



GREENPEACE

IMAGINARY TREES, REAL DESTRUCTION

HOW LICENSING FRAUD AND ILLEGAL LOGGING
OF **IPE TREES** ARE CAUSING IRREVERSIBLE
DAMAGE TO THE AMAZON RAINFOREST

SUMMARY

	Introduction	03
1.	Sustainable Forest Management Plans: the first link in the chain of illegality	05
2.	Ipe: the imaginary tree of Pará	08
3.	The reality in the field: assessment of six PMFSs in Pará	13
	<i>DNA of fraud committed in forest inventories in the state of Pará</i>	16
	> <i>AMF subject to AUTEF 35/2016</i>	18
	> <i>AMF subject to AUTEF 272883/2016</i>	19
	> <i>AMF subject to AUTEF 272864/2016</i>	20
	> <i>AMF subject to AUTEF 272858/2016</i>	21
	> <i>AMF subject to AUTEF 273005/2017</i>	22
	> <i>AMF subject to AUTEF 272961/2016</i>	23
	> <i>Conclusions of field survey</i>	24
4.	Demands	25

INTRODUCTION

Brazil started to monitor deforestation in the Amazon Rainforest in 1988. Despite massive forest degradation and destruction over the last 30 years, the country has failed to find a viable solution to the crisis of illegal logging.

Production of illegally harvested timber remains high, reflecting the unreliability of the country's forestry licensing and control systems. While in recent years Brazil's environmental agencies have strengthened the enforcement of forest preservation policy, lately this process appears to have stalled.

Since 2014, when Greenpeace Brazil launched a series of investigations¹ into illegal logging in the Brazilian Amazon, the organisation has been highlighting the inadequacy of official documentation as a guarantee of the legal origin of Amazon timber. Due to various forms of fraud that are common at the licensing, harvesting and commercialisation stages of timber production, it is almost impossible to distinguish between legally and illegally logged timber.

The main timber-producing states in the Brazilian Amazon - Mato Grosso and Pará - operate decentralised and non-integrated forestry licensing and control systems. These systems' lack of integration makes it harder to tackle fraud. At the same time, the market has proved reluctant to adopt its own measures to mitigate the risk of its supply chain becoming contaminated with illegal Brazilian timber.

A critical flaw in the Amazon states' forestry governance lies in the weakness of the licensing process for Sustainable Forest Management Plans (*Planos de Manejo Florestal Sustentável, PMFSs*)² - one of the first steps in the process of legal timber harvesting. For the most part,³ no field inspections are conducted before PMFSs are drawn up. When they are carried out, quality of inspection tends to be very low (as described in chapter 2). This allows the forest engineers responsible for estimating the volume of wood available for cutting within a given Forest Management Area (*Área de Manejo Florestal, AMF*)⁴ to overestimate volumes or fraudulently add trees of high commercial value to the area's forest inventory. State environment departments subsequently issue credits for the harvesting and movement of this non-existent timber. These credits are then used to "cook the books" of sawmills that are processing trees illegally logged from forests on indigenous lands, protected areas or public lands.

An unpublished study carried out by researchers from the Luiz de Queiroz School of Agriculture at the University of São Paulo (Esalq/USP)⁵ looked at the density, in cubic metres per hectare, of Ipe genus *Handroanthus* spp. (formerly known as *Tabebuia* spp.) reported in the inventories of 586 forest areas subject to PMFSs that were licensed in the state of Pará between 2013 and 2017. The study showed that 77% of these inventories registered volumes of Ipe above levels that earlier research⁶ and inventories taken in five national forests in Pará⁷ had identified as probably being the naturally occurring maximum.

Building on this work, the Greenpeace Brazil team have carried out analysis of all the valid Logging Authorisations (*Autorizações para Exploração Florestal, AUTEFs*) from 2016 to 2019 for Annual Production Units (*Unidades de Produção Anual, UPAs*)⁸ that contained species of Ipe, authorised by the Department of the Environment of Pará state (*Secretaria Estadual de Meio Ambiente e Sustentabilidade, Semas*) (as described in chapter 2).

For a more detailed evaluation, Greenpeace Brazil went on field trips with researchers from USP and technicians from the Brazilian Institute of the Environment and Renewable Natural Resources (*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis, Ibama*) to verify the identity of remaining trees and tree stumps listed as Ipe in the forest inventories of six AMFs (as described in chapter 3). This fieldwork verified that incorrect botanical identification, the deliberate overestimation of tree volume, and the listing of non-existent trees were among the main strategies used to illegally extract timber both from within the six AMFs and from other areas.

The present report provides evidence that a weak licensing regime and indiscriminate and illegal logging of Ipe are causing damage to the forest and its inhabitants. Some of the effects of this environmental crime are already visible, including deeper encroachment of illegal roads and growing degradation of the forest, the destruction of biodiversity and an intensification of violence in the countryside.⁹

The main Brazilian timber-producing states urgently need a forest governance and enforcement system capable of ensuring that all timber logged in the Brazilian Amazon is extracted legally and with full regard to the rights of its Indigenous Peoples and other traditional inhabitants.

1 See Greenpeace Brazil reports *The Amazon's Silent Crisis* (May 2014), *The Amazon's Silent Crisis: Night Terrors* (October 2014), *The Amazon's Silent Crisis: Licence to Launder* (June 2015) and *The Amazon's Silent Crisis: Partners in Crime* (November 2015).

2 PMFS - *Plano de Manejo Florestal Sustentável* - Sustainable Forest Management Plan. A technical document that outlines how forestry management of an estate will be undertaken over a period of up to five years. A PMFS that has been approved by a state environment department is obligatory for any timber harvesting performed beyond the 20% of an estate that may legally be deforested.

3 Although prior and post-exploratory surveys are part of the regulation of PMFSs, the state environment department, which is responsible for licensing, does not carry these out in all the PMFSs.

4 AMF - *Área de Manejo Florestal* - Forest Management Area. The total area within an estate covered by a PMFS. An AMF is usually subdivided into Units of Annual Production (*Unidades de Produção Anual, UPAs*), though it may only consist of a single UPA.

5 The Tropical Forestry Laboratory of Esalq/USP - Labstrop unpublished data.

6 Schulze, M., Grogan, J., Uhl, C., Lentini, M. and Vidal, E. (2008). Evaluating Ipe (Tabebuia, Bignoniaceae) logging in Amazonia: sustainable management or catalyst for forest degradation? *Biological Conservation*, 141, pp. 2071-85. Available at www.fs.fed.us/global/iitf/pubs/ja_iitf_2008_schulze001.pdf (here after referred to as "Schulze et al., 2008").

7 Available at <http://www.florestal.gov.br/florestas-sob-concessao>

8 UPA - *Unidade de Produção Anual* - Annual Production Unit. A subdivision of a Forest Management Area (AMF) to be exploited within one year (with the option of extending operations for a second year).

9 Greenpeace's report *Blood-Stained Timber: Rural Violence and the Theft of Amazon Timber* shows how illegal logging in the Amazon is one of the main engines of violence in the region. Go to <http://bit.ly/2jdtESe> to read the report.



Work teams from IBAMA during an inspection in the PMFS AUTEF 273005/2017, in Uruará, Pará.



1. SUSTAINABLE FOREST MANAGEMENT PLANS: THE FIRST LINK IN THE CHAIN OF ILLEGALITY



In Brazil, logging can be legally carried out in private or public forests, under different systems of regulation.

In the case of private forests, the activity is permitted within the Legal Reserve Area (ARL)¹⁰ of a rural property. To carry out logging, the landowner must request formal authorisation from the relevant state environment department. In the case of public forests under the control of the federal government, states, and municipalities, an area can only be licensed for logging by means of a concession. Official notices are published detailing what land will be made available for forestry, bidding takes place and the company offering the highest stumpage value per cubic meter wins. Parties wishing to carry out logging then sign contracts with the government which allow them to exploit the area.

Logging and forest management are carried out according to criteria and actions established in a document called the Sustainable Forest Management Plan (PMFS), which must be prepared by an appropriately qualified forest engineer. Following preliminary analysis of the documentation accompanying the licensing process, the PMFS is submitted for approval by the competent state environment department and, in the case of federal concession areas, also by Ibama.

The PMFS must define the Forest Management Area (AMF) and include an inventory of all tree species in that area. It must indicate which individual trees are to be cut and which are to remain standing in order to preserve the forest for the future and guarantee a new cutting cycle in 25 to 30 years.

Each tree should be carefully identified according to its species, location, estimated height and trunk diameter at breast height (DBH)¹¹. These last two measures allow for an estimation of the volume of timber that the tree will produce.

If the PMFS is approved, Logging Authorisations (AUTEFs) must show the total number of trees and volumes of logs of each species that will be removed from the licensed site and which will subsequently generate commercialisation credits. This data then forms the basis for the entire control system governing the journey of timber from the forest to the final consumer. In theory, this system is supposed to guarantee the origin and legality of the timber.

¹⁰ ARL – Área de Reserva Legal – Legal Reserve Area. According to the Brazilian Forest Code, an ARL is an area located within a property or rural property that has been delimited, according to art. 12, for the purposes of ensuring the sustainable economic use of the property's natural resources, assisting with the conservation and rehabilitation of ecological processes and promoting the conservation of biodiversity and

the shelter and protection of wildlife and native flora. In the case of the Amazon forest the ARL covers 80% of the property.

¹¹ DBH is measured at the standard height of 1.3m above ground level.



FOREST INVENTORY: THE FIRST STEP IN A CYCLE OF ILLEGALITY

The forest inventory is the first weak link in the Brazilian Amazon's flawed system of timber custody, enabling thousands of cubic metres of fraudulent credits to be generated. These will later be used to launder timber logged from areas where logging is forbidden, such as Indigenous lands, protected areas and public lands without concession. For an explanation of how this works, see Figure 1.

As currently implemented, forest inventories have several shortcomings. The lists of forest species included in the inventories are simply declared and not subject to botanical verification; technical criteria are hardly used in analysis carried out by the State Environmental Organisations (OEMAs)¹² responsible for licensing the PMFSs. OEMAs rarely carry out preliminary surveys, even though these are supposed to be mandatory.

These weaknesses in implementation make it easy for corrupt forest engineers to falsify forest inventories, and thus enable the accumulation of fraudulent credits, by misidentifying undesirable trees as commercially valuable species, by overestimating the volumes of valuable trees, or simply by listing non-existent specimens. This can generate a snowball of irregularities in the presentation of PMFS data by forest engineers.

Despite this host of problems, the data contained in forest inventories are entered into forestry control systems and assumed to be correct at all later stages in the chain of custody.

