official information
- 2) where some forest degradation was evident, but insufficient to justify the claimed transported volumes of logs, or where other illegalities were present.

This was backed up by analysis of the harvest area's management plans, where available, and interviews with experts to identify further illegalities and signs of laundering. These included issues like apparent overestimation of the density of m³ per hectare of wood species such as ipê-amarelo, unrealistic claims of transported volumes of timber versus its estimated

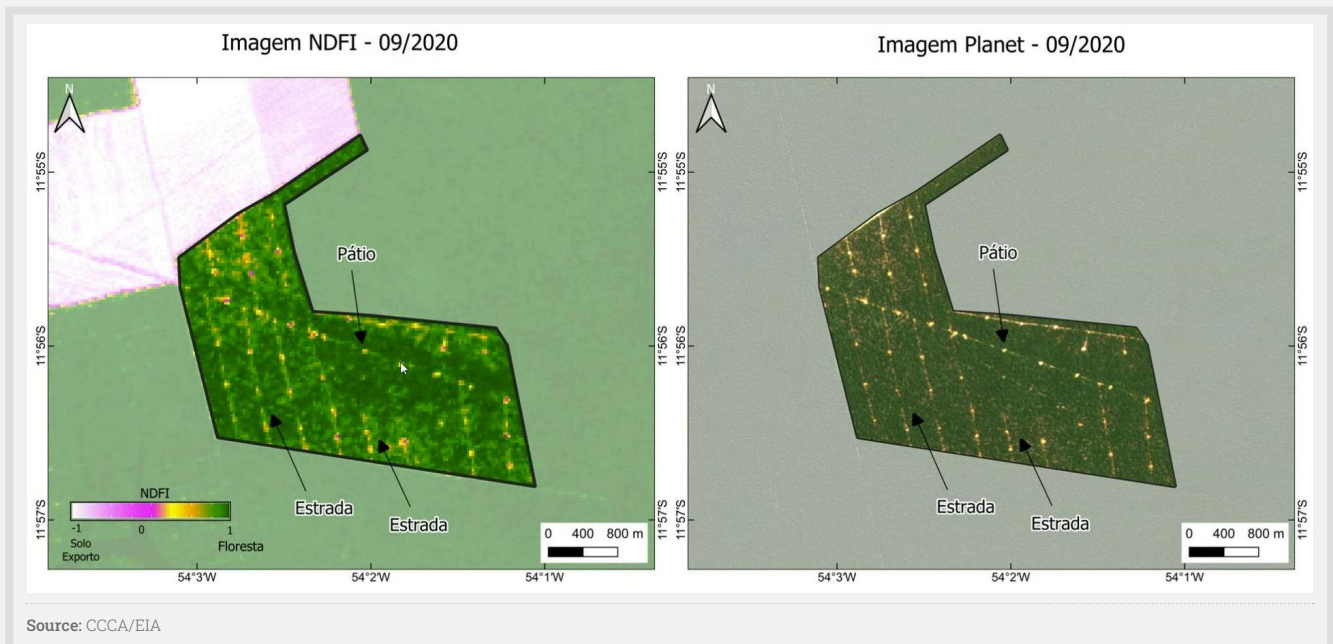


Figure 23
An example of how NDFI can detect logging using Landsat satellite images, left, which is also complemented by Planet imagery, right, showing a selectively harvested logging site, with roads in evidence and a stockyard.

standing stock as trees, fines and embargoes issued by Brazil's environmental agency Ibama and by Pará state's environmental secretariat, SEMAS, as well as looking at unexplained incongruencies between different official documents.

The sum of these analyses provide compelling evidence that timber laundering and fraud occurred in each of the case studies, as well as other illegalities, warranting official investigations.

The evidence suggests serious failures to monitor timber laundering by Pará's environmental secretariat, SEMAS, gaps in traceability systems that make it hard to detect crime and inadequate due diligence by Brazilian traders and exporters, who in any case are not required to do much under existing Brazilian laws, as well as by EU and U.S. importers, all of it to the detriment of Brazil's Amazon forest governance.

