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ACTION PLAN FOR THE CENTRAL AMAZON BIOSPHERE RESERVE – PARBAC

Brasil. Amazonas (Estado). Governo
Action plan for the central Amazon biosphere reserve [livro eletrônico] : PARBAC (2021-2024) / Governo do Amazonas. -- 1. ed. -- Manaus, AM : Fundação Amazonas Sustentável, 2021.
ePub

“Elaboração, João Rodrigo Leitão dos Reis - Geógrafo CRE-AM n.º 13.184-D ; supervisão, Christina Fischer (SEMA-AM) ; Glauco Kimura de Freitas (UNESCO Brasil)”.

ISBN 978-65-89242-40-6

1. Amazônia 2. Biosfera 3. Conservação da natureza - Amazônia 4. Gerenciamento socioambiental 5. Reserva da Biosfera da Amazônia (Brasil) 6. Planejamento estratégico 7. Sustentabilidade 8. UNESCO - Organização Educacional, científica e cultural das Nações Unidas - História I. Título.

21-76241

CDD-304.2

Índices para catálogo sistemático:

1. Amazônia : Conservação e proteção : Reserva da biosfera : Economia 333.951611

Aline Grazielle Benitez - Bibliotecária - CRB-1/3129

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Prologue

The Central Amazon Biosphere Reserve is located in a vast region by the tributaries of the Negro and Solimões rivers, of the Amazon River, and in the transition area of Amazonian Plain-Guiana Shield. Designated in 2001, the reserve has about 19.8 million hectares, equivalent to the sum of the area of the territories of Portugal, Belgium, Holland and Switzerland. It is formed by vast protected areas and smaller units that function as important ecological corridors in maintaining the genetic flow of species throughout the area.

It is one of the most biodiverse regions in the planet, with breathtaking landscapes of the Amazonian plain. Within the Central Amazon Biosphere Reserve is the Central Amazon Conservation Complex, a territory of almost 6 (six) million hectares recognized as a Natural World Heritage Site by UNESCO, formed by the Jaú and Anavilhanas National Parks and by the Amanã and Mamirauá Sustainable Development Reserves. The scenic and natural beauties of this region, combined with the cultural wealth of traditional, indigenous and riverine communities, result in an enormous low-impact ecotourism potential, with Manaus as the major urban center and its main access point.

The Man and the Biosphere Program (MAB) was created as a result of the “Conference on the Biosphere” held by UNESCO in Paris in September 1968. The MAB was launched in 1971 as a UNESCO Program of international scientific cooperation on the interactions between man and his environment. It seeks to understand the mechanisms of this coexistence in all bioclimatic and geographic situations in the biosphere, seeking to understand the repercussions of human actions on the most representative ecosystems on the planet. Furthermore, the MAB is responsible for the creation and management of the World Network of Biosphere Reserves.

It is with great satisfaction that the UNESCO Representation in Brazil, in close collaboration with the State Secretariat for the Environment of Amazonas SEMA-AM, which has been acting as the Secretariat of the State Council of the Central Amazon Biosphere Reserve, and the Foundation for Amazon Sustainability - FAS, promote the Action Plan for the Central Amazon Biosphere Reserve.

This instrument is extremely important to guide activities and define priority actions to safeguard the important ecological and cultural heritage of the region, as well as to promote sustainable economic opportunities for its inhabitants. This Plan was developed in a participatory, transparent manner and with high technical standards so that it can catalyze transformative actions against the challenging scenario of land degradation and climate change. We appreciate the support and partnership of all organizations and individuals who collaborated in this effort.

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1. Introduction

The Action Plans for Biosphere Reserves are recognized by the United Nations Educational, Scientific and Cultural Organization - UNESCO as important and strategic tools to effectively implement the objectives of recognizing these reserves (UNESCO, 2016; 2017). In this context, Action Plans are administrative documents, formal or informal, adopted by management bodies to intervene directly in the creation, implementation, management and consolidation of Institutional Territories under the direction of these bodies.

Within this premise, UNESCO, in partnership with the State Secretariat for the Environment of Amazonas - SEMA-AM, the State Council of the Central Amazon Biosphere Reserve - CERBAC and the Foundation for Amazon Sustainability - FAS, supported the preparation of the Action Plan for the Central Amazon Biosphere Reserve – PARBAC (2021-2024), made official through the SEMA Decree No. 045/2021, of April 29, 2021. It should be noted that the PARBAC (2021-2024) follows the guideline that the “Management of the Central Amazon Biosphere Reserve - RBAC is adaptive, resilient and participatory”, involving management alternatives with the contribution of different management bodies of Institutional Territories included in the RBAC, in addition to the other agents operating in the territory of the reserve.

It should also be noted that, in this Action Plan, the “Institutional Territories” are characterized as the territories:

- a) covered under some legal protection in the form of Brazilian Protected Area Types - TAP (Legal Reserve - RL, Permanent Preservation Area - APP, Archaeological Sites - SA, Speleological Sites - SE, Paleontological Sites - SP, Indigenous Lands and/or Territories - TI, Conservation Units - UC, Quilombola Lands - TQ);
- b) with International Recognition of Importance for Biodiversity Conservation, such as the Biosphere Reserve, Natural World Heritage Sites, Wetlands of International Importance - Ramsar Sites, International Geoparks and Important Bird and Biodiversity Area (IBA);
- c) which are Biodiversity Conservation Management Instruments, such as mosaics of protected areas, regional ecological corridors and Priority Areas for Biodiversity Conservation – APCB and for the Protection of Speleological Heritage;
- d) for Special Use, such as Rural Settlements - AR

Historically, since the start of the Man and the Biosphere Program – MAB, in 1971, UNESCO has generated technical support, promoted dialogue in a participatory manner, to guide and recommend the best management alternatives for Biosphere Reser-

ves around the globe. Over time, new methodological approaches emerge and others are refined based on the lessons learned from each implemented experience, promoting constant technical improvement.

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The Biosphere Reserves have an individualized nature due to the political, cultural, institutional and environmental context of the place, region and country in which they are inserted. However, management alternatives can be guided by the general guiding principles of Biosphere Reserves. In this aspect, MAB/UNESCO methodologically advances towards supporting the formulation and operationalization of plans in a participatory, adaptive and innovative way, as in the case of the Action Plan for the Central Amazon Biosphere Reserve - PARBAC.

The Lima Action Plan of MAB/UNESCO (2016-2025), approved in March 2016, is the current international reference of MAB/UNESCO for the strategic planning of Biosphere Reserves. This Plan is composed of 05 (five) Strategic Action Areas - AAE and their respective 29 Sub-areas

(objectives or results to be achieved). The AAEs are as follows: AAE.A - The World Network of Biosphere Reserves - RMRB consists of effective models for sustainable development; AAE.B - Collaboration and formation of inclusive, dynamic and results-oriented networks; AAE.C - Effective external partnerships and sufficient and sustained funding; AAE.D - Comprehensive, modern, open and transparent communication and sharing of data and information; and, AAE.E - Effective governance.

This planning matrix model was built in order to standardize and unify the planning of the Biosphere Reserve - RB, facilitating the monitoring of compliance with the Lima Action Plan from the local (each RB) to the global (MAB/UNESCO) scale.

Therefore, the Lima Action Plan Planning Matrix is composed of the columns: 1) objective/result to be achieved (subareas): the 29 qualitative objectives/results to be achieved are standardized for each of the 05 (five) AAE in accordance with the Lima Action Plan; 2) actions to be performed: these are the management measures to be implemented in the RB, to achieve the objectives/results (sub-areas); 3) responsible person(s): the organizations involved in implementing the measures are listed; 4) execution period (prioritization): the year or month/year for the start and end of the measure will be designated, or the degree of priority will be defined. The term for execution of the action plans is 04 (four) years; 5) monitoring indicator(s): these are

numerical or qualitative metrics used to verify the compliance status of the measure.

In Brazil, RBs are recognized as internationally adopted models of integrated, participatory and sustainable management of natural resources, with the basic objectives of preserving biological diversity, developing research activities, environmental monitoring, environmental education, sustainable development and the improvement of the quality of life of populations, according to art. 41 of Federal Law No. 9,985/2000, of 07/18/2000, which established the National System of Conservation Units - SNUC.

It is noteworthy that this concept was adopted, in its entirety, in the State of Amazonas, through art. 27 of the Complementary State Law No. 53/2007, of 06/03/2007, which established the State System of Protected Areas of Amazonas - SEUC-AM, with the inclusion that the RBs can be composed of Conservation Units - UCs, Buffer Zones - BZ and Ecological Corridors.

In this context, the RBAC was recognized in 2001 by the MAB/UNESCO, during the second phase of the creation of RBs in Brazil, governed by Federal Law No. 9,985/2000-SNUC. In 2021, therefore, the RBAC completed 20 years of recognition and, with this, gained the possibility of strengthening its management with the joint efforts of UNESCO, SEMA-AM, CERBAC and the Ministry of the Environment – MMA. In this regard, the PARBAC (2021-2024) includes 118 strategic actions to be operationalized within 04 (four) years between January 2021 and December 2024. These 118 actions are materialized in management measures that must be implemented from the start of the reconciliation of institutional agendas.

CERBAC and the Regional Committees of the RBAC are, in this Action Plan, understood as deliberative bodies for “Decision Making”. In addition, it is recommended that a section of “Operational Governance” be set up to be responsible for the administrative, technical and managerial measures essential for carrying out the 118 actions of the PARBAC. The RBAC’s Operational Governance begins with the construction of the sectors and structures of the Reserve in the institution responsible for its management, from that, institutional partnerships are formed to share responsibilities and provide support in the implementation of actions

Thus, the PARBAC (2021-2024) is an opportunity for institutional alignment in the development of common agendas with strategic management measures. It also makes it possible to

expand integrated management actions with protected areas and other Institutional Territories, supporting the strengthening of the performance of management bodies and representative organizations. In addition, the sensitivity, engagement and active participation of the main public, private and social agents operating in the territory provide greater legitimacy in decision-making processes in CERBAC and the RBAC’s Regional Committees.



2. Methodological Procedure

The method used in the elaboration of the PARBAC was the exploratory qualitative-quantitative method, developed from a Case Study with the inclusion of bibliographic, documentary and field research, combined with the application of data and information collection tools (Gressler, 2004; Yin, 2015; Marconi & Lakatos, 2016) in the composition of the planning instrument called “General Project Worksheet” (Vasconcelos, 2011), with the development of cartographic products with calculation and polygonal analysis.

Adopting the methods of Social Representation (Moscovici, 1978; Minayo, 1995) and having as a parameter the importance and representativeness of the samples (Bardin, 2016, p. 127) while applying the Snowball Sampling technique (Atkinson & Flint, 2001; Bernard, 2005; Vinuto, 2014), 11 (eleven) scripted interviews were performed.

The processing and analysis of bibliographic and documentary data and information collected for the preparation of the PARBAC occurred through the systematization of contents based on Bardin’s (2016) “Content Analysis” technique. The gathering of documents, reports and bibliographic collections for the period of 2001 to 2020, plans and projects developed for the application of management measures within the scope of the RBAC, underwent verification by SEMA-AM and the Executive Secretariat of CERBAC.