Most states participate in the federal forestry control system and use the Forest Origin Document (*Documento de Origem Florestal*, DOF) chain of custody system. However, in Mato Grosso and Pará, the largest producers of Amazon timber, the credits are processed and transport documentation is issued by a different chain of custody system – the System for the Commercialisation and Transportation of Forest Products (*Sistema de Comercialização e Transporte de Produtos Florestais*, Sisflora), which is not entirely integrated with the DOF system.

Whichever system is used, the harvested wood needs a transport document that identifies its origin. This document accompanies the wood on its journey from the forest to its destination market, whether in Brazil or in another country. This should ensure that, irrespective of where in the world the timber is imported to, it is accompanied by a transport document possessing a unique identification number that in theory should confirm the legality of the product and allow it to be traced back to its source.

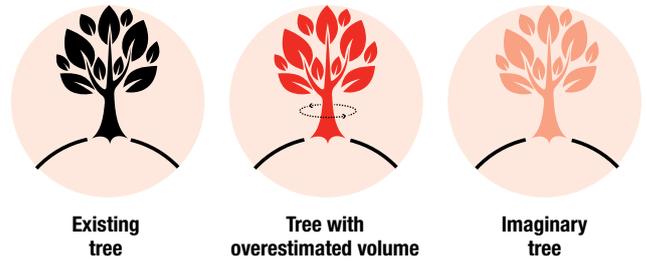
However, in practice, these transport documents and their associated identification numbers cannot guarantee the legality of Brazilian timber, since so many of them are generated on the basis of fraudulent forest inventories. At present, as this analysis shows, it is safe to say that it is almost impossible to guarantee if timber from the Brazilian Amazon can be assumed to have originated from legal operations, let alone from operations that do not violate human rights or environmental laws.

THE FRAGILE LICENSING PROCESS OF FOREST MANAGEMENT PLANS

How the oversizing and creation of imaginary trees help loggers legalize stolen timber.

FOREST INVENTORY

To begin exploitation, the lumber company presents a Forest Inventory with the calculation of the usable volume of timber of the trees that will receive authorization for logging



"INVENTED" FOREST



To deceive the licensing and timber control system, technicians create imaginary quantities and size to overestimate the legalized amount of timber, which ultimately serve to legalize illegal timber

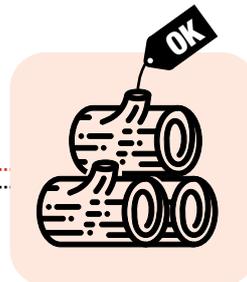


LEGALIZING STOLEN TIMBER

The credits are then transferred to cook the loggers' books, turning stolen timber into legal timber.

MARKET

Reluctant to adopt risk mitigation measures to avoid the contamination of its chain of custody, companies rely on official documentation which does not guarantee the origin and legality of the wood they receive.



The process makes it almost impossible to distinguish between legal and illegal timber.

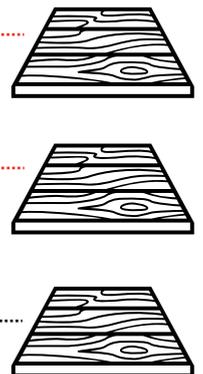


FIGURE 1. Chart showing how the fragile system of licensing has been used to commercialize illegal timber.

2. IPE: THE IMAGINARY TREE OF PARÁ

Victims of their own magnificence, Ipe trees can be easily spotted in the middle of the Amazon rainforest because of their beautiful flowers. The high value of Ipe – which once processed into flooring or decking can reach up to US\$2,500 per cubic metre at export ports – makes it profitable for illegal loggers to penetrate deep into the forest. Unscrupulous loggers tear the rainforest open with illegal roads, unlawfully invading protected areas and Indigenous lands, degrading the forest and often committing acts of violence against local forest-dwelling communities.

The illegal logging of Ipe trees is facilitated by weaknesses in the state-level licensing process for PMFSs, which, as described above, allows forest engineers to overstate the number and size of Ipe trees (and other valuable tree species) in an AMF, allowing them to generate additional credits that can be used to launder illegal timber.

An example of the impacts of illegal logging can be seen in the 763,340 hectares Riozinho do Anfrísio Extractive Reserve (Resex)¹³ in Pará, created in 2004. Based on preparatory studies and public consultations, a proposal was developed to create a mosaic of protect areas in the region known as Terra do Meio, or 'Middle Land'. On 8 November 2004, Resex Riozinho do Anfrísio was the first such area to be decreed.¹⁴

According to a survey conducted by the Socio-Environmental Institute (*Instituto Socioambiental*, ISA), more than 200 km of roads were illegally created within Resex Riozinho do Anfrísio in 2017 in order to extract illegally logged timber. Based on information gathered in the field, satellite imagery and overflights, ISA estimates that more than 23,000m³ of very high-value wood may have been stolen from the Reserve in 2017, with a value, once processed, of as much as USD 64 million.¹⁵

The indiscriminate logging of timber with high market value can take tree species to the brink of extinction, as previously occurred in Brazil with mahogany (*Swietenia macrophylla*). Exploitation of this species, which became known as the "green gold" of the Amazon, began in the 1970s. Between then and the turn of the century, at least 5.7 million m³ of mahogany were extracted from the Brazilian Amazon, with a value of around US\$3.9 billion. The uncontrolled logging of

mahogany brought enormous environmental and social harm to the region.

From 1992 onwards, Greenpeace Brazil worked extensively on this issue. The great breakthrough finally came in November 2002, when mahogany was included in Annex II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).¹⁷ CITES was established to regulate and control international trade in wildlife species. It created three regulatory categories, which were presented in the Appendices. Animals and plants listed under Appendix I are excluded from international commercial trade except in very special circumstances. Commercial trade is permitted for species listed under Appendix II, but it is strictly controlled based on CITES permits or certificates. Appendix II includes species that are protected within the borders of a member country.¹⁸

However, the output of sustainable mahogany is insufficient to meet global demand for luxury tropical hardwood, leading loggers, both legal and illegal, to target other species favoured by consumers. Price is an important factor in determining which will be the next species to be threatened with extinction. Currently, the most coveted timber in the Amazon is Ipe.

Based on the unpublished study conducted by USP, Greenpeace with university researchers analysed 586 AUTEF documents, issued by the Semas of Pará between 2013 and 2017, which listed Ipe as a harvestable species. Reported densities were compared with those found in published scientific research¹⁹ and in the forestry inventories of National Forest (Floresta Nacional, Flona)²⁰, used in the concessions in Pará.²¹ Both sources indicate that in Pará, the density of yellow and purple Ipe (*Handroanthus serratifolius* and *H. impetiginosus*), authorised for harvest (having a diameter of at least 50 cm), does not exceed 0.52m³/ha.

Of the 586 AUTEFs analysed (see Figure 2), over 77% showed a higher density than what research has shown to be typical, suggesting that the quantity of Ipe present may have been overstated. To help with analysis, the areas were classified according to 3 categories:

13 Resex – Reserva Extrativista – Extractive Reserve. One of twelve categories of protected areas described in the National System of Conservation Areas (Sistema Nacional de Unidades Conservação, SNUC), this kind of area is allocated for use by traditional communities for the sustainable harvesting of forest products, including logging within defined limits.

14 Available at https://tc.socioambiental.org/anexos/265_20100820_180256.pdf
15 Harari, I. (2017) *Madeiros avançam sobre o Riozinho do Anfrísio* (Loggers advance on Riozinho do Anfrísio), Instituto Socioambiental, 22 December 2017. Available at <https://www.socioambiental.org/en-us/noticias-socioambientais/madeiros-avancam-sobre-riozinho-do-anfrisio>

16 See the Greenpeace Report State of Conflict. Available at <http://worm.org.uy/oldsite/paises/Brasil/stateofconflict.pdf>

17 Available at <http://www.greenpeace.org/international/en/press/releases/2002/historic-victory-for->

mahogany

18 Available at <https://www.greenpeace.org/archive-international/en/news/features/mahogany-sharks-dolphins-and/>

19 Schulze et al., 2008.

20 These are areas with forest cover that predominantly contain native species. The objective of these zones is to ensure the multiple sustainable use of forest resources and permit scientific research to take place, with emphasis on developing methods for the sustainable exploitation of native forests. Federal forests are considered public domain, entailing the expropriation of private areas included within their boundaries.

21 Available at <http://www.florestal.gov.br/florestas-sob-concessao>

22 Available at <http://www.florestal.gov.br/florestas-sob-concessao>

The analysis was based on relevant literature regarding densities of Ipe trees in Pará state, in the Amazon forest, to define what could be considered a normal density. As a precaution, the highest measure of density identified in the five forestry inventories of federal forests used in concessions in Pará was taken as the baseline for normal density. Furthermore, were proposed two additional categories to assist with evaluation.

It is important to point out that neither commercial nor botanical names are used consistently in AUTEFs. In some cases, the name "Ipe" is used alone, rather than in composite form to specify whether it is "purple Ipe" or "yellow Ipe". In cases where it was listed in composite form as two different species in the same AUTEF, these were considered separately when evaluating density:

	NORMAL	up to 0.52m ³ /ha ²³
	HIGH DENSITY	exceeding the normal level by up to 5 times, from 0.53 to 2.6m ³ /ha
	VERY HIGH DENSITY	exceeding the normal level by more than 5 times, above 2.6 m ³ /ha

