



MIGHTY EARTH



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FAILURE TO ACT: PREVENTABLE DESTRUCTION IN THE AMAZON AND CERRADO SURGES BY OVER 18,000 HECTARES AS JBS IGNORES DEFORESTATION ALERTS

The failure of Brazilian beef giant JBS to act on 68 deforestation cases on 59 cattle ranches in the Amazon and Cerrado sent to the company over a year ago by Mighty Earth has resulted in a further 18,458 hectares of additional deforestation found on 22 of the 59 farms identified, new research finds.

In April 2023, Mighty Earth revealed that JBS - the world's largest meat company - had failed to investigate or act on 68 confirmed cases of deforestation linked to its cattle supply chain, covering over 125,000 hectares of deforestation in the Brazilian Amazon and the Cerrado. For 26 of these cases, animal transportation data - known as 'GTAs' - confirmed a direct supply chain link between JBS and the farms. The remaining cases showed a medium level of certainty of links to JBS, indicating an indirect relationship.

If JBS had acted on our 68 deforestation cases in an urgent and transparent manner, then the subsequent 18,458 hectares of recent deforestation and conversion on 22 farms could have been prevented. Furthermore, Mighty Earth last month sent JBS another 37 new cases of deforestation in the Amazon and Cerrado covering 60,218 hectares linked to its cattle supply chains. We are yet to receive a response to each of these 37 cases from JBS, so it remains unclear if more deforestation will be detected on these farms in another years' time.

24 April 2023

Mighty Earth reveals that JBS refused to investigate 68 cases of deforestation on 59 farms covering over 125,000 hectares in the Brazilian Amazon and Cerrado. The cases were detected using DETER (official daily deforestation satellite alerts) and further confirmed with Planet high-resolution satellite imagery.

1 March 2024

Mighty Earth reassesses the 68 deforestation cases using PRODES annual deforestation satellite data which confirms deforestation or conversion for 60 of the original 68 cases and reveals an additional 18,458 hectares of deforestation across 22 of the 59 cattle ranches.

16 April 2024

JBS responds to Mighty Earth that 88% of the total 105 deforestation cases are not currently JBS suppliers, and say 60% of cases were not found in JBS' cattle supplier database. JBS said the remaining 12% of suppliers are currently in compliance with JBS' cattle procurement policies and eligible to sell cattle to the company. JBS provided no evidence to support these claims and failed to respond to each case individually or log them in a public grievance mechanism.

25 April 2023

JBS responds to Brazilian newspaper Folha de S. Paulo that it has already blocked suppliers in 69% of the 68 deforestation cases, but failed to provide any details or confirmation for any of the cases.

27 March 2024

Mighty Earth re-submits complaint with JBS on the 68 cases and files an additional 37 deforestation cases linked to JBS suppliers in the Amazon and the Cerrado totaling 60,218 hectares of clearance up to September 2023.

26 April 2024

Ahead of JBS' AGM, Mighty Earth calls on JBS shareholders to demand urgent action on deforestation alerts and establish a public grievance mechanism to track cases. They also called on shareholders to block JBS's proposed listing on the New York Stock Exchange (NYSE) because of its disastrous record on deforestation and its outsized climate impact.

Over 18,000 ha of additional deforestation

In December 2022, Mighty Earth sent Brazilian beef giant JBS [68 cases](#) covering over 125,000 hectares of deforestation on 59 farms in the Amazon and the Cerrado – but JBS replied saying it would not investigate them. The original 68 cases, which covered deforestation that occurred from January 2019 to July 2022 and reported by [Mighty Earth](#) and [AidEnvironment](#), were selected by analyzing official deforestation and fire alerts from DETER (Deforestation Detection in Real Time) satellite data. Each case of deforestation or clearance was verified using high-resolution Planet satellite imagery and was validated by expert local partner Repórter Brasil. The deforestation cases identified are based on just a small sample out of JBS' 73,000 direct suppliers in Brazil and that we were able to locate through the use of GTAs (animal transportation data). These cases do not represent JBS' entire supply chain and deforestation footprint, which is likely to be significantly higher.

Following [JBS' refusal to investigate](#) the 68 deforestation cases, Mighty Earth and AidEnvironment recently reassessed each case using PRODES (Project for Monitoring Deforestation in the Legal Amazon by Satellite) data, released from 2019 to 2023. The new analysis reveals 60 of the 68 cases had deforestation confirmed by PRODES. Considering only deforestation data that overlapped or occurred after the initial alerts, we found a further 18,458 hectares of additional deforestation on 22 of the 68 cases that we notified JBS about in late 2022.

