

OUR
HERITAGE

ENDANGERED

Why
amazon's
conservation
units are
at risk



CRE DITS

CREATION AND REVISION

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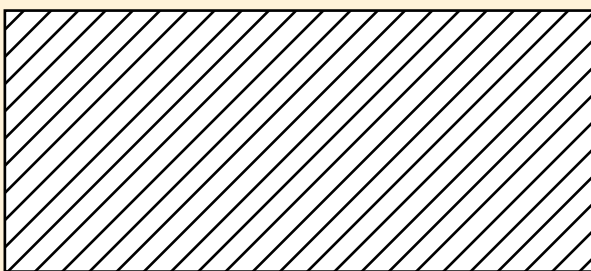
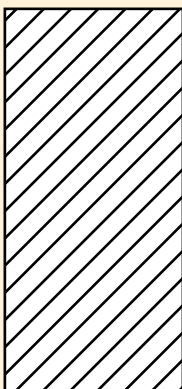
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INTRODUCTION

WHY IS IT
IMPORTANT TO
TALK ABOUT THE

MAZON?



Adriano Gambarini

From the micro to the macro level, the Amazon rainforest is grand. It houses the greatest biodiversity on Earth. Its plants contain substances used to fight diseases, such as *Uncaria tomentosa*, which is used against inflammatory ¹ processes. They are also used in the cosmetic industry, like the copaíba balm, a scent ² fixative. Apart from that, the Amazon offers countless other services to the environment. It acts upon rain formation, which directly supports agriculture and hydroelectric power generation. It assists in regulating the climate of the whole South America, preventing extreme climate events like hurricane formation. It stocks carbon directly mitigating glob-

↑ Intentional forest fires open the way for the devastation to expand. The fires often get out of control

IN RELATION TO THE
DEFORESTATION
RATE IN THE WHOLE
OF THE AMAZON,
THE DEFORESTATION
RATE INSIDE THE
CONSERVATION
UNITS HAS ALMOST

DOUBLED
IN TEN
YEARS

al warming. It contains cultural wealth as well; with a population of 343 thousand indigenous people, ³ it houses most of Brazilian tribes and supplies local communities with resources. All that diversity attracts tourists. Nature is the second most common reason why foreign tourists come to Brazil, according to the Ministry of Tourism.

All this grandeur must be well cared for. Brazil's immense natural heritage can benefit the whole country, if administered sensibly. One of the strategies to organize the sustainable use of the region includes the creation and administration of a network of Conservation Units (CUs). CUs have several objectives: some establish restrictions to their use, in order to pre-



Arakim Monteiro

serve their natural resources. Others allow the sustainable extraction of wood. They have in common the objective of avoiding the plundering of the region and ensuring that it can provide its benefits to people today and in the future.

However, the Conservation Units are under attack. Some cattle farmers, gold miners, lumberers and land speculators, either out of misinformation or out of greed, invade and damage these areas - which are public property - for their own profit. One of the main findings of this study is that deforestation rates are still high inside the Conservation Units. In 2017, the deforestation rate was twice that of 2012, which was the lowest in the period under study. Another worrying trend is the apparent decrease in the efficiency of their protection. In ten years, the deforestation rate inside the Conservation Units has almost dou-

↑ The beaches in Tapajós River show the touristic potential of well preserved nature

bled in participation in the total deforestation in the Amazon. It went from 7%, in 2008, to 13%, in 2017. Data released in 2018 by the Instituto Nacional de Pesquisas Espaciais - INPE (National Institute of Spatial Research) show that the increase in deforestation in the region has started again between 2017 and 2018, reaching its highest rate in the last 10 years. The good news is that society is vigilant. It grows increasingly aware that the fraudulent appropriation of public areas results in loss for all and, therefore, wants to know more.

This report gathers some of the most recent information from the Instituto do Homem e Meio Ambiente da Amazônia on the subject. It's a contribution so that society can monitor and better understand the health of the largest rainforest in the world, which belongs to all of us.


**SOCIETY GROWS
INCREASINGLY
AWARE THAT
THE FRAUDULENT
APPROPRIATION
OF PUBLIC AREAS
RESULTS IN**

**LOSS
FOR ALL**

EXECUTIVE
SUMMARY

THE
STATE
OF THE

CON SER VA TION

A stylized map of the United States is overlaid on the text. The map is filled with diagonal hatching and is positioned across the middle of the page, partially covering the letters 'R' and 'V' of the word 'CONSERVATION'.

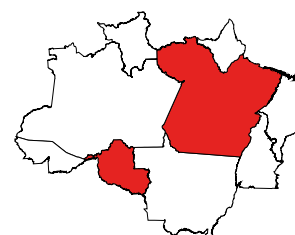
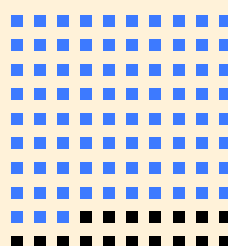
UNITS

THE STUDY WAS CONDUCTED USING THE DEFORESTATION RATES PROVIDED BY PRODES, THE MONITORING PROJECT OF THE NATIONAL INSTITUTE OF SPACE RESEARCH (INPE), FROM AUGUST 2012 TO JULY 2017.

DEFORESTATION RATES REMAIN HIGH

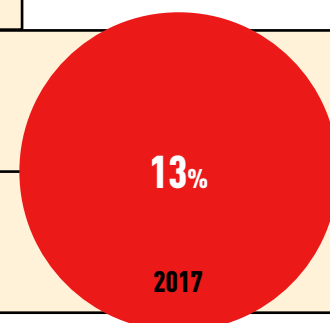
WITHIN THE 50 MOST DEVASTATED CONSERVATION UNITS (CUS), DESPITE THE REDUCTION IN SPEED (RATE) IN 2017. IN 2017, THE DEFORESTATION RATE WAS TWICE THAT OF 2012, THE LOWEST IN THE PERIOD EVALUATED.

Most of the deforested land in the Amazon became pasture, that is, 83% of total area. This pasture presents varying degrees of degradation



Rondônia and Pará are the two leading states in deforestation within CUs. The five most deforested Conservation Units are within these states.

THE SHARE OF DEFORESTATION IN CUS IN RELATION TO THE TOTAL IN THE AMAZON **ALMOST DOUBLED** IN TEN YEARS. IT WENT FROM 7% IN 2008 TO 13% IN 2017



In **2008**, the government implemented policies focused on **monitoring** critical municipalities, restricting credit to those who were not complying with environmental regulations, confiscating assets involved in deforestation and cattle. Between 2008 and 2009, the total deforested within the protected areas of the Amazon fell from 98,301 hectares to 64,904 hectares.

In **2012**, the new Forest Code (Código Florestal) came into force **forgiving** part of what was illegally deforested in the past. There was a reduction in the size of CUs and a weakening of environmental protection laws. From 2012 to 2013, the total deforested area at the CUs has increased from 45,068 to 64,284 hectares.

THE MOST DEFORESTED CUs ARE

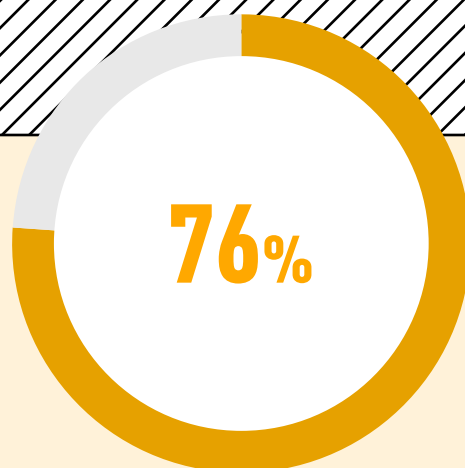
APA TRIUNFO DO XINGU (PA)
FLOREX RIO PRETO-JACUNDÁ (RO)
RESEX JACI-PARANÁ (RO)
APA RIOPARDO (RO)
FLONA DO JAMANXIM (PA)*

* Except for the last one, all others are managed by the states. Together, they account for 65% of everything that was subtracted within CUs in the period.

NEARLY
HALF OF ALL
DEFORESTATION
AT CUS IN
THE PERIOD
OCCURRED IN
ENVIRONMENTAL
PROTECTION
AREAS.

THE MOST DEVASTATED UNITS BY CATEGORY

ENVIRONMENTAL PROTECTION AREA (APA)
EXTRACTIVE RESERVE (RESEX)
NATIONAL FOREST (FLONA)
STATE FOREST (FLOTA)
EXTRACTIVE FOREST (FLOREX)
NATIONAL PARK (PARNA)
STATE PARK (PES)



State CUs account for 76% of deforestation within the 50 areas surveyed. Of the 11 APAs in the list of the 50 most affected PAs, only one is federal.

The Area of Relevant Ecological Interest (Arie) Seringal Nova Esperança, federal UC, in Acre, was the second to last most deforested area. Only 610 hectares were reduced. But the deforested area was **23,71%** of the Seringal total territory.



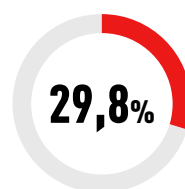
DEFORESTATION MOVES

TO NEW FRONTIERS, REACHING VULNERABLE CUS IN AREAS SUCH AS SOUTHERN AMAZONIA. AS THERE ARE FEWER CONSERVATION UNITS WITHIN THE STATES OF RORAIMA AND MATO GROSSO, THE TOTAL RATE OF CU LOSS OF THEM SEEMS SMALLER. THE SAME HAPPENS WITH MARANHÃO, WHICH HAS ALREADY LOST MUCH OF ITS AMAZON FOREST COVERAGE.

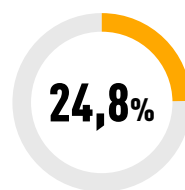
Federal and state governments continue to try to reduce the protection of public assets.

In the last two years, it could have been worse, but society, part of the private sector and the public power (such as environmental analysts, lawmakers, prosecutors and judges) blocked attempts to reduce. This was done by campaigns, protests and lawsuits.

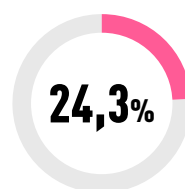
The conservation units that lost more than 20% of the total forest cover were:



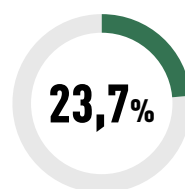
FLORSU MUTUM
(RONDÔNIA)



APA DO RIO PARDO
(RONDÔNIA)



RESEX JACI-
PARANÁ
(RONDÔNIA)



ARIE SERINGAL
NOVA ESPERANÇA
(ACRE)

Effective long-term protection will rely on measures to support the sustainable use of areas. **Increased tourism and forest management of Conservation Units can generate local benefits and raise support for the conservation.**

GENERAL TENDENCY

WHAT IS
HAPPENING TO
THE CONSERVATION

UN
TS?