Cartographic production was carried out in 03 (three) complementary phases, detailed below:

1st Phase – Research on geographic information available on corporate and institutional websites was carried out, and a RBAC GIS (Geographic Information System) database was created, consisting of vector data (shapefiles) of the Institutional Territories included in the area, as well as social and environmental aspects addressed in this research. In addition to this, other information was collected, such as census data, official documents, reports and general bibliography.

2nd Phase – Cartographic production was carried out, using the ESRI ArcGIS 10.3 Software and the Xtools 2020 Tool for treatment of vector data (shapefiles) and elaboration of cartographic products.

3rd Phase – Based on the findings, the RBAC and its relationship with Institutional Territories and the socio-environmental situation were analyzed, together with the systematization and consolidation of data and information about its territory.

For the formulation and consolidation of the RBAC’s Strategic Planning, a specific “General Project Worksheet” was created, which is materialized in the “RBAC Planning Matrix – PARBAC – Lima Action Plan”, containing the proposals approved by CERBAC. This action was guided by MAB/UNESCO’s International Lima Action Plan (2016-2025). The process of preparing and consolidating the planning was carried out in the following phases:

1st Phase: Analysis of the Lima Action Plan, with the elaboration of the conceptual framework;

2nd Phase: Verification of the plans carried out for the RBAC between 2001 and 2020;

3rd Phase: Correlation of the main aspects found in the historical and territorial diagnosis;

4th Phase: Structuring of the planning matrix – Lima Action Plan;

5th Phase: Analysis of the Planning Matrix prepared in March 2020 by the PARBAC Working Group of CERBAC – GT-PARBAC/CERBAC;

6th Phase: Phase of elaboration of new proposals and insertion of consultancy contributions. Improvements, alterations, exclusions, inclusions, complements or approvals to the content of the proposals prepared by the members of the GT-PARBAC/CERBAC;

7th Phase: Consolidation of the RBAC Planning Matrix, based on the deliberations of the members of the GT-PARBAC/CERBAC and, later, with the CERBAC advisers;

8th Phase: Systematization of the final product of the Planning Matrix - Lima Action Plan and composition of the report.







3. Results

3.1. Characteristics of the RBAC

The RBAC was designated for inclusion in the World Network of Biosphere Reserves - RMRB in 2001, a decision of the International Coordination Council of MAB/UNESCO. The proposal which was the foundation for this recognition was elaborated by Garcia (2001). It was found that the RBAC covers 19,836,472.60 ha, equivalent to 12.72% of the territory of the State of Amazonas and, exceptionally, 0.03% of the State of Roraima (Fig. 01). It can be noted that no federal or state decree was found, confirming the recognition of the RBAC by UNESCO, with a descriptive memorandum of its geographic limits.

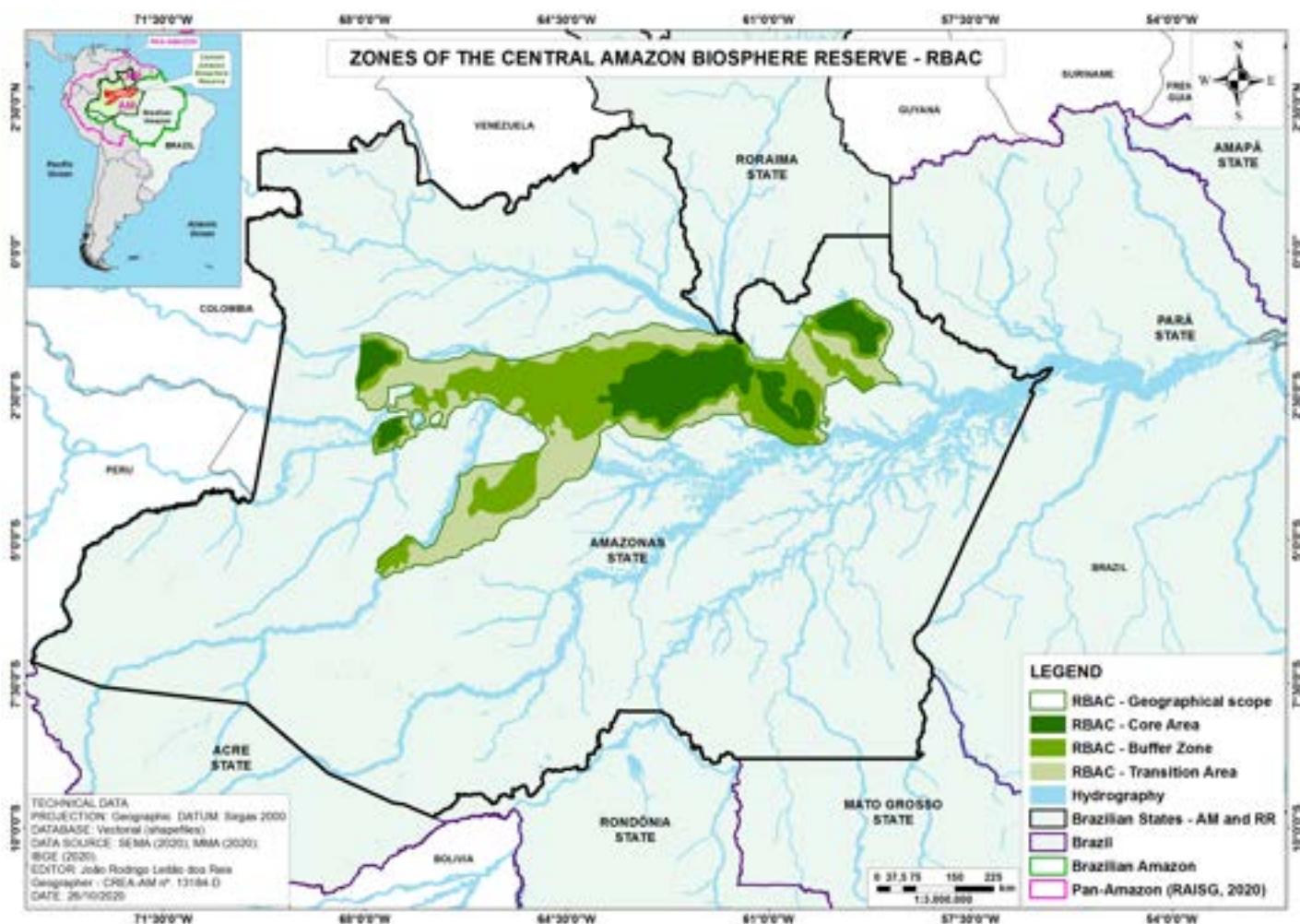


Figura 01 - RBAC na Amazônia Legal. Fonte: Elaborado por Reis (2020)

In § 1 of art. 41, of Federal Law No. 9.985/2000-SNUC, and respective items I, II and III, it is determined that the RBs are constituted by: I - one or several core areas, destined to the integral protection of nature; II - one or several buffer zones, where only activities that do not result in damage to the core areas are allowed; and, III - one or several transition zones, without rigid limits, where the occupation process and the management of natural resources are planned and carried out in a participatory manner and on a sustainable basis.

It was found that the 03 (three) RBAC zones (Table 01) are broken down as follows: the first is the Core Zone - CZ, with 4,467,734.49 ha, occupying the smallest area of the reserve with 22.52% of the territory; the largest area is the Buffer Zone – BZ with 7,704,290.54 ha of the reserve, covering 38.84% of the territory; the last is the Transition Zone - TZ which covers 38.64% of the reserve, equivalent to 7,664,447.57 ha. It should be noted that the surroundings of the CZ are protected by the BZ, which is surrounded by the TZ.

Table 01 – Zones of the RBAC, according to the RBAC polygon in MMA/RBs

Zones of the RBAC	Hectares	%
Core Zone – CZ	4,467,734.49	22,52
Buffer Zone – BZ	7.704.290,54	38,84
Transition Zone – TZ	7.664.447,57	38,64
RBAC – Total Area – MMA Database	19.836.472,60	100,00

Source: Organized by Reis (2020), based on MMA/RBs (2020).

A discrepancy in the territorial area of the RBAC was identified in the RBAC Recognition Study (Garcia, 2001, p. 14), the sum of the reserve zones is 20,859,978.00 ha, of which 19.36% is CZ, 35.65% is BZ and 44.99% is TZ. In the 1st Periodic Review Report 2001-2015 (SDS/MMA/GIZ, 2015, p. 08), the area of the RBAC was calculated as 19,702,973.54 ha, of which 19.23% is CZ, 38.94% is BZ and 41.83% is TZ. Therefore, it was decided to use the polygon provided by the MMA/RBs (2020). One of the possible causes for this discrepancy could be the revision of the RBAC shapefiles over time.

It was found that the RBAC covers 31 municipalities in the Legal Amazon (Fig. 02), with 22.85% of the total territory of 30 municipalities in the State of Amazonas and 0.2% of 01 (one) municipality in the State of Roraima, which together cover an area of 90,155,302.46 ha in the Amazon, an important local geographic representation. According to the IBGE database (2020cd), these 31 municipalities have approximately 3,074,241 inhabitants in 2020.