The sum of these analyses provide compelling evidence that timber laundering and fraud occurred in each of the case studies.

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c) use of the AUTEX to exploit forest resources outside the AMF.” Furthermore, the application of the embargo is considered so severe under this Normative Instruction that Article 34 states: “The embargo of the PMFS prevents the execution of any forest exploitation activity.”
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- 79.** Ibama, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php; Excel sheet downloaded. For Algimi, see: <https://1drv.ms/x/s!AuSRli60yCbp1xiK1VICwTmHHFnh?e=qdrkfc> and Planilha 10-02-2025 171824.xlsx and https://1drv.ms/x/c/e926c8b42e9691e4/EYTrbYCPp9xOsO99Vr0PvIIB6OAz0MW9TyDtURDaWy_T7g?e=BqgWUH and <https://1drv.ms/x/c/e926c8b42e9691e4/EYrLcCemIOTfqukcZrCesqkBMxa7zHtXPFwAUm6-1K4W8Q?e=blUUQF> and https://1drv.ms/x/c/e926c8b42e9691e4/ER6fkTFugg5MpTBY3-A_YNwBJKMdsQUFFJgylqchWibVSw?e=Y2bKMM and <https://1drv.ms/x/c/e926c8b42e9691e4/EQxs2KbvcHZAmywZrpX-Td0BoUnoBA41ZuqTglzNX8rPrw?e=UtlVui&nav=MTVfezFFMk1lOEZCLUY4RTAtNEMOQi1BODEyLTc0QzQ0MzYONkVCQX0>; For Luxor, see: Planilha 25-08-2024 160140.xlsx
- 80.** Vogel, <https://www.vogel.be/the-value-of-wood#:~:text=If%20there%20is%20a%20claim,to%20their%20Forest%20Management%20Plan>.
- 81.** GUILLEMETTE & CIE, <https://www.guillemette-bois.com/environnement/>;
- 82.** CID Le Bois: <https://www.cid-bois.fr/environnement/>;
- 83.** Bois du Nord, <http://www.boisdunord.com/>
- 84.** Global Timber, <https://globaltimber.asia/sustainability/>, see its Corporate Sustainability Report for 2020: https://globaltimber.asia/wp-content/uploads/2023/05/GT-CSR-Report-2022-final-komprimeret_1.pdf.pdf;
- 85.** See: <https://lumber.pt/>
- 86.** SEMAS, Portal de Transparencia, <http://portaldatransparencia.semas.pa.gov.br/#/visao-publica>, AUTEF No 273943, Associação dos Pequenos Agricultores e Assentados do Igarapé Fortaleza accessible here: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:fd01e24-8b69-4be6-b27e-082bca8b0c16>.
- 87.** Interview by EIA of an Ibama official
- 88.** Brazil's Ministry of the Environment (MMA) Normative Instruction No. 5, of December 11, 2006, Article 31, Section III, establishes that:
- 'The embargo of the PMFS shall occur in cases of:
- b) wilful action or omission that causes damage to forest resources in the AMF (forest management zone), exceeding the impacts inherent to forest management;
- c) use of the AUTEF to exploit forest resources outside the AMF.'
- Furthermore, the application of the embargo is considered so severe under this Normative Instruction that Article 34 states: 'The embargo of the PMFS prevents the execution of any forest exploitation activity.' And 'The holder of the embargoed PMFS may only request a new authorization for forest exploitation under the POA after two years have passed from the date of publication of the decision imposing the sanction.' According to official information provided to SEMAS, APAGRIFORT actually requested a new authorization on the 20th of November 2020, only one year and one month after the date of Ibama's publication of the decision to impose the sanction: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:67dd5a5d-a5b2-4998-9665-278b7ff470af>. As a result, there are question marks about the legality of SEMAS' approval of APAGRIFORT's second logging site.
- 89.** SEMAS, Portal de Transparencia, Guias Florestais: downloaded and summarised in an Excel sheet by EIA here: https://1drv.ms/x/c/e926c8b42e9691e4/ETvwJdq5Gk5Mr41buj-Civ8BQX_WE02OLt6YhZ2OF7pGPA?e=UJjv97
- This estimate is based on data parsed from publicly available permits and documents, though minor discrepancies may exist due to challenges in processing such data and so should not be taken as absolute figures
- 90.** SEMAS, Portal de Transparencia, Guias Florestais: downloaded and summarised in an Excel sheet by EIA here: https://1drv.ms/x/c/e926c8b42e9691e4/ETvwJdq5Gk5Mr41buj-Civ8BQX_WE02OLt6YhZ2OF7pGPA?e=UJjv97
- 91.** Ibama, Consulta Publica Areas Embargadas, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, using CNPJ number: 37280067000137, and downloaded as an excel sheet available on the following link: https://1drv.ms/x/c/e926c8b42e9691e4/EQcTTa_Tea90hs1GIYahvV4BsK2GilhzYxAJxWWwV_KQXg?e=FSCiy1
- 92.** Ibama, Consulta Publica Areas Embargadas, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, using CNPJ number: 18983539000173, and downloaded as an excel sheet available on the following link: https://1drv.ms/x/c/e926c8b42e9691e4/ESJru8yAMRREnEYb7_0wwZQByEqC50lJBSkQ8W7zwFiQQ?e=8Y0eyf
- 93.** Ibama, Consulta Publica Areas Embargadas, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, using CNPJ number: 83759423000117 and downloaded as an excel sheet available on

