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Gold above the law: protected areas endangered in the Amazon

INSTITUTO
ESCOLHAS





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endangered in
the Amazon

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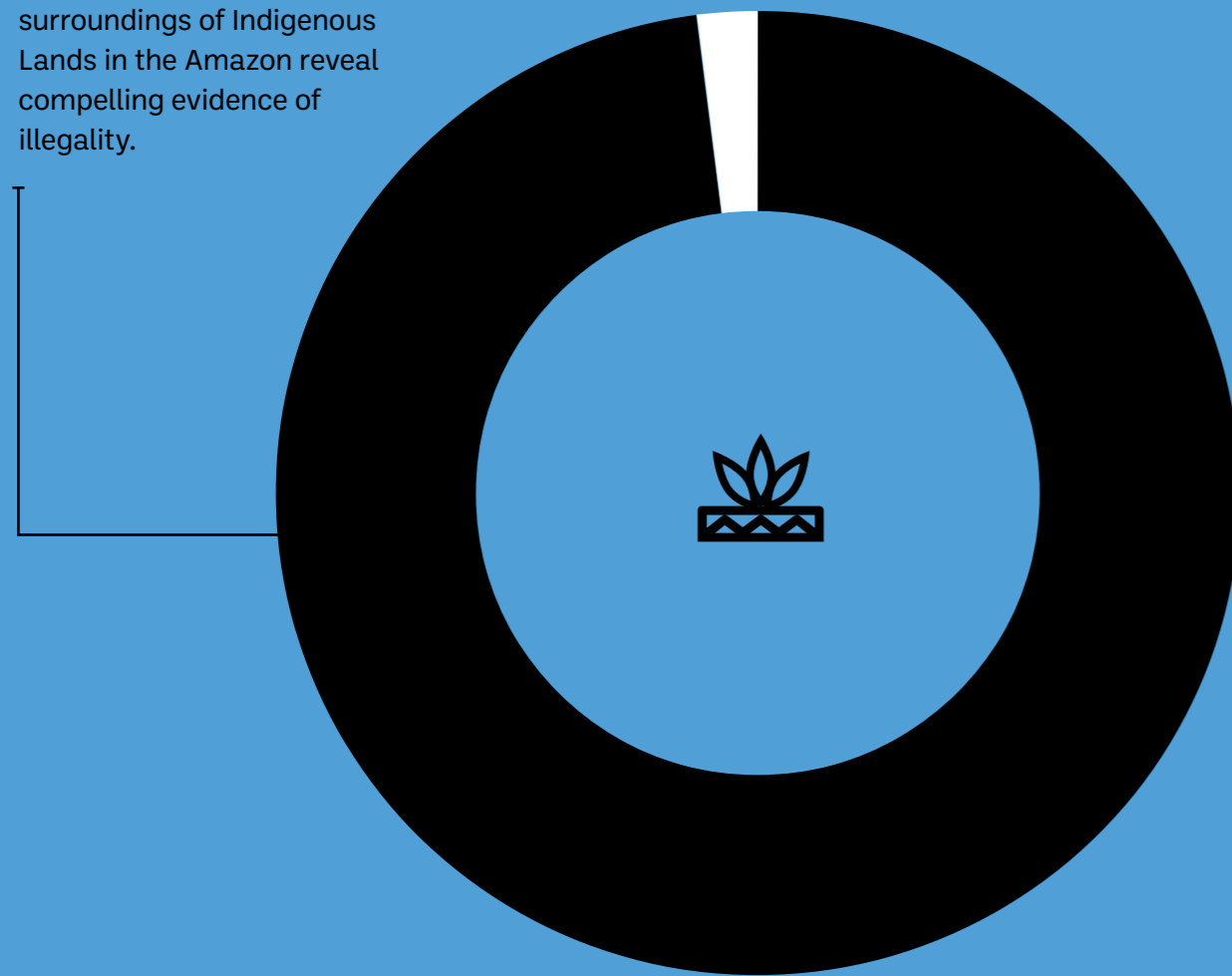
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1. Highlights

