



ROUND TABLE ON RESPONSIBLE SOY ASSOCIATION (RTRS)

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This is a public document of the Round Table on Responsible Soy Association (RTRS), for any comments regarding the content of this document or the RTRS Standard please contact the:

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Using the RTRS Guides for responsible expansion

INTRODUCTION

The Roundtable on Responsible Soy Association (RTRS) is an international initiative created in 2006 that promotes the use and growth of sustainable soy production through the commitments of key decision-makers (stakeholders) in the soybean value chain, based on a global standard for responsible production.

As Brazil's soybean industry continues to expand in response to growing international food demands, RTRS has deemed it necessary to establish a mechanism to protect areas critical to biodiversity and determine which areas are open to expansion and which areas are restricted. As established in criterion 4.4 of the RTRS Standard for Responsible Soy Production V2.0, after May 2009, soy cultivation may not expand in areas where the native habitat has been removed, except when in accordance to a map approved by RTRS. As such, RTRS began a multi-stakeholder mapping project to guide the expansion of responsible soy and reduce the negative impact of the expansion on areas critical to biodiversity conservation and High Conservation Value Areas (HCVA) in Brazil.

With these maps, soy producers seeking RTRS certification can identify areas critical to biodiversity conservation, areas of high conservation value and areas suitable for soybean expansion. The maps provide recommendations to soy producers and other stakeholders on how responsible expansion can be used to protect important ecosystems, preserve biodiversity and ecological landscapes, and restore productivity to degraded pastures. The maps can also provide guidance for other types of land use (e.g., different commodities, biofuels, raw materials, and cattle raising, among others), to ensure the responsibility for agricultural expansion and biodiversity conservation is shared.

Scope of this document

This document presents easy-to-understand information about the methodology used to develop RTRS Maps. It explains the practical application of the maps as audit tools and presents a methodology for appealing the maps, if necessary.

General objective of the RTRS Guides for responsible expansion

The entirety of this document, the maps available at

<http://panda.maps.arcgis.com/apps/Viewer/index.html?appid=d2417a6bfb2d431c88628b89bb018aa1> and associated communications, such as Annex 4 of the RTRS Standard for Responsible Soy Production, constitute the RTRS Guidelines for Responsible Expansion.

The general objective of the *RTRS Guides for responsible expansion* is to guide the responsible expansion of soy, thus reducing the negative impacts of responsible soy expansion on priority areas for biodiversity conservation and High Conservation Value Areas (HCVA) in Brazil.

METHODOLOGY USED IN RTRS LAND USE & CONSERVATION MAPS

Geographical Scope

The project working groups have determined that the geographic scope of the maps with the four RTRS categories will encompass two Brazilian biomes - the Amazon and the Cerrado. Other Brazilian biomes were not included in the four RTRS categories because the RTRS maps were meant to focus solely on biomes in which agricultural and cattle raising activities could be expanded.

The Soy Moratorium

By unanimous decision of the RTRS Executive Board in 2013, RTRS Maps developed for the Amazon biome will not be used while the soy moratorium is in effect.

Scale

It was agreed that RTRS maps would use a 1:500.000 scale, and should include "zoomed-in windows", in the scale of 1:250.000, showing additional details. As these are starting points intended for assessment purposes, they require high levels of detail - especially in regions with recent and large increases in expansion and conversion rates.

Macroscale maps and their categories provide a preliminary view of a specific area, categorizing it into one of the four categories defined by RTRS, as follows.

RTRS Map Categories

Macroscale maps and their categories provide a preliminary view of a specific area, categorizing it into one of the four categories defined by RTRS, as summarized in the chart below.

The criteria selected for the four RTRS categories are presented in greater detail in Annex 2: RTRS map criteria.

CATEGORY	DEFINITION	ACTION
1	areas critical for biodiversity (hotspots), where stakeholders agree there should be no conversion of native vegetation into responsible soy production.	Conversion is not allowed*
2	Areas highly important to biodiversity, where conversion without an assessment of HCVAs is only allowed until June 2016. After June 2016, no conversion of natural lands is allowed.	Lawful conversion is permitted until June 2016 After June 2016, no conversion of natural lands will be allowed **
3	areas where the existing legislation is suitable for controlling responsible expansion until June 2016 (usually, areas highly important to agriculture and not important for conservation purposes). After June 2016, no conversion of natural land is permitted.	Lawful conversion is permitted until June 2016 After June 2016, no conversion of natural lands will be allowed**
4	areas already used for agricultural purposes and where there is no remaining native vegetation except for legal reserves and, hence, no further expansion occurs. After June 2016, no conversion of natural land is permitted.	Lawful conversion is permitted until June 2016 After June 2016, no conversion of natural lands will be allowed**