the following link:

https://1drv.ms/x/c/e926c8b42e9691e4/EUcJ5cIYhnRMtOwP_xAfuGkB6k82VoTb15kTjzdKvq8H4A?e=1uMhL5

94. Ibama, Consulta Publica Areas Embargadas, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, using CNPJ number 40.992.538/0001-44 and downloaded as an excel sheet available on the following link: GRUPO MAIS IND COMERCIO E BENEFICIAMENTO DE MADEIRAS Ibama fines 2023-2024.xlsx

95. SEMAS, Portal de Transparencia, Guias Florestais: downloaded and available on this link: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:5fcea58-de04-40d0-9af3-b27c2139aefe>

96. SEMAS, Portal de Transparencia, Guias Florestais downloaded and available here: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:6df6a569-6364-48e5-afe2-efba26b2300d> and <https://acrobat.adobe.com/id/urn:aaid:sc:EU:f02de1bf-af44-4340-b922-0ca1c47825b8>

97. COEXPA Ibama fines 2021 to 2024.xlsx

98. SEMAS, Portal de Transparencia, Guias Florestais: downloaded by EIA and one GF available here, <https://acrobat.adobe.com/id/urn:aaid:sc:EU:2b61d7ad-33a3-4454-98c1-cef77ed3bbb7>

99. SEMAS, Portal de Transparencia, Guias Florestais: downloaded by EIA and one GF available as a PDF here: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:53078743-1852-4e1b-b045-71bb83d38982>

100. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br). See: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:92f349f4-2b6b-449c-b6af-2e0e36e3a2c3> and <https://acrobat.adobe.com/id/urn:aaid:sc:EU:6565fcb3-169e-4651-9221-25dcf8d48b5d>

101. See: Tradelink Ibama fines 2016 - 2024.xlsx

102. See: <https://earthjournalism.net/stories/the-us-port-that-is-a-leading-destination-for-illegal-timber-imports-from-brazils-amazon>

103. See: <https://www.boisimport.com/environnement/>

104. See: <https://www.roblumco.com/sustainability>

105. Vogel, <https://www.vogel.be/the-value-of-wood#:~:text=If%20there%20is%20a%20claim,to%20their%20Forest%20Management%20Plan>.