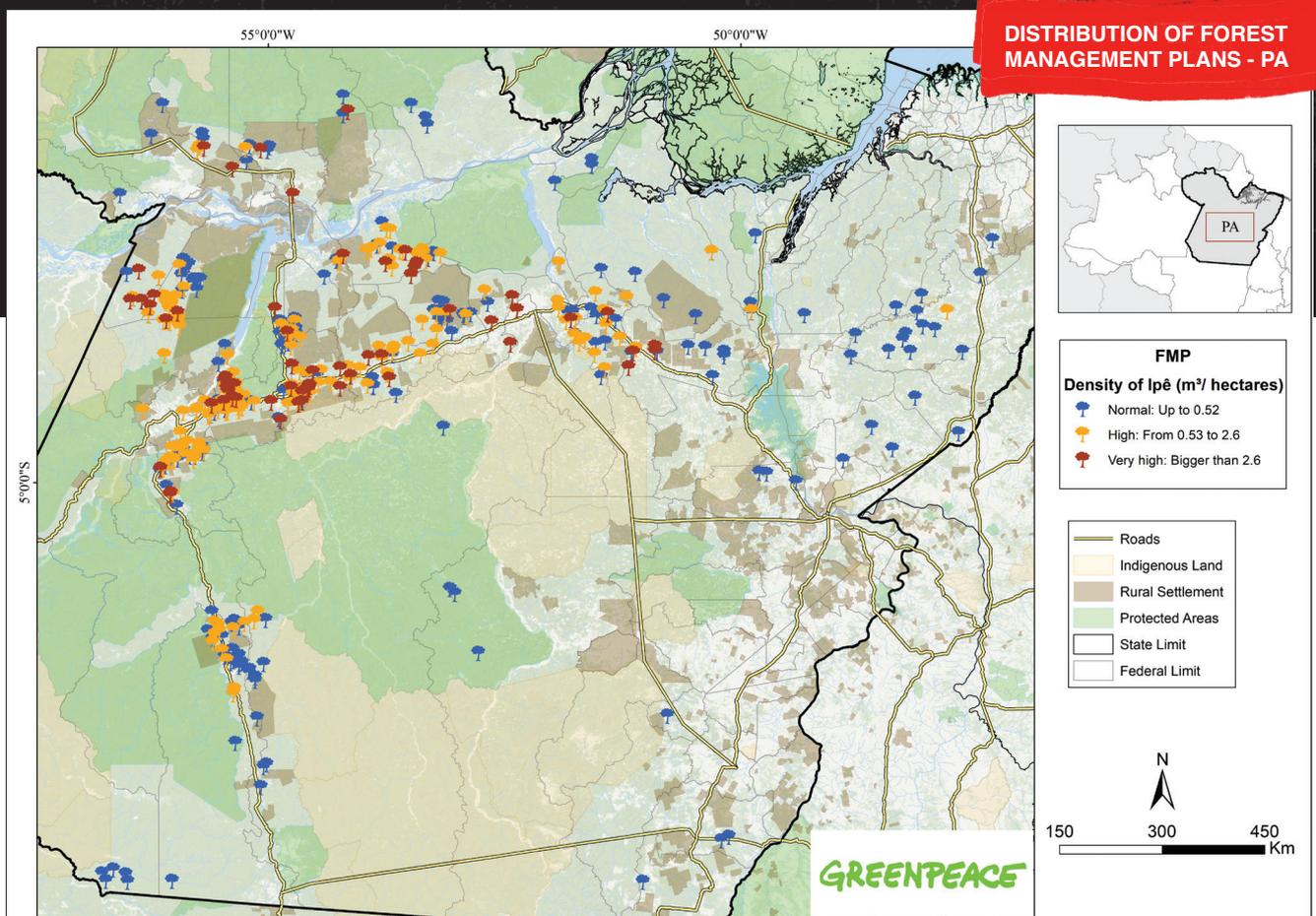
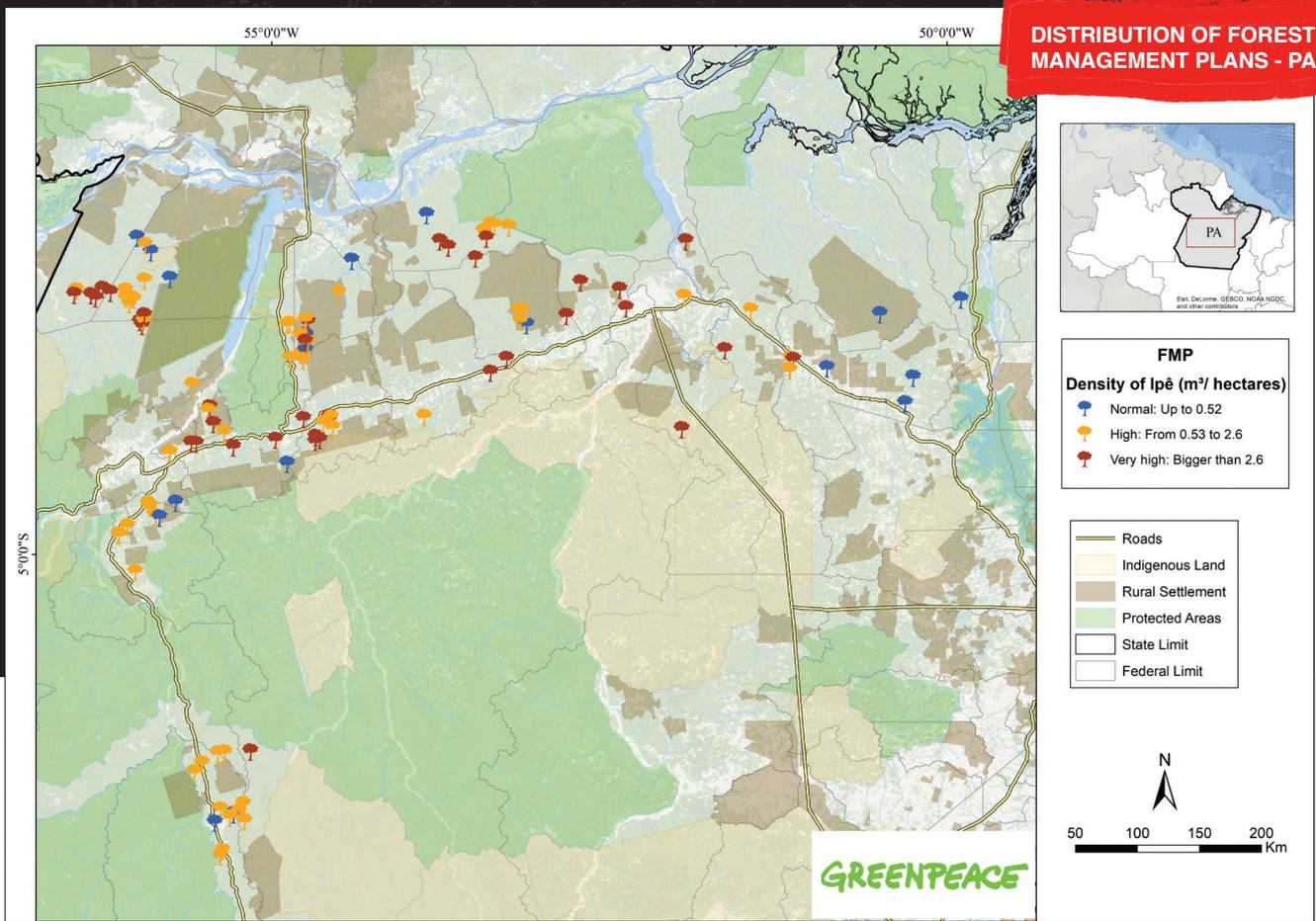


FIGURE 2. Distribution of 586 Sustainable Forest Management Plans, classified according to Ipe density.

Figure 2 shows a concentration of Sustainable Forest Management Plans (PMFSs) with high and very high Ipe density near protected areas, Indigenous lands and rural settlement areas. These areas may be the source of Ipe trees which are illegally logged and laundered using overestimated credits from the PMFSs, allowing them to be sold around the world.

Of all the AUTEFs analysed (in September 2017) 141 were valid for logging in 2017 and eligible for extension until 2019. Of these, 74 (52,5%) showed a high density of Ipe trees (between 0.53 and 2.6m³/ha), and 42 (29,6%) showed a very high density (greater than 2.6m³/ha), between them constituting 82,1% of the total analysed. The distribution of these PMFS, and their classifications, can be seen in Figure 4.

23 Available at <http://www.florestal.gov.br/florestas-sob-concessao>.



DISTRIBUTION OF FOREST MANAGEMENT PLANS - PA

FIGURE 3. Distribution of 142 valid Sustainable Forest Management Plans (September 2017), classified according to Ipe density.

Of the 142 PMFSs, 115 moved Ipe credits into the system, 26 with Ipe credits at the time of the analysis did not move them, and one was cancelled. 79 PMFSs generated wood or Ipe credits that ended up being exported from Brazil by 53 companies, and taken to 30 other countries around the world by 116 importing companies. A summary of this information can be seen in Figure 4.

This analysis demonstrates that, despite four previous reports published by Greenpeace Brazil²⁴ since 2014 highlighting such problems, the PMFS licensing process in the state of Pará continues to be seriously flawed. In particular, it demonstrates that technical and scientific parameters are not being used in evaluations for licensing by PMFSs. Such practices enable illegally harvested timber from unlicensed and prohibited areas, such as Indigenous lands and protected areas, to supply the national and international market with illegal, high-value Ipe wood.

IMAGINARY TREES, REAL DESTRUCTION

²⁴ Available at <http://www.greenpeace.org/usa/research/logging-the-amazons-silent-crisis>

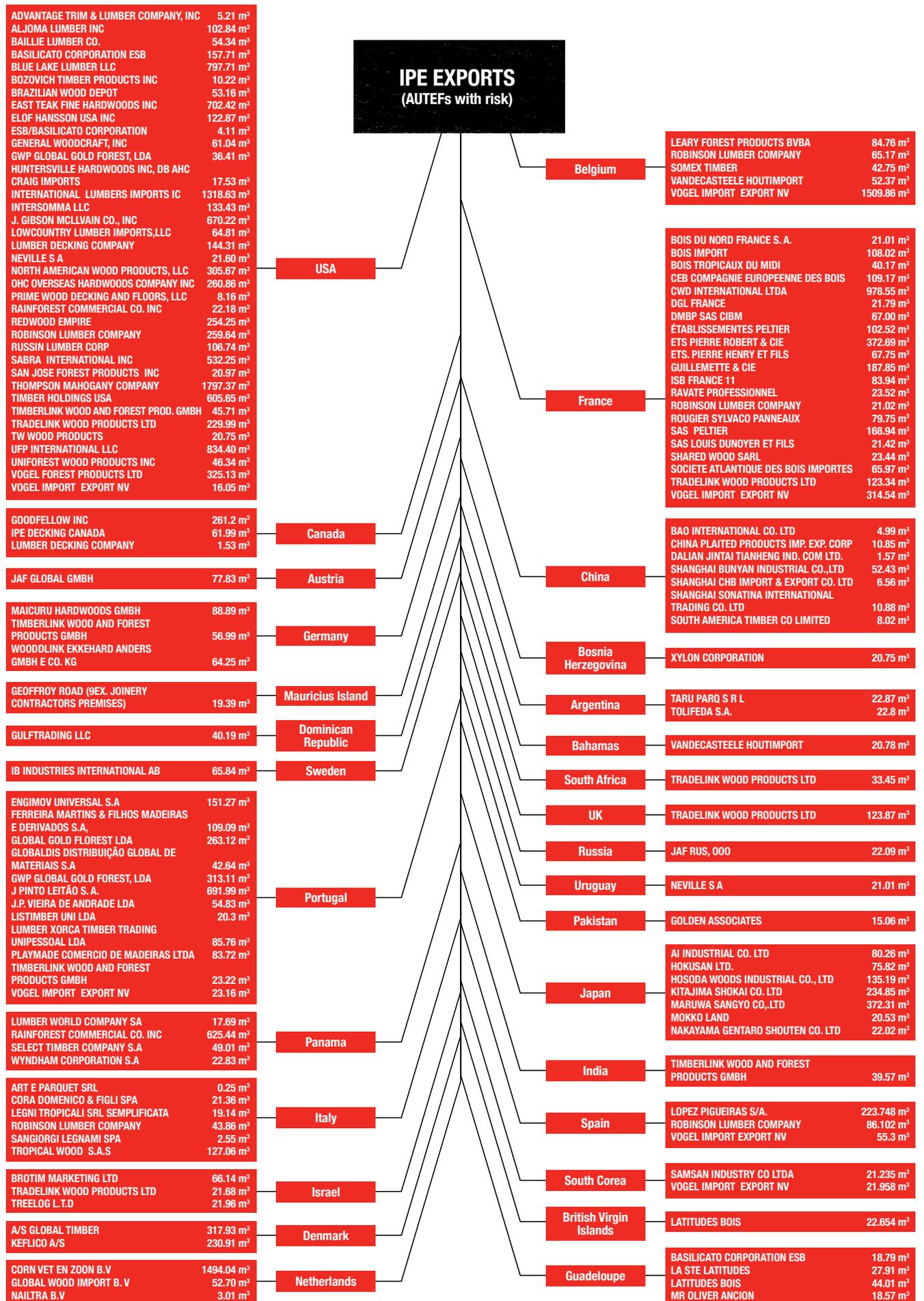
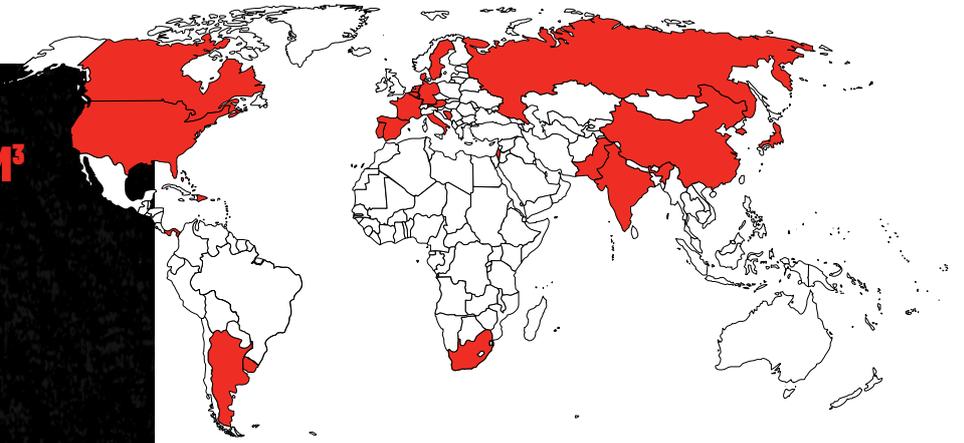