98%

OF THE GOLD TRADE

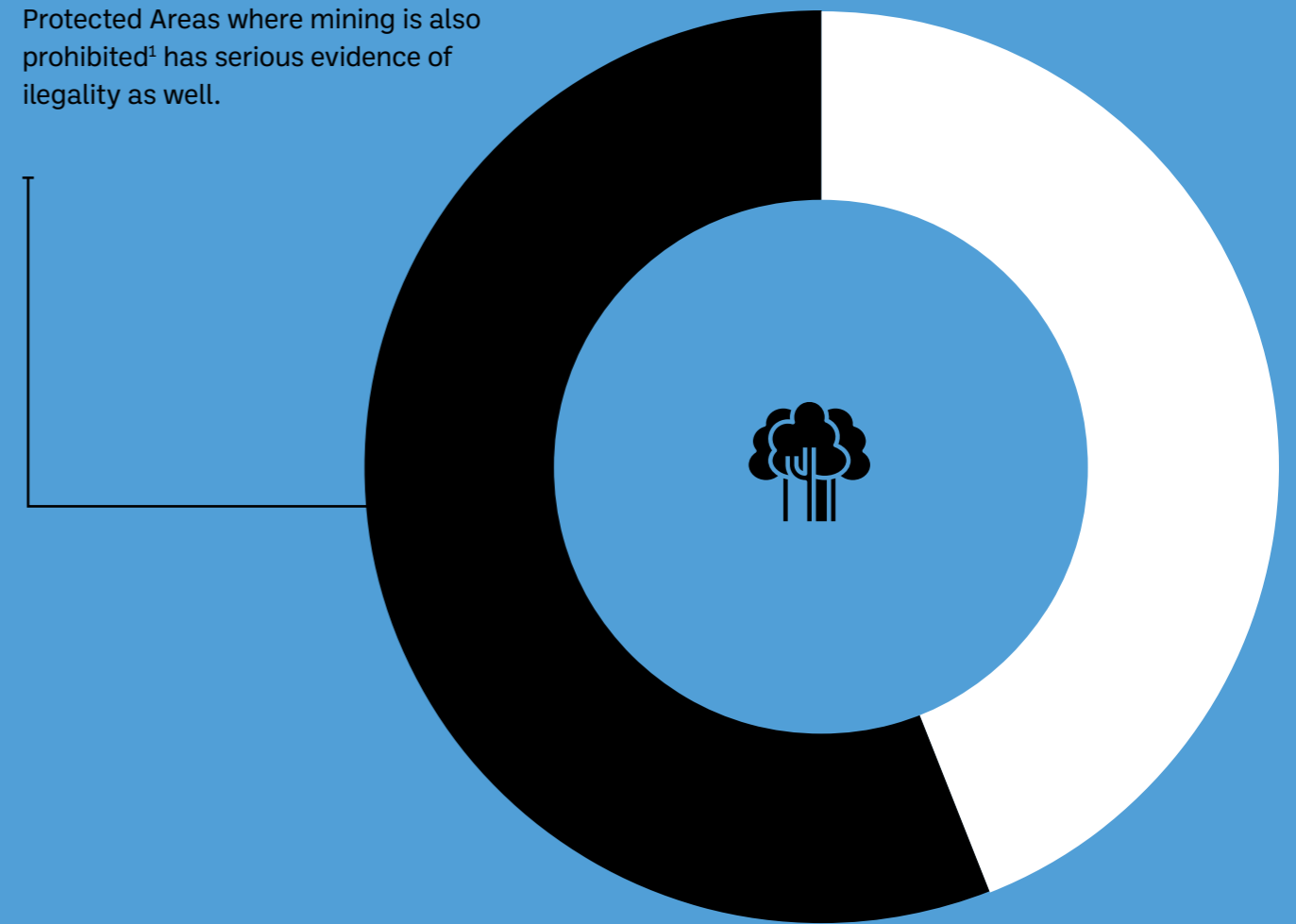
registered as coming from the surroundings of Indigenous Lands in the Amazon reveal compelling evidence of illegality.



56%

OF THE GOLD TRADE

recorded as coming from around other Protected Areas where mining is also prohibited¹ has serious evidence of illegality as well.



¹ Other Protected Areas where mining is not allowed include Integral Protected Areas, Resex (Extractive Reserves) and RPPN (Private Natural Heritage Reserves).

2. Introduction



Aerial view of a gold mine in the Amazon, state of Pará, Brazil/ Photo AdobeStock

This study analyzed gold trade data in the Amazon region between 2018 and 2020. Presently most of the gold produced in the country proceeds from that region.

The study is a wake-up call for authorities and the society in general: protected areas in the Amazon are extremely important to maintain environmental resources and to ensure the survival of forest peoples, who are under intense pressure from the illegal operations. These operations occur not only around the territories protected by legislation but also inside of them.

In the analyzed years, over half (52%) of the 104.5 tons of gold traded in the Amazon region evinced signs of irregular trading. A third of this gold trade was registered as coming from surroundings of protected areas where mining is not allowed. And the portion with evidence of irregularity of this total amount reached 66% - most of which using “shell titles”.

All this strengthens the hypothesis that the gold illegally mined inside Indigenous Lands and Protected Areas may be undergoing a “laundering” process. In other words: before entering the market, this gold is registered as “originating from nearby areas,” as pointed out in previous studies by Instituto Escolhas².

² For more information, access the platform [What they don't tell you about gold](#)

Gold trade registered around protected areas in the Amazon and evidence of illegality (kg) (2018-2020)

	Indigenous Lands	Other Protected Areas	Both	Total
Total gold trade registered around protected areas	6,208	26,572	1.548	34.328
From “shell titles”	4,258	10,910	1.076	16.245
From titles with extraction outside the designated mining area	1,853	4,052	447	6.352
Evidence of illegality	6,111	14,962	1.523	22.597
% of evidence of illegality	98%	56%	98%	66%