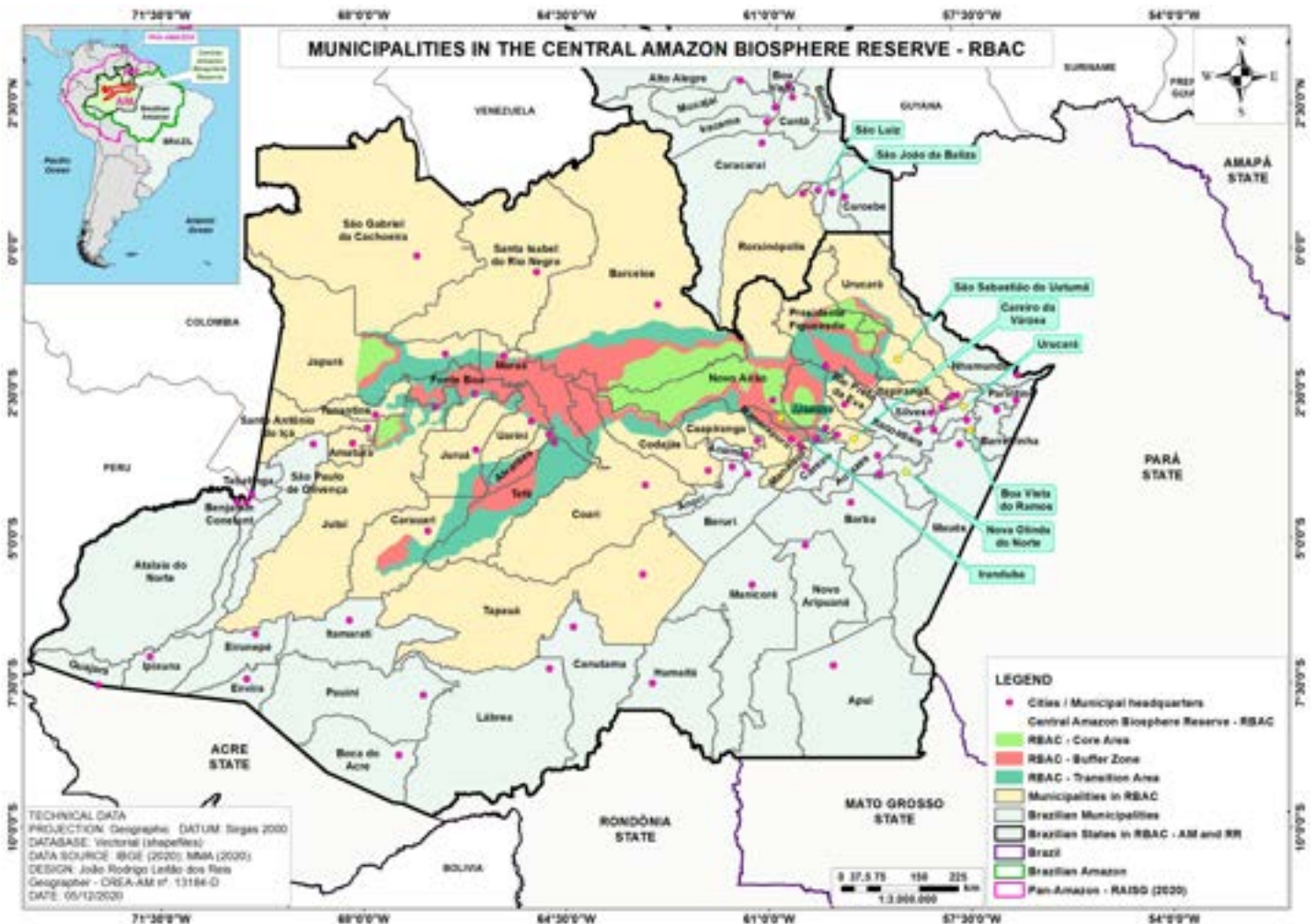


Figure 02 – Municipalities in the RBAC. Source: Prepared by Reis

The municipalities in the State of Amazonas with the largest area covered by the RBAC are: Iranduba (92.6%), Maraã (86%), Tefé (82.7%), Manaus (79%), Alvarães (78.5%), Fonte Boa (76.8%), Novo Airão (69.3%) and Presidente Figueiredo (66%). In second place are municipalities below 50% of coverage by the RBAC, such as Manacapuru (39.7%), Uari-ni (37%), Codajás (37%), São Sebastião do Uatumã (32.5%), Carauari (30.6%), Barcelos (27.2%), Japurá (25.42%), Caapiranga (21.9%), Tonantins (20.6%), Juruá (20.38%) and Rio Preto da Eva (13.8%). And below 10% are the municipalities of Jutai (9.8%), Uruará (9%), Coari (9%), Itapiranga (2.48%), Manaquiri (2.1%), Santo Antônio do Içá (0.82%), Santa Isabel do Rio Negro (0.63%), Amaturá (0.3%), São Gabriel da Cachoeira (0.29%), Careiro da Várzea (0.06%) and Tapauá (0 0.01%). In the State of Roraima, the only municipality covered by the RBAC is Rorainópolis with 0.2% of its territory.

Based on the Macro zoning of the State of Amazonas, established by State Law No. 3,417/2009, of 07/31/2009, a total of 8,965.56 ha of 11 urban areas were found in the RBAC, in the municipalities of Alvarães (102.44 ha), Fonte Boa (379.52 ha), Iranduba (758.38 ha),

Jutaí (255.28 ha), Manacapuru (1,036.51 ha), Manaus (4,682.35 ha), Marã (13 .68 ha), Novo Airão (398.85 ha), Presidente Figueiredo (477.92 ha), Tefé (812.04) and Uarini (48.59 ha).

It should be noted that the municipalities with the greatest socioeconomic relevance in the RBAC are: a) Manaus (Metropolitan Capital and headquarters of the Industrial Pole of Manaus - PIM); b) Coari and Tefé (oil & gas producers); c) Presidente Figueiredo (Mineral and hydroelectric producer); d) Iranduba (Ceramic industry pole); and, e) Manacapuru (animal and plant extractivism).

Among the most populous municipalities in the RBAC in 2020, based on IBGE data (2020cd), Manaus stands out in first place, with 2,219,580 inhabitants. Coming in second place in the ranking is Manacapuru with 98,502 people; in third place, Coari with 85,910 residents; in fourth place, Tefé with 59,547 inhabitants; and, lastly, Iranduba, with 49,011 people. There are only five Amazonian municipalities with a favorable economic situation, with a population of over 45,000 inhabitants.

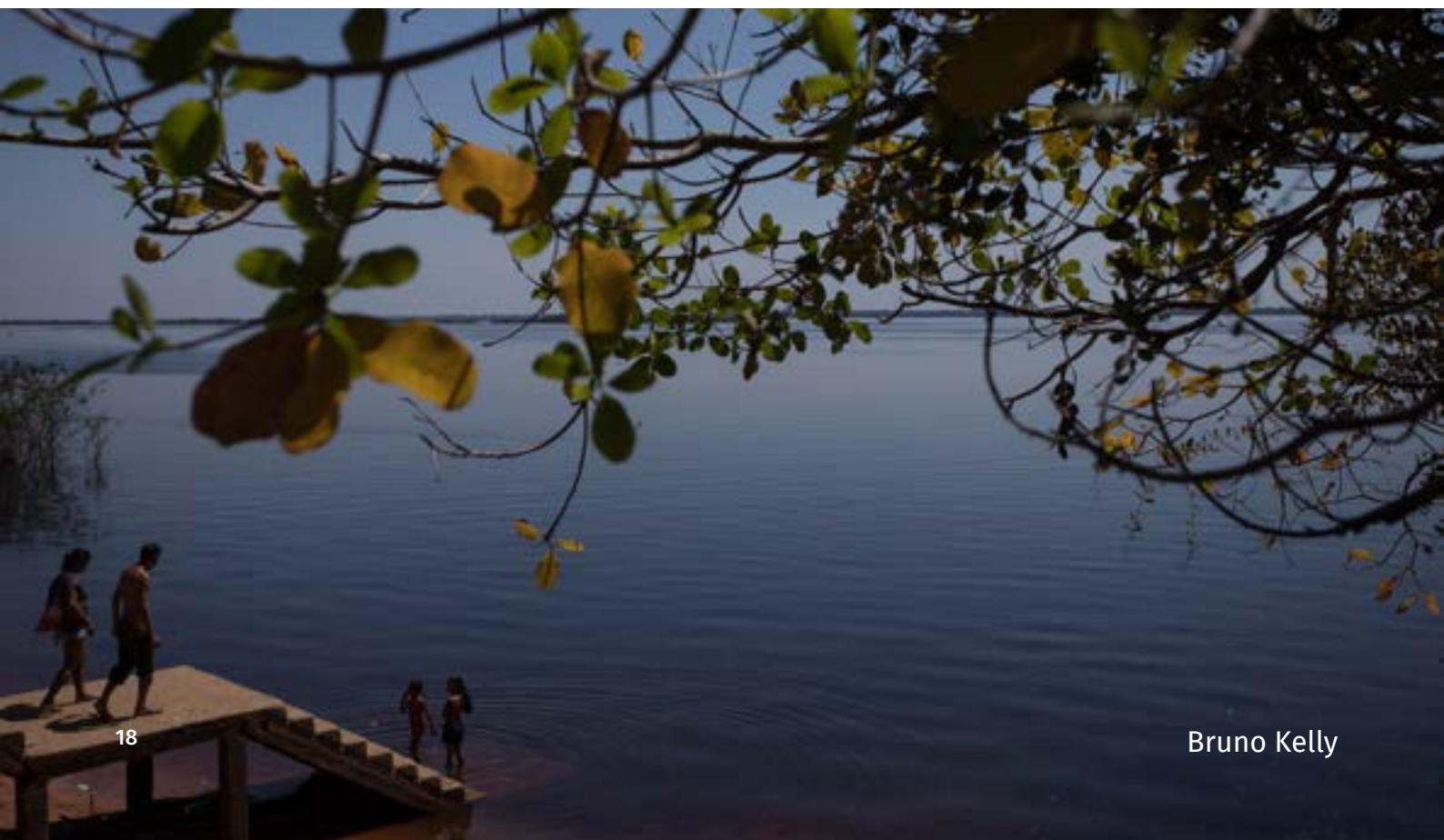
The highest Municipal Human Development Indexes - IDHM are found in Manaus (0.74), Presidente Figueiredo (0.65), Itapiranga (0.65) and Tefé (0.64). In the RBAC, only four municipalities have an IDHM above 0.63, reflecting the need for improvement and enhancement in the provision of goods and services by the government.



3.2. History and Timeline of the RBAC

In Brazil, there are 07 (seven) RBs registered by MAB/UNESCO, whose establishment process can be divided into two phases. The first phase was in the 1990s, before the institution of Federal Law No. 9,985/2000-SNUC, with the recognition of the Mata Atlântica RB - RBMA in 1991, with the current 784,654 km² in size. In 1993, the Cerrado RB - RBC was recognized, totaling 296,500 km² and in 1994 the Cinturão Verde/SP RB - RBCV was established with a total size of 18,262 km². After 06 years, the second phase of implementation was carried out, within the parameters of Federal Law No. 9.985/2000-SNUC, with the establishment of the Pantanal RB - RBP in 2000 with a total size of 251,570 km². In 2001 two RB were established, the Caatinga RB - RBCA with a size of 198,990 km² and the RBAC, object of this PARBAC. In 2005, the last RB in Brazil was recognized, which is the Serra do Espinhaço RB - RBSE with 30,700 km².

Geopolitically within the Legal Amazon region there is the presence of three RBs, which include the entire RBAC in the State of Amazonas, the RBP in the State of Mato Grosso and part of the RBC in the States of Maranhão and Tocantins. The history of the formation of the RBAC is marked by a historical period in Brazil in which progressive environmental agendas were being developed. Over a period of 20 years, the implementation of the RBAC has had technical, scientific, institutional and participatory contributions based on the accumulation of knowledge and experiences from the late 1990s (Fig. 03), which rose from a process of institutional adhesion based on the dissemination and empowerment of this management instrument to strengthen the system of protected areas.