T

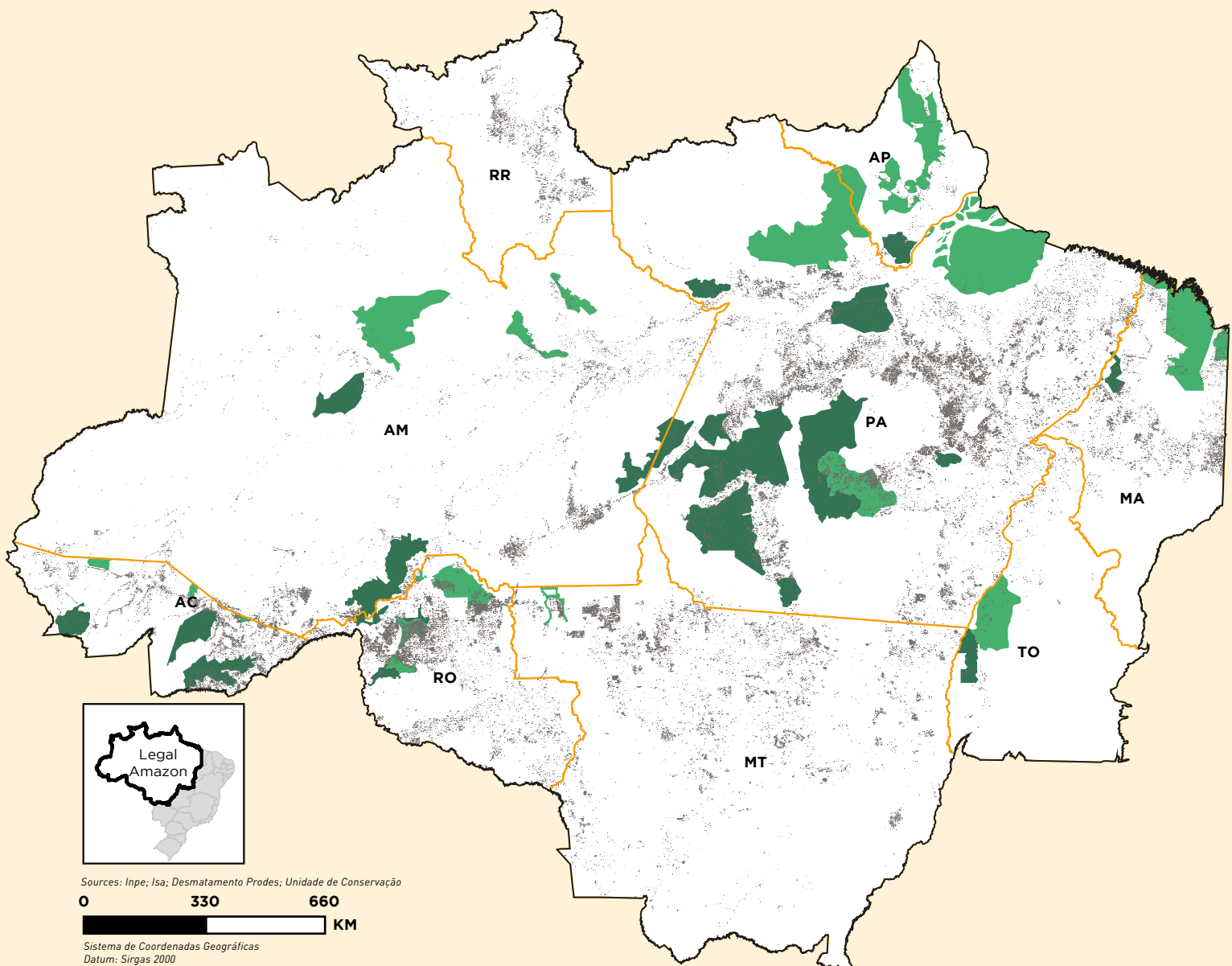
he Amazon is the world's largest rainforest; it houses the greatest species diversity in the planet. According to the Instituto Brasileiro de Geografia e Estatística - IBGE (Brazilian institute of geography and statistics), the forest occupies 4.2 million km² [\[1\]](#), covering all or part of the States of Amazonas, Pará, Roraima, Rondônia, Amapá, Acre, Mato Grosso, Tocantins and Maranhão states. It borders the Cerrado (Brazilian savanna) and, partly, the Pantanal (Brazilian wetlands).

WHAT HAS BEEN LOST

Part of the deforestation that took place between 2012 and 2017 (*in red*) was inside the Conservation Units. In green, the 50 most deforested CUs in the period.

MAP CAPTION

- Legal Amazon limits
- State limits
- Most deforested state CUs
- Most deforested federal CUs
- Deforestation 2012 to 2017



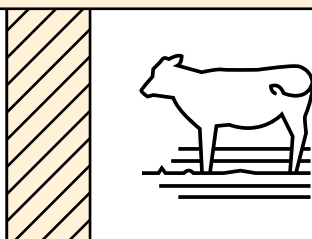


← The milk from the rubber-tree is the raw material for Maria Celina Godinho Guimarães' craftwork, in the Extractive Reserve Tapajós-Arapiuns, in Pará

Josef Cruz/Agência Brasil

WHERE DOES THE MEAT COME FROM?

Meatpackers and ranchers in the Amazon were fined in 2009 for buying cattle from embargoed areas. After that, the meatpackers signed a Termo de Ajustamento de Conduta - TAC ² (a deferred prosecution agreement), agreeing to only buy cattle from farms that meet social and environmental requirements, like being enrolled in the Cadastro Ambiental Rural - CAR (rural environment registry). At the same time, a Greenpeace campaign resulted in the country's four most prominent meatpacking companies



signing an agreement committing to the goal of zero deforestation. The problem is that meatpackers buy from fattening ranches, which in turn buy from breeding farms. And the latter usually elude the TAC's enforcement. On top of that, even some of the companies that did sign the term still buy from irregular deforestation areas.

The recent history of deforestation begins with a period of victories against devastation. Starting in 2004, when the region lost 2,742,300 hectares, the deforestation rate decreased consistently. It reached 457,100 hectares in 2012. The decline was the result of a multitude of factors, like the creation of Conservation Units (CUs) and the restriction in the concession of rural credit to those non-compliant with environmental law. But the drop in the deforestation rate was reversed in 2013. And with a grave detail: the percentage of deforested area inside the CUs has been increasing. In 2008, it was 7%; in 2016, it reached 15%, and, in the following year, 13%. The data provided by the deforestation monitoring system in Legal Amazon (Sistema de Monitoramento Amazônia Legal), from Prodes, for the year of 2017 show that state CUs are responsible for 76% of the deforestation in the 50 evaluated areas. This suggests that state CUs are the most vulnerable.

Scholars are unanimous when pointing out the main cause for the increase in deforestation inside the CUs: political pressure. This pressure comes from occupants

NO TO PROVISIONAL MEASURES



Giving in to political pressure, the federal government had been using Medidas Provisórias - MPs (provisional legislation issued by the executive branch), to reduce the areas of some CUs. This path avoided the necessary negotiation with other instances of society. Fortunately, this

shortcut has been apparently closed. Brazil's Supreme Court has emphasized that, the modification of the territory or the extinction of a federal CU can only happen if a new law expressly authorizes it. This way, the National Congress has time and opportunity to debate the bill safely and calmly, unlike the hurried proceedings involving MPs. "Besides, Environmental Law is ruled by the principle that forbids regression in environmental care. Brazil has signed countless international conventions," reminds prosecutor Aídee Maria.

who expect to profit from public land. They are encouraged by the agricultural market that buys from these regions, with no regard for origin. Also, by the building of new infrastructure that enables access to the less explored regions. It's a vicious circle: as politicians give in to the pressure, making laws that validate the illegal occupation, invaders are encouraged to keep committing the crimes, expecting to be pardoned afterwards.

"The reduction or extinction of protected areas becomes political bargaining chips," says forest engineer Miguel Milano, director of Permian Brasil. "The politicians' ig-

norance and truculence is allied to the population's ignorance about the value of the areas. And finally, in good measure, the systematic violence - explicit or implicit - to which are subjected those who defend nature in general and Conservation Units in particular," completes Milano.

Aídee Maria Moser Torquato Luiz, state prosecutor and director of the State of Rondônia's Public Prosecution Office, explains the stages of deforestation as they happened, for instance, in the Extractive Reserve Jaci-Paraná, in the State of Rondônia: "Trespassings in Conservation Units have the primary goal of extracting expensive types of wood. In the second stage, the forest is cut to make way for vast lands for cattle ranching. Another cause of deforestation in these especially protected areas is the fraudulent appropriation of public land."

"Most of the deforested areas becomes pasture land," says Paulo Barreto, researcher from the Instituto do Homem e Meio Ambiente da Amazônia - Imazon. Cattle farming pushes deforestation forward because it is possible to occupy with pasture and cattle even regions with little infrastructure. Cattle can be taken to faraway places walking through roads or even through the forest.

Roads and hydroelectric power plants, like the ones from the Rio

THE PROPORTION OF
THE DEFORESTATION
INSIDE THE
CONSERVATION
UNITS IN RELATION
TO THE TOTAL
DEFORESTATION IN
THE AMAZON HAS
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IN 2008, TO

13%,
IN 2017

Madeira Hydroelectric Complex, also have their share in the responsibility for deforestation. The roads help land grabbers arrive at the regions. The hydroelectric power plants and mining operations demand the construction of roads and enhance the market value of the land around them. They attract direct and indirect workers to the region, aggravating real estate speculation, even in Conservation Units.

Jamanxim National Forest, one of the most deforested areas, serves as an example of how roads (the BR-163 highway in this case) and major construction projects result in social and environmental losses due to the increase in migration, fraudulent appropriation or illegal occupation of public lands, deforestation and unsustainable exploitation of natural resources.

"In an attempt to reverse this dynamics, the Brazilian government instituted the Plano BR-163 Sustentável (sustainable BR-163 plan). One of its strategies to soften the impact and minimize road paving's negative effects was the creation of Conservation Units," says Luiz Felipe de Luca, ICMBio's general coordinator of protection. "Analyzing the data, we can see that this strategy was successful in refraining the deforestation in the region," says De Luca.