FIGURE 4. Summary of the destinations of Ipe timber originating in PMFs reporting unusually high densities of Ipe in their inventories (March 2016 until September 2017, according to the Sisflora 2 system).

COUNTRY TOTAL M³

US	10170,84
France	3002,51
Portugal	1862,24
Belgium	1754,92
Netherlands	1549,76
Japan	941,02
Panama	714,98
Denmark	548,84
Spain	365,15
Canada	324,73
Italy	214,23
Germany	210,14
UK	123,87
Israel	109,79
Guadeloupe	109,28
China	95,32
Austria	77,83
Sweden	65,84
Argentina	45,74
South Korea	43,19
Dominican Republic	40,19
India	39,57
South Africa	33,45
British Virgin Islands	22,65
Russia	22,09
Uruguay	21,01
Bahamas	20,78
Bosnia Herzegovina	20,75
Ihas Mauritius	19,39
Pakistan	15,06



A number of different species are known as Ipe: all are members of the genus *Handroanthus*. However, many in the timber trade still incorrectly refer to Ipe as belonging to the genus *Tabebuia*, in which the species were formerly included.

Mature Ipe trees of different species bear either bright pink, purple, yellow or white flowers in the Amazonian summer, making them stand out among the other forest trees. They yield a valuable wood, known for its durability.

The average population density of Ipe species in the Amazon region is just one tree per ten hectares.²⁵ This means that even though the timber is valuable, large areas of forest must be opened up in order to access the species in commercially viable quantities.

Ironically, the Ipe flower is considered Brazil's national flower. Different species can be found across the country, from north to south. Ipe trees have also been planted in many cities because of their beautiful flowers.

Ipe species are at serious risk of overexploitation. Logging companies are allowed to cut 90% of adult species, with a second cut allowed after twenty-five years. However, it is estimated that, after an initial 90% harvest, the density of one Ipe species (*H. impetiginosus*) would take at least 60 years to recover to pre-harvest levels.²⁶ This means that logging of Ipe even under official guidelines is nowhere close to being sustainable. Given that most logging is illegal, the risk of irreversible damage to Ipe populations is in all likelihood even greater.

Total volume, in cubic metres, of countries that most imported Ipe from PMFSs with suspected overestimation of densities in their inventories (March 2016 until September 2017, according to the the Sisflora 2 system).



Inspection in the PMFS AUTEF 272864/2016, in Rurópolis, Pará.

3. THE REALITY IN THE FIELD: ASSESSMENT OF SIX PMFSs IN PARÁ

During the period from 25 October to 4 November 2017, a Greenpeace Brazil team conducted field verification in the southwest of Pará state accompanied by researchers and technicians from Esalq/USP's Tropical Forestry Laboratory (Lastrop) and environmental analysts from Ibama. The mission sought to verify the accuracy of data regarding Ipe trees listed in the forest inventories submitted for PMFSs licensing.

To conduct the field survey, seven indicators detailed in the "Field Survey Manual for Forest Logging Management Plans in the Amazon" were adopted. The indicators were prepared by Ibama in partnership with the Brazilian Agricultural Research Corporation (Embrapa)²⁷ to meet the specific objectives of the field investigation.²⁸ The sample taken was as large as possible. In some cases, sampling was limited by research conditions in the field, but the minimum criteria

expected by the indicators were always respected. In some cases it was not possible to collect data for all indicators, but for all areas inspected the main information about botanical identification and tree location was always collected. Six AMFs with AUTEFs containing Ipe trees were visited so that the remaining trees and tree stumps listed as Ipe in the forest inventories could be assessed. Seven indicators of compliance (Figure 5) with correct technical forest management procedures were evaluated: botanical identification, the diameter at breast height (DHB)²⁹ of surviving trees or the diameter of the stump where the tree had already been cut, stump height, presence of identification tags, the locations of trees listed as Ipe, the designation of remaining trees (i.e. whether they had been intended to be cut or retained in the PMFS), and whether any cutting had occurred within the Permanent Preservation Area (APP)³⁰ of the AMF.

27 Pokorny, B., Sabogal, C., Galvão, C.A., Mendonça, R., Silva, J.N.M., Carvalho, J.O.P., Puerta, R. e Zweede, J. (2006). Manual de Vistorias de Campo para Planos de Manejo Florestal Madeireiro na Amazônia (Field Survey Manual for Forest Logging Management Plans in the Amazon). Brasília: Embrapa/Ibama. Available at http://bommanejo.cptu.embrapa.br/arquivos/1-Manual_de_Vistoria.pdf. The Brazilian Agricultural Research Corporation (Embrapa) is a technological innovation enterprise focused on generating knowledge and technology for Brazilian agriculture.

28 Esalq/USP followed the methodology outlined in the Field Survey Manual for Forest Logging Management Plans in the Amazon (Embrapa/Ibama, 2006). This guide defines a range of indicators to be used in assessing the different stages of preparation and implementation of logging management.

Substandard scores may result in the cancellation or suspension of a PMFS.

29 Diameter at breast height (DBH) is a very important dendrometric variable in forest work. Whenever possible the measurement of the DBH of a standing tree should be performed at a height of 1.3m. This measure together with the height of the tree can be used to estimate how many cubic meters of wood it can yield. Discussion of why this particular measure is used can be found at <http://www.mma.gov.br/port/conama/res/res09/res40609.pdf>

30 APP – Área de Preservação Permanente – Permanent Preservation Area. A protected area within a private or public estate, within which no logging operations are permitted.

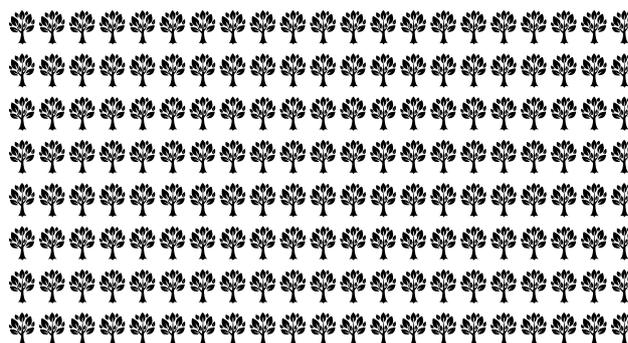
COMPLIANCE ASSESSMENT OF THE 7 INDICATORS

-  **Botanical Identification**
-  **Size (diameter)**
-  **Stump height**
-  **Identification tags**
-  **Location of trees listed as Ipe**
-  **Remaining trees***
-  **Logging in PPA****

*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
 **Permanent Preservation Area

FIGURE 5. Descriptions and minimal compliance limits of each of the seven indicators used in the field survey.

Indicator	Checker	Minimal Limit of Compliance%
Botanical identification	Botanical identification of remaining strumps of trees considered as Ipe in the forest inventory is correct	90%
Diameter	Diameter of stump or remaining tree surveyed is similar to inventory	100%
Stump height	Strumps do not exceed 40 cm in height, except in case of presence of sapopemas	100%
Identification tags	Presence or single-numbered labels in each sampled subject	90%
Location of the trees listed on the autefas Ipe	Strumps or trees remaining listed on forest inventory as Ipe are found in field	70%
Remaining Trees	Designation of the registered trees in the field is in line with the inventory information, the remaining trees being in good phytosanitary	100%
Logging in PPA	Cutting of Ipe trees in permanent Preservation reas	100%



168 Trees were assessed.

876 Notes were made using the seven indicators.

20%
Incorrect or inadequate

Using these indicators, a total of 876 evaluations were made, covering 168 Ipe trees (in some AMFs it was not possible to check all indicators for all trees). The field evaluation data was then compared with the data presented to the Pará Semas during the AMF licensing process. The comparisons and conclusions of the analysis for each of these areas are presented below.