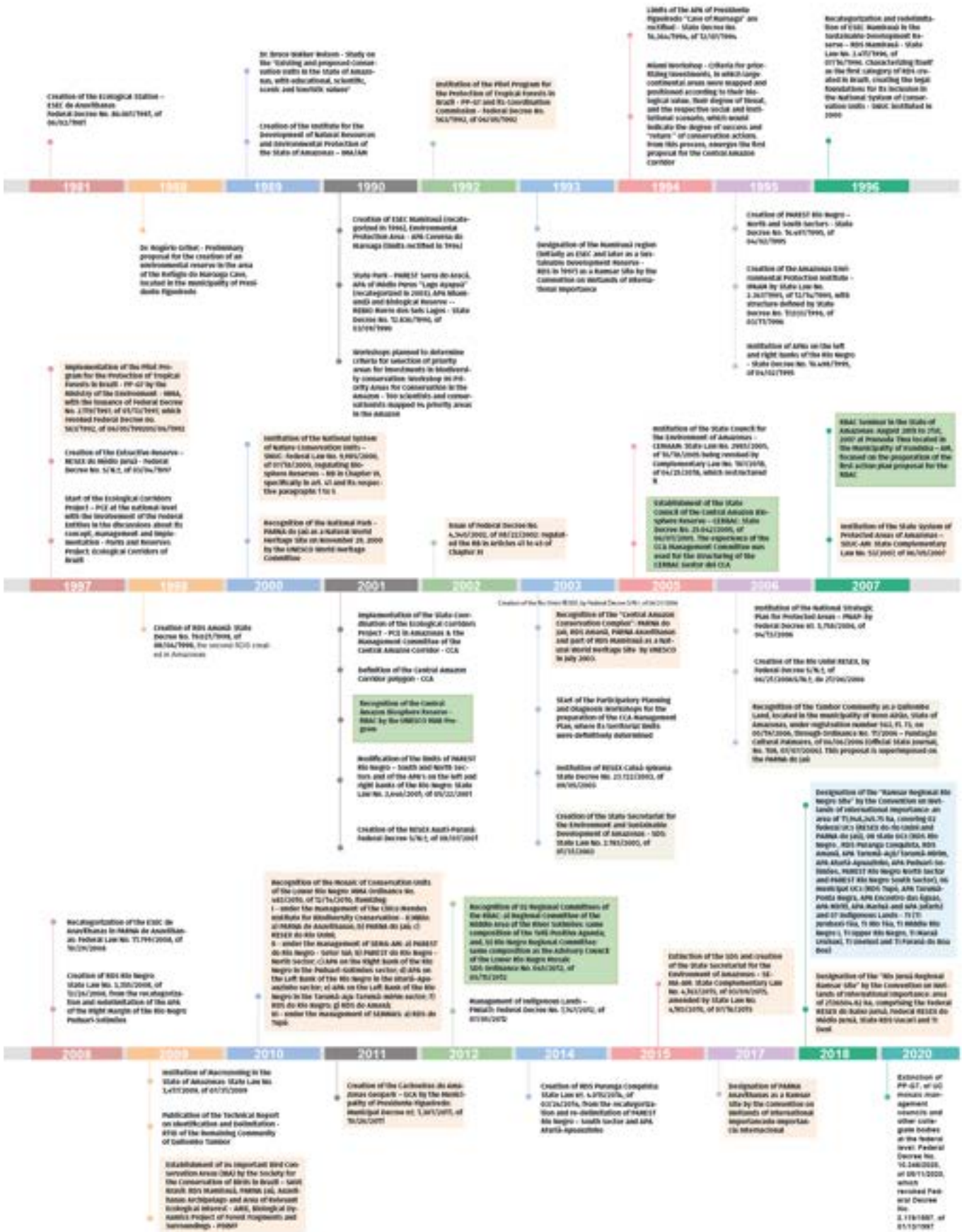


Figure 03 – Timeline of the RBAC. Source: Reis (2020).

3.3. Territorial Diagnosis of the RBAC

The RBAC is characterized by a complex territorial system that is extremely valuable for socio-biodiversity. There are 289 (two hundred and eighty-nine) Institutional Territories covered by the RBAC (Table 02/ Fig. 04, 05 and 06) under shared territorial management purposes..

Table 02 –Institutional Territories in the RBAC

Institutional Territories	Qty..	Total area (ha)	Qty. / Area (ha) in CZ	Qty./Area (ha) in BZ	Qty. / Area (ha) in TZ	Qty. / Total area (ha) in RBAC	% of RBAC
Types of Protected Areas - TAP							
Federal UC***	14,00	7.976.645,17	3.648.083,36	1.531.104,95	953.269,90	6.132.458,22	30,92
State UC***	14,00	6.807.366,53	437.433,21	4.565.920,39	750.442,91	5.753.796,51	29,01
Municipal UC*(***)	10,00	206.482,28	7.866,66	78.316,42	63.801,15	149.984,24	0,76
Indigenous Lands - TI	29,00	6.135.305,24	15.935,30	109.746,74	512.341,12	638.023,16	3,22
Quilombola Lands - TQ***	1,00	719.880,68	710.628,90	9.251,78	0,00	719.880,68	3,63
Archaeological Site **	86,00	0,00	1,00	25,00	60,00	86,00	0,00
Speleological Site **	24,00	0,00	3,00	10,00	11,00	24,00	0,00
Total TAP with overlap	178,00	21.845.679,90	4.819.947,44	6.294.340,28	2.279.855,09	13.394.142,81	67,52
Overlap between TAP	178,00	865.465,96	727.034,14	86.352,51	52.079,32	865.465,96	4,36
Total TAP without overlap	178,00	20.980.213,94	4.092.913,30	6.207.987,78	2.227.775,77	12.528.676,85	63,16

Management Tools for Biodiversity Conservation - IGCB

Priority Areas for the Protection of Speleological Heritage ***	5,00	50.000,00	8.094,00	18.981,65	22.924,35	50.000,00	0,25
Priority Areas for Biodiversity Conservation – APCB***	76,00	10.308.159,69	219.754,80	834.768,08	3.309.429,96	4.363.952,84	22,00
Central Amazon Corridor - CCA***	1,00	51.908.072,84	4.467.734,49	7.669.206,03	7.617.908,87	19.754.849,39	99,59
Lower Rio Negro UC Mosaic ***	1,00	7.374.592,39	3.090.371,07	3.379.287,35	768.506,62	7.238.165,05	36,49
Total IGCB com sobreposição	83,00	69.640.824,92	7.785.954,36	11.902.243,12	11.718.769,80	31.406.967,27	158,33
Total IGCB with overlap	83,00	17.732.752,08	3.318.219,87	4.233.037,08	4.100.860,93	11.652.117,89	58,74
Total IGCB without overlap	83,00	51.908.072,84	4.467.734,49	7.669.206,03	7.617.908,87	19.754.849,39	99,59

Special Territories – TES

Rural Settlements - AR***	17,00	550.500,98	15.457,21	148.307,18	104.228,04	267.992,42	1,35
Total TES with overlap of State CU	17,00	550.500,98	15.457,21	148.307,18	104.228,04	267.992,42	1,35
Overlay between AR and State UC	7,00	150.508,20	15.270,42	130.552,05	4.685,74	150.508,20	0,76
Total TES without State UC overlap	12,00	399.992,78	186,80	17.755,12	99.542,30	117.484,22	0,59

Territories with International Recognition of Importance for Biodiversity Conservation - TRIICC

Important Bird and Biodiversity Area – IBA***	4,00	3.928.245,38	2.475.874,14	1.251.420,29	158.875,20	3.886.169,63	19,59
Natural World Heritage Sites – SMPNH***	1,00	6.341.154,98	2.613.217,67	3.430.430,42	291.746,85	6.335.394,94	31,94
Wetlands of International Importance - Ramsar Sites ***	4,00	15.754.941,49	3.106.659,94	4.866.303,70	1.287.168,66	9.260.132,31	46,68
Municipal Geopark	1,00	683.327,39	0,00	332.342,32	342.291,06	674.633,38	3,40
Total TRIICC with overlap	10,00	26.707.669,23	8.195.751,75	9.880.496,72	2.080.081,78	20.156.330,26	101,61
Overlap between TRIICC	10,00	10.269.400,36	5.089.091,81	4.681.850,70	450.622,06	10.221.564,57	51,53
Total TRIICC without overlap	10,00	16.438.268,87	3.106.659,94	5.198.646,02	1.629.459,73	9.934.765,69	50,08
RBAC	288,00	89.794.943,30	4.467.734,49	7.704.290,54	7.664.447,57	19.836.472,60	100,00

Source: Prepared by Reis (2020).

UC = Conservation Units / * There are 11 Municipal UCs, however, only 10 polygons were obtained / ** Quantity in numbers / **** Territorial overlaps.

a) 39 Conservation Units – UC in the RBAC (Table 03), with 14 Federal UC (30,92%), 14 State UC (29,01%) and 11 Municipal UC (00,76%);

Table 03 – Conservation Units in the RBAC

UC Group	Category	Name of the UC	Management	% na RBAC
29 Sustainable Usel	09 Environmental Protection Areas - APA	APA Tarumã-Açú/Tarumã-Mirim	State	97,11
		APA Aturiã-Apuzinho	Estadual	99,97
		APA Puduari-Solimões	Estadual	100,00
		APA Caverna do Maroaga	Estadual	100,00
		APA Tarumã-Ponta Negra	Municipal	2,27
		APA Adolpho Ducke	Municipal	13,29
		APA Encontro das Águas	Municipal	83,68
		APA Urubuí	Municipal	99,99
		APA Miriti	Municipal	100,00
	03 Areas of Relevant Ecological Interest - ARIE	ARIE Javari-Buriti	Federal	30,92
		ARIE PDBFF	Federal	3,61
		ARIE das Aves	Municipal	100,00
	07 Extractive Reserves - RESEX	RESEX do rio Unini	Federal	84,17
		RESEX Auati-Paraná	Federal	100,00
		RESEX do Baixo rio Juruá	Federal	23,46
		RESEX do Médio rio Juruá	Federal	92,93
		RESEX do rio Jutai	Federal	18,58
		RESEX Baixo Rio Branco-Jauaperi	Federal	1,17
		RESEX Catua-Ipixuna	Estadual	32,60
	07 Extractive Reserves - RESEX	FLONA Tefe	Federal	100,00
		FLOREST do Rio Urubu	Estadual	24,80
	08 Sustainable Development Reserves - RDS	RDS Rio Negro	Estadual	100,00
		RDS Puranga Conquista	Estadual	100,00
		RDS Uatumã	Estadual	20,27
		RDS Mamirauá	Estadual	99,57
		RDS Amanã	Estadual	100,00
		RDS Uacari	Estadual	12,15
		RDS do Tupé -	Municipal	99,98
RDS Peixe-Boi		Municipal	Sem polígono	
10 Proteção Integral	National Parks – PARNA (02), State – PAREST (02) and Municipal – PNM (03)	PARNA do Jaú	Federal	100,00
		PARNA Anavilhanas	Federal	100,00
		PAREST Rio Negro Setor Norte	Estadual	100,00
		PAREST Rio Negro Setor Sul	Estadual	100,00
		PNM das Orquídeas	Municipal	100,00
		PNM das Cacimbas	Municipal	100,00
		PNM Galo da Serra	Municipal	100,00
	02 Ecological Stations - ESEC	ESEC Juami-Japurá	Federal	31,88
		ESEC Jutai-Solimões	Federal	92,01
	01 Biological Reserve - REBIO	REBIO Uatumã	Federal	83,69

Source: Prepared by Reis (2020).

b) 29 Indigenous Lands – TI (3,22%) with the ethnic groups located in the RBAC (Table 04);