In 2004, two years before Ja-



Marcelo Camargo/Agência Brasil

↑ Child from the riverain community of São Lourenço in the Extractive Reserve Guariba-Roosevelt, in Mato Grosso

manxim National Forest was created, the deforestation in that region reached over 300 km². After the CU was created, the deforestation was drastically lessened to less than 30 km² between 2010 and 2012. "However, the Brazilian State still needs to execute the National Forest's plan in order to enable sustainable development in the region," says De Luca. He supports federal CUs.

CUs protect an enormous diversity of tangible and intangible assets of invaluable worth to communities, society as a whole



Araquém Alcântara

and to the planet. They are assets such as biodiversity and genetic sources, essential to the food, pharmaceutical and chemical industries; water springs, vital to farming, cattle ranching, industry and human life in the cities or the countryside; landscapes and natural beauty, fundamental as an element of national identity, as a source of pleasure and for tourism; environmental balance and mitigation of climatic changes; soil protection against erosion and maintenance of water quality; pollination of farm and forest growth; and even aesthetic and religious values, providing artistic inspiration and devotion spaces.

“In light of that, do we still need to talk about

↑ Intentional forest fire. This practice is associated to the deforestation inside the CUs to make way for pasture

importance? It’s a matter that is inherent to the existence of Conservation Units. That is their sole purpose, all over the world, taking over significant and relevant spaces in all countries,” says Milano. Everyone should be interested in protecting the Conservation Units. With more resources, it would be possible to completely stop the deforestation inside them. And that would benefit all.

THE WORST STATES

WHICH
OF THE
STATES
PROTECT
THE

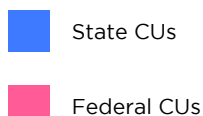
ASILE
AST?

The image features a vibrant pink background with several thin, white, wavy lines that create a sense of movement. The text is in a bold, green, sans-serif font. The word 'ASILE' is positioned in the upper right, with the 'A' and 'S' partially covered by a pink, hatched, irregular shape. Below it, the word 'AST?' is also partially covered by a similar pink, hatched shape. The overall composition is modern and abstract.

THE WORST STATES

Rondônia and Pará have the most Conservation Units among the 50 most deforested list. Also, they lead the charts in terms of total lost area in CUs.

LEGENDA DO GRÁFICO



STATES	NUMBER OF CUs	DEFORESTATION WITHIN CUs FROM 2012 TO 2017 (HA)
Rondônia	8	168.274
	2	2.854
Pará	4	122.166
	14	91.547
Tocantins	1	7.906
	1	1.281
Maranhão	3	7.738
	1	3.234
Amazonas	3	4.263
	3	3.685
Mato Grosso	1	3.889
	0	-
Acre	3	2.626
	4	13.992
Amapá	1	1.788
	1	957

T

he State with the most devastated Conservation Units between 2012 and 2017 was Rondônia, closely followed by Pará. That's what Imazon's data collection reveals. In that period, Rondônia suffered a total deforestation of 168,274 hectares of land in eight state CUs. Rondônia also took the lead in total deforested area, ahead of Amazonas and Pará, much larger states.

The state of Pará came in second place in deforested state CUs, suffering the degradation of 122,166 hectares. Moreover, Pará was the state with the most deforestation in federal CUs, suffering the loss of 91,547 hectares. That's more than the loss suffered by all the federal CUs in other states combined. The deforestation in Pará was more widespread than in other states, reaching 14 federal CUs.

Rondônia and Pará are part of what is called the Amazon's Deforestation Arc, a strip that goes from east to south in the region. This area

IS THAT ALLOWED?

The state of Rondônia created nine Conservation Units in April 2018.

As a reaction, the state Congress approved an amendment to the state's Constitution entrusting itself with the power to create, alter, incorporate and extinguish CUs. In September, the congressmen extinguished 11 CUs, leaving more than half a million hectares of natural land



unprotected. The Secretaria de Estado do Desenvolvimento Ambiental (State Environmental Development Secretary - Sedam) says the state's government has filed a Civil Action to Uphold Constitutional Rights, seeking to annul the Congress' amendment and keep the CUs.

suffers the most pressure from the agricultural frontier that advances from south to north, consuming the forest. Research data suggests that the Belém-Brasília (BR-010), Cuiabá-Porto Velho (BR-364) and Cuiabá-Santarém (BR-163) highways had a direct influence in these statistics, because they allow people to reach and occupy the conservation areas. They also ease the outflow of farming production.

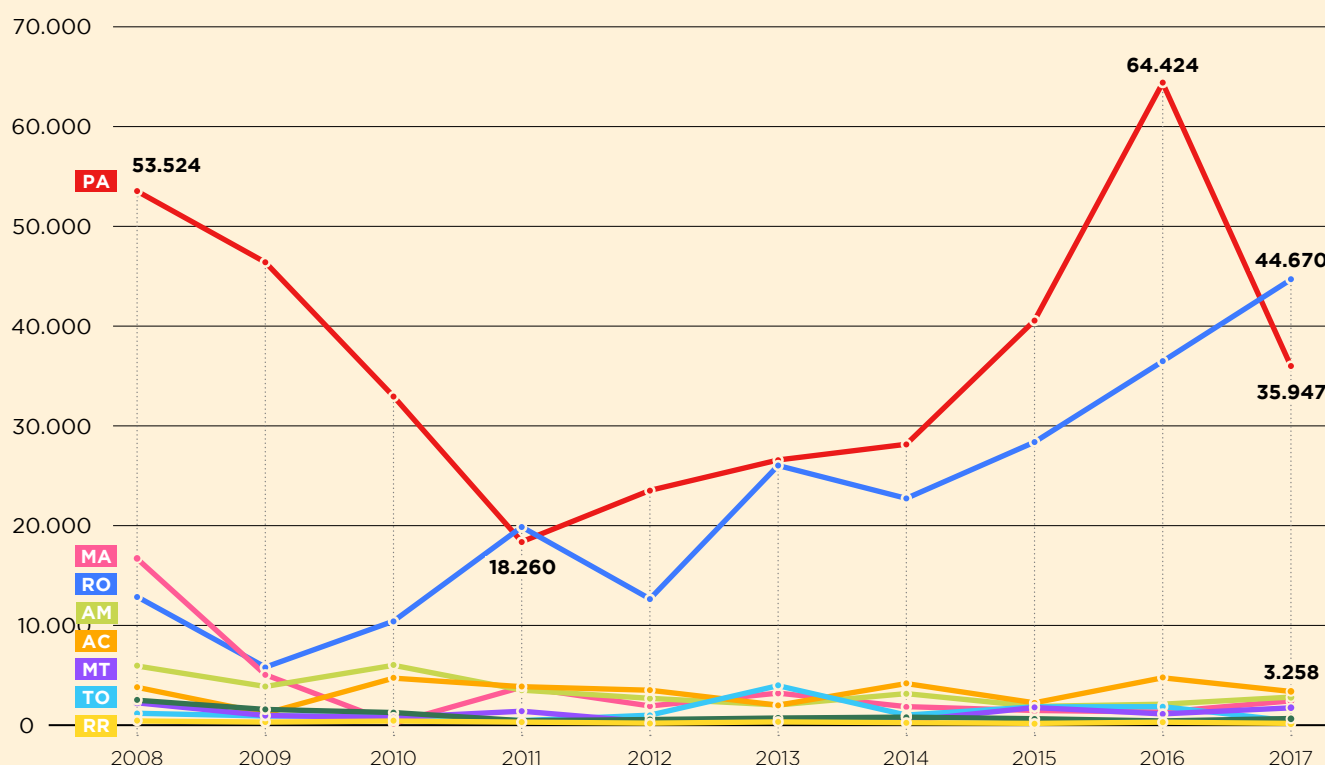
“That’s where most of the development and territorial occupation policies were concentrated, boosting the agricultural frontier’s gradual advance following the great highways built from 1960 onwards,” explains Luiz Felipe de Luca, from ICMBio. Some of the Conservation Units

that exist along these highways were created between 2003 and 2004 ² to safeguard the rights of native peoples and to reduce land speculation, one of the main causes for deforestation in the region.

“The creation of CUs was used as a strategy to discourage speculative deforestation along BR-163 and the Canopus Highway, in the São Félix do Xingu region, in Pará. So the pressure over these areas is greater than over places further away from the agricultural frontier and the roads,” says Ane Alencar, Science director in the Instituto de Pesquisa Ambiental da Amazônia - Ipam Amazônia (Amazon’s environment research institute). On the other hand, according

THE NEW CHAMPION

Deforestation between 2008 and 2017 by state. In 2017, Rondônia was ahead of Pará in total deforested area inside CUs, despite its smaller territory (in ha)



171.128 HECTARES

WERE DEFORESTED
IN RONDÔNIA FROM
2012 TO 2017, MOST OF
WHICH WITHIN STATE
CONSERVATION AREAS

213.713 HECTARES

WERE DEFORESTED IN PARÁ
WITHIN FEDERAL AND STATE
CONSERVATION UNITS

to her, that means the CUs were already in a critical situation when they were created.

Another factor that influences deforestation are some of the more permissive types of Conservation Unit, such as the Environmental Protection Areas. In areas that fall in that category, the private sector handles the resources directly, having the duty to present a plan of use indicating the more preserved areas. However, as long as resources like the Cadastro Ambiental Rural (Rural Environment Registry - CAR) aren't made mandatory ^[3], there is no guarantee that the plan and a management tool will be efficient.

For researchers, there are yet more factors at play. "Today, the environment legislation is very weak. Maybe the producers' collective unconscious holds the idea that they can invade lands and acquire the deeds afterwards," says Ane, from Ipam.

In Rondônia, CUs are concentrated in the municipalities of Machadinho do Oeste and Porto Velho. When the Resex Jaci-Paraná was created in mid-1996, deforestation in the region was unheard of. It was occupied by extrativist groups. "But in the comparison between current times and the period when the land grabbing started in that Conservation Unit, in mid-2000, we can see an absurd degree of occupation and forest devastation," says Aidee Maria Moser Torquato Luiz, state prosecutor in the State of Rondônia's Public Prosecution Office. When it became known that there were attempts to invade the area, the State of Rondônia's Public Prosecution Office and the Federal Prosecution Office filed a civil action to protect the public interest. Their injunction request was granted, compelling the state of Rondônia to take specific measures in order to deter incursions and environmental degradation. Nowadays there several civil and



Araquém Alcântara

↑ Clearing
opened in the
forest by
lumbering
companies

criminal lawsuits being processed, and many that have already reached final sentences against the illegal occupants.