As shown in Table 2, among the AMFs we investigated, the one with the “lowest” Ipe density was licensed with 2.29m³/ha, while the highest had a reported density of 9.76m³/ha. These values go far beyond those identified in the scientific literature.³¹

TABLE 1. AMFs surveyed

License number	Town	AUTEF	Expiry	Technician in charge
2012/0000003620	Rurópolis	35/2016	15/02/2014	Eder Jader Narciso Gomes
2015/0000019720	Placas	272883/2016	08/08/2017	Glauca de Fátima Gomes da Silva
2015/0000009766	Rurópolis	272864/2016	18/05/2018	Alisson Miler de Sousa Castro
2015/0000021925	Placas	272858/2016	03/05/2018	Glauca de Fátima Gomes da Silva
2016/0000032012	Uruará	273005/2017	12/04/2019	Evandro César Rodrigues
2016/0000033942	Mojú dos Campos	272961/2016	19/12/2018	Glauca de Fátima Gomes da Silva

TABLE 2. Population density and estimated Ipe volume declared at the surveyed AMFs.

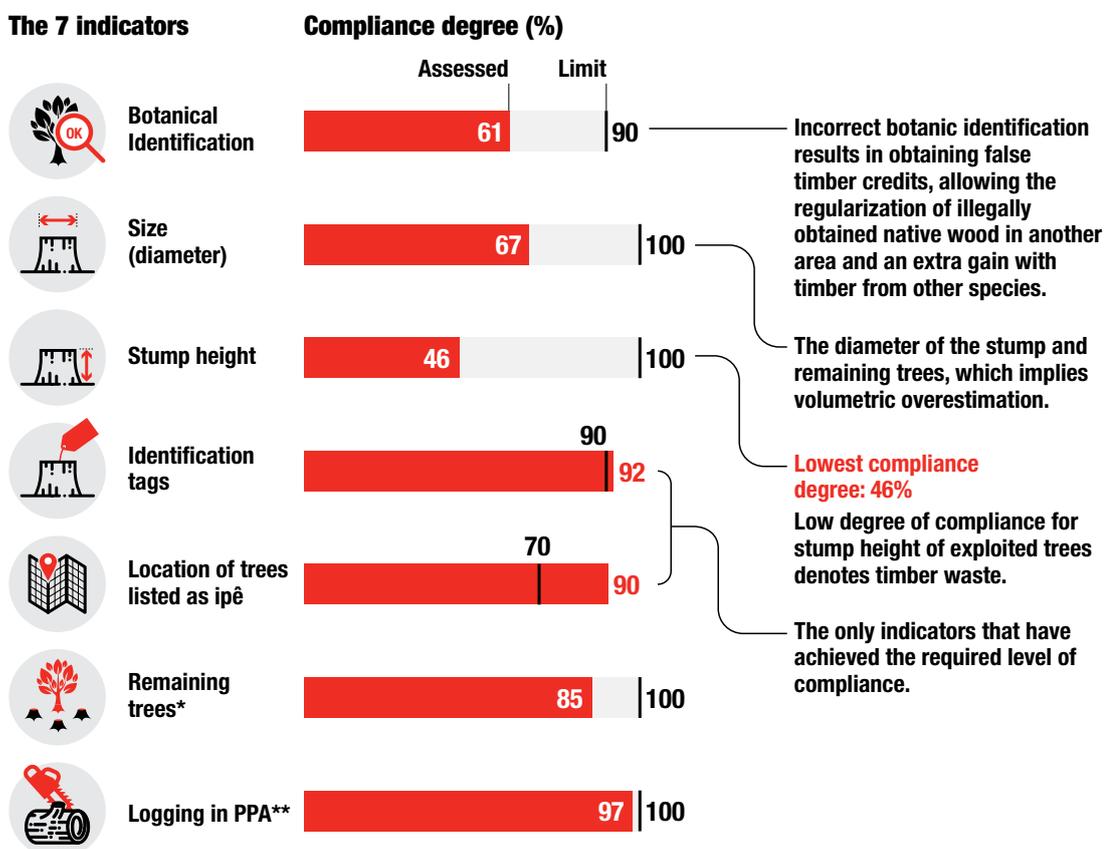
AUTEF	Total number of Ipe trees (N)	Population density by volume of Ipe trees (trees/ha)	Population density by volume of Ipe trees to be logged (m³/ha)
35/2016	47	3.40	3.10
272883/2016	25	2.64	2.29
272864/2016	39	3.40	3.14
272858/2016	50	6.13	5.85
273005/2017	141	2.91	2.65
272961/2016	62	11.65	9.76

The indicator with the second lowest level of compliance was botanical identification, at 61% (Figure 6). As already noted, incorrect botanical identification is a widely used means of fraudulently obtaining timber credits that can enable the laundering of wood illegally logged elsewhere.

All of the assessed trees had been identified as Ipe in the forest inventories of the respective PMFs. However, 39% of these in fact belonged to other species, having been deliberately or accidentally misidentified as Ipe. Among the 13 species incorrectly listed as Ipe, the most frequent were timborana (*Anadenanthera* sp.), jarana (*Lecythis lurida*) and tanimbuca (*Terminalia* sp.). To the naked eye, tanimbuca wood resembles that of Ipe and it is often mistaken for different species of Ipe – so much so that it has become known as

"Ipe-de-pobre" ("poor man's Ipe"). The jarana has bark very similar to that of Ipe. Timborana, also known as "angico", may have been misidentified due to its abundance in secondary forests with low potential for commercial timber extraction, such as the area under AUTEF 272961/2016 where it was recorded as the main species of "Ipe".

The investigation also identified a low level of compliance on recommended tree stump height, indicating a high incidence of timber being wasted. There was also widespread inaccuracy in the measurement of tree diameter (as checked against remaining stumps and retained trees), implying widespread overestimation of volume, by an average of 9% (Figure 6).



*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging **Permanent Preservation Area

FIGURE 6. Degree of compliance for each indicator evaluated, including all analysis at the six surveyed Forest Management Areas .

4. DNA OF FRAUD COMMITTED IN FOREST INVENTORIES IN THE STATE OF PARÁ

When analysing the results of post-harvest inspections conducted in AMFs in western Pará, the following evidence of fraud were found:

1. The tree or tree stump was located, but it was not Ipe. It was another species. The same tree number is listed as Ipe on the log transportation permit.

2. The tree or its stump was not located during field survey. The same number is listed on the log transportation permit as an Ipe log being transported to the sawmill.

After becoming operational in March 2016, the Sisflora 2 system introduced new parameters for tracking timber in circulation in the state of Pará. To obtain a log transportation permit, it is necessary to individually register every log and its volume, as shown in the chart below.

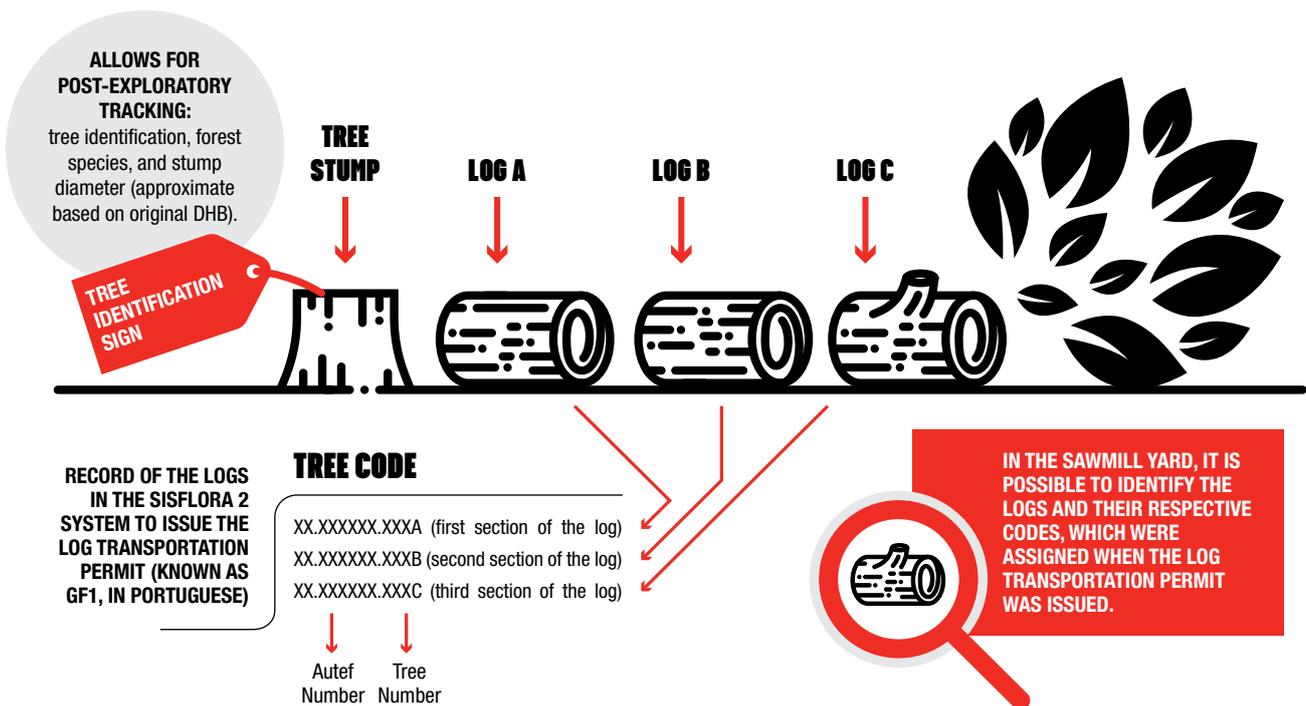


FIGURE 7. Scheme showing the possibility of tracking the chain of custody of timber products in the state of Pará.