Table 04 – Indigenous Lands and Ethnic groups

N.º	Código	Name of TI	Name of ethnic group	% na RBAC
1	101	Acapuri de Cima	Kokama	99,98
2	5901	Barreira da Missão	Kambeba, Kokama, Kaixana, Miranha, Tikuna e Witoto	100,00
3	52201	Barro Alto	Kokama	4,32
4	6201	Betânia	Tikuna	4,50
5	10701	Cuiu-Cuiu	Miranha	100,00
6	11601	Espírito Santo	Kokama	56,14
7	12001	Estrela da Paz	Tikuna	71,07
8	13001	Fortaleza do Patauã	Apurinã	100,00
9	15801	Igarapé Grande	Kambeba	17,38
10	18701	Jaquiri	Kambeba	99,74
11	19201	Jatuarana	Apurinã	100,00
12	25901	Macarrão	Tikuna	28,17
13	26601	Mapari	Kaixana	98,32
14	27001	Marajáí	Matsés	100,00
15	28901	Méria	Miranha, Karapanã, Mura, Witoto	97,02
16	33101	Paraná do Boá-Boá	Makú (Nadob)	19,31
17	33201	Paraná do Paricá	Kanamari	100,00
18	36801	Porto Praia	Tikuna	100,00
19	53401	Prosperidade	Kokama	49,14
20	38501	Rio Biá	Katukina	0,05
21	53501	Riozinho	Kokama, Tikuna	2,38
22	53601	Santa Cruz da Nova Aliança	Kokama	21,15
23	58201	São Domingos do Jacapari e Estação	Kokama	70,22
24	42001	São Sebastião	Kokama, Kaixana	31,00
25	47201	Tupã-Supé	Tikuna	1,45
26	47701	Uati-Paraná	Tikuna	36,66
27	48102	Uneiuxi*	Tukano, Makú (Nadob), Isolados do Igarapé Natal	0,69
28	48101	Uneiuxi*	Tukano, Makú (Nadob), Isolados do Igarapé Natal	0,95
29	49501	Waimiri-Atroari	Waimiri Atroari	5,01

* Overlapping polygons on FUNAI's official geographic base. Source: Prepared by Reis (2020).

c) 01 Quilombola Lands - TQ in recognition stage (3.63%): Comunidade Remanescente de Quilombo do Tambor, overlapping with PARNA Jaú;

d) 17 Rural settlements – AR (1.35%): Settlement Project - PA Canoas – 100%, PA Rio Pardo – 100%, PA Uatumã – 99.99%, Agroextractive Settlement Project - PAE Bela Vista II – 15.2%, PAE Cabaliana I – 3.73%, PAE Flora Agrícola – 100%, PAE Ilha do Baixio – 99.99%, PAE Novo Tempo Ilha da Paciência – 99.89%, PAE Novo Tempo Ilha Jacurutu – 78.54%, PAE Novo Tempo Ilha Maria Antônia – 99.90%, PAE Novo Tempo Ilha Muratu – 46.17%, PAE Piranha – 1.99%, Sustainable Development Projects – PDS Costa do Caldeirão – 100%, PDS Costa do Iranduba – 98.22%, PDS Cueiras/Anavilhanas – 100%, PDS Morena – 100% and PDS Nova Esperança – 100%;

e) 04 Wetlands of International Importance - Ramsar Sites (46.68%): Ramsar Site of RDS Mamirauá, Ramsar Site of PARNA Anavilhanas, Regional Rio Negro Ramsar Site and Regional Rio Juruá Ramsar Site. It is noteworthy that the 04 Ramsar Sites in the RBAC were recognized at different times, with the following designations: 1st) in 1993 as the Mamirauá region Ramsar site (99.57%), initially as ESEC and later as RDS in 1997; 2nd) as PARNA Anavilhanas in 2017 as Ramsar Site (100%), especially due to the importance of the archipelago protected by it; 3rd) as the “Regional Rio Negro Ramsar Site” (59.25%) in 2018, covering an area of 11,948,245.75 ha, covering 02 Federal UC (RESEX do rio Unini and PARNA do Jaú), 08 State UC (RDS Rio Negro, RDS Puranga Conquista, RDS Amanã, APA Tarumã-Açú/Tarumã-Mirim, APA Aturiá-Apuzinho, APA Puduari-Solimões, PAREST Rio Negro Setor Norte and PAREST Rio Negro Setor Sul), 06 Municipal UC (RDS Tupé, APA Tarumã-Ponta Negra, APA Encontro das Águas, APA Miriti, APA Mariuá and APA Jafaris) and 07 Indigenous Lands - TI (TI Jurubaxi-Téa, TI Rio Téa, TI Médio Rio Negro I, TI Alto Rio Negro, TI Maraã Urubaxi, TI Uneiuxi and TI Paranã do Boa Boa); and, 4th) also in 2018, from the “Regional Rio Juruá Ramsar Site” (24.19%), covering an area of 2,136,504.82 ha, comprising the Federal RESEX do Baixo Juruá, Federal RESEX do Médio Juruá, State RDS Uacari and TI Deni;

f) 01 Natural World Heritage Site called “Central Amazon Conservation Complex” (31.94%), encompassing the PARNA do Jaú (100%), the RDS de Amanã (100%), the PARNA de Anavilhanas (100%) and RDS de Mamirauá (99.57%);

g) 04 Important Bird and Biodiversity Area – IBA (19.59%), which are: RDS Mamirauá (99.59%), PARNA Jaú (100%), Arquipélago de Anavilhanas (99.99%) and ARIE PDBFF (20.6%);

h) 01 Geopark (3.4%) in the planning stage for submission to UNESCO for recognition and entry into the Global Network of International Geoparks. It is the Geopark Cachoeiras do Amazonas – GCA (98.73%) created by the Municipality of Presidente Figueiredo, through Municipal Decree nº. 1,301/2011, of 10/26/2011 (Reis, et al., 2020, p. 55);

i) 01 Recognized UC mosaic (36.49%), the Lower Rio Negro Mosaic recognized by the MMA Recognition Ordinance No. 483/2010, of 12/14/2010;

j) 01 Regional Ecological Corridor (99.59%), called Central Amazon Corridor – CCA, with a Management Plan approved in 2005 and an Inspection Plan;

l) 86 Archaeological Sites in the RBAC belonging to the National Register of Archaeological Sites - CNSA at the National Archeology Center - CNA of the National Historical and Artistic Heritage Institute - IPHAN, identified at different times;

m) 24 Speleological Sites at the RBAC that are part of the National Register of Speleological Information – CANIE of the National Center for Research and Conservation of Caves – CECAV/ICMBio, registered in different periods;

n) 05 Priority Areas for the Conservation of Speleological Heritage (0.25%);

o) 76 Priority Areas for Biodiversity Conservation (22%) from 2018.

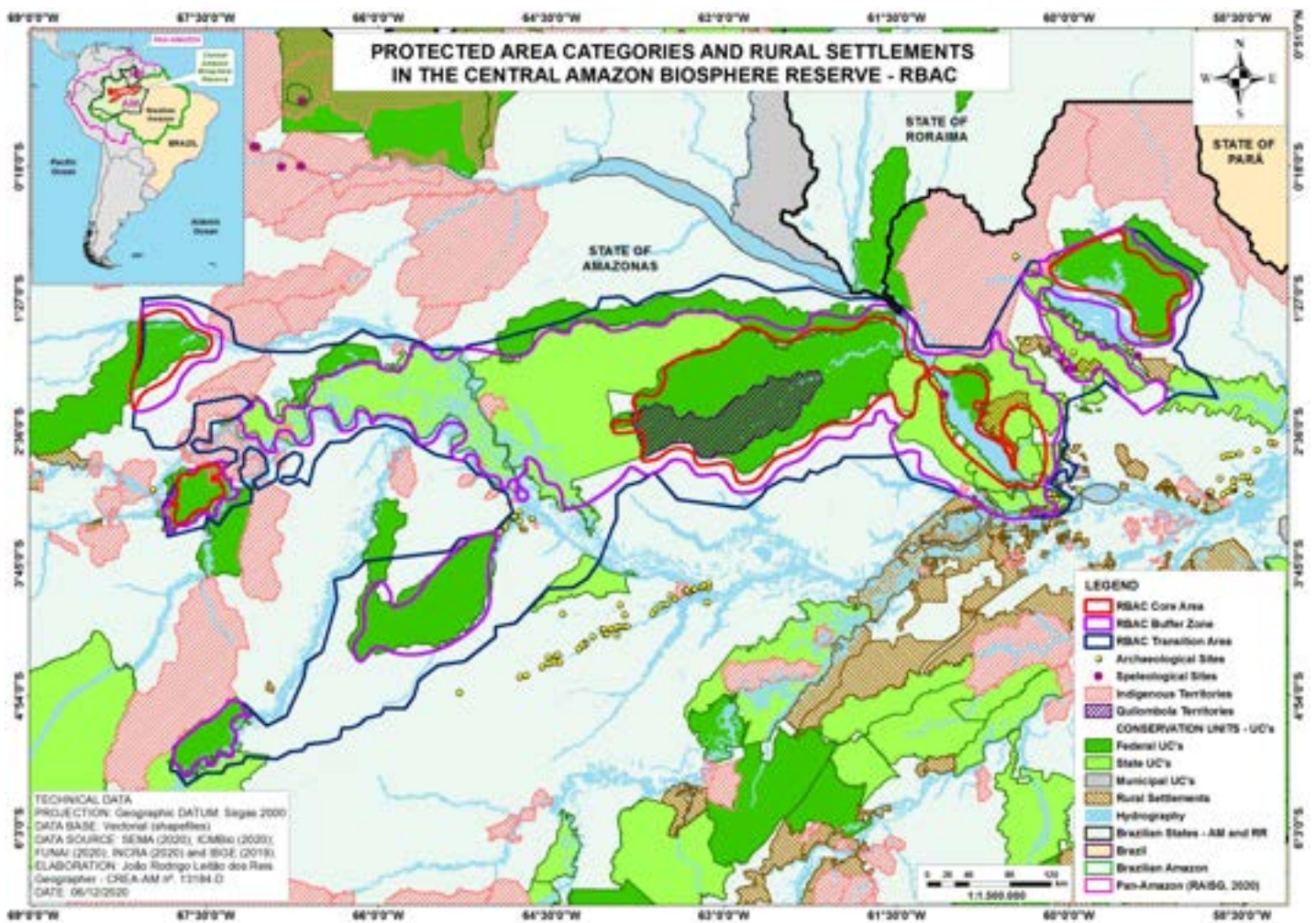


Figure 04 – Types of Protected Areas and Rural Settlements in the RBAC. Source: Reis (2020).