The Bom Futuro National Forest's history is an example. The 271 thousand hectares National Forest was created in 1988 ^[4] to reduce the pressure caused by the paving of part of BR-364. Twenty-one years later, 32% of the National Forest had been illegally deforested. There were 35 thousand head of cattle and three thousand people living in it. In an attempt to hinder Ibama's inspection, politicians and exploiters even closed roads, and armed trespassers attacked barriers that prevented the access to the Nation-

al Forest. In 2004, the State and Federal Public Prosecution Offices obtained an injunction order from Federal Court determining that the area be vacated; the order was disobeyed. In May 2005, Incra, Ibama and Rondônia's government signed a Termo de Ajustamento de Conduta - TAC ^[5] (a deferred prosecution agreement), pledging to remove large landholders (cattle ranchers) and lumberers from the area and to move and resettle its illegal occupants. The TAC was not fulfilled either.

In light of past occupations, Rondônia's government adopted a different approach. In 2009, it suspended the environmental license for the building of Jirau hydroelectric ^[6] power plant, a masterpiece of interest

After the lumberers →
remove the most expensive
types of wood, land
grabbers burn the rest of
the forest to make way for
pasture and try to take
possession of the land.

to the federal government, saying the power plant's lake would affect part of the state CUs. In order to solve the deadlock, the governor proposed that all of the invaded area in the National Forest be taken out of the federal CU and that the plant be left to affect the state CUs. The Ministry of Environment (Ministério do Meio-Ambiente - MMA), the Chico Mendes Institute (ICMBio) and the state government signed an agreement dividing the National Forest in three CUs. Nearly 133 thousand hectares would be transformed in a federal CU with integral protection. The rest of the area would be made into a state forest and a state APA. Some of the illegal occupants removed the cattle, but the occupations and the depredation persisted. And now most of the land has lost federal protection. According to state prosecutor Aidee, the Bom Futuro National Forest had its boundaries reduced so that the disencumbered area could be transformed in two other state Conservation Units, with a more flexible degree of legal protection. "This resolution was actually just a way to justify the lingering presence of illegal occupants in the area," says the prosecutor. The government of Rondônia had no comment on the subject.



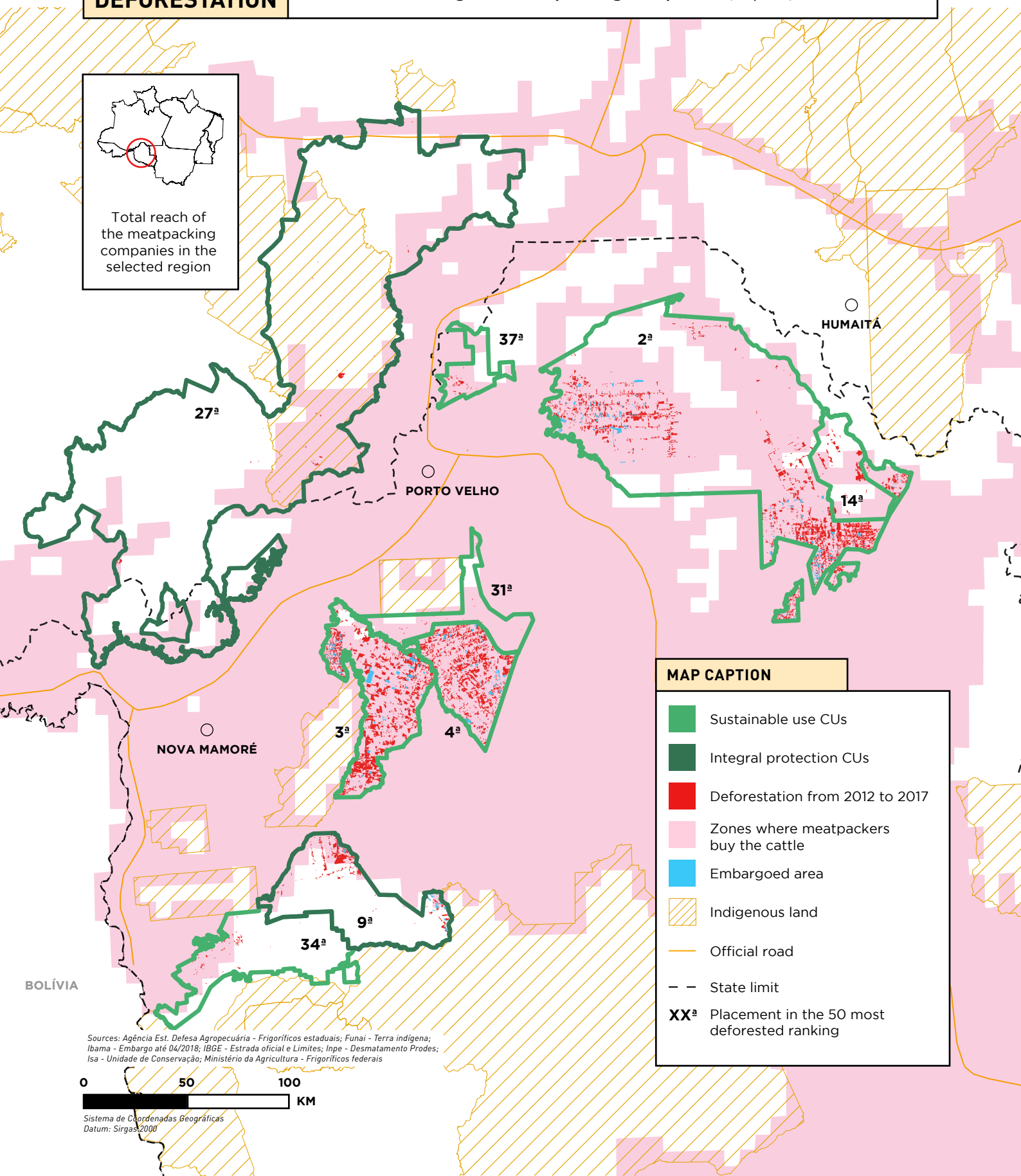
Araquém Alcântara

RONDÔNIA AND PARÁ

ALONE ACCOUNT FOR MORE
AREA LOST WITHIN CUS THAN
ALL THE OTHER STATES IN
THE AMAZON COMBINED

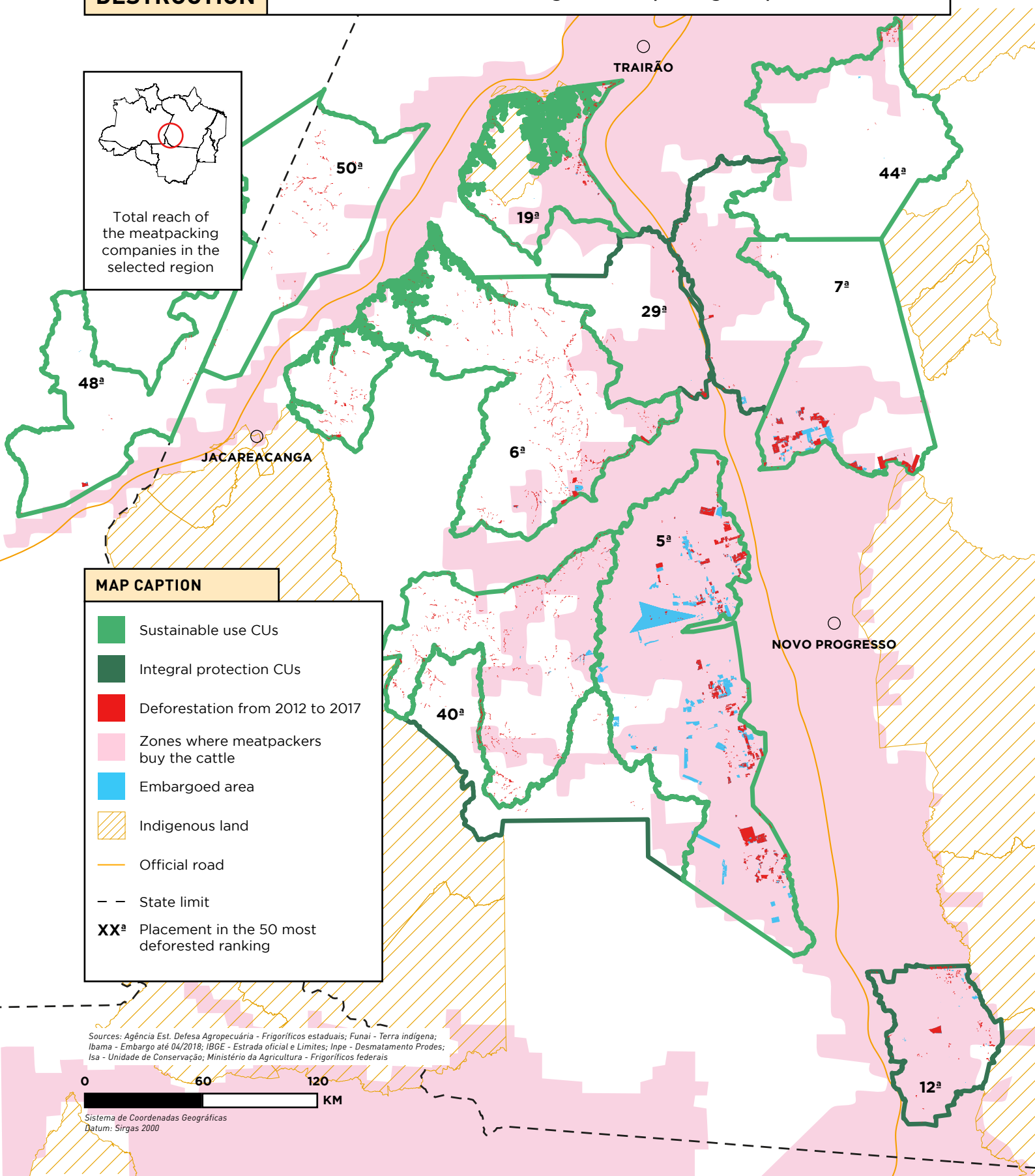
MEATPACKERS INFLUENCE DEFORESTATION

Detail of a map of Rondônia showing the most endangered CUs. The areas with the worst deforestation (*in red*) are overlaid by the zone of influence of the region's meatpacking companies (*in pink*)



PATH OF DESTRUCTION

Detail of a map of the portion of BR-163 where most of Pará's threatened CUs are concentrated. The sections in red show the deforestation between 2012 and 2017 and the areas in pink show the zones of influence of the region's meatpacking companies



MOST DEFORESTED

WHICH

CUS ARE

THE MOST

DEFORESTED?