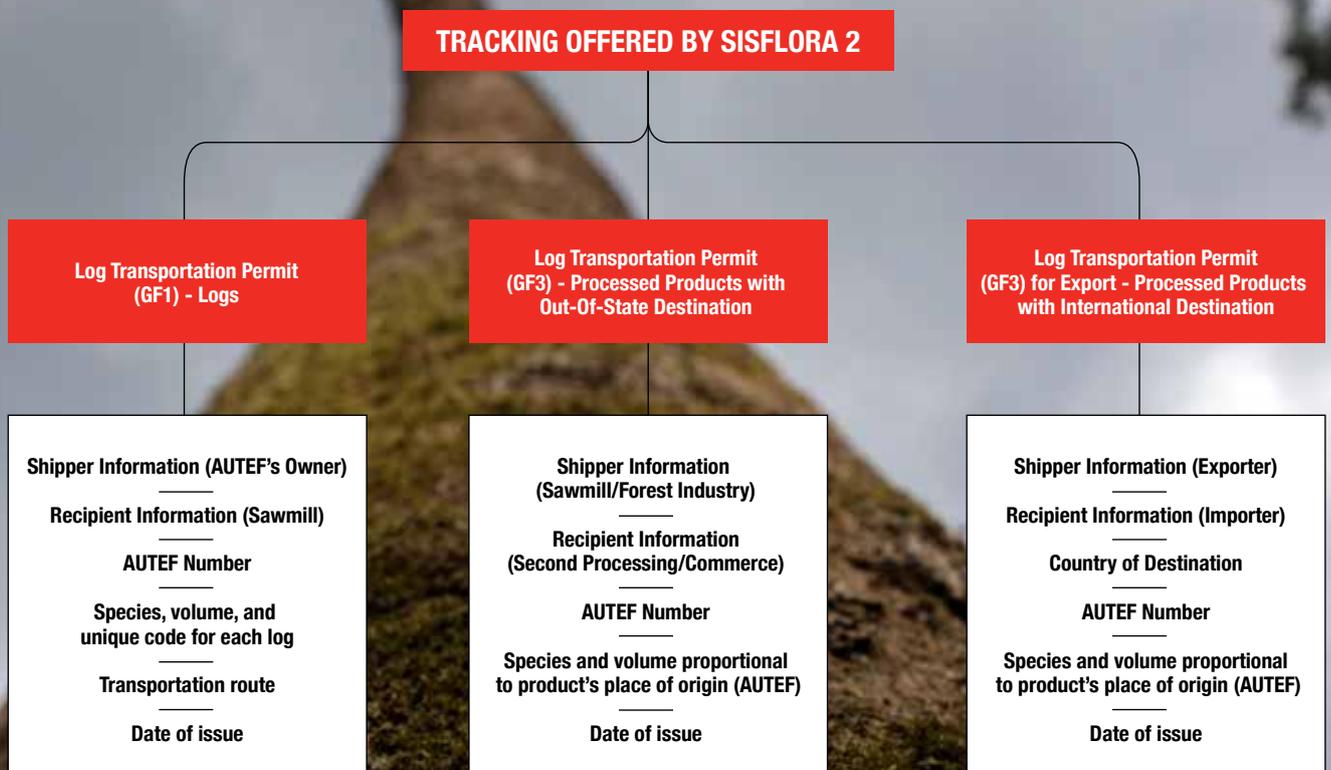
These data make it possible to identify whether the tree actually belongs to the correct species and has the same diameter and cubed volumes as is stated on the permit. It is also possible to identify the destination of every log.

After the log is processed, the sawed forest product, whether it is a board, rafter, beam, decking or flooring, will be listed on a transport permit for a processed forest product (known as GF3, in Portuguese). In order for such a permit to be issued, the Sisflora 2 system requires the AUTEF so that the product can be transported, either to the domestic market or for export.

A bundle of Ipe decking for export, for example, can contain wood originating from several different sources (AUTEFS). Thus, the Sisflora 2 system makes it possible to trace the entire contents of the cargo to the different places of origin registered by the sawmill, exporter and buyers.

Despite all the improvements in tracking processes, the system is not immune to fraud. Using data collected in the field from five management plans, it was possible to verify that trees of other species are giving rise to imaginary Ipe trees ("imaginary trees") in the authorized management plan. Credits obtained from AUTEFs are clearly also being used to legalize real Ipe trees originating from prohibited sources, such as protected areas and Indigenous lands.

FIGURE 8. Different levels of tracking offered by Sisflora 2 for timber production in the state of Pará



AMF SUBJECT TO AUTEF 35/2016

In this AMF, it was possible to make only 47 checks relating to nine trees listed in the inventory as Ipe. The indicator with lowest compliance was botanical identification, at 11% compliance (Table 3), with jarana (*Lecythis lurida*) being the species most frequently misidentified as Ipe. As was explained above, such a poor result for this indicator should trigger the suspension of the PMFS.

The diameters recorded were on average 9% smaller than those given in the inventory and no remaining tree or stump had a diameter that differed by more than 20% from those registered in the inventory, so there was no non-compliance for this indicator. Two of the sample trees had no identification tags and two did not match the destination information given in the inventory (one was still standing, despite having been assigned for cutting, and the other had been cut when it should not have been). This is lower than the required level of compliance, which should trigger a recommendation for corrective action for the next harvest.

Of the eight trees with errors in botanical identification, three remained and were found without harvesting in the PMFS. The other five had been cut, generating credits of 15 Ipe logs totalling 32.65 m³. All these credits were "sent" to a single sawmill, Robledilho e Cia Ltda - ME, located in the municipality of Rurópolis.

From this company, the processed wood was sent to two companies, Eco Flora Indústria e Comércio de Madeiras Ltda EPP and MP Trade of Madeiras Ltda - EPP.

Subsequently, the Ipe timber credits originating from this PMFS were exported to Canada and the USA. The importer companies and volumes can be seen on Table 4.

The 7 indicators	Notes		Total
	Incorrect/ Inadequate	Correct/ Adequate	
Botanical identification	8	1	9
Size (diameter)	0	5	5
Stump height	0	0	NA
Identification tags	2	7	9
Location	0	9	9
Remaining trees	3	6	9
Logging in PPA	0	0	NA

TABLE 3.
Compliance with
indicators in the
AMF of AUTEF
35/2016.

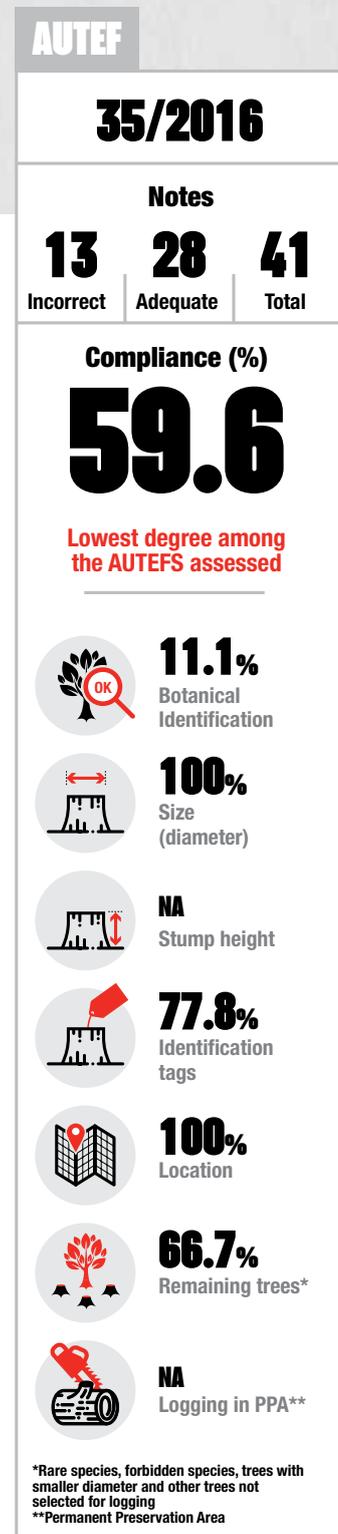


TABLE 4. List of importer, country destination, product and volume of commercialized timber with origin declared as the AMF of AUTEF 35/2016.

Importer	Country Destination	Product	Volume m ³
GOOGDFELLOW INC.	Canada	Ipe Decking	7.63
ROBINSON LUMBER COMPANY	USA	Ipe Decking	18.98
SABRA INTERNATIONAL, INC.	USA	Ipe Decking	20.18

AMF SUBJECT TO AUTEF 272883/2016

In this AMF all 21 trees classified in the inventory as Ipe were sampled. The primary strategy used to overstate the volume of Ipe timber in this AMF appears to have been botanical misidentification, with specimens of sucupira (*Bowdichia* sp.), abiu-guajará (*Pouteria* sp.), sapucaia (*Couratari* sp.), tanibuca (*Terminalia* sp.), timborana (*Anadenanthera* sp.) and itaúba (*Mezilaurus* sp.) (which is a very abundant species in this area), all misidentified as Ipe trees. For this indicator, the degree of compliance was 57% (Table 5), well below the required level (90%). Most of the trees with incorrect identification had been logged by the time of the field survey, and all of them had been credited as Ipe in the Sisflora system.

In view of the high level of non-compliance on the critical 'botanical identification' indicator, this PMFS should be suspended under the regulations established by the Ibama and Embrapa manuals. It also fell below the required level of compliance on other indicators, but these would trigger no punitive action, only recommendations or corrective actions for the next harvest.

The field survey found that most of the sample trees located near the entrance to the AMF complied with the indicators assessed, whereas practically all those located furthest from the entrance were non-compliant, mainly with regard to botanical identification and diameter.

Of the nine trees with errors in botanical identification, four remained and were found without harvesting in the PMFS. The remaining five trees had been cut and generated credits of 22 Ipe logs in the system, totalling 47.26 m³. These credits were "sent" to two sawmills, Indústria e Comércio de Madeiras Rabelo Ltda-ME, located in the municipality of Rurópolis (one "log" with 1.75 m³) and Norte Pará Indústria e Comércio de Madeira S Eirelli-EPP located in the municipality of Uruará (21 "logs" with 45.51m³).

Only the destination of the processed wood from the Norte Pará Indústria e Comércio de Madeira S Eirelli-EPP was identified. It was sent to one company, Coexpa Comércio e Exportação de Produtos da Amazônia Eireli. The Ipe timber originating from this PMFS was exported to France and the USA. The importer companies and volumes can be seen on Table 6.

The 7 indicators	Notes		Total
	Incorrect/ Inadequate	Correct/ Adequate	
Botanical identification	9	12	21
Size (diameter)	3	12	15
Stump height	0		NA
Identification tags	3	18	21
Location		21	21
Remaining trees	2	19	21
Logging in PPA	0		NA

AUTEF

272883/2016

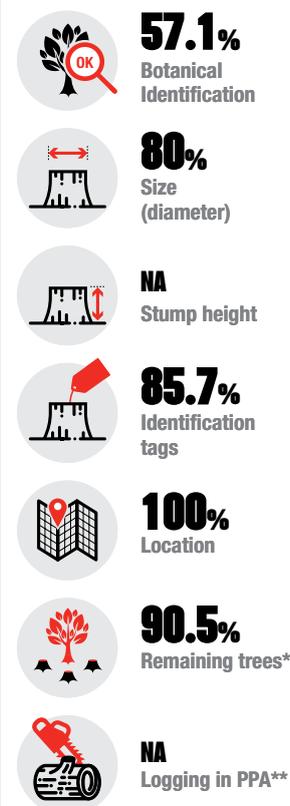
Notes

17	82	99
Incorrect	Adequate	Total

Compliance (%)

82.8

TABLE 5.
Compliance
with indicators
in the AMF
of AUTEF
272883/2016.



*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
**Permanent Preservation Area

TABLE 6. List of importer, country destination, product and volume of commercialized timber with origin declared as the AMF of AUTEF 272883/2016.