106. See: <https://gwpwood.com/en/sustainable-world>

107. See: <https://www.guillemette-bois.com/environnement/>

108. See: <https://tradelink-group.com/>

109. See: <https://tradelink-group.com/>

110. Welcome to Itaituba, the gold laundering capital of Brazil - SUMAÚMA (sumauma.com)

111. Extração ilegal de madeira cresce 11 vezes em terras indígenas do Pará - Imazon

112. SEMAS, ::SIMLAM PA - PUBLICO - :: (semas.pa.gov.br), downloaded AUTEF 273902, See: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:9cf61e77-2f99-44a3-b73e-a2fde831da10>

113. Suspensa, mineradora opina sobre manejo de área de proteção – DW – 16/11/2023

114. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), provided by CCCA and revised by EIA and then summarised in the following excel sheet (filtering out the transport permits that were "SUSPENDIDO" and "ANULADO"): <https://1drv.ms/x/c/e926c8b42e9691e4/EZxxltnh2YRKG->

tF5tZMxukBFxl3AEMCw9jvjkFY7UoW9Q?e=n16xsq. This estimate is based on data parsed from publicly available permits and documents, though minor discrepancies may exist due to challenges in processing such data and so should not be taken as absolute figures

115. SEMAS, ::SIMLAM PA - PUBLICO - :: (semas.pa.gov.br), downloaded AUTEF 273902, See:

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:9cf61e77-2f99-44a3-b73e-a2fde831da10> – The text of the AUTEF states that the "Reserva Legal" and forest management area can only be exploited under the framework of Sustainable Forest Management (Manejo Florestal Sustentável), prohibiting empirical exploitation of primary forests in the Amazon Basin (such as illegal gold mining). This regulation follows specific publicly mandated technical management plans. It further emphasizes, through ICMBio's Instrucao Normativa IN nº 04 de 28 de setembro de 2009, article 10 I, that the authorization is strictly for the activities outlined in the project, warning that any irregular use of the authorization will result in its cancellation, alongside sanctions based on existing environmental legislation.

116. See: https://1drv.ms/x/s!AuSRli60yCbp2mKGrwAll_7E8hhr?e=LRoOPQ

117. SEMAS, ::SIMLAM PA - PUBLICO - :: (semas.pa.gov.br), downloaded AUTEF 273902, See:

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:9cf61e77-2f99-44a3-b73e-a2fde831da10> – The text of the AUTEF states that the Reserva Legal and forest management area "can only be exploited under the framework of Sustainable Forest Management (Manejo Florestal Sustentável), prohibiting empirical exploitation of primary forests in the Amazon Basin. This regulation follows specific publicly mandated technical management plans. It further emphasizes that the authorization is strictly for the activities outlined in the project, warning that any irregular use of this authorization will result in its cancellation, alongside sanctions based on existing environmental legislation."

118. EIA interview with an Ibama official

119. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, Downloaded on 9th of September here: <https://1drv.ms/x/s!AuSRli60yCbp2juZfV66aDAjkgdB?e=bdC3oI> EIA also consulted an Ibama official who informed us that the management plan of the logging permit was "invalid".

120. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br)

121. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, Downloaded on 9th of September here: https://1drv.ms/x/s!AuSRli60yCbp2mKGrwAll_7E8hhr?e=LRoOPQ

122. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, Downloaded on 9th of September here: https://1drv.ms/x/s!AuSRli60yCbp2m6SFg_STYM8_R9E?e=Kzh9ub&nav=MTVfe0FCOTE1QUZBLTU1M0itNDE5My05Njk2LUF0CMzJDMjzNTBDOH0

123. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, Downloaded on 9th of September here: https://1drv.ms/x/s!AuSRli60yCbp2nBECY2g_sPbDpKj?e=aJdHSd&nav=MTVfezYONDE1MzdFLTJGMjAtNEQ4MS04NEYwLTCzN0MwNEVENTZDOX0

124. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), downloaded by EIA and CCCA and

REFERENCES

summarised in the following excel sheet:

<https://1drv.ms/x/s!AuSRli60yCbp2nS09AjknKx2v1ao?e=1q8ez6&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO>

125. Fine amounts in BRL and conversion to US\$ using average exchange rates:

2019: BRL: 367,276.39, Exchange rate: 3.95, US\$ equivalent: 367,276.39 / 3.95 ≈ \$93,053.56

2021: BRL: 2,700, Exchange rate: 5.39, US\$ equivalent: 2,700 / 5.39 ≈ \$500.93

2022: BRL: 61,389.6, Exchange rate: 5.17, US\$ equivalent: 61,389.6 / 5.17 ≈ \$11,876.01

2023: BRL: 426,867, Exchange rate: 5.10, US\$ equivalent: 426,867 / 5.10 ≈ \$83,698.43

2024: BRL: 24,546.36, Exchange rate: 5.20, US\$ equivalent: 24,546.36 / 5.20 ≈ \$4,718.53

Total amount in US\$:

\$93,053.56 + \$500.93 + \$11,876.01 + \$83,698.43 + \$4,718.53 = \$193,847.46

126. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php, Downloaded on 9th of September here: Brazilian exporter Ibama fines 2019-2024.zip

127. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php; Downloaded and available here: <https://1drv.ms/x/c/e926c8b42e9691e4/Ecz6f8YXxulAp429cEy6-p8BfzSPNi-SkIfXqVLTSHgoQA?e=qecB9x>

128. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php Downloaded and available here: <https://1drv.ms/x/c/e926c8b42e9691e4/EW9vDlkv5ItfJZ-TLO9f8gsBIAgrlOaviwwObiGyF8nAaQ?e=AgdXSA>

129. Ibama, Autacoes Ambientais, servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php; Downloaded and available here: MI Comercio Ibama fines.xlsx

130. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br) <https://acrobat.adobe.com/id/urn:aaid:sc:EU:1e6764e2-dfbc-450e-8596-1fd0f575bc99> AND <https://acrobat.adobe.com/id/urn:aaid:sc:EU:d9ccaf5d-d858-4be7-bed8-2eded66ace4d>

131. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br); <https://acrobat.adobe.com/id/urn:aaid:sc:EU:390b0576-b794-427e-bd71-e200aac6e101> AND <https://acrobat.adobe.com/id/urn:aaid:sc:EU:2961c09f-8add-4269-bab3-f3905152f4d8>

132. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei4BFGjOdz9s8d_98gc_9uB4aA?e=wXvzAI&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO

133. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), with the transport permits downloaded and available here:

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:cd0c4425-1544-48f9-a759-51da867866c3>

134. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei4BFGjOdz9s8d_98gc_9uB4aA?e=wXvzAI&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO

135. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei4BFGjOdz9s8d_98gc_9uB4aA?e=wXvzAI&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO

136. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), with the transport permits downloaded and available here:

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:26799e24-cc6a-4f1a-a97d-a0ce45e64fb0> and

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:0eed4c3e-cf93-42c0-b654-9308f101ed3d>

137. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), with the transport permits downloaded and available here:

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:26b843fd-c56e-4ff1-887a-966b13ba3401> and

<https://acrobat.adobe.com/id/urn:aaid:sc:EU:f813fe7f-2203-4f76-b60c-e00247ab9f82>

138. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei4BFGjOdz9s8d_98gc_9uB4aA?e=wXvzAI&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO

139. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei4BFGjOdz9s8d_98gc_9uB4aA?e=wXvzAI&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMCOwMDAwLTAwMDAwMDAwMDAwMHO

140. SEMAS, Portal de Transparencia, Portal da Transparência (semas.pa.gov.br), partly summarised in the following PDF: <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a24923d7-f0e2-4a9a-b67a-938b10c1f61d>. The decimal points in the table were rounded off to the nearest tenth – and also in the following excel sheet:

<https://1drv.ms/x/c/e926c8b42e9691e4/Ebb1IbzsGTROIURyFhtNei>



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