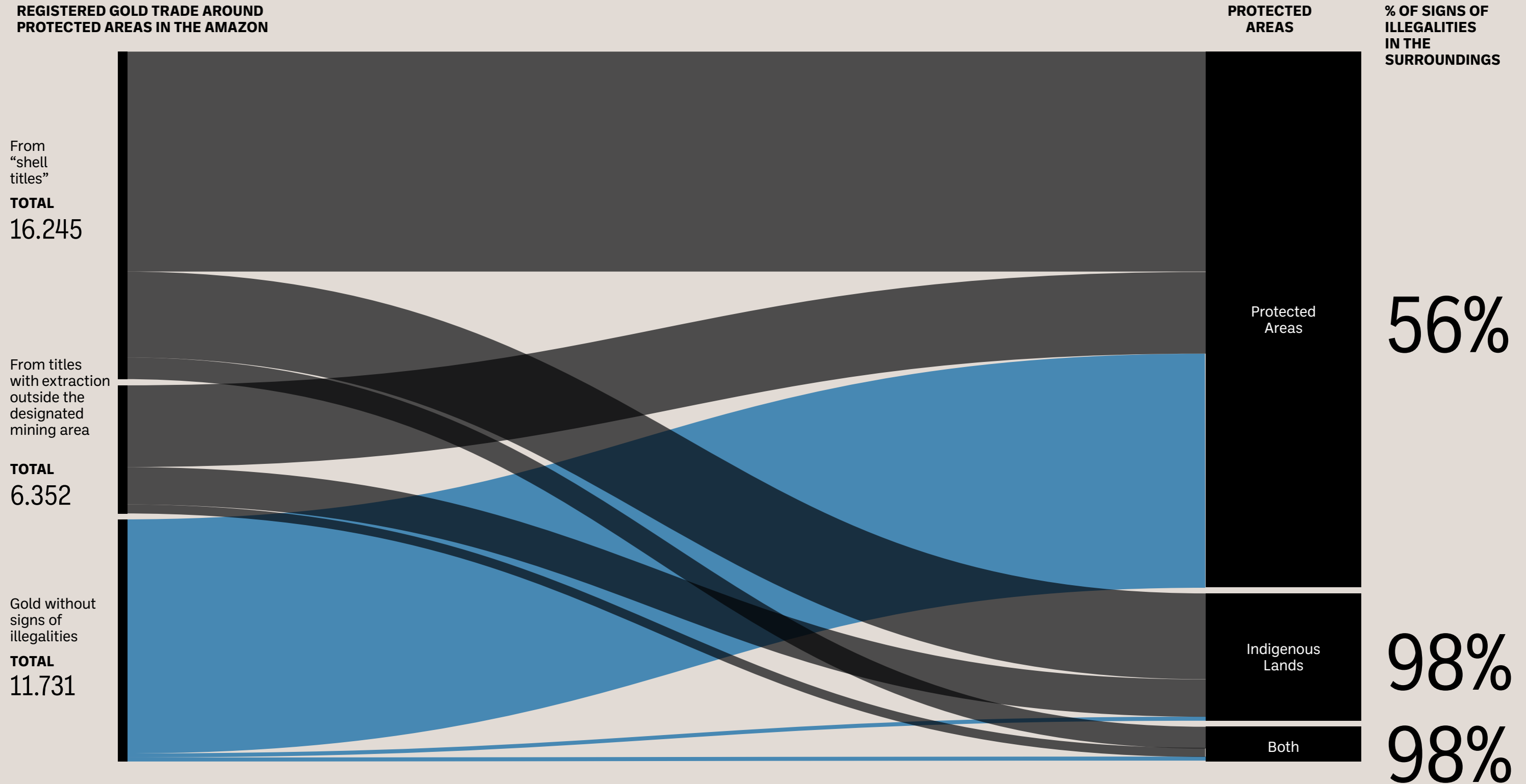
Source own elaboration based on ANM and Mapbiomas project data.

Signs of illegalities in goldtrade

(kg) (2018-2020)

Gold with signs of illegalities Gold without signs of illegalities

REGISTERED GOLD TRADE AROUND PROTECTED AREAS IN THE AMAZON



Source Own elaboration based on ANM and Mapbiomas project data.



Aerial view of illegal gold mining, showing deforestation and a by mercury polluted river inside a Protected Area in the Amazon, Brazil. / Photo AdobeStock

“GOLD LAUNDERING”

When accessing the market, illegal gold can easily be declared as proceeding from authorized areas, due to absence of controls in place. It suffices to indicate a valid mining title for the records. In this way, the gold is “laundered” and enters the market as if it were legal.

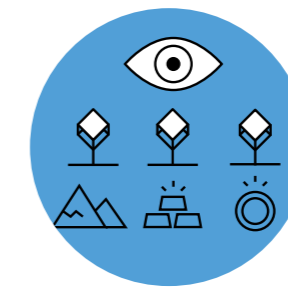
EVIDENCE OF ILEGAL GOLD TRADE

To identify and quantify evidence of irregularities in the gold trade, this study considered two possibilities:

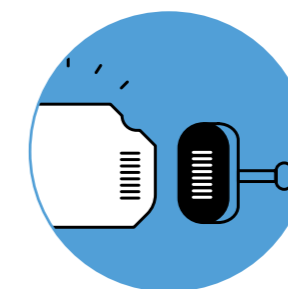
1. **When the gold trade was registered in a mining title** with indications of extraction outside the designated mining area;
2. **When the gold trade was registered in the so-called “shell titles”**, which are authorized areas, but without any evidence of identified mining activity.

SOLUTIONS TO CURB ILLEGAL GOLD MINING?

The lack of controls regarding the origins of gold on the market is a perverse incentive for illegal operations to advance on Indigenous Lands and Protected Areas. To reverse this situation, some measures are essential:



Establishing a traceability system for Brazilian gold to attest its origins, with controls from mining sites to exports



Adopting technologies such as the physical marking of gold and digital systems using blockchain, electronic invoices, shipment and custody forms, and proofs of environmental and mining documents.