(*) In Category 1, producers may prove that farms were converted before May 2009 by means of other auditable tools and/or combinations thereof (e.g. land use maps from before 2009, tillage invoices, consignment notes or waybills showing the farm as the point of origin, etc.). See

(**) In Categories 2, 3 and 4, producers may prove that farms were converted before June 2016 by means of other auditable tools and/or combinations thereof (e.g. land use maps from before June 2016, tillage invoices, consignment notes or waybills showing the farm as the point of origin, etc.).

Appeals Mechanism

Due to their macroscale (1:250,000 or 1:500,000), maps are **guiding tools** and, thus, do not exclude on-farm scenarios where producers are able to prove compliance with the RTRS Standard requirements regarding expansion.

In view of this limitation, RTRS has established the following in Annex 4 of the RTRS Production Standard:

In Category 1, producers may prove that farms were converted before May 2009 through Means of verification and/or combinations thereof (e.g. land use maps from before 2009, tillage invoices, consignment notes or waybills showing the farm as the point of origin, etc.)

With the approval of the RTRS Executive Committee, the TWG has decided that, in Category 1, producers have the right to appeal and demonstrate that their areas or properties may have been unduly classified as Category 1 due to methodological limitations. To do so, producers must prove that the type of vegetation in the property is not covered by any of the criteria under Category 1 in the RTRS maps.

In Categories 2, 3 and 4, producers may prove that farms were converted before June 2016 through Means of verification and/or combinations thereof (e.g. land use maps from before June 2016, tillage invoices, consignment notes or waybills showing the farm as the point of origin, etc.).

In all categories, compliance with the law is required for classification. This means that, in addition to abiding by RTRS categories, expansion activities must also comply with legal requirements.

Appeals mechanism for RTRS Maps

CATEGORY 1 (red)		
Producer	Evidence	Auditor
Presents evidence of expansion before May 2009	<ul style="list-style-type: none"> - Satellite images from April 2009, with a resolution of 30 meters or greater, including the metadata file. - A map of the property superimposed over the April 2009 image - Property borders, in KML or KMZ format <p>Observation: Cloud cover may make it difficult to capture suitable images. In that case, the best image from the period closest to April 2009 should be used instead. A justification must be provided for audit evaluation purposes</p>	<p>Checks the legitimacy of the appeal by means of the accompanying documentation.</p> <p>Producers who prove that the expansion took place before May 2009 are eligible for certification.</p> <p>Observation: In case of any doubt / suspicion, the auditor may superimpose the property boundaries on Google Earth images from 2009 onwards.</p>
<p>Presents evidence that the type of vegetation on site does not meet any of the criteria under Category 1 of the RTRS Maps (Misclassification)</p> <p>The producer checks which layer should be classified as red</p>	<p>Deficits in the Forest Code</p> <p>Documents proving that the property complies with federal, state and municipal laws currently in effect. For example:</p> <ul style="list-style-type: none"> - EIA-RIMA, - CAR - Operating License - LO, LIO, LAS LOP, LAR 	Document verification
	<p>Property inserted in the Carbon (vegetation coverage) layer</p> <ul style="list-style-type: none"> - Satellite images between April 2009 and June 2016, with a resolution of 30 meters or greater, including the metadata file - A map of the property superimposed over the April 2009 image - Property borders, in KML or KMZ format - A report certified by a qualified professional with satellite images, forest typology, and adequate bibliography and stating that the 	<p>Properties in the carbon layer should be checked for the presence / absence of canopy. The analysis should be based on satellite images with a resolution equal to or greater than 30 meters</p> <p>Observation:</p> <ul style="list-style-type: none"> • Cloud cover may make it difficult to capture suitable images. In that case, the best image from the period closest to April 2009 should be used instead. A justification must be provided for audit evaluation purposes • In case of any doubt / suspicion, the auditor may superimpose the property boundaries on Google Earth images from 2009 onwards.