Of the 22 farms, four border or overlap protected Indigenous Lands. Deforestation confirmed on these four farms totaled 3,833 hectares since initial detection. At Fazenda Agrotep II farm, for example, which borders the Apiaka and Kayabi Indigenous Territory in Mato Grosso in the Amazon, we notified JBS of 686 hectares of deforestation between January and April 2022. The deforestation and conversion was subsequently validated by PRODES data within the same year. Following our initial report to JBS last year, we found an additional 41 hectares of deforestation on this farm between August 2022 and July 2023, confirmed by PRODES data in 2023.

Continued deforestation on cattle farms linked to JBS near Indigenous Lands



Failure to Act

JBS confirmed to Mighty Earth that it would not investigate any of our cases and subsequently failed to act on the 68 deforestation cases when presented to the company in late 2022. In March 2024, Mighty Earth filed a follow up grievance with JBS on the 68 cases and sent an additional 37 alerts, covering 60,218 hectares of deforestation and conversion in the Amazon and the Cerrado. Clearance across the 37 new cases was detected as recently as September 2023, with 12 farms bordering or overlapping Indigenous lands. Between August 2018 and July 2023, PRODES data has confirmed 50,986 hectares of deforestation across these 37 cases.

Recently, JBS responded to Mighty Earth, claiming that 88% of the total 105 deforestation cases are “not currently JBS suppliers” and the remaining 12% of the identified suppliers are in compliance with JBS’s cattle procurement policies and eligible to sell cattle to the company. Despite our requests, JBS provided no evidence whatsoever to substantiate or verify these claims and has failed to log the details of each case to a public grievance mechanism.

Had JBS acted urgently on our deforestation alerts, vital Amazon rainforests and natural ecosystems in the threatened Cerrado savannah could have been saved. Ahead of the company’s Annual General Meeting (AGM) in São Paulo in Brazil on April 26, 2024, Mighty Earth is calling on JBS shareholders to demand urgent action from the company, in order to prevent 10 hectares of deforestation becoming thousands.

JBS only acknowledges deforestation when it's a year old

In correspondence with Mighty Earth in January 2023, JBS cited the real-time DETER satellite detection system for deforestation alerts as the reason for not investigating the 68 deforestation cases. JBS said:

“ The environmental alerts in the cases you submitted are all based on DETER, which is not the official geospatial analysis system for deforestation monitoring. Brazil Aeronautics and Space Agency (INPE) discourages its use for this purpose because it is an early warning system and lacks the necessary granularity and precision. PRODES is the official geospatial analysis system, and any methodological divergence using data from DETER makes it even more challenging for the company to take action. ”

However, relying only on PRODES annual satellite data raises serious concerns about JBS' deforestation monitoring approach, given it takes on average one year for INPE researchers to confirm the PRODES dataset using satellite imagery. JBS chose not to address verified instances of deforestation simply because they were not recorded in an annual system.

Key monitoring tools

There are a growing range of tools available to monitor and assess deforestation and conversion in Brazil. These include official deforestation and fire alerts data that are released by Brazil's National Institute for Space Research (INPE) under the DETER and PRODES systems:

DETER: The Real-Time System for Detection of Deforestation, or DETER, provides daily deforestation alerts at medium spatial resolution, so that Brazilian environmental law enforcement agencies can quickly identify and inspect new forest clearing areas in the Amazon and Cerrado. Analysts argue that DETER alerts serve as a strong launching pad for investigating deforestation in near real-time, especially when visually confirmed with other high-resolution satellite imagery.

PRODES: The Project for Monitoring Deforestation in the Legal Amazon by Satellite, or PRODES, generates an annual deforestation rate for the Amazon and Cerrado biomes, and uses high resolution satellite data to identify areas that have been cleared between August of the previous year and July of any current year. Analysts say PRODES offers robust estimates of annual deforestation rates but is not aimed at

carrying out real-time monitoring of ongoing deforestation.

Complementary to official data, advanced warning systems are powerful and helpful real time tools for deforestation and conversion monitoring. Key examples of such tools include [Planet](#) and [MapBiomas Alert](#):

Planet: With roughly 200 microsatellites in orbit, Planet provides 3.7-meter resolution images of the entire Earth daily. This imagery can be used for monitoring daily changes in agriculture, forestry, and land use.

MapBiomas Alert: Combines deforestation alerts produced by various monitoring initiatives (such as DETER/INPE, SAD/IMAZON, GLAD/University of Maryland, SIRAD-X/ISA, and others), with daily satellite imagery from Planet, and verifies and refines deforestation or clearance. Validated alerts are published weekly.