These and other measures are detailed in [Blockchain, Traceability, and Monitoring for Brazilian Gold](#).

3. The most affected areas are in Pará and Mato Grosso

Action of the operation
"Verde Brasil" against illegal
mining. /Photo Disclosure
Ministry of Defense

The gold trade with evidence of illegality occurred mainly around the Indigenous Lands of Areões (MT), Xikrin do Rio Catete (PA), Kayapó (PA), and Kayabi (PA/MT).

In the case of Protected Areas, most of the gold trade with evidence of illegality was registered around the Jamanxim National Park (PA), the Mapinguari National Park (AM/RO), the Serra Santa Bárbara State Park (MT), and the Amazon National Park (PA/AM).

Besides the evidence of irregularities bordering protected areas in the Amazon, there is also gold trade registered as coming from some mining titles intruding these areas.

This is the case for 2.5 tons of gold sold between 2018 and 2020 from mining titles that encroached on Sararé (MT) and Kayabi (MT/PA) Indigenous Lands, the Montanhas do Tumucumaque National Park (AP), the Mapinguari National Park (AM/RO), the Serra dos Três Irmãos Ecological Station (RO) and at the Amazon National Park (PA/AM).

WHERE IS THE GOLD FROM THE YANOMAMI INDIGENOUS LAND?

The Yanomami Indigenous Land (YIL), located between Roraima and Amazonas, is one of the most affected by illegal mining in Brazil with 1,557 hectares³ affected by illegal small-scale mining. That equates to 1,442 football fields!

But curiously, official data do not record any gold trade operations in Roraima, where most of the mining activities identified in YIL are located. This is robust evidence that gold stolen from Indigenous Land is smuggled into the formal market via other locations.

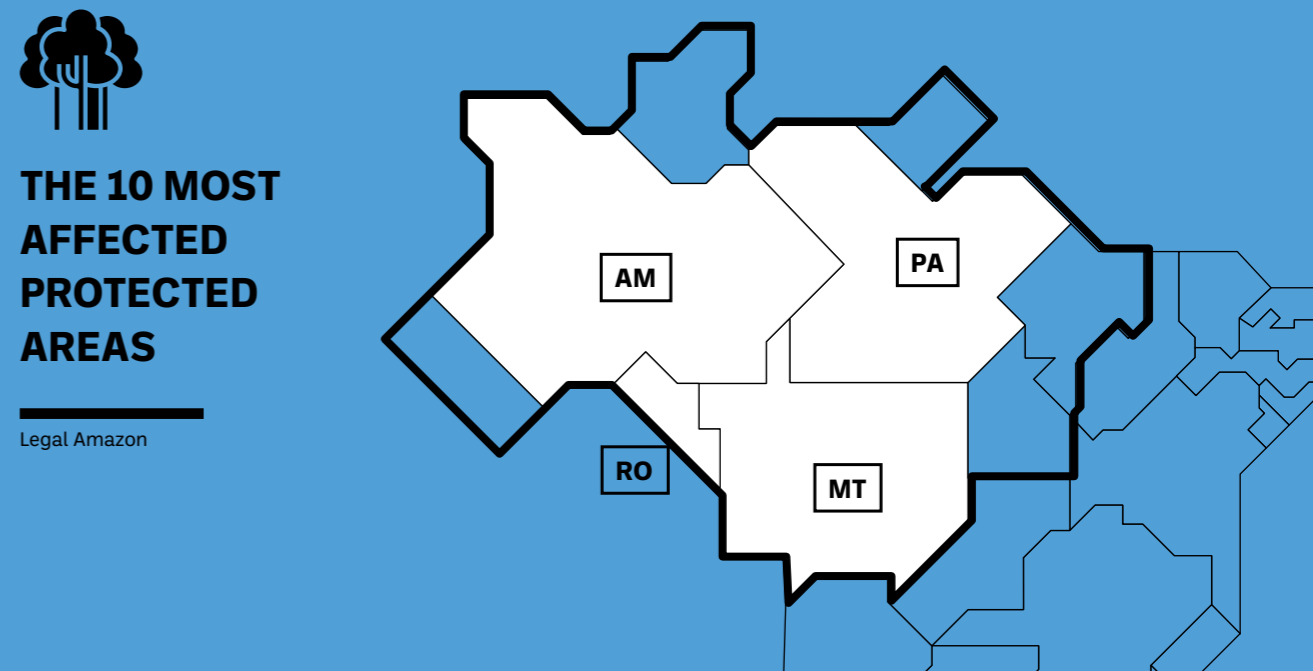
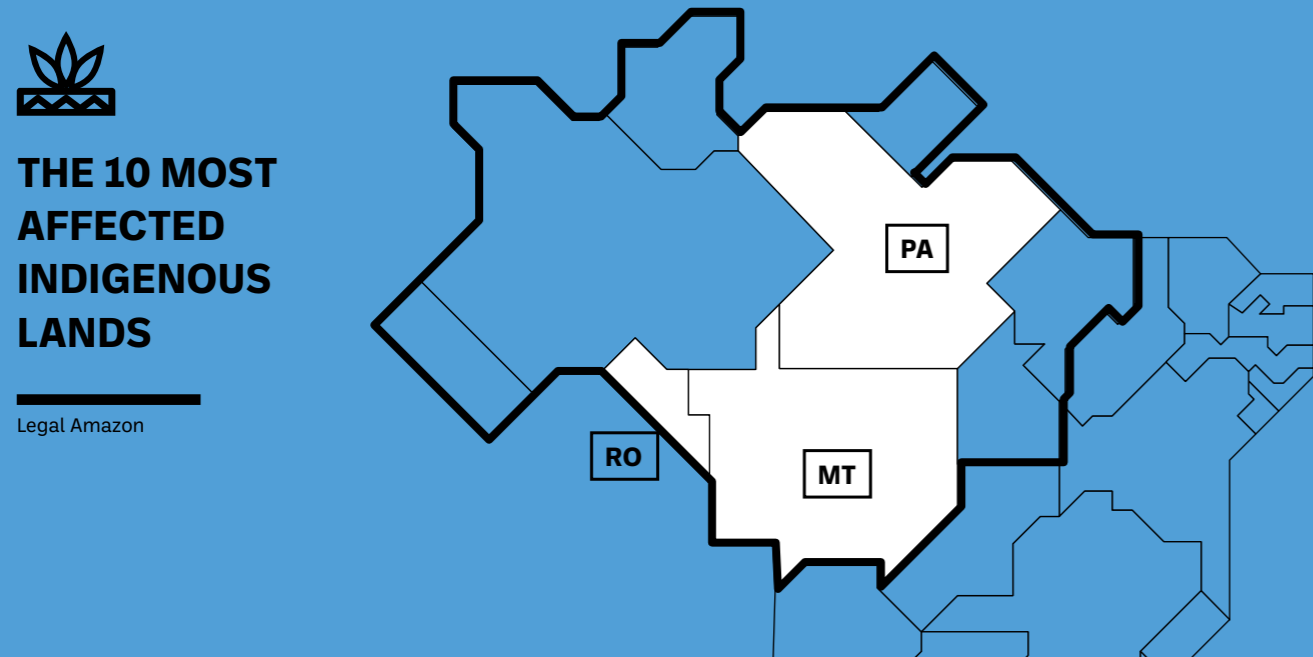
Other seriously affected Indigenous Lands are the Kayapó and Munduruku, both in Pará, which have, respectively, 11,542 and 4,743 hectares⁴ occupied by illegal wildcat mining. Together, these areas are equivalent to more than 15,000 football fields.