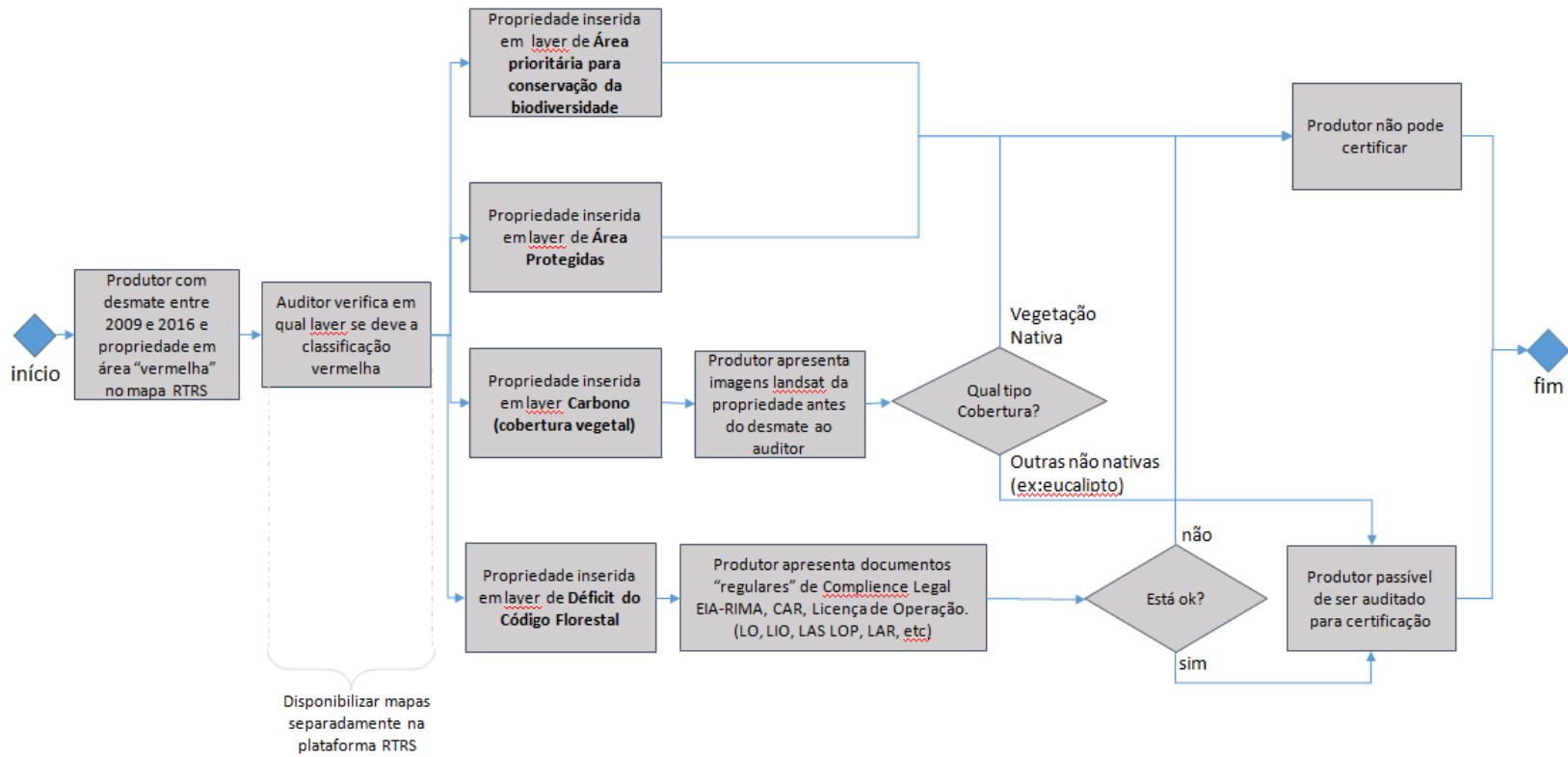
	canopy (carbon concentration) of the opened area is less than 88 tons per hectare above ground.	
	Property inserted in the Priority area for biodiversity conservation layer, classified as extremely high.	Properties with priority areas for conservation and / or protected areas, and expansion after 2009 cannot be certified
	Property inserted in the Protected Areas layer	Properties with Protected Areas for conservation and / or priority areas and with expansion after 2009 cannot be certified
CATEGORIES 2, 3 AND 4		
Expansion took place before 2016: can be audited for certification Shows evidence of expansion before 2016	- Pre-2016 land use maps - tillage invoices - consignment notes or waybills showing the farm as the point of origin	Evidence verification. Producers who provide evidence that the expansion took place before June 2016 are eligible for certification.