To assist actors in the cattle supply chain in Brazil, there are also initiatives developed by governmental organizations (as in the State of Pará), private companies and civil society organizations, which combine official sources of deforestation data with other data such as environmental embargoes, forced labor lists, conservation, and Indigenous areas.

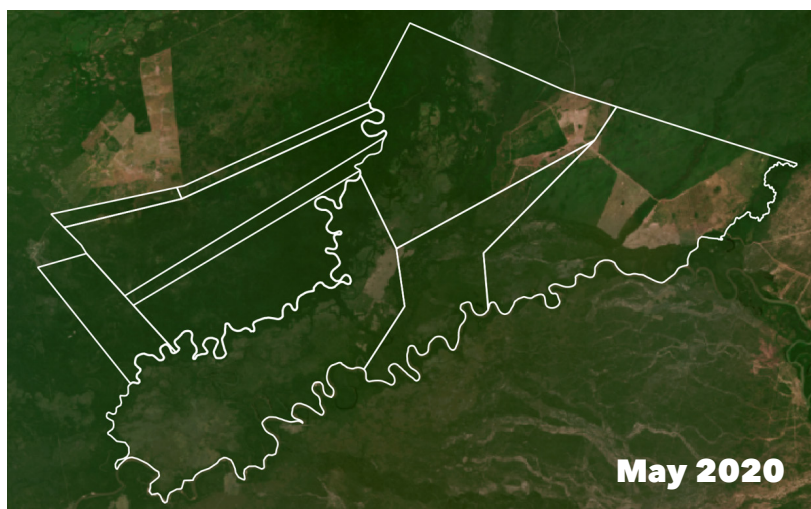
PRODES data is not enough

New analysis by Mighty Earth and AidEnvironment exposes further limitations in relying solely on PRODES data. Of the 68 cases filed with JBS, nine had no deforestation recorded by PRODES between August 2008 and July 2023, despite visual confirmation of clearance. For several other cases, the reported deforestation by PRODES data was significantly lower than detected via DETER alerts and satellite imagery. While more than 125,000 hectares of clearance was originally detected and confirmed via satellite imagery across the 59 farms, PRODES data confirmed only 51,579 hectares of deforestation. Fire events often explain these discrepancies. For instance, Fazenda Pindaival cattle farm located in the Amazon, recorded 30,024 hectares of clearance through DETER, but only 286 hectares were later confirmed by PRODES data.

A deeper analysis of the farm using high-resolution satellite imagery from Planet reveals clear degradation. According to experts, forest degradation, provoked by fire, selective logging and other drivers, progresses faster than deforestation in the Amazon and causes the same, or even greater, damage to ecosystems than deforestation. At Fazenda Pindaival, 30,024 hectares of deforestation and degradation that occurred between August and October 2020 was visually confirmed by Planet satellite imagery. PRODES data only confirmed 286 hectares of clearance in 2020 and 2021. The significant underreporting by PRODES is partly due to regrown vegetation obscuring the area in regions of the farm. However, this does not discount the previous degradation of the woody-grass savannah area, classified as having a 'Very High' priority for biodiversity conversation.

Fazenda Pindaival: Before and after satellite imagery shows deforestation and degradation of 30,024 hectares in the Amazon region

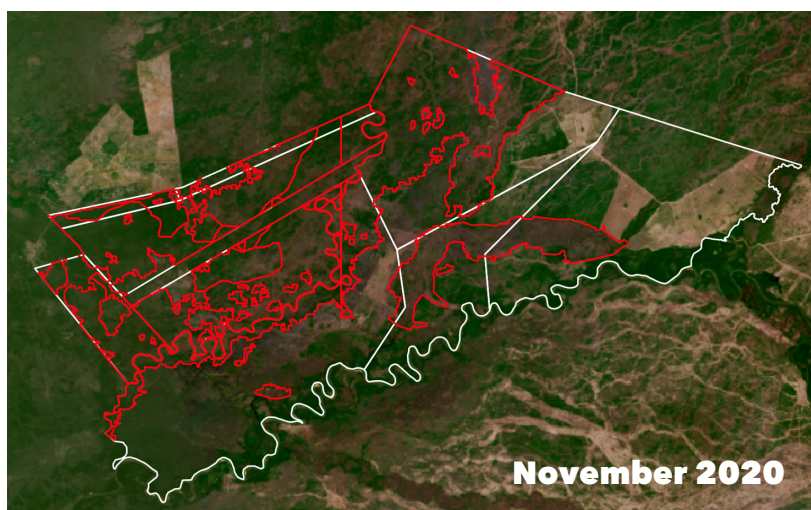
 DETER Alerts & PRODES Data  Farm Boundaries



Fazenda Pindaival with extensive forest and vegetation

Fazenda Pindaival, located in Mato Grosso in the Amazon, with woody-grass savannah vegetation and a 'Very High' priority for biodiversity conservation.