^{3, 4}
According to data from
the Mapbiomas project

Traces of Illegality

(2018-2020)

The Amazon areas most affected by evidence of illegality in their surroundings (30 km)



Indigenous Land	Gold with evidence of illegality in the surroundings (kg)
Areões (MT)	3.108
Xikrin do Rio Catete (PA)	1.853
Kayapó (PA)	1.853
Kayabi (PA/MT)	613
Sararé (MT)	545
Karitiana (RO)	539
Munduruku (PA)	494
Vale do Guaporé (MT)	376
Pequizal (MT)	332
Igarapé Ribeirão (RO)	246

Protected Areas	Gold with evidence of illegality in the surroundings (kg)
Jamanxim National Park (PA)	9.305
Mapinguari National Park (AM/RO)	1.929
Serra Santa Bárbara State Park (MT)	1.231
Amazon National Park (PA/AM)	1.109
Zé Bolo Flô State Park (MT)	719
Serra dos Três Irmãos Ecological Station (RO)	602
Rio Novo National Park (PA)	600
Morro de Santo Antônio Natural Monument (MT)	588
Massairo Okamura State Park (MT)	553
Vale da Esperança Municipal Natural Park (MT)	406

Source Own elaboration based on ANM and Mapbiomas project data.

Note Some mining titles with evidence of illegality refer to surroundings of more than one Indigenous Land.

4. Pressure from inside and out

Illegal mining rafts in Parima River on Yanomami Indigenous territory/
Photo: Bruno Kelly / Photo Amazônia Real Agency

#CANCELLED

In the Amazon, there are 1,304 permit applications for gold mining within Indigenous Lands and Protected Areas where mining is not allowed. Some permit applications are at a very advanced stage and even registering the gold trade. These permit applications must be cancelled immediately, as mineral activity cannot occur within these areas.

⁵ In Indigenous Lands, there are 359 research requests, 66 wildcat mining requests, and 68 other types of applications. In other Protected Areas where mining is not allowed, there are 279 mineral research requests, 349 wildcat mining requests, and 183 other types of applications.

⁶ Near Indigenous Lands alone, there are 798 requests for wildcat mining, 868 research requests, and 911 of other types. Around other Protected Areas where mining is not allowed, there are 4,688 requests for wildcat mining, 812 requests for mineral research, and 1,686 of other types. Near both Indigenous Lands and Protected Areas, there are 6,898 requests for wildcat mining, 2,089 research requests, and 3,017 of other types.

Another measure of pressure on protected areas in the Amazon is the number of mining permit applications that exist to extract gold, either within these areas or nearby.

All mining activity in the country needs to be authorized. For this, it is necessary to start a permit application at the National Mining Agency and follow several steps until the right to operate in a particular area is obtained.