Notes:

To be certified by RTRS, applicants must comply with the requirements set forth in the RTRS Standard for Responsible Soy Production.

If the auditor is faced with a case that still raises concerns or does not fit into the types of challenges mentioned above, the auditor must submit the case to Task Force Brazil for a broad and transparent discussion, so that the appropriate measures can be taken.

ANNEX 1: Flowchart of appeals for category 1



Annex 2: RTRS map criteria

Several criteria were selected by the Technical Working Group (TWG) for the four RTRS categories. The GIS laboratory was in charge of collecting all available official information, data and maps, to map the criteria used by the TWG to define areas important to biodiversity conservation, high conservation value areas, and areas for expansion. The criteria selected for the four RTRS categories are presented and explained below.

Category 1

In category 1, conversion of the native vegetation to produce responsible soy is not allowed. In addition to protected areas, this category includes key areas critical to biodiversity conservation in Brazil. These areas are not uniformly distributed, so it was extremely important for the TWG to map out the areas unsuitable for soy expansion due to high or critical biodiversity, where conservation activities are urgently in order. For the most part, [category 1 areas in the RTRS maps](#) are already protected under Brazilian law. The following criteria were used:

- Protected Areas - Conservation Units (UCs, *Unidades de Conservação*) & Indigenous Lands.

These natural areas are geographically demarcated, regulated, administered and / or managed to ensure full biodiversity protection (UCPI - *UCs de Proteção Integral*) or the sustainable use of natural resources (UCUS, *UCs de Uso Sustentável*). Indigenous lands, on the other hand, preserve the cultures of indigenous peoples, and contribute to the conservation of ecosystems and their biodiversity.

- Priority Areas for Conservation, **Sustainable Use and Shared Benefits from Brazil's Biodiversity in the Cerrado**

Coordinated and implemented by the Ministry of the Environment (MMA) of Brazil, in adherence to the Convention on Biological Diversity, signed by more than 160 countries in Rio de Janeiro in 1992, during the United Nations Conference on Environment and Development (UNCED). The Priority Areas for Conservation, Sustainable Use and Shared Benefits from Brazil's Biodiversity in the Cerrado define and guide proposals for the creation of new Conservation Units by the Federal Government and State Governments, and for the drafting of new projects for the conservation, sustainable use and recovery of Brazil's biodiversity. Only the areas deemed of extremely high priority were considered for Category 1 of the RTRS Maps

- Remaining forest according to the PRODES system

Remaining forests are forests left over after deforestation. INPE has been calculating the annual deforestation rates in the Legal Amazon and remaining forests since 1988, through the Project for Monitoring Deforestation in the Legal Amazon by Satellite (PRODES). By 2013, INPE had been providing data on deforestation and remnant vegetation in the world's largest rainforest for 25 years.

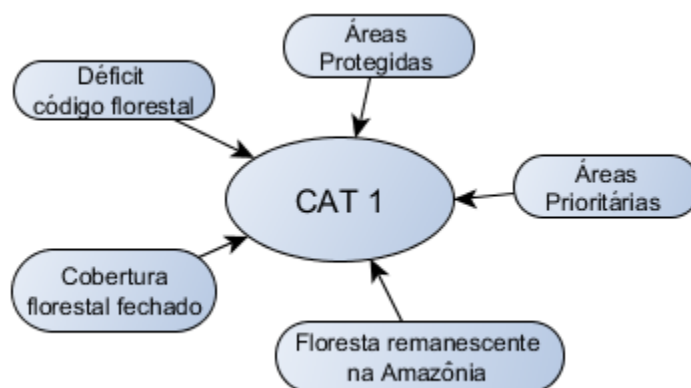
- Closed canopy (cover) forest (containing ≥ 88 tons / ha of biomass)

To preserve certain transition areas between the Amazon and Cerrado biomes, a biomass value representative of closed canopy forests was established. These areas were mapped using the biomass map provided by Baccini *et al.* (2012), with a minimum threshold of 88 Ton ha⁻¹ of biomass above ground, which corresponds to the average density of tropical forests with a closed canopy.