The Conservation Units function as a barrier against deforestation. But some are in danger, losing their protective capacity. Here are the Conservation Units with the highest deforestation rates in the Amazon between 2012 and 2017.














13% OF ALL DEFORESTATION
IN THE AMAZON IN 2017
HAPPENED WITHIN CUS













WHERE IT IS HAPPENING

The 50 most deforested Conservation Units in the Amazon*

STATE	CU NAME	TOTAL AREA (HA)	DEFORESTED AREA 2012-2017 (HA)	% OF THE CU DEFORESTED 2012-2017
PA	APA Triunfo do Xingu	1.680.153	108.550	6,5
RO	FLOREX Rio Preto-Jacundá	1.048.380	65.023	6,2
RO	RESEX Jaci Paraná	203.826	49.445	24,3
RO	APA Rio Pardo	144.091	35.689	24,8
PA	FLONA do Jamanxim	1.304.604	33.623	2,6
PA	APA do Tapajós	2.039.914	18.169	0,9
PA	FLONA de Altamira	759.912	16.799	2,2
AC	RESEX Chico Mendes	931.639	10.949	1,2
RO	PES de Guajará-Mirim	221.504	8.969	4,0

*The data is from August 2012 to July 2017. The percentage of deforestation corresponds to what was devastated in this period. The total area is in hectares.

STATE	CU NAME	TOTAL AREA (HA)	DEFORESTED AREA 2012-2017 (HA)	% OF THE CU DEFORESTED 2012-2017
PA	APA do Lago de Tucuruí	564.721	8.828	 1,6
TO	APA Leandro (Ilha do Bananal/Cantão)	1.561.587	7.906	 0,5
PA	REBIO Nascentes da Serra do Cachimbo	343.254	3.913	 1,1
MT	RESEX Guariba-Roosevelt	165.684	3.889	 2,3
RO	RESEX Rio Preto-Jacundá	100.330	3.666	 3,7
MA	APA Upaon-Açu/Miritiba/Alto Preguiças	1.569.458	3.477	 0,2
MA	APA Baixada Maranhense	1.788.334	3.333	 0,2
MA	REBIO do Gurupi	270.682	3.234	 1,2
RO	FLORSU Mutum	10.759	3.204	 29,8
PA	FLONA de Itaituba II	397.831	3.201	 0,8
PA	ESEC da Terra do Meio	3.371.562	2.877	 0,1
PA	RESEX Verde para Sempre	1.294.154	2.838	 0,2
PA	FES do Paru	3.619.408	2.809	 0,1

STATE	CU NAME	TOTAL AREA (HA)	DEFORESTED AREA 2012-2017 (HA)	% OF THE CU DEFORESTED 2012-2017
PA	FLONA de Saracá-Taquera	441.427	2.242	 0,5
AM	APA Caverna do Maroaga (Presidente Figueiredo)	408.432	2.136	 0,5
PA	APA Arquipélago do Marajó	5.921.687	1.979	0
PA	FLONA do Amanã	682.645	1.911	 0,3
AM/ RO	PARNA Mapinguari	1.771.424	1.806	 0,1
AP	FES do Amapá	2.343.096	1.788	 0,1
PA	PARNA do Jamanxim	863.537	1.767	 0,2
PA	RESEX Renascer	212.082	1.591	 0,8
RO	FLONA do Bom Futuro	97.385	1.561	 1,6
AM	APA Margem Direita do Rio Negro	462.543	1.526	 0,3
AC	RESEX Alto Juruá	533.676	1.412	 0,3
RO	RESEX do Rio Ouro Preto	200.314	1.293	 0,6
TO	PARNA do Araguaia	557.001	1.281	 0,2

STATE	CU NAME	TOTAL AREA (HA)	DEFORESTED AREA 2012-2017 (HA)	% OF THE CU DEFORESTED 2012-2017
AM	FLONA de Tefé	835.802	1.246	0,1
RO	FLORSU do Rio Madeira (B)	50.050	1.142	2,3
RO	RESEX Angelim	8.428	1.136	13,5
PA	PARNA do Rio Novo	538.405	1.036	0,2
AC	RESEX do Cazumbá-Iracema	751.514	1.020	0,1
AP	RESEX do Rio Cajari	499.944	957	0,2
MA	APA das Reentrâncias Maranhenses	2.648.538	928	0
PA	RESEX Riozinho do Anfrísio	735.935	847	0,1
AC	FES do Antimary	47.006	845	1,8
AC	FES Afluente do Complexo do Seringal Jurupari	68.590	826	1,2
PA	FLONA do Tapirapé-Aquiri	197.195	731	0,4
AC	FES do Mogno	140.072	720	0,5

STATE	CU NAME	TOTAL AREA (HA)	DEFORESTED AREA 2012-2017 (HA)	% OF THE CU DEFORESTED 2012-2017
AM	FLONA de Urupadi	537.014	633	0,1
AC	ARIE Seringal Nova Esperança	2.573	610	23,7
AM	RDS Amanã	2.368.037	601	0

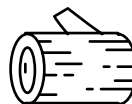
THE EPIDEMIOLOGY OF DEFORESTATION

A model from epidemiology, the branch of medicine that studies the propagation of disease, can be used to study deforestation. It is connected to the existence of three factors:



THREAT

The stimulus for deforestation. The forces that put pressure on the area



VULNERABILITY

How much the CU is institutionally or physically vulnerable

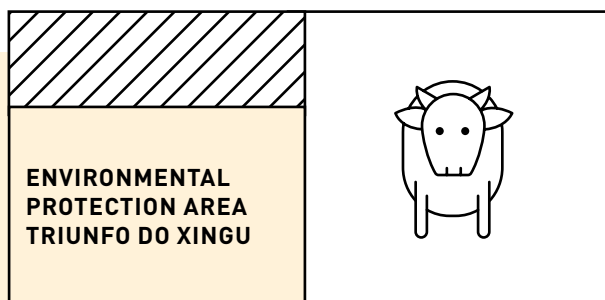


CONTACT

The means of access to the area by deforestation agents

Some cases of deforestation are emblematic; mainly because they have been happening for years. They have received attention of the press, with histories or characteristics that are striking. Regardless of the differences in their histories, one thing binds them: the combination of cattle farming and land speculation. The

presence of meatpacking companies that buy cattle, directly or indirectly, from illegally deforested areas rewards those who deforest public lands. (See maps of the most deforested CUs in Rondônia and Pará in the zones of influence of the local meatpackers in pages 23 and 24) Learn more about these specific Conservation Units:

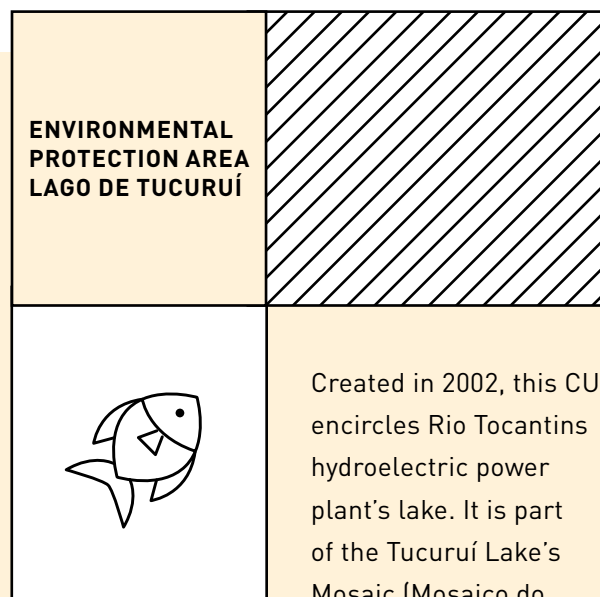


THREAT Dwellers inside the CU, mining, lumbering, cattle ranching.

VULNERABILITY Lack of action from the state government; morose administrative and judicial proceedings in order to impose fines and other penalties.

ACCESS Roads opened by lumberers and cattle ranchers leading to the area.

This area is the champion of deforestation accumulated between 2012 and 2017. It was created along with other CUs that, together, form the Terra do Meio Mosaic (Mosaico da Terra do Meio). It borders the Serra do Prado National Park, the Ecological Station Terra do Meio, the Kayapó Native Land (Terra Indígena Kayapó) and the Xingu River. It is located in the state of Pará, in the Altamira and São Félix do Xingu Counties; the latter is the county with the largest cattle herd in Brazil. This CU was created in a previously altered and degraded region, where there already was a concentration of population and pressure from human activity. These threats were lessened by the CU's creation, but deforestation, mining, cattle ranching and fraudulent appropriation of land still loom over it.




THREAT Cattle ranching and lumbering.

VULNERABILITY Legal pressure to reduce the area; morose administrative and judicial proceedings in order to impose fines and other penalties.

ACCESS There are access roads to the CU.

Created in 2002, this CU encircles Rio Tocantins hydroelectric power plant's lake. It is part of the Tucuruí Lake's Mosaic (Mosaico do Lago de Tucuruí) along with the Sustainable Development Reserve (Reserva de Desenvolvimento Sustentável - RDS) Alcobaça, the RDS Pucuruí-Ararão, the Ecological Station and the "Wildlife Refuge" (Refúgio de Vida Silvestre). This APA was created to shelter local dwellers and companies, and to avoid the negative environmental and socio-cultural impact caused by the construction of the hydroelectric plant. Local residents, tourists and companies are interested in this region mainly because the dam has allowed some fish species to thrive.

EXTRACTIVE RESERVE CHICO MENDES	
	<p>THREAT Lumbering, cattle ranching.</p> <p>VULNERABILITY Pressure to change the CU's type; morose administrative and judicial proceedings in order to impose fines and other penalties</p> <p>ACCESS Area accessible by roads in good condition.</p>

Located in the state of Acre, it is named after the rubber tapper and environmentalist who fought for the people whose subsistence depended on preserving the forest and the native trees. Nowadays, the children of rubber tappers have started to become cattle ranchers. "The process of lowering the extractive production of rubber and nuts has influenced the strengthening of cattle farming as a productive strategy," tells Ane Alencar, director of Ipam Amazônia. Each small producer owns a plot of land, no longer as a use concession granted over public property, thus negating the original idea of putting the collective above the private. That is a social process that influences the use of resources in a different way than what was imagined when the extractive reserves were created.