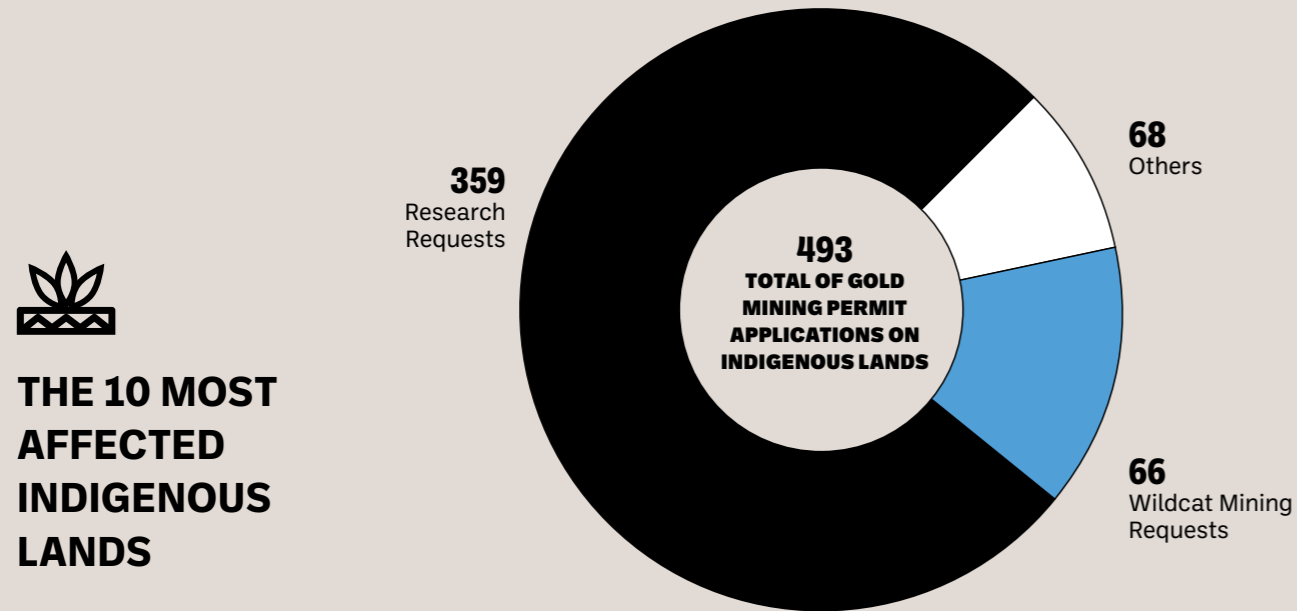
Although mineral activity is not allowed within Indigenous Lands, 493 permit applications for gold mining are already formally registered within these territories in the Amazon. Within the Protected Areas analyzed, there are 811 applications, most of which are mineral research requests (638) and wildcat mining requests (415)⁵. Both types of requests are initial stages of obtaining a mining license.

These permit applications are mainly within the indigenous territories of Yanomami (RR/AM), Baú (PA), Munduruku (PA), and Kayapó (PA) and within the Jamanxim National Park (PA), the Rio Novo National Park (PA), the Maicuru Biological Reserve (PA) and the Mapinguari National Park (AM/RO).

When analyzing the surroundings of all protected areas where mining is not allowed, the number of permit applications for gold is even higher. There are 12,004 applications in total, 2,577 of which are around Indigenous Lands, 7,186 around other Protected Areas, and 2,241 around both.

Most permit applications are wildcat mining requests (6,898), followed by mineral research requests (2,089)⁶. They are mainly around the Munduruku Indigenous Land (PA), the Rio Novo National Park (PA), the Jamanxim National Park (PA), and the Mapinguari National Park (AM/RO). Near some of these areas, the number of wildcat mining permits already granted for gold extraction is also significant.

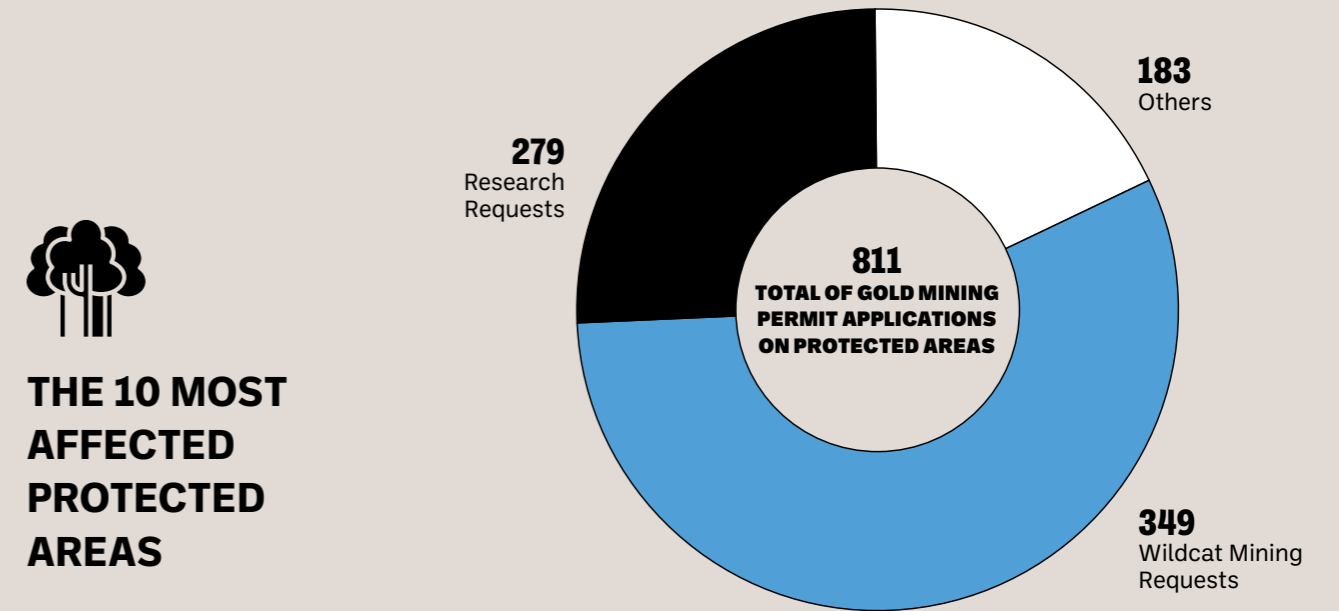
I. Gold Mining Permit Applications within protected areas