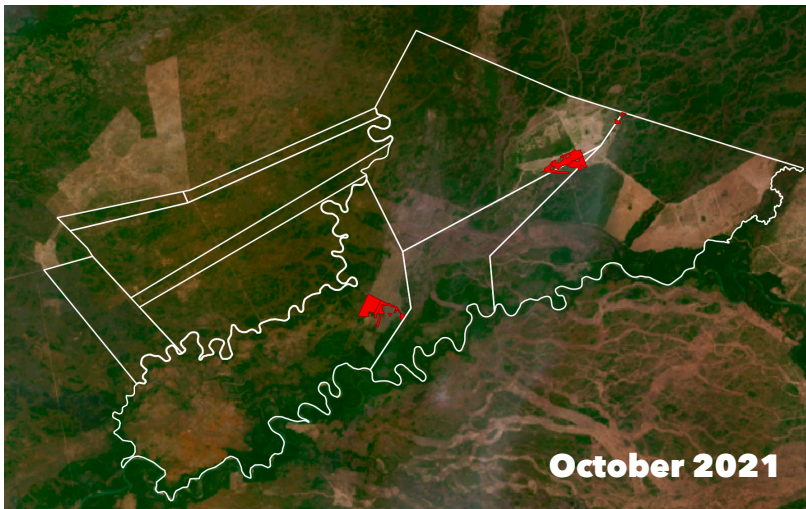
Image source: Imagery ©2020 Planet Labs Inc



DETER detects extensive deforestation and degradation

DETER deforestation alerts detect 30,024 hectares of clearance between 24 August and 18 October 2020 on Fazenda Pindaival, which was confirmed by high-resolution Planet data.

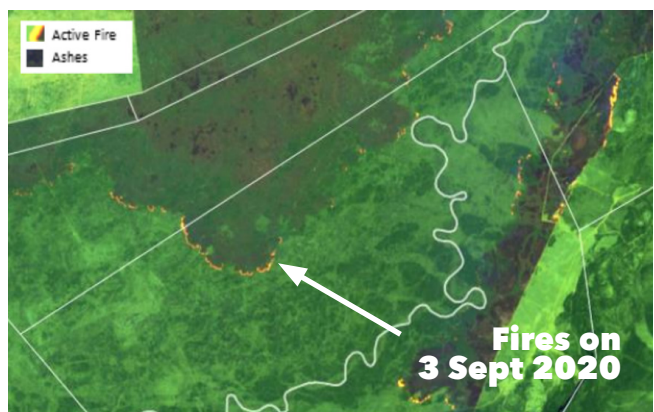
Image source: Imagery ©2020 Planet Labs Inc



PRODES failed to detect nearly 30k ha of deforestation

Despite clear evidence of extensive deforestation and degradation scarring, only 286 hectares of clearance was confirmed by PRODES between August 2019 and July 2021 on Fazenda Pindaival.

Image source: Imagery ©2021 Planet Labs Inc



Fires degrade native vegetation

Satellite imagery showing fires spreading across Fazenda Pindaival in August and September 2020.

Source: European Union, contains modified Copernicus Sentinel data 2020, processed with EO Browser

If JBS is serious about ending deforestation in its meat supply chains, it cannot continue to rule out deforestation alerts which are visually confirmed via high resolution satellite imagery and needs to recognize that a combination of monitoring tools is most effective. By responding rapidly to confirmed cases and blocking farms linked to deforestation and land conversion, JBS could signal to both direct and indirect suppliers that checks are being done in a matter of days or weeks, rather than only annually with PRODES data.

Urgent Action Required:

If JBS had acted urgently to our 68 deforestation alerts, some 18,458 hectares of subsequent Amazon and Cerrado deforestation could have been prevented. More deforestation is likely if JBS fail to act on 37 new cases of deforestation covering a total of 60,218 hectares in Brazil which we gave to them recently.

Mighty Earth is calling on the JBS board and its shareholders to demand the following from JBS at its AGM:

- 1** Use early warning systems - including DETER data - to detect deforestation at its earliest stages and respond immediately by suspending suppliers complicit in clearances to stop any deforestation and conversion at the 10-hectare level, before it gets to the 1,000 ha or 10,000 ha level.
- 2** Establish a public grievance mechanism which documents what JBS is doing to investigate cases, the status of an alleged deforestation or human rights complaint, and any actions taken for each case.
- 3** Update JBS' policy to end deforestation and conversion from all areas and biomes through its direct and indirect supply chain by January 2025, so it fully protects all natural ecosystems, people and wildlife.

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