Importer	Country Destination	Product	Volume m ³
BRASILIAN WOOD DEPOT	USA	Ipe Decking	1.89
ETS PIERRE ROBERT & CIE	France	Ipe Decking	19.93
ETS PIERRE ROBERT & CIE	France	Industrialized wood	2.51

AMF SUBJECT TO AUTEF 272864/2016

In this AMF, 15 Ipe trees were selected for the field survey. However, only seven were found in the locations identified, and on these only 50 observations could be made. Three of the seven indicators achieve 100% of compliance (Table 7). A majority of the stumps sampled were not in compliance with height requirements, i.e. a height from top of the stump to ground of greater than 40 cm. Therefore, this AMF has the lowest performance (33.3%) in the survey on this indicator. This should lead to corrective action for the next harvest. Of the 15 Ipe trees surveyed, only seven were located (Table 7) on the correct spot, even though this was the only PMFS that provided geographical coordinates. Table 7 – Compliance with indicators in the AMF of AUTEF 272864/2016.

Of the 15 target trees listed as Ipe in the inventory, 13 are listed in Sisflora as having been cut and sold. Seven of the eight trees that were not found during the field survey are registered as having been sold.

The seven trees generated credits of 19 Ipe logs in the system, totalling 64.71 m³. These credits were "sent" to one sawmill, AC Ribeiro Indústria e Comércio de Madeiras Ltda, located in the municipality of Trairão.

From this company, the processed wood was sent to Wizi Indústria Comércio e Exportação de Madeiras Ltda. Subsequently, Ipe timber originating from this FMP was exported to Portugal and the USA - the importer companies and volumes can be seen in Table 8.

In addition to the samples, it was possible to verify that manholes were left clogged up, causing flooding of the nearest riparian zone and resulting in the destruction of native vegetation. Several logs were also observed in the yard. Finally, we were also able to verify that logging had occurred prior to the licensing of activities. We observed older stumps, including in locations indicated for Ipe trees that were not found.

The 7 indicators	Notes		Total
	Incorrect/ Inadequate	Correct/ Adequate	
Botanical identification	0	7	7
Size (diameter)	1	6	7
Stump height	2	1	3
Identification tags	0	7	7
Location	8	7	15
Remaining trees	2	5	7
Logging in PPA	4	0	4

AUTEF

272864/2016

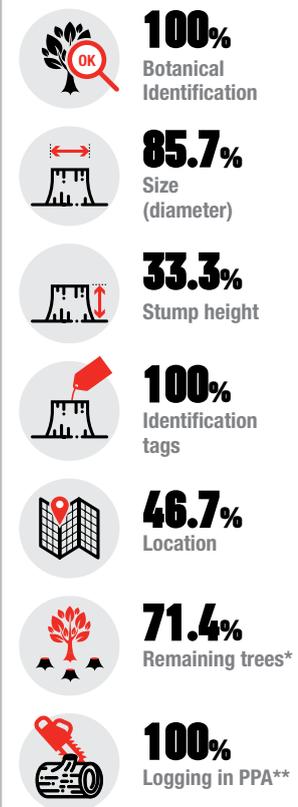
Notes

13	37	50
Incorrect	Adequate	Total

Compliance (%)

74

TABLE 5.
Compliance with indicators in the AMF of AUTEF 272883/2016.



*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
**Permanent Preservation Area

TABLE 8. List of importer, country destination, product and volume of commercialized timber with origin declared as the AMF of AUTEF 35/2016.

Importer	Country Destination	Product	Volume m ³
EAST TEAK FINE HARDWOODS, INC	USA	Ipe Decking	93.38
J PINTO LEITÃO S.A.	Portugal	Ipe Decking	3.98
RUSSIN LUMBER CORP	USA	Ipe Decking	17.56

AMF SUBJECT TO AUTEF 272858/2016

In this AMF, 36 of 40 trees listed in the inventory as Ipe were verified. 184 checks were carried out against six of the seven indicators, since no stump height measurements were taken in this AMF. For some trees, it was not possible to collect all the data sought. Among the indicators assessed, only remaining trees corresponded fully to the information given in the inventory. Only two trees had no identification tags, so the level of compliance for this indicator (94%) was within the tolerance limit. Compliance on all the other indicators fell below the required level, including the two most critical indicators: botanical identification and location. Non-compliance on these indicators leads to the severest sanctions, including the suspension of the AUTEF.

Two trees located within the APP of this AMF and listed in the inventory as Ipe had been cut. This is regarded as an evidence of an environmental crime, which may attract a fine and a requirement for urgent corrective actions to be carried out within 30 days.

Four trees were found to have errors in their botanical identification and five Ipe trees were not found. These generated credits of 32 Ipe logs in the system, totalling 101.721 m³. These credits were "sent" to two sawmills, Edite de Miranda Empreendimentos-ME and TE Madeiras Ltda-ME, both located in the municipality of Rurópolis.

From there, the processed timber was sent to two companies, Nelson da Silva Indústria Eirelli-EPP and American Floor Indústria e Comércio Ltda-EPP. No exports from these companies were identified during the research.

AUTEF

272858/2016

Notes

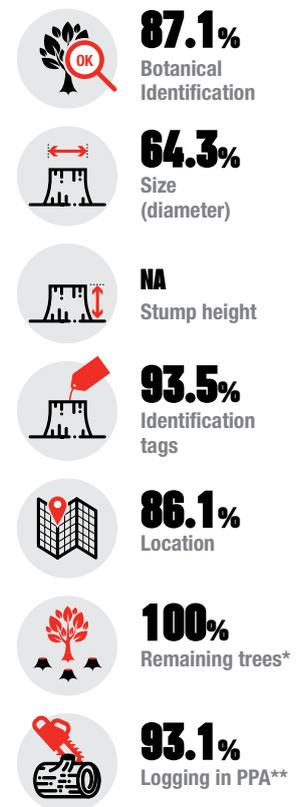
23 **161** **184**
Incorrect Adequate Total

Compliance (%)

87.5

Highest degree among the AUTEFs assessed

TABLE 9.
Compliance with indicators in the AMF of AUTEF 272858/2016.



*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
**Permanent Preservation Area

The 7 indicators	Notes		Total
	Incorretas/inadequadas	Correct/Adequate	
Botanical identification	4	27	31
Size (diameter)	10	18	28
Stump height	0		NA
Identification tags	2	29	31
Location	5	31	36
Remaining trees		29	29
Logging in PPA	2	27	29

AMF SUBJECT TO AUTF

273005/2017

In this AMF, 54 sample trees were verified, involving a total of 341 checks. Some non-compliance was identified on all indicators, except on cutting within the APP (Table 10). On identification tags and location, levels of compliance – of 90% and 70% respectively – were within the tolerance limits.

For the remaining indicators compliance was below the required level.

Analysis of the forest inventory for this AMF showed four duplications of Ipe trees. This means that different trees were tagged with the same number.

Greenpeace Brazil did not gain access to the complete chain of custody from this PMFS. However, we were able to identify the destinations of the Ipe timber produced there, which was exported to the Netherlands, France, Canada and Portugal. The importer companies and volumes can be seen on Table 11.

The 7 indicators	Notes		Total
	Incorretas/ inadequadas	Correct/ Adequate	
Botanical identification	10	44	54
Size (diameter)	16	34	50
Stump height	11	13	24
Identification tags	2	52	54
Location	1	53	54
Remaining trees	13	41	54
Logging in PPA		51	51

AUTF

273005/2017

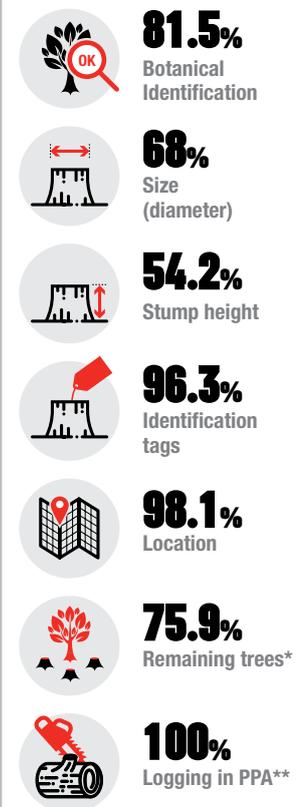
Notes

53	288	341
Incorrect	Adequate	Total

Compliance (%)

84.5

TABLE 10.
Compliance with indicators in the AMF of AUTF 273005/2017.



*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
**Permanent Preservation Area

TABLE 11. List of importer, country destination, product and volume of commercialized timber with origin declared as the AMF of AUTF 273005/2017.

Importer	Country Destination	Product	Volume m ³
CORN. VET EN ZOOM B.V.	Netherlands	Ipe Decking	165,97
ETS PIERRE ROBERT E CIE.	France	Ipe Decking	64,40
GOODFELLOW INC	Canada	Ipe Decking	2,19
GWP, LTDA	Portugal	Ipe Decking	38,73

AMF SUBJECT TO AUTEF 272961/2016

The high abundance of vines and the predominance of secondary forest species in this AMF indicated that the forest was in process of regeneration. Although the investigators verified that the extracted logs were classified on the Sisflora system as harvested and transported, many of them remained in the forest – they had not been moved to the sawmill or even to the nearest log yard.

In this AMF, 32 sample trees listed as Ipe were selected for investigation, but only 30 stumps of these trees were found. A total of 183 indicator checks were completed, revealing numerous errors and shortcomings. Performance was worst on the botanical identification indicator, with only 7% compliance (Table 12). This was the worst result of any the six AMFs surveyed. Most of the trees checked were specimens of timborana (*Anadenanthera* sp.), but tanimbuca (*Terminalia* sp.) and jarana (*Lecythis lurida*) had also frequently been misidentified in the inventory as Ipe. As noted above, a level of compliance of less than 90% for this indicator should lead to the suspension of the AUTEF. Of the 30 trees listed as Ipe in the inventory, 29 had already been entered into the Sisflora system as harvested Ipe, with credits generated accordingly. The systematic misidentification of these trees constitutes evidence of fraud.

The diameter and height of the stumps sampled were compliant in only 41% and 27% of the trees measured, respectively (Table 12). It is important to note that not all trees were checked with this indicator. Due to a lack of time in the field the research team focused on botanical identification. Non-compliance on these indicators is not tolerated by the authorities, triggering corrective action recommendations for the next harvest. Among the flaws observed in relation to identification tags, there was a duplication of numbering for two sample trees and a tag number missing from another.

The 7 indicators	Notes		Total
	Incorrect/ Inadequate	Correct/ Adequate	
Botanical identification	28	2	30
Size (diameter)	13	9	22
Stump height	8	3	11
Identification tags	3	27	30
Location	2	30	32
Remaining trees	5	27	32
Logging in PPA	0		NA

TABLE 12.
Compliance
with indicators
in the AMF
of AUTEF
272961/2016.