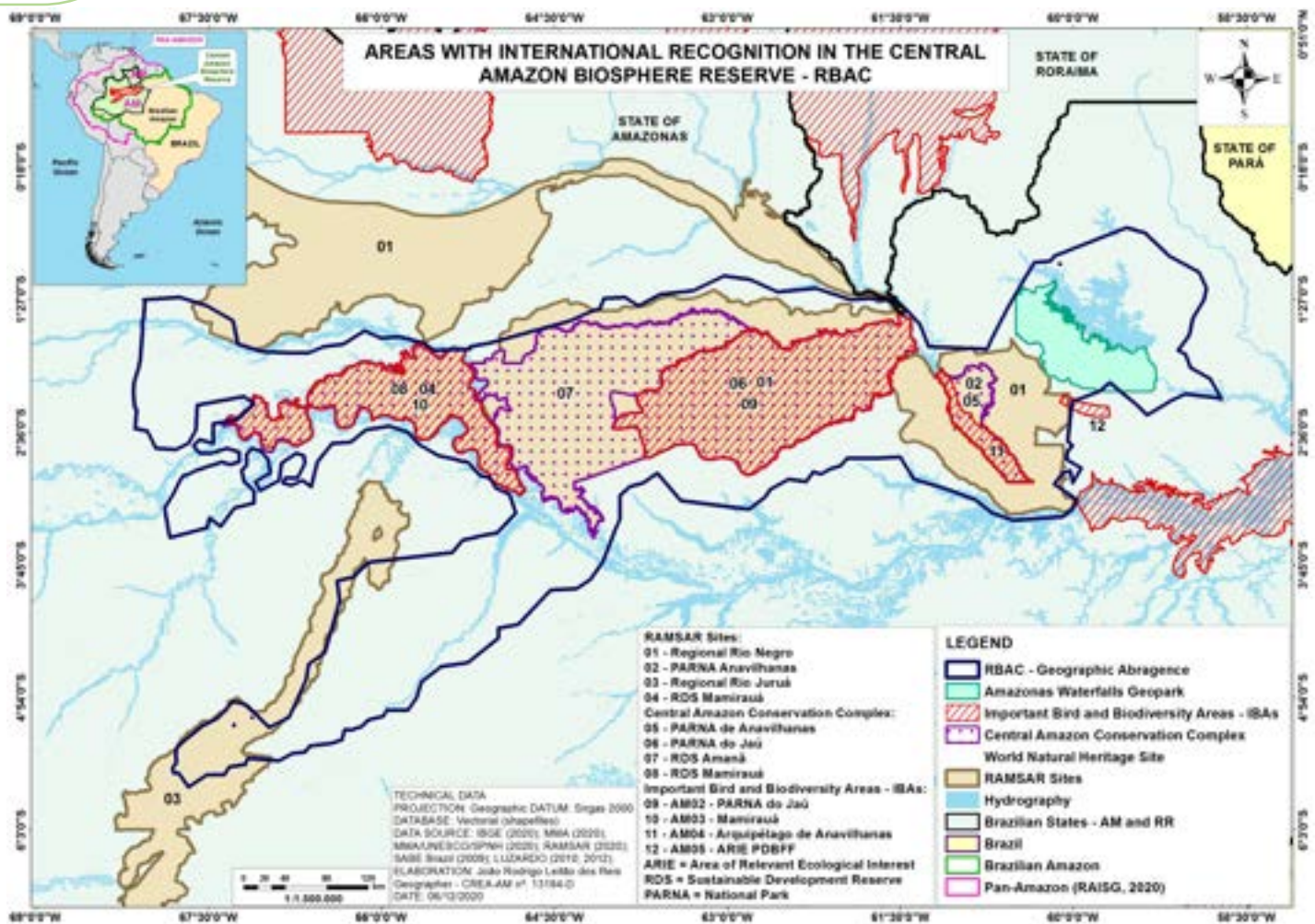


Figure 05 – Areas with International Recognition in the RBAC. Source: Reis (2020).



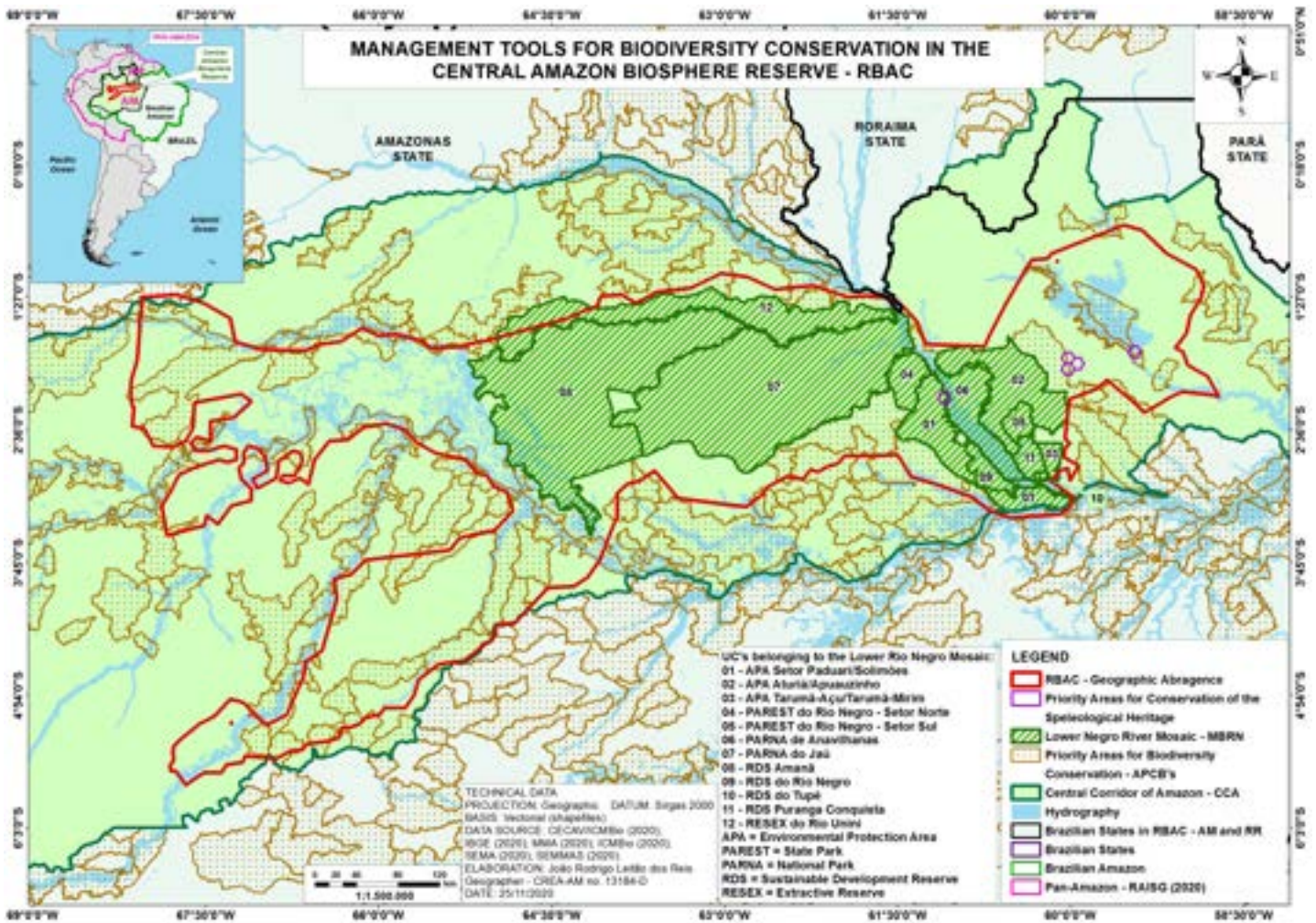


Figure 06 – Management Tools for Biodiversity Conservation. Source: Reis (2020).

The relevance of the Federal (30.92%) and State (29.01%) UCs as territorial representations of the RBAC is significant, since through them the government is present in the preparation, constitution and operation of management councils and plans, as well as in the supply of goods, services, human resources and the implementation and maintenance of physical infrastructure. Therefore, management efforts are concentrated in the UCs, which are, in fact, the main protagonists of actions of protection, surveillance, inspection, monitoring, implementation and consolidation of the RBAC. There are a total of 11 identified municipal UCs, but there was no access to the polygon of 01 municipal UC.

It was found that territorially, the Municipal UCs (0.76%), AR (1.35%) and the Indigenous (3.22%) and Quilombola (3.63%) lands have a smaller area in the RBAC. The archeological (86) and speleological (24) sites have a moderate occurrence in the reserve, and the RBAC has a medium degree of speleological potential of 6.29% of its size and a low degree estimated at 33.11%.

As for the internationally recognized areas for biodiversity conservation, the 04 Wetlands

of international Importance - Ramsar Sites, occupy 46.68% of the RBAC. The Natural World Heritage Site, the “Central Amazon Conservation Complex” covers 31.94% of the reserve while 19.59% of the RBAC is covered by 04 Important Bird and Biodiversity Areas – IBA. These international titles attributed by UNESCO, the RAMSAR Convention and BLI overlap with the Mamirauá and Amanã Sustainable Development Reserves (RDS) and the Jaú and Anavilhanas National Parks (PARNA), emphatically endorsing the biological, socio-environmental and strategic importance of these UCs for the world. There is also a proposal for the recognition of an International Geopark that occupies 3.4% of the RBAC.

The existence of overlaps between polygons of the Institutional Territories was encountered: a) Municipal UCs with State UCs: i) APA Caverna do Maroaga overlapped with PNM dasi) Orquídeas and Galo da Serra, as well as the APA Urubuí; ii) APA Paduari-Solimões with APA Miriti and APA Encontro das Águas; RDS Rio Negro with APA Encontro das Águas; iii) APA Tarumã-Acú/Tarumã-Mirim with APA Tarumã-Ponta Negra and RDS do Tupé; and, iv) RDS Puranga Conquista with RDS do Tupé; b) Indigenous Lands and Federal and State UCs; c) Quilombola Lands and Federal UCs (PARNA do Jaú); d) State AR and UCs: i) PDS Cueiras/Anavilhanas overlapped with State APA Aturiá-Apuauzinho; ii) PA Uatumã with APA Caverna do Maroaga; iii) PDS Morena with RDS Uatumã; and, iv) PDS Nova Esperança, PDS Costa do Caldeirão, PAE Ilha do Baixio and PDS Costa do Iranduba with State APA Paduari-Solimões; and, e) Areas of international recognition among themselves and with the Federal and State UCs, in particular the RDS Mamirauá and Amanã and the PARNA do Jaú and Anavilhanas;

There is also an overlap between management instruments. The Central Amazon Corridor fully encompasses the RBAC. In addition, there is an overlap between the UC mosaic and the priority areas for speleological protection and biodiversity conservation with the Central Amazon Corridor, Indigenous Lands, UCs, Rural Settlements and the areas with international recognition.

The fact that there is a great deal of overlapping environmental titles of international recognition confirms and consolidates the importance of the Central Amazon, as a geographical representation of utmost relevance in the global context of biodiversity conservation. Thus, it is clear that to achieve the effectiveness of conservation activities there must be a unified effort of partnerships and agendas between UNESCO, RAMSAR Convention, BLI, MMA, Civil Society Organizations and Management Bodies of Protected Areas existing in the RBAC.

The RBAC is fully included in the Central Amazon Corridor - CCA. The delimitation of this reserve was based on the technical experiences and studies of the CCA. The Lower Rio Negro UC Mosaic, on the other hand, contributes with an area of 36.49%, being the first formally recognized successful experience of integrated management of protected areas in the Central Amazon.

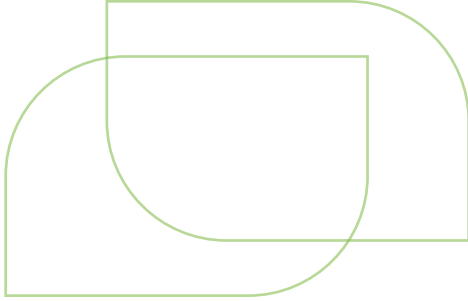
Two types of priority areas were found in the RBAC, the first are the Priority Areas for the Protection of Speleological Heritage, which correspond to 0.25% of the reserve, and

overlap with UCs and ARs. The second are the Priority Areas for the Conservation of Biodiversity – APCB, which serve as a technical-scientific reference base for the creation of new UCs, representing 22% of the RBAC.