THE 10 MOST AFFECTED INDIGENOUS LANDS

Indigenous Lands	Total	Prospect Requests	Wildcat Mining Requests	Other ⁷
1. Yanomami (RR/AM)	127	116	11	0
2. Baú (PA)	34	34	0	0
3. Munduruku (PA)	28	4	18	6
4. Kayapó (PA)	23	11	5	7
5. Raposa Serra do Sol (RR)	21	19	1	1
6. Rio Paru d’Este (PA)	19	14	0	5
7. Cachoeira Seca (PA)	15	12	0	3
8. São Marcos (RR)	14	14	0	0
9. Kayabi (PA/MT)	14	3	8	3
10. Sararé (MT)	14	10	1	3

⁷ Other permit applications include the phases of: Eligible for Availability, Prospecting Permit, Mining Concession, Right to Request Mining, Availability, Wildcat Mining Permit, Licensing, and Mining Request.




THE 10 MOST AFFECTED PROTECTED AREAS

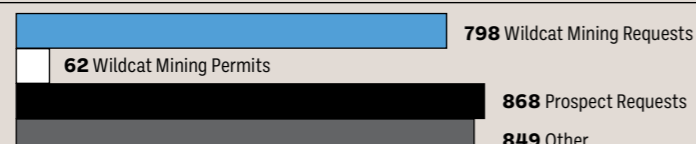
Protected Areas	Total	Prospect Requests	Wildcat Mining Requests	Other ⁵
1. Jamanxim National Park (PA)	116	2	104	10
2. Rio Novo National Park (PA)	88	4	63	21
3. Maicuru Biological Reserve (PA)	69	59	0	10
4. Matinguari National Park (AM/RO)	66	9	48	9
5. Jari Ecological Station (AP/PA)	46	37	6	3
6. Juruena National Park (MT/AM)	33	2	16	15
7. Serra dos Três Irmãos Ecological Station (RO)	31	7	22	2
8. Cuniã Ecological Station (RO/AM)	30	1	28	1
9. Alto Maués Ecological Station (AM)	29	10	10	9
10. Riozinho do Anfrísio Extractive Reserve (PA)	29	7	6	16

Source own elaboration based on ANM and Mapbiomas project data.
Note some requests may be around more than one Indigenous Land.

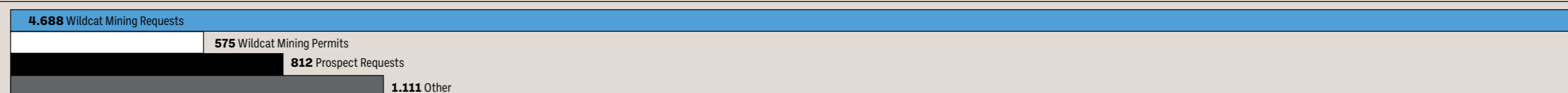
II. Gold Mining Permit Applications around protected areas

The Amazon areas most affected by permit applications for gold mining in their surroundings (30 km)

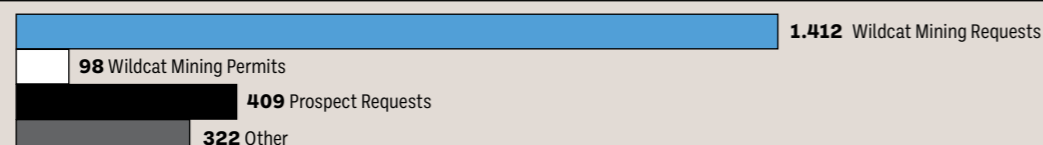
2.577
APPLICATIONS AROUND
INDIGENOUS LANDS



7.186
APPLICATIONS AROUND
PROTECTED AREAS



2.241
APPLICATIONS AROUND
BOTH PROTECTED AREAS
AND INDIGENOUS LANDS



THE 10 MOST AFFECTED INDIGENOUS LANDS

Indigenous Land	Total	Wildcat Mining Requests	Wildcat Mining Permits	Prospect Requests	Other ⁸
1. Munduruku (PA)	1.285	1.027	69	77	112
2. Karitiana (RO)	280	217	27	31	5
3. Kayapó (PA)	257	69	11	98	79
4. Baú (PA)	224	118	3	55	48
5. Yanomami (RR/AM)	176	91	1	59	25
6. Uru-Eu-Wau-Wau (RO)	143	28	3	76	36
7. Xikrin do Rio Catete (PA)	136	35	2	43	56
8. Sararé (MT)	131	55	1	43	32
9. Trincheira Bacaja (PA)	119	15	2	32	70
10. Vale do Guaporé (MT)	115	42	0	53	20

⁸

Other permit applications include the phases of: Eligible for Availability, Research Authorization, Mining Concession, Right to Request Mining, Availability, Wildcat Mining Permit, Licensing, and Mining Request.