JAMANXIM NATIONAL FOREST	<p>THREAT Cattle ranching, mining, lumbering.</p> <p>VULNERABILITY State proposes reducing the CU's size; morose administrative and judicial proceedings in order to impose fines and other penalties; lack of support from Pará's farming inspection agency (Agência de Vigilância Agropecuária do Pará) to remove cattle from the embargoed areas, extensions of deadlines to regulate illegal occupations through subsidies.</p>

ACCESS BR-163 Highway; roads opened by lumberers and miners.

This is the second most deforested CU. Plans for the complete paving of the BR-163 Highway, combined with great infrastructure construction works in the Amazon, have increased migration and fraudulent appropriation and illegal occupation of public lands. To reverse this dynamic, the Brazilian government launched the Sustainable BR-163 Plan (Plano BR-163 Sustentável), including the

creation of Conservation Units as one of the ways to mitigate this impact. This National Forest earned national fame in 2016, when Michel Temer administration enacted a Medida Provisória - MP (provisional legislation issued by the executive branch) reducing its borders, legitimizing the actions of people who had fraudulently seized public lands. The Brazilian National Congress took the reduction proposal to an extreme, suggesting a reduction of 37% in the protected area.

MOST VULNERABLE

WHICH CU
TYPES ARE THE
MOST

VULNERABLE?

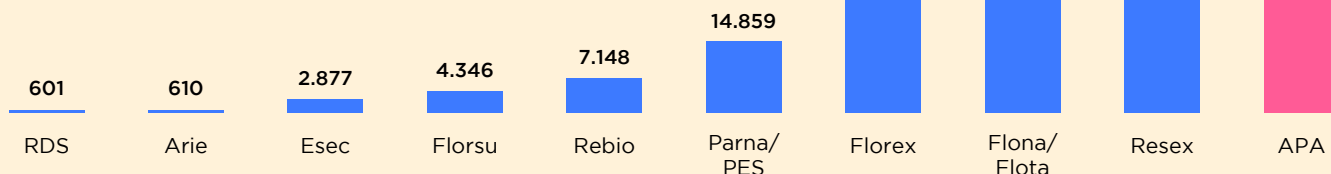
The image is a graphic design on a solid yellow background. It features the text 'VULNERABLE?' in large, bold, teal capital letters. The word is split across three lines: 'VUL' on the first, 'NERA' on the second, and 'BLE?' on the third. A hatched pattern, consisting of diagonal lines in teal and yellow, is applied to the letters 'V', 'N', 'E', 'A', and the 'B' in 'BLE?'. The pattern is contained within irregular, hand-drawn black outlines that overlap the letters. There are also several thin, white, wavy lines scattered across the background.

SUSTAINABLE USE?

Total deforested area (in hectares) by Conservation Unit type. The CUs with the most flexible use, such as Environmental Protection Areas, are the most deforested

NAMES OF CU TYPES

RDS Sustainable Development Reserve	Parna/PES National Park/ State Park
Arie Area of Relevant Ecological Interest	Florex Extractive Forest
Esec Ecological Station	Flona/Flota National Forest/ State Forest
Florsu Sustained Yield State Forest	Resex Extractive Reserve
Rebio Biological Reserve	APA Environmental Protection Area



Which are the most vulnerable Conservation Unit types? The data collected by Imazon from the 50 most deforested CUs answers that question. According to the data gathered, 400 thousand out of 436 thousand total deforested hectares are located in Environmental Protection Areas, Extractive Reserves, National Forests, State Forests and Extractive Forests. This suggests that sustainable use Conservation Units, which are those whose creation is most accepted by politicians, are the least effective for conservation, being naturally more susceptible to deforestation.

There are several types of Conservation Unit,

with different degrees of protection. They are divided into integral protection units and sustainable use units. The first category is more conservative, allowing only indirect use of natural resources, like tourism, scientific research and environmental education. The second category aims to conciliate the conservation of nature with the sustainable use of natural resources. In this case, the use and gathering of resources is allowed, as long as it's sustainable.

The attacks to sustainable use units have a second negative side effect. Not only do they harm the forest, but they also affect the potential economic use of the area. A National

Forest (Flona), for instance, is an area granted to lumbering companies so that they cut down trees following a management plan. That allows natural regeneration, creating wealth and jobs without depleting the forest. When the National Forest is raided and plundered, it loses part of the commercially valuable mature trees, decreasing the possibilities of future sustainable extractive activity.

90% OF THE DEFORESTATION ACCUMULATED FROM 2012 TO 2017 HAPPENED IN APAS (44%), RESEX (18%), FLONA AND FLOTA (15%) AND FLOREX (15%)

GLOSSARY ¹²

CUS

CONSERVATION UNITS

Territories that aim to ensure the representativeness of significant and ecologically viable samples of different national populations, habitats and ecosystems and jurisdictional waters, preserving the biological heritage.

INTEGRAL PROTECTION UNITS

ESEC

ECOLOGICAL STATION

Area destined to

preservation of nature and scientific research.

Only educational visits are allowed.

PARNA/PES NATIONAL AND STATE PARKS

Places of great scenic beauty destined to the preservation of natural ecosystems.

Educational, recreational and environment interpretation activities, as well as scientific research are allowed.

REBIO

BIOLOGICAL RESERVE

Area destined to the preservation of biological

diversity. The only form of direct interference allowed are measures taken to restore altered ecosystems and the management for recovery of natural balance and preservation of the biological diversity. Only educational visits are allowed.

SUSTAINABLE USE UNITS

APA

ENVIRONMENTAL PROTECTION AREA

Area with natural, aesthetic and cultural attributes that are important for sustaining

people's quality of life and well-being. It is usually extensive, in order to protect the biological diversity, organize the human occupation process, and ensure the sustainability of the use of natural resources. It may include public and private lands.

ARIE

AREA OF RELEVANT ECOLOGICAL INTEREST

Usually small, its aim is to preserve regionally or locally important natural ecosystems. Little to no human occupation. It may include public and private lands.

FLONA/FLOTA **NATIONAL FOREST** **/ STATE FOREST**

Forested areas containing mostly native species. The sustainable, diversified use of forest resources and scientific research are allowed. It may house traditional peoples that have inhabited there since its creation.

FLOREX **EXTRACTIVE FOREST**

Natural area where traditional peoples perform activities based on extractivism, subsistence farming and small animal husbandry. Public visitation and scientific research are allowed.

FLORSU **SUSTAINED YIELD** **STATE FOREST**

It allows the presence only of traditional dwellers who already lived in the area before the unit's creation and

who survive from the natural environment sustainably.

RDS **SUSTAINABLE** **DEVELOPMENT** **RESERVE**

Natural area that houses traditional peoples that are based in sustainable systems of environmental resource usage and adapted to the local ecological conditions. Public visitation and scientific research are allowed.

RESEX **EXTRACTIVE RESERVE**

Natural area used by traditional populations for extractive, subsistence agriculture and small animal husbandry activities. It's purpose is to ensure the sustainable use of the resources and the protection of these people's culture and way of life. Public visitation and scientific research are allowed.

400
THOUSAND
OUT OF
436
THOUSAND
HECTARES WERE
DEFORESTED IN
ENVIRONMENTAL
PROTECTION AREAS
(APAS), EXTRACTIVE
RESERVES (RESEX),
NATIONAL FORESTS
(FLONAS) AND
EXTRACTIVE FORESTS
(FLOREX)

PROTECTIVE EFFECT

ARE THE PROTECTED
AREAS TRULY

PRO
TECT
ED?

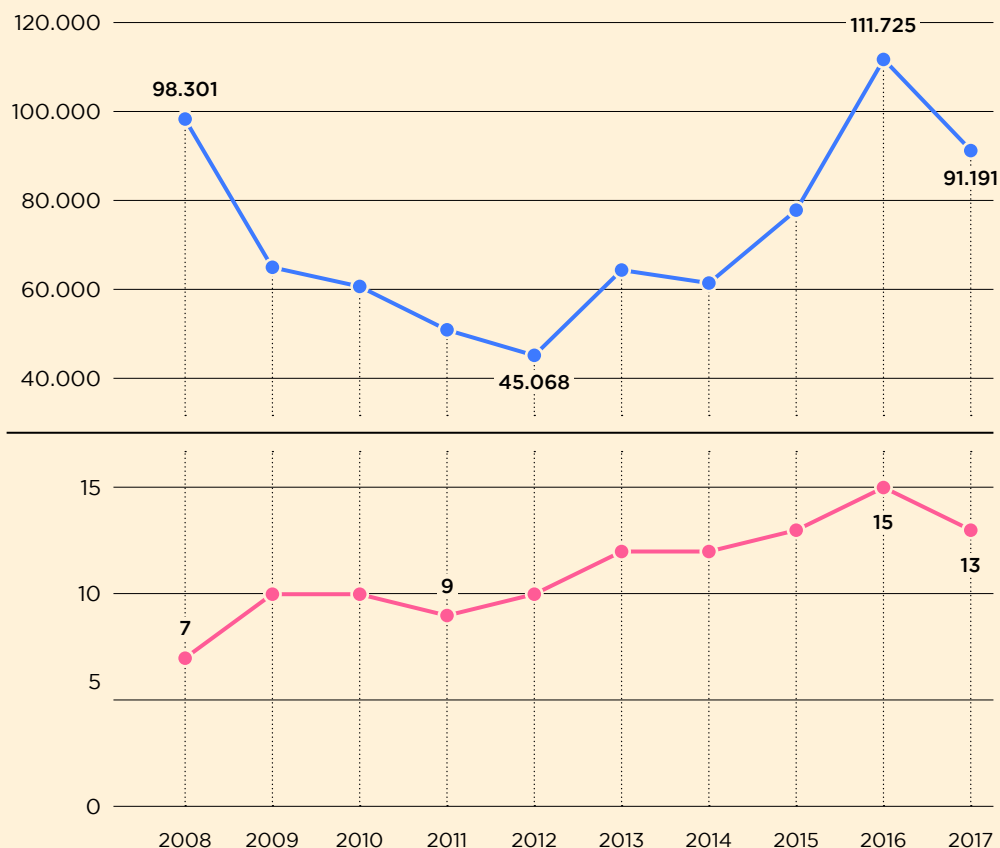
The image features a vibrant red background with large, bold, yellow text. The text is arranged in three lines: 'PRO' on the top line, 'TECT' on the middle line, and 'ED?' on the bottom line. The letters are thick and blocky. Two abstract, hand-drawn shapes with diagonal hatching are overlaid on the text. One shape is positioned over the 'O' in 'PRO' and the 'T' in 'TECT'. The other shape is positioned over the 'E' in 'ED?'. Several thin, white, wavy lines are scattered across the background, adding a sense of movement and complexity to the design.