As for the geographical presence of Institutional Territories among the RBAC Zones, it was noted that the CZ is made up mostly by Federal UCs (59.49%), TQ (98.71%) and IBA (63.71%). BZ is covered with a higher number of State UCs (79.35%), Municipal UCs (52.22%), AR (55.34%), MBUCRN (46.69%), Natural World Heritage Sites (54.15%) and Ramsar Sites (52.55%). The composition of the TZ is made up mostly by TI (80.3%), SA (60 sites), SE (11 sites), Geopark (50.74%) and Priority Areas for Cave Protection (45.85%) and Biodiversity Conservation (75.84%).

The RBAC's management must gather this data and information in order to structure Operational Governance that enables interaction and rapport between public, private and social organizations operating in the territory. Therefore, it is worth thinking about management alternatives that are in accordance with the current territorial, economic and institutional reality, allied with international initiatives involved with environmental services and climate security.





3.4 Social and Environmental Diagnosis of the RBAC

s for the socio-environmental aspects (Table 05), the main result was that about 90% of the RBAC is in forest vegetation (Fig. 07), and deforestation varies around 2% of the reserve’s territory. This result is significant in the context of the effectiveness of the biodiversity conservation policy, as it proves the importance and relevance of the institution and management of UCs and TI. In addition, the history of implementation of biodiversity conservation policies, especially in the Central Amazon, has its most significant result, indicating UCs as effective barriers against large-scale environmental degradation actions, thanks to the synergy of efforts between public authorities and civil society.

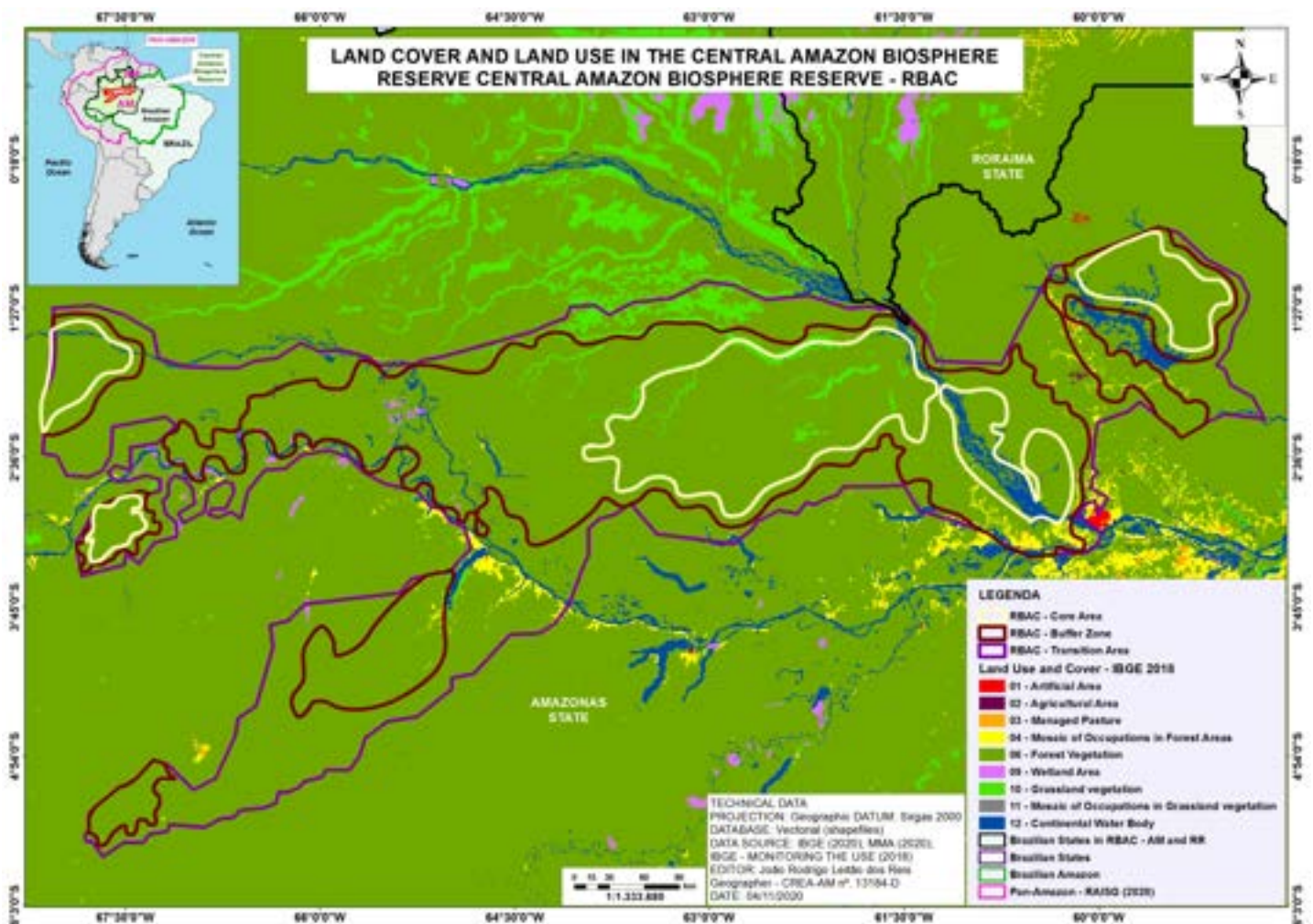


Figure 07 – Land Use and Coverage in the RBAC. Source: Prepared by Reis (2020).

Table 05 – Social and Environmental Situation of the RBAC in 2020

Social and Environmental Aspects	Area (ha) in CZ of the RBAC	Area (ha) in BZ of the RBAC	Area (ha) in TZ of the RBAC	Total Area (ha) in the RBAC	% of the RBAC
Potencialidade Espeleológica – CECAV, 2020					
Low Degree of Speleological Potential	1.366.258,38	3.070.836,82	2.130.129,15	6.567.224,35	33,11
Medium Degree of Speleological Potential	535.601,03	425.078,05	287.739,52	1.248.418,59	6,29
Unlikely Occurrence of Speleological Potentiality	2.303.415,28	3.844.018,18	4.769.621,02	10.917.054,49	55,04
Deforestation – PRODES/DETER – INPE, 2020					
PRODES - Accumulated 1988-2007	19.598,70	149.646,93	191.017,63	360.263,26	1,82
PRODES - Increment 2008-2019	1.638,22	17.807,76	16.060,96	35.506,95	0,18
Land Use and Occupation – IBGE, 2018					
Artificial Area	400,00	1.200,01	4.398,85	5.998,86	0,03
Agricultural Area	0,00	45,52	6.054,71	6.100,24	0,03
Pasture with Management	0,00	10.040,15	1.157,76	11.197,91	0,06
Mosaic of Occupations in Forest Area	3.822,33	129.286,91	149.679,16	282.788,41	1,43
Forest Vegetation	4.093.899,18	7.113.554,89	6.844.495,72	18.051.949,80	91,00
Wet area	1.100,01	33.796,65	26.622,99	61.519,64	0,31
Grassland Vegetation	149.905,31	137.307,66	283.640,48	570.853,44	2,88
Mosaic of Occupations in Grassland Area	1.554,78	1.159,36	745,56	3.459,70	0,02
Continental body of water	217.052,87	277.899,39	347.652,33	842.604,59	4,25
RBAC - Geographical Scope	19.836.472,60				100,00

Fonte: Reis (2020).

Based on PRODES data (Fig. 08), the accumulated deforestation from 1988 to 2007 in the RBAC was significant, occupying approximately 1.82% of the reserve with forest degradation, as well as the addition of 0.18% of deforestation calculated based on the increment from 2008 to 2019.

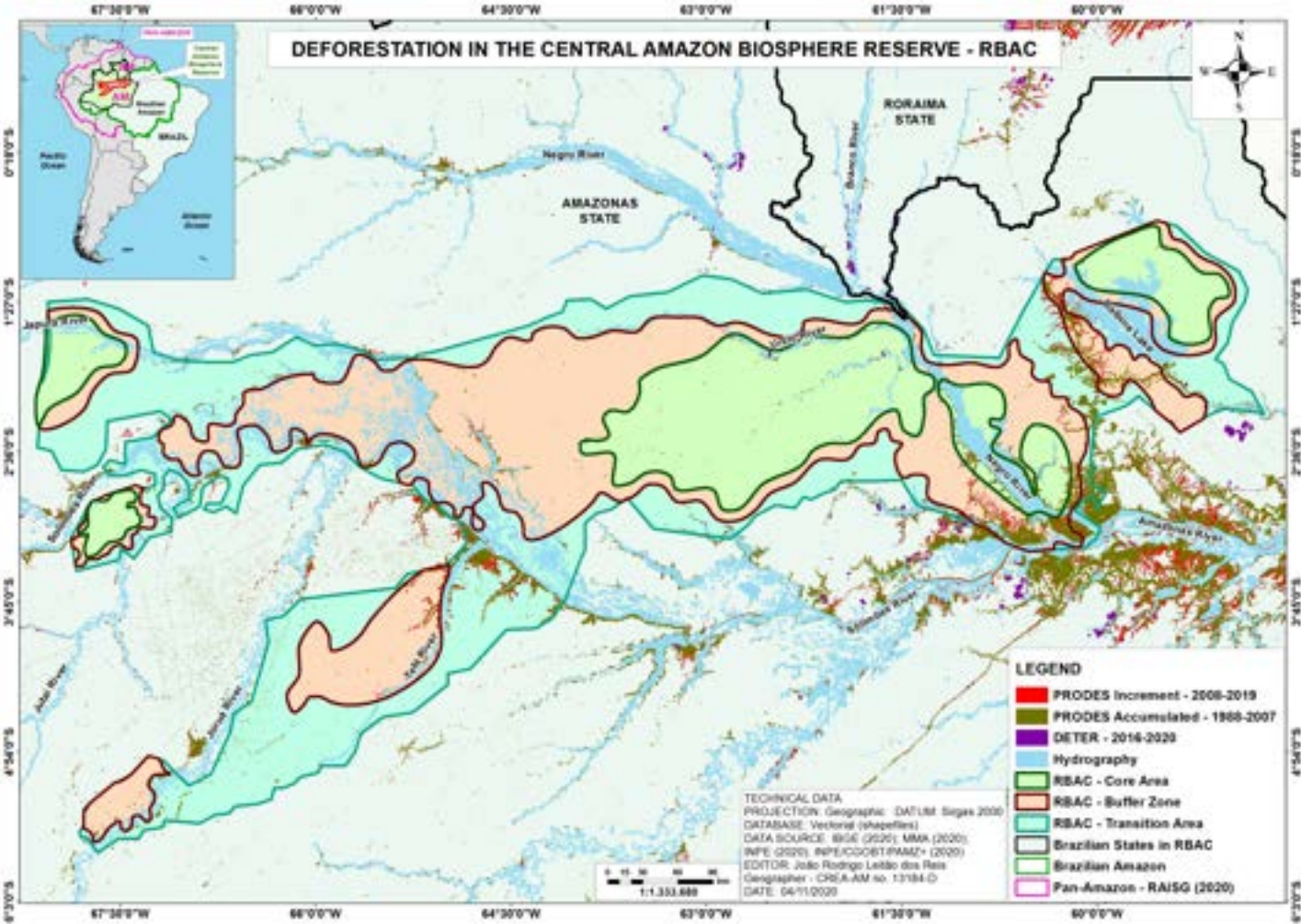


Figure 08 – Deforestation in the RBAC. Source: Prepared by Reis (2020).