AUTEF

272961/2016

Notes

59 98 157

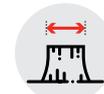
Incorrect Adequate Total

Compliance (%)

62.4



6.7%
Botanical
Identification



40.9%
Size
(diameter)



27.3%
Stump height



90%
Identification
tags



93.8%
Location



84.4%
Remaining trees*



NA
Logging in PPA**

*Rare species, forbidden species, trees with smaller diameter and other trees not selected for logging
**Permanent Preservation Area

This amounts to 90% compliance, right at the limit of what is deemed acceptable by the Field Survey Manual. The location of trees listed as Ipe was also within the tolerance, since investigators successfully located all but two of the 32 sample trees.

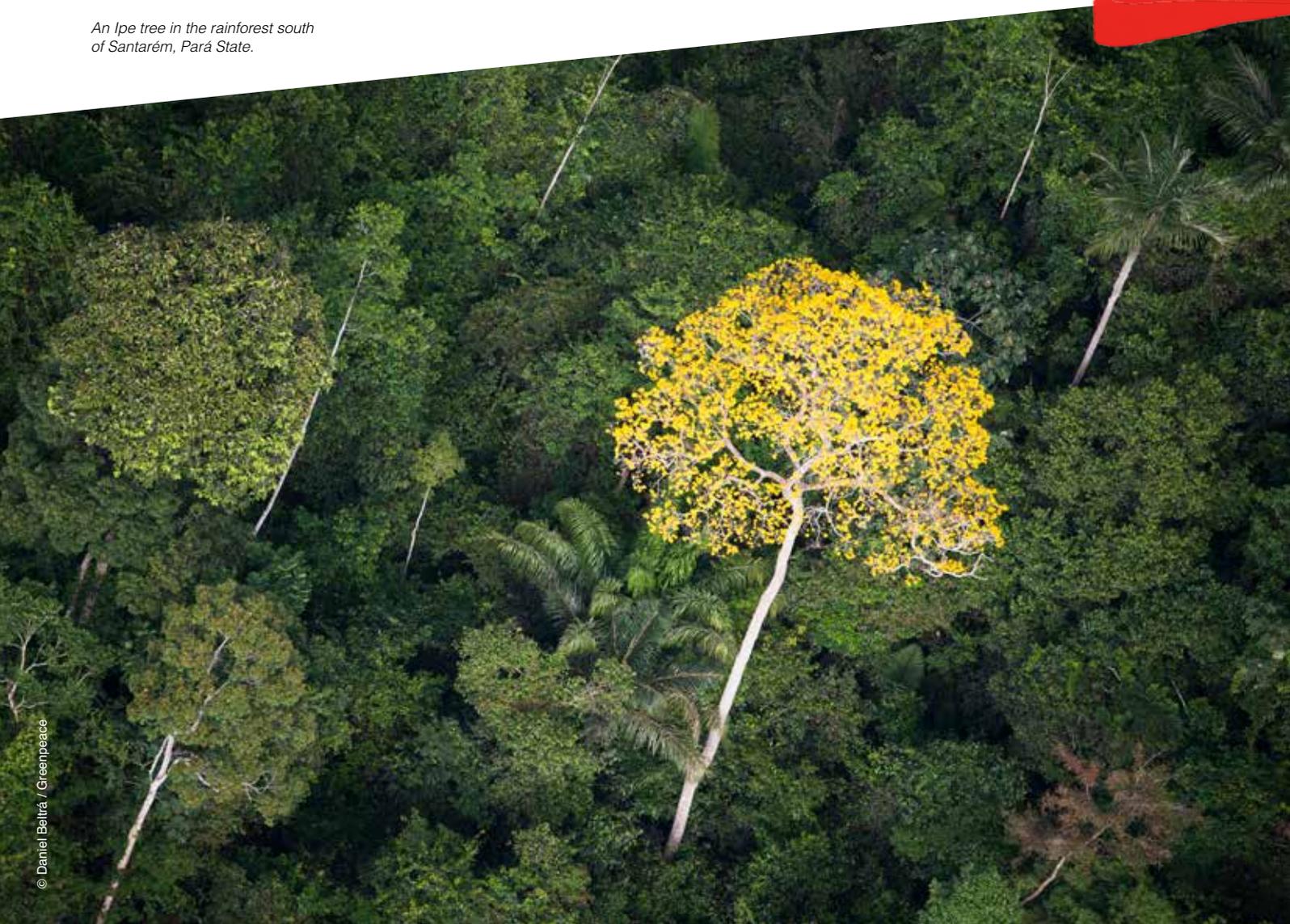
Of the 32 Ipe trees, two trees were not found and one was not identified in the list of those sold. The remaining 29 trees had been cut and generated credits of 81 Ipe logs in the system, totaling 191.44 m³. These credits were "sent" to one sawmill, Industrial Madeireira Santa Catarina Ltda, located in the municipality of Santarém.

From this company, Ipe timber originating from this PMFS was exported to Portugal, France and South Korea. The importer companies and volumes can be seen in Table 13.

TABLE 13. List of importer, country destination, product and volume of commercialized timber with origin declared as the AMF of AUTEF 272961/2016.

Importer	Country Destination	Product	Volume m ³
GWP LTDA	Portugal	Ipe Decking	62.38
ISB FRANCE 11	France	Ipe Decking	41.95
SAMSAN INDUSTRY CO LTDA	South Korea	Ipe Decking	21.35

An Ipe tree in the rainforest south of Santarém, Pará State.





Experts from IBAMA measure the volume of the timber and do the botanical identification in a sawmill suspected of receipt of illegal lpe, in Uruará, Pará.

CONCLUSIONS OF FIELD SURVEY

The six AMFs assessed presented evidence of different strategies used to overstate the volume of lpe declared in their PMFS forest inventories. Incorrect botanical identification, oversizing and the listing of non-existent trees were among the main strategies used.

The Greenpeace Brazil/USP investigation confined itself to on-the-ground verification of inventory information relating to a single genus of high commercial value in a sample of AMFs. Nevertheless, its findings are enough to demonstrate the weakness of the current forestry licensing and control system.

Incorrect recording of data such as DBH and commercial height must not be tolerated. Such practices lead to the overstating of volumes of commercially valuable species, enabling the fraudulent acquisition of forest credits and, subsequently, the laundering of illegally logged timber.

At present, even though Semas' technical surveys detect overstated volumes in as much as 50% of trees sampled, logging is still allowed to continue³² with the only sanction being the requirement to implement corrective action before the next harvest. For AMFs covering a single UPA, as was the case for all those included in the Greenpeace Brazil/USP investigation, such action will only be required after the first logging cycle is complete – assuming that the forest is still standing at that point.

In order to avoid the irreparable loss of species with high commercial value and the biodiversity associated with

them – and, more generally, to avoid the degradation caused by illegal logging, with all its negative impacts on forest biodiversity and local communities as well as broader climate impacts – it is important that the production, harvesting and trading of timber are halted until the current problems in the licensing and control systems are addressed. This will allow the market to ensure production is legal, sustainable and respects local communities. Without this measure, national and international consumers of Brazilian tropical timber will remain exposed to illegal practices. While this is the case, we must consider Amazonian wood as high risk and suspend all purchases.

The licensing of Pará state Forest Management Plans was the focus of this report. However, there is no evidence that other timber-producing states in the Amazon are doing a better job, irrespective of the system they use. This is because the problem lies in process of data generation itself, which affects the entire industry.

There needs to be greater accountability and commitment from the licensing authorities in physically verifying areas identified in forest inventories, so as to avoid fraud being discovered only after the forest has been degraded. If Greenpeace Brazil and Ibama were able to carry out these checks, licensing agencies and buyers interested in acquiring legal timber can too. The tools are available and the method presented – using only seven compliance indicators, focussed on species with higher commercial value – should help to make this process faster and more effective.

³² Technical Report on PMFS field survey for monitoring purposes, conducted by Semas during 05/22 to 06/16/2017.



*Tree set for inspection in the PMFS
AUTEF 273005/2017, in Uruará, Pará.*

5. DEMANDS

Brazil urgently needs forestry governance and an enforcement system that are capable of ensuring that Amazon timber is extracted only in full compliance with applicable laws and the legal rights of traditional peoples regarding forest use and land tenure.



- > Develop a transparent, centralised system, integrated with state forestry licensing systems, to monitor the chain of custody, recording the identities of the companies that buy and sell timber at a national level, and that will automatically reject transport documents showing evidence of the most common forms of fraud.
- > End impunity for environmental crimes, ensuring that companies and individuals convicted of infractions pay all required fines and comply with all sanctions.

At the same time, Greenpeace Brazil calls on timber importers to:

- > Stop buying timber from the Brazilian Amazon unless their suppliers, in addition to presenting official documentation, can provide reliable independent evidence (such as PMFSs, third-party field audits and forest inventories) that the product is legal and sustainable and that its harvesting respected the legal rights of third parties in relation to forest use and tenure.
- > Considering the chronic problems affecting the licensing, monitoring and inspection of Brazil's timber sector, evaluation of documents issued by government bodies are not sufficient for guaranteeing legality. Companies wishing to continue trading and buying Amazonian timber should carry out their own physical surveys in PMFSs, sawmills and other links in the production chain. This should be carried out via third-party audits realized by individuals, organizations or companies with appropriate knowledge and understanding of the industry and its practices. Once complete, companies should publish the results of these audits with complete transparency.
- > Actively support the reform of forest licensing and forest control credit systems in Brazil, monitoring and inspecting the timber industry to ensure that timber from the Brazilian Amazon is legally produced.

To achieve this, Greenpeace Brazil demands that the Brazilian Federal government and the state authorities of timber-producing Amazon states:

- > Review all PMFSs, carrying out detailed field surveys in all AMFs whose inventories show lpe density above the scientifically plausible maximum, and suspend all PMFSs that display evidence of fraud in their forest inventories.
- > Develop and implement an integrated, transparent and accessible licensing system for PMFSs that, through automatic locks, will avoid the licensing of areas that have already been exploited and the declaring of overestimated quantities of timber. This will ensure that the forest control system is not flooded with fraudulent credits that facilitate the laundering of illegally logged timber.

Finally, Greenpeace Brazil calls on competent authorities in importing countries to:

- > Investigate companies within their jurisdiction that have been identified in Greenpeace's Brazil report, ascertaining what measures they have taken to mitigate the risk of illegal timber from the Brazilian Amazon entering the market, and taking appropriate measures in response.
- > In the case of authorities in EU countries, consider a company in breach of the EU Timber Regulation (EUTR) if it is unable to provide credible evidence that it has adopted measures that go beyond the simple presentation of official documents in order to mitigate the risk of illegality in its supply chain, imposing appropriate penalties as necessary.



GREENPEACE

Greenpeace Brasil
Rua Fradique Coutinho, 352,
Pinheiros, CEP 05416-000
São Paulo/SP, Brasil

www.greenpeace.org.br