RAPACIOUS HISTORY

The total deforested area in the Amazon CUs (in blue) decreased between 2008 and 2012, but it has been increasing since then.

GRAPH CAPTION

- Annual deforestation in CUs (ha)
- Total Amazon deforestation within CUs (%)



The evolution of the annual deforestation rate within CUs shows that the attack is getting increasingly worse. In 2008, the CUs lost almost 100 thousand hectares. The annual deforested area decreased until 2012, but, since then, it has increased, culminating in around 111,725 hectares lost in 2016.

In the period evaluated, the CUs' share of what was lost in the Amazon has increased almost constantly. The proportion of deforestation inside the CUs in relation to the region's total went up from around 7%, in 2008, to more than 15%, in 2016. In 2017, around 13% of the deforestation happened inside the CUs. The data comes from Prodes, the monitoring initiative developed by the Instituto Nacional de Pesquisas Espaciais -

111.725 HECTARES

WERE DEFORESTED IN
2016 ALONE, THE PEAK
IN THE YEARS INCLUDED
IN THIS STUDY

THE SANCTION OF

THE FOREST

CODE WITH THE

PARDON TO SOME OF THE
DEFORESTATION STIMULATED
THE RESURGENCE OF
INCURSIONS IN CUS

INPE (national institute of spatial research).

What explains the decrease in deforestation within CUs between 2008 and 2012? “That was when the government adopted stronger policies that included focusing on inspection in critical municipalities, credit restriction to those who weren’t complying with environmental rules, seizure of assets involved in deforestation (*such as tractors*) and of cattle (*Operation Pirate Ox - Operação Boi Pirata*)”, explains Paulo Barreto, one of the authors of the study. During the Operação Boi Pirata alone, in the Esec Terra do Meio, in the state of Pará, around 3 thousand head of cattle ^[1] were removed for illegally occupying areas inside this Conservation Unit.

And what changed in 2012? The data reveal the negative impact of the sanction of the Forest Code, Law 12,651, known as the New Forest Law (Nova Lei Florestal) at the time. Between 2012 and 2016 environmentalists’ and researchers’ fears came to pass. The law par-

doned part of the deforestation that happened before it was sanctioned; consequently, some landowners or land grabbers immediately devastated new areas, trusting that a new pardon would occur. Moreover, the new Law slackened the requirements for preservation of the areas and reduced some CUs.

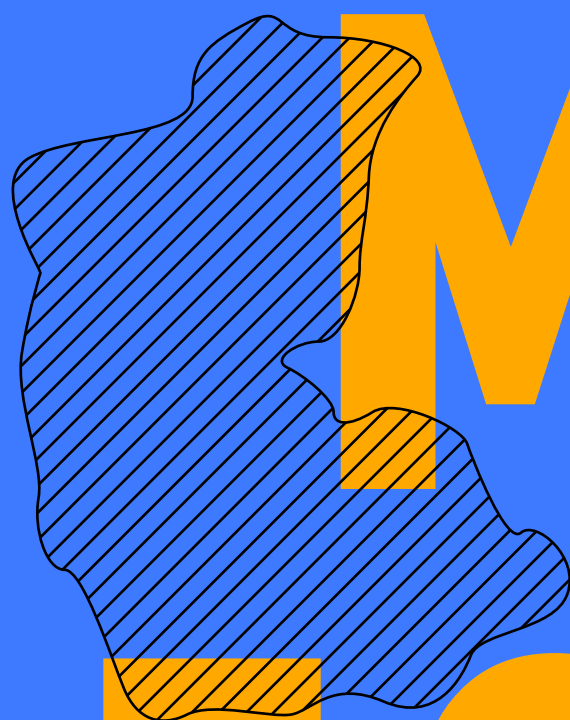
There is a contradiction in the government. It created the Conservation Units. “But it keeps validating or trying to validate the occupation and that threatens the whole system,” says Barreto. Rondônia is an example. “What is worse is that the state government itself encourages deforestation,” he remembers. “The state of Rondônia isn’t just negligent, it is one of the main sponsors of incursions in Conservation Units, specially through politician’s actions,” says Aídee Maria Moser Torquato Luiz, state prosecutor for Rondônia’s Public Prosecution Office.

Where there is a will, there is a way to stop deforestation. But simple “goodwill” is not enough to preserve the forest. “The CUs need more budget, they need robust long-term programs,” says Barreto. This second point, according to the researcher, has seen progress. For instance, in 2018, the federal government attempted to nominate a politician instead of a career technician as the president of ICMBio ^[2], a function responsible for the administration of 9% of the whole national territory ^[3] and 24% of its sea area. The public outcry and protests against this nomination were such that the government had to back down and nominate a specialist. After that, the institution managed to approve new ways to use more than 1 billion Brazilian Real inside the Conservation Units.

The Conservation Units are an important strategy to detain the advance of deforestation. And, yes, stopping deforestation altogether is possible.

SOCIETY'S REACTION

HOW ARE BRAZILIANS DEFENDING THE



ZON



?



Fábio Nascimento/Greenpeace

↑ Illegal gold mining in the National Reserve of Cobre e Associados (Reserva Nacional de Cobre e Associados). The attempt to reopen the area for extraction catalyzed a reaction from the Brazilian society

Up until 1985, there were practically no state Conservation Units and less than 200 federal ones. Most of them were created since 2003, as a result of the efforts of the federal government and the state governments of Acre, Amazonas, Amapá and Pará. The most numerous types were State Parks (43) and APAs (40). The aim was to organize the territory and fight the illegal deforestation associated with fraudulent appropriation, to protect regions with a high biological value, to meet the demands of traditional populations and to meet the demands for a sustainable forest extractive activity. Currently, Legal Amazon contains 340 Conservation Units, 146 of which are federal and 194 are state CUs, according to the Protected Areas Monitoring Program (Monitoramento de Áreas Protegidas) of the Socioambiental Institute (Instituto Socioambiental) ^[1].

But in the last few years the national system of CUs has been suffering a regression. For starters, the creation of CUs has dropped.

Between 2011 and 2016, the federal government created 15 CUs in total. That was the lowest number of CUs created since 1995. On top of that, the government started reducing the existing ones. In 2011, a Medida Provisória - MP ^[2] (provisional legislation issued by the executive branch) which was later turned into law removed 83 thousand hectares from seven CUs for the projected installation of hydroelectric power plants, among which the one in Rio Tapajós. The building of hydroelectric plants, along with the sanctioning of the Forest Code in 2012, redoubled the attacks to the Conservation Units, some of which from the state itself. After a few attacks, society began to fight back. In the same year, 30 civil society organizations sent manifestos to the Senate ^[3] against the Provisional Measure. It still became law. Now, some sectors of society are increasingly active against the attacks.

The case of Jamanxim, the biggest National Forest in Brazil, illustrates that fact. Around 7.6% of its area was deforested only between

**IN THE LAST
FEW YEARS,
THE NATIONAL
SYSTEM OF CUS
HAS BEEN
SUFFERING A
REGRESSION**

the years of 2012 to 2017. That corresponds to more than 33 thousand hectares. In 2017, President Michel Temer administration sent a bill to Congress that would subtract 354 thousand hectares [4] from its area. That Provisional Measure would also change the rules for the land regularization and would even offer subsidies for some of the people who had practiced deforestation.

The civil society organizations were already mobilized and managed to capture the press' and the people's attention. The hashtag #TogetherForTheAmazon (#TodosPelaAmazonia) made rounds in social media and became one of the trending topics on Twitter in Brazil. Top model Gisele Bündchen published a video in English in her social media about the importance of the forest: "I want to do something now before it's too late" [5]. Actress Alice Braga, who also lives in the US, shared Greenpeace's image, in English: #togetherfortheAmazon.

Almost at the same time, another government action galvanized the movement for preservation. In August 2017, the federal government tried to open the Reserva Nacional de Cobre e Associados (Renca) [6], in the Amazon Rainforest between the states of Pará and Amapá, for private exploitation. Renca had never been an environmental reserve; it was an area destined for mining exclusively by state-owned companies. However, the attempt to open it to the private capital lighted the fuse of a larger movement of reaction against attacks to CUs.

Several artists, native people's leaderships and environmentalists went to the National Congress for protesting. A petition was delivered to the president of Parliament, Rodrigo Maia, and to the president of Senate, Eunício Oliveira, containing more than 1.5 million signatures collected over the platforms 342 Amazônia,

José Cruz/Agência Brasil



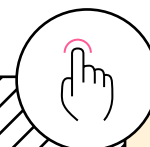
↑ Protest in front of the Parliament against the extinction of Renca

Greenpeace and Avaaz and demanding protection for the forest and the environment.

Other celebrities like Thiago Lacerda, Cauã Reymond and Ivete Sangalo, and the general population, posted publications explicitly criticizing the then president Michel Temer. The singer Fafá de Belém, native from Pará, after hearing about Jamanxim's reduction, recorded a video asking the president to forgo the idea. Her video had over than 2 million views.

The pressure forced the government to give up on the Provisional Measure and Renca; and removed the constitutional urgency of the bill that aimed to reduce Jamanxim [7]. In 2017, after so much visibility gained and the budget for inspection recovered, the deforestation was reduced by 65.6% inside that conservation area in comparison to the previous year. Both experiences show that when society reacts accordingly it's possible to prevent the attempts to destroy the country's natural heritage.

CLICK ON THE ICONS
TO OPEN THE LINKS



ESTADÃO

Reduction of
protected areas
in the Amazon

OBSERVATÓRIO DO CLIMA

Jamanxim
Forest's
reduction
would be
the biggest
in history

ÉPOCA

If the Jamanxim
Forest is re-
duced, the gov-
ernment will
give R\$ 500 mi
in subsidies to
land grabbers

JORNAL NACIONAL

Environ-
mentalists
condemn
bill reducing
Jamanx-
im's area

ÉPOCA

The reserves
that may be
reduced by
the Congress
are the most
deforested
ones

ÉPOCA

Why isn't
Jamanxim
Forest under
concession for
sustainable
extractive
activities?