THE 10 MOST AFFECTED PROTECTED AREAS

Protected Areas	Total	Wildcat Mining Requests	Wildcat Mining Permits	Prospect Requests	Other ⁷
1. Rio Novo National Park (PA)	2.812	2.470	175	52	115
2. Jamanxim National Park (PA)	1.609	1.310	156	27	116
3. Matinguari National Park (AM/RO)	1.312	1.171	62	60	19
4. Serra dos Três Irmãos Ecological Station (RO)	705	671	6	25	3
5. Morro de Santo Antônio Natural Monument (MT)	571	148	166	99	158
6. Mãe Bonifácia State Park (MT)	418	92	126	80	120
7. Zé Bolo Flô State Park (MT)	402	108	90	76	128
8. Jaci-Paraná Extractive Reserve (RO)	339	306	1	28	4
9. Massairo Okamura State Park (MT)	285	85	43	44	113
10. Amazônia National Park (PA/AM)	204	121	17	19	47

Source Own elaboration based on ANM and Mapbiomas project data.
Note Some requests may be around more than one Indigenous Land.

5. Methodological Note

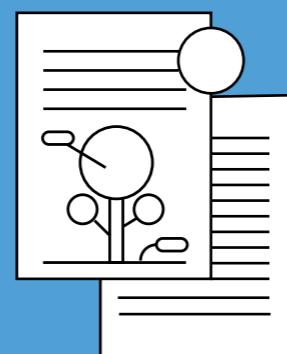
1.



Gold trade records between 2018 and 2020, based on data from the collection of the Financial Compensation for Mineral Exploration (CFEM), made available by the National Mining Agency (ANM)¹¹

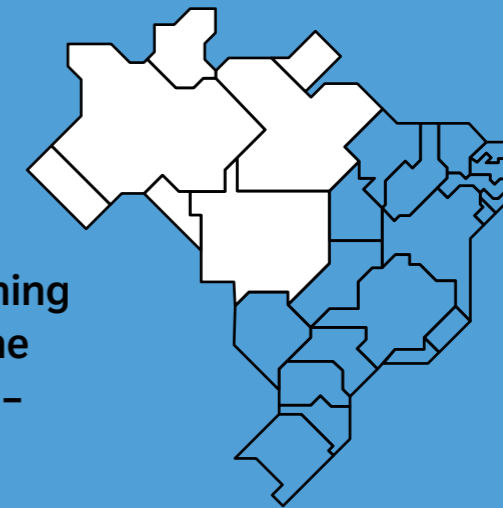
2.

Gold mining permit applications, including their geographic information, made available by the National Mining Agency (ANM)



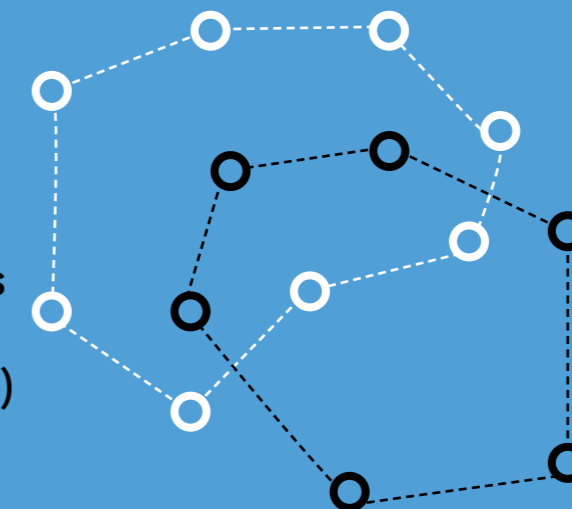
3.

Information on prospecting and mining areas provided by the MapBiomias Project – Collection 6



4.

Indigenous Lands and Protected Areas geographical limits (polygons)



This study analyzed data on gold trade and permit applications for gold mining in the Amazon within 30 km⁹ of the borders of Indigenous Lands and Protected Areas where mining is not allowed¹⁰. For this aim, the sources below were used:

⁹ Since there is no standard distance to define the vicinity of protected areas, the study adopted the limit of 30 km as a reference. Some studies on the impact of infrastructure and mining projects in the Amazon indicate that they reach distances between 30 km and 70 km (Sonter et al, 2017; Barber et al, 2014). Guidelines for the environmental licensing of projects with intervention in Indigenous Lands consider distances between 5 km and 40 km (Interministerial Ordinance No. 60/2015).

¹⁰ Integral Protected Areas, Resex (Extractive Reserves) and RPPN (Private Natural Heritage Reserves).

¹¹ The CFEM database was previously refined to correct possible registration errors, following the same methodology adopted and described in the study “Gold Under the Microscope: more than 200 tons of Brazilian gold are potentially illegal”, also developed by Instituto Escolhas and available [here](#).

Realization



Study conducted by Instituto Escolhas

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