- Deficits (liabilities) in the Forest Code

A map of deficit areas (areas that need to be recovered with native vegetation) was compiled in accordance with the new Forest Code - a bill approved by Congress and amended by the Office of the President of Brazil (Law 12,561 of May 25, 2012). The map shows the balance of assets (areas with surplus native vegetation relative to the requirements of the Code) and liabilities for the 166 thousand micro basins under the National Water Agency (ANA, *Agência Nacional de Águas*). This map was prepared by CSR / UFMG using the best data for Brazil, to strike a balance between the requirements of the code and existing legal reserves, riparian forests and remnants of native vegetations¹.

Flowchart summary of Category 1 in RTRS Maps



Category 2

¹ SOARES-FILHO, B.; RAJAO, R.; MACEDO, M.; CARNEIRO, A.; COSTA, W.; COE, M.; RODRIGUES, H.; ALENCAR, A. Cracking Brazil's Forest Code. *Science*, v. 344, p. 363-364, 2014.

In category 2, conversion without an HCVA assessment is permitted only until June 2016. After June 2016, no conversion of natural lands will be allowed. Category 2 areas include ecological corridors and important fragments of remnant vegetation types.

To define Category 2, a score of 0 to 100 was initially assigned to each vegetation class according to the percentage of it that remains. Next, a landscape assessment was conducted in ANA's Level-5 watershed units to detect remnants of vegetation relevant for biodiversity conservation. The methodology consisted of applying a series of landscape metrics that indicate the integrity of remaining habitats, including the following parameters:

- Percentage of forest cover

- Average size of spots (indicating the degree of vegetation aggregation in the landscape)
- Average distance between the spots (indicating the degree of isolation of remnant spots)
- Highest spot rate (indicating the degree of dominance of large spots in the landscape)
- Perimeter of the spot area (this is a proxy used to classify spots by border areas)

The results of these metrics were subsequently normalized between 1 to 100, resulting in a final average. The upper quartile of the distribution of the metric averages was considered to be category 2.

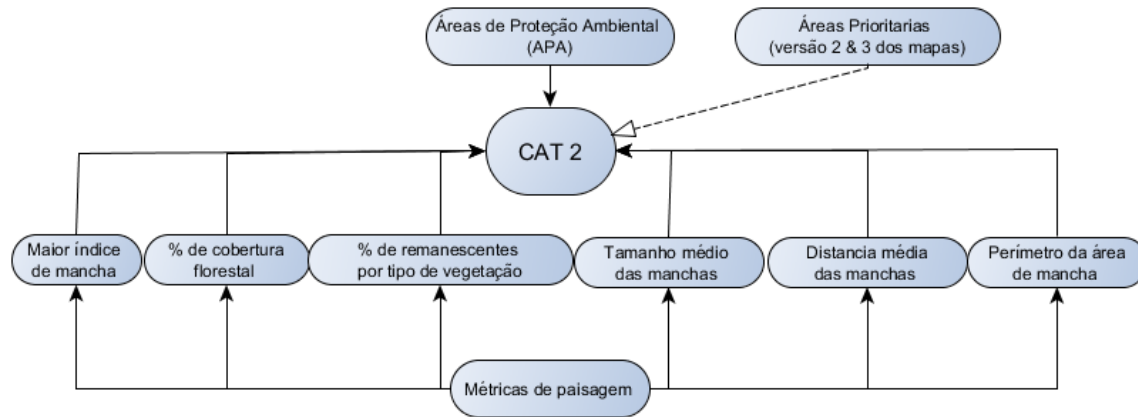
Category 2 also includes remnants of vegetations in areas designated as Environmental Protection Areas (APA), which are special conservation areas in Brazil that allow occupation by private properties, but whose objective is to protect biological diversity, bring discipline to the occupation process and ensure sustainability in the use of natural resources.

Category 2 of the Maps also includes Priority Areas for Biodiversity Conservation as listed by the Ministry of the Environment, under the following classifications:

- Very high conservation areas

- High conservation areas.

Flowchart summary of Category 2 in RTRS Maps



Category 3

In Category 3, the expansion of responsible soy is allowed. Category 3 refers to areas where the new Brazilian forest code is deemed enough to control agricultural expansion and there is no need to carry out an HCVA assessment. The following criterion was used:

- Forest remnants not considered as Categories 1 and 2 were classified as Category 3.

Category 4

In Category 4, the expansion of responsible soy is allowed. This refers to areas with anthropic activities consolidated before May 2009. The following criterion was used:

- Category 4 includes all areas converted before May 2009, regardless of the degree of suitability.