CIÊNCIA PARA SUSTENTABILIDADE

Subject of
controversy,
Jamanxim Forest,
in Pará, is highly
deforested

ESTADÃO

Scientists alert
against bill
that annuls
protected
area if it's not
regularized

FOLHA

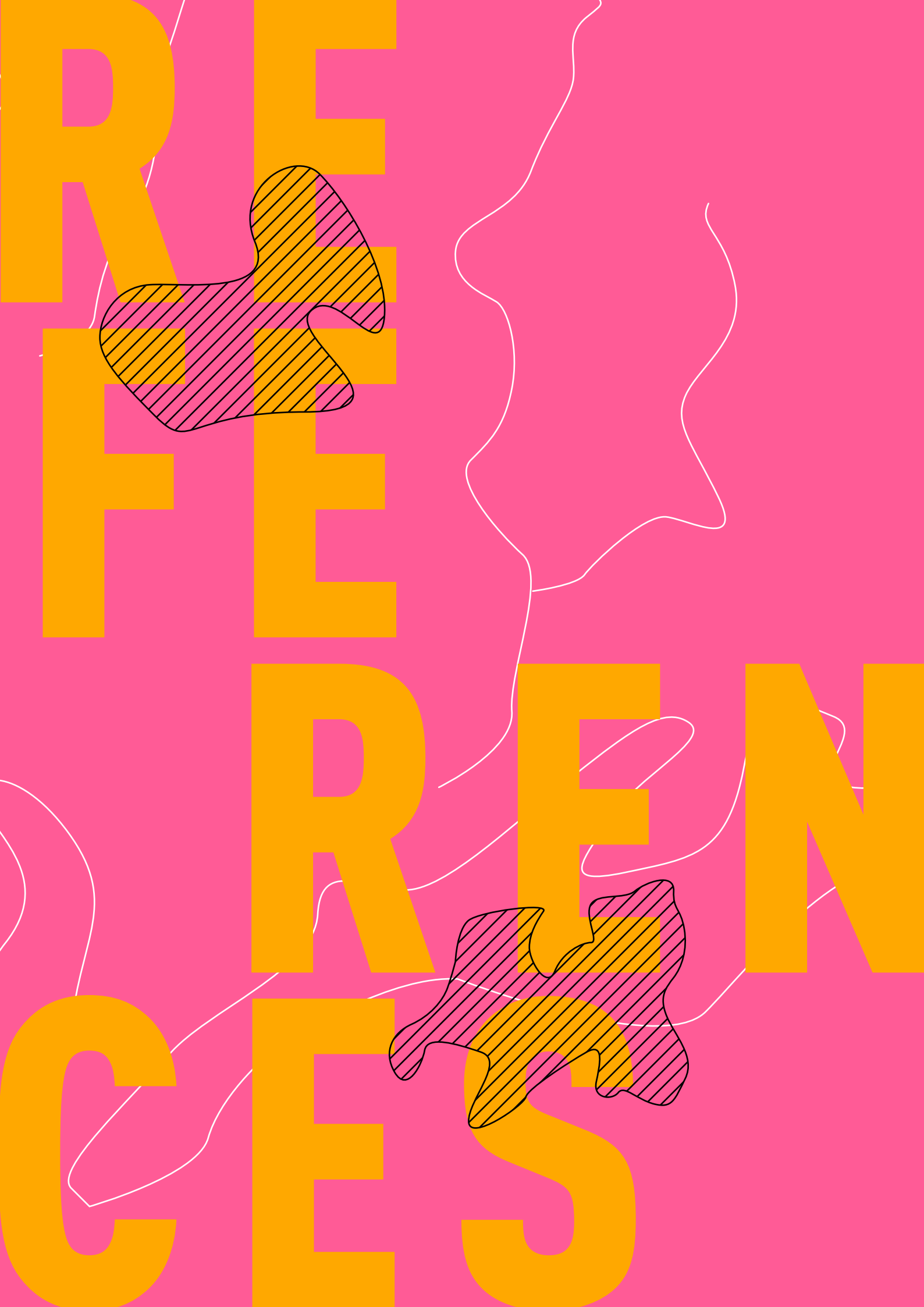
Doubling back
on Renca
doesn't save
government
from new
attrition

YOUTUBE

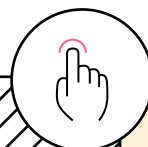
Renca: the
reality of
illegal mining

G1

Gisele criticizes
decree
extinguishing
forest reserve
in the North
Region: "shame"



CLICK THE NUMBERS
TO OPEN THE LINKS



INTRODUCTION

FOLHA

Fitoterápico melhora os
sintomas da endometriose

SCIELO

Revista Brasileira de
Plantas Medicinais

FUNAI

Distribuição espacial da
população indígena

GENERAL TRENDS

MINISTÉRIO DO MEIO AMBIENTE

Amazônia

GAZETA DO POVO

Frigoríficos assinam termo
de ajustamento de conduta

THE WORST STATES

WWF

Instituições
protestam
contra medi-
da que susta
11 Unidades
de Conser-
vação em
Rondônia

MINISTÉRIO DO MEIO AMBIENTE

Informações
sobre as
unidades de
conservação
criadas em 17
de fevereiro

FOLHA

Exigência de
cadastro de
proprieda-
des rurais
é adiada
pela 4ª vez

ICMBIO

Flona do
Bom Futuro

ICMBIO

32 famí-
lias serão
realocadas
na Flona
Bom Futuro

ESTADÃO

Liminar
suspende
licença
ambiental
provisória
para Jirau



CLICK THE NUMBERS
TO OPEN THE LINKS

CU TYPES

**MINISTÉRIO
DO MEIO
AMBIENTE**
Categorias
de UCs

**UNIDADES DE
CONSERVAÇÃO
DO BRASIL DO
INSTITUTO SO-
CIOAMBIENTAL**

SOCIETY'S REACTION

UNIDADES DE CONSERVAÇÃO NO BRASIL

Grupos e categorias

ESTADÃO

Dilma muda limite de
unidades de conservação
para abrigar hidrelétricas

INSTITUTO HUMANITAS UNISINOS

Movimentos sociais repudiam
Medida Provisória que diminui
áreas protegidas na Amazônia

G1 GLOBO

Governo envia ao Congresso
projeto de lei que reduz
floresta nacional no Pará

ÉPOCA NEGÓCIOS

'Vergonha', diz Gisele sobre decreto
que extingue reserva na Amazônia

EL PAÍS

Renca: Temer revoga
polêmico decreto que ameaça
reservas da Amazônia

CÂMARA DOS DEPUTADOS

Governo retira urgência
constitucional de redução da
Floresta Nacional do Jamanxim

PROTEC TIVE EFFECT

MINISTÉRIO DO MEIO AMBIENTE

Chega ao fim
operação Boi Pirata
na Terra do Meio

O ECO

Governo recua e
nomeia um especialista
para a presidência
do ICMBio

ICMBIO

Aos 10 anos, ICMBio
mostra avanços

METHODOLOGY

METHODOLOGY FOR ESTIMATING THE RANKING OF THE 50 MOST CRITICAL CUS

In order to estimate the deforestation that happened between the years of 2012 and 2017 (Prodes, 2018) in each Conservation Unit (CU) in the Legal Amazon, we cross-referenced the [Deforestation map](#) (figure 1) with the map of CUs (figure 2). We calculated the area of the resulting map (figure 3) and ranked the 50 CUs with the largest amounts of deforested hectares. The intersection between the maps was achieved using the “Intersect” tool in the software “ArcMap”, from ArcGis 10.5. The Reference System “Datum” used in this analysis was Sirgas 2000.

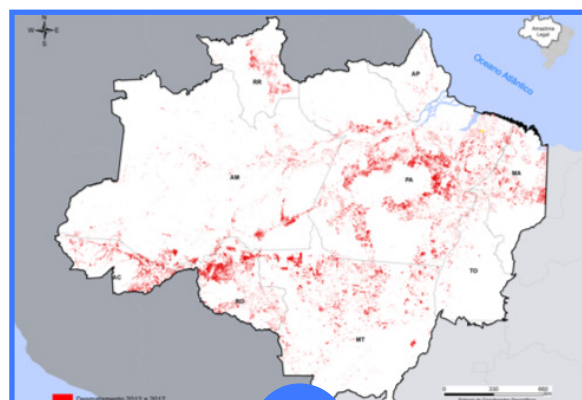


Figura 1

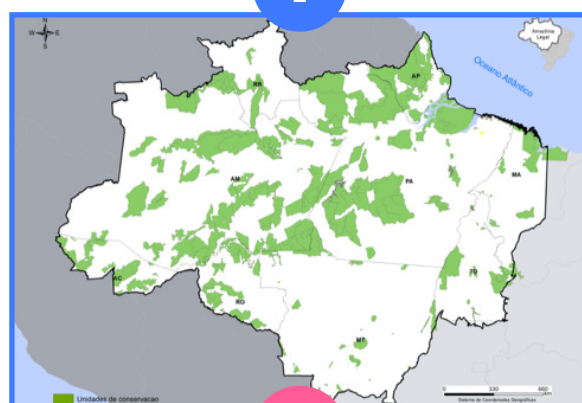


Figura 2

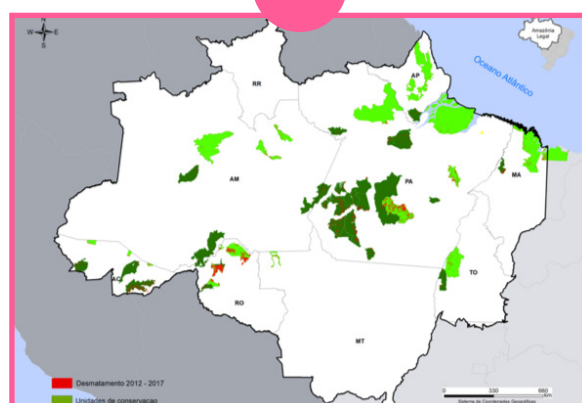


Figura 3

RE FE REN CES

IBAMA Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis. 2018. Áreas embargadas, em formato shapefile. Disponível em: <http://siscom.ibama.gov.br/>. Acesso em: 30 abr. 2018.

INPE Instituto Nacional de Pesquisas Espaciais. 2016. Dados do Projeto de Monitoramento do Desmatamento na Amazônia Legal (Prodes). Taxas anuais do desmatamento de 1988

a 2017, em formato shapefile. Disponível em: <http://www.inpe.br/>. Acesso em: 15 fev. 2018.

ISA Instituto Socioambiental. 2017a. Polígonos das Unidades de Conservação na Amazônia Legal de setembro de 2017, em formato shapefile.

ISA Instituto Socioambiental. 2018. Unidades de Conservação do Brasil. Disponível em: <https://uc.socioambiental.org/mapa>. Acesso em: 30 out. 2018.



Imazon

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