DETER's results can be added to this, which in the 2016 to 2020 period, indicated 0.07% of forest suppression. In addition, the history of implementation of biodiversity conservation policies has its most significant result, indicating UCs as effective barriers against large-scale environmental degradation actions, thanks to the synergy of efforts between public authorities and civil society.

It can be noted that a total of 23 municipalities covered by the RBAC have 8,837 properties registered and certified in the Rural Environmental Registry Program - CAR, covering an area of 8,938,076.02 ha, equivalent to approximately 45.06% of the reserve's territory, where 5.17% is in the CZ, 27.74% in the BZ and 12.15% in the TZ of the reserve (Fig. 09). Only 08 (eight) municipalities do not have CAR properties within the RBAC, namely Amaturá, Careiro da Várzea, Santa Isabel do Rio Negro, Santo Antônio do Içá, São Gabriel da Cachoeira, Tapauá, Uruará and Rorainópolis. Barcelos is the municipality with the largest area (15.22%) in the CAR in the RBAC, but Manaus is the one with the largest number of properties recognized in the CAR, equivalent to 2,422 properties.

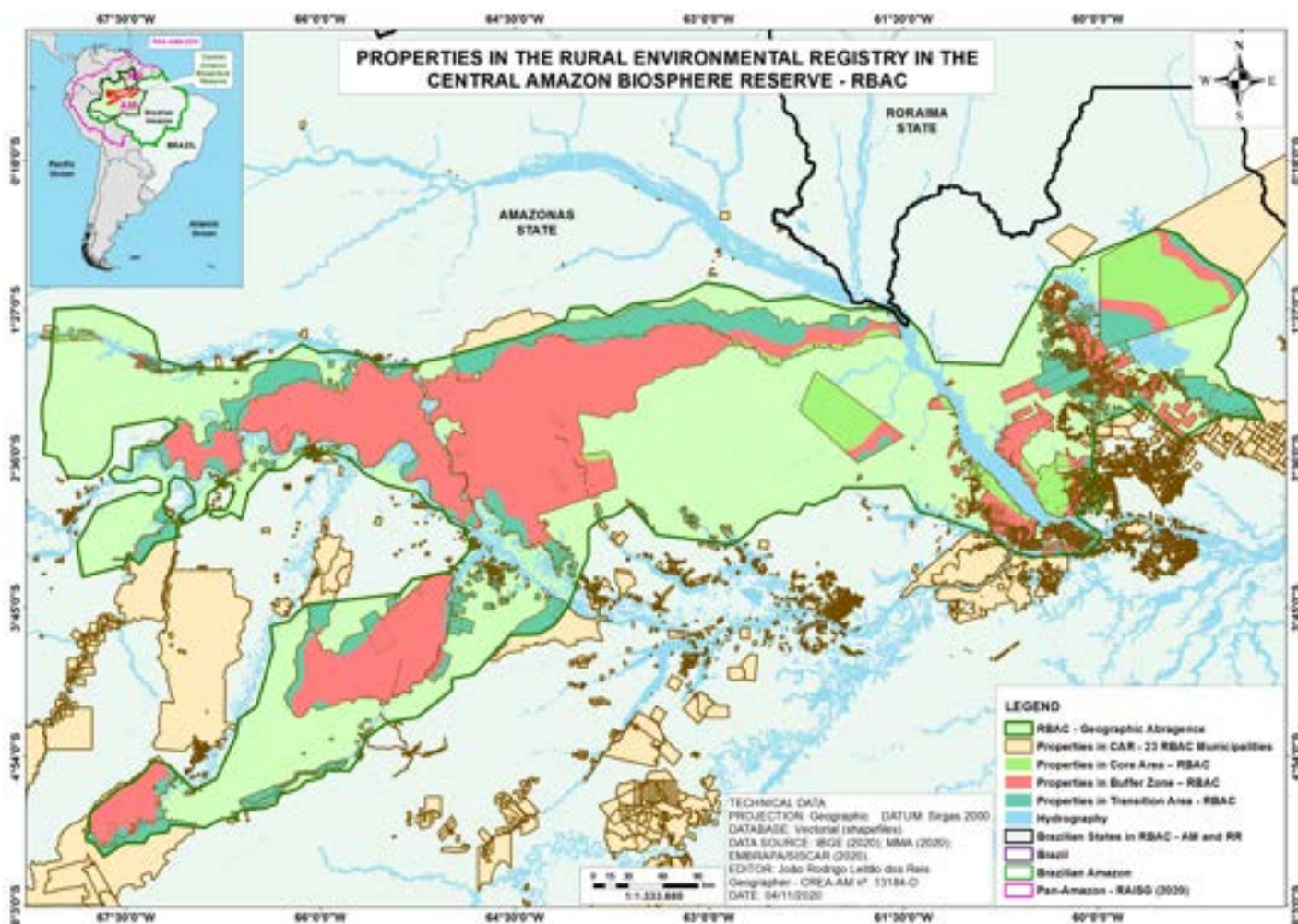


Figure 09 – Properties registered in the CAR by RBAC Zones. Source: Prepared by Reis (2020).

There are a number of mega enterprises in the RBAC (Fig. 09), the Araracanga and Coari-Manaus gas pipelines; the Power Transmission Line – LT/Tucuruí Line – Lot C (LT 500KV Oriximiná-Silves-Eng. Lechuga, Lot C) and the proposed implementation of the Manaus-Boa Vista Line. The Pitinga Mine (Mineração Taboca); the Hydroelectric Power Plants – UHE Balbina and Pitinga; the 03 Natural Gas Thermolectric Power Plants – UTG Manauara, Mauá 3 and Jaraqui; and the road projects AM 070 and BR 174. Within the RBAC, there are also three oil & gas production fields, namely the Juruá, Araracanga and Arara Azul fields. In addition, there are 64 oil & gas exploration wells within the limits of the reserve.

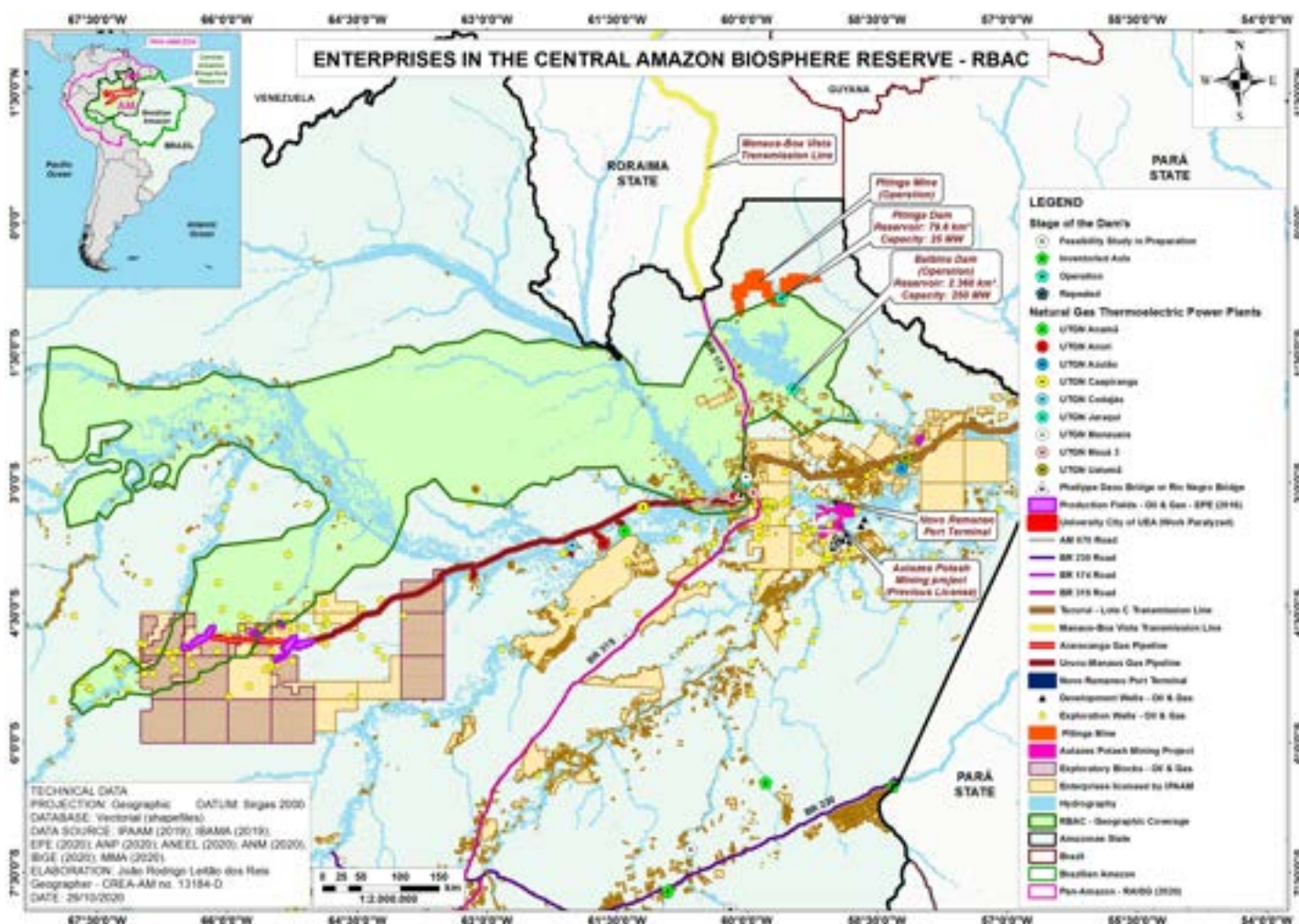


Figure 10 – Enterprises in the RBAC. Source: Prepared by Reis (2020).



By August 2015, approximately 4,618 developments were in different stages of environmental licensing by the Institute for Environmental Protection of Amazonas – IPAAM, covering an area of 5,303,538.21 ha in the State of Amazonas. Parts of these developments are found within the RBAC, covering an area of 2,227,989.5 ha, 42% of the total. Based on IPAAM data, it was verified that the enterprises with greatest presence in the RBAC are those linked to activities and sub-activities related to metallurgical, mechanical and mineral extraction and treatment industries.

The channel of the Solimões river includes oil and natural gas extraction, production and transportation industry, with the presence of a gas pipeline, oil pipeline, natural gas thermoelectric plants, extraction and development wells, oil province - pole of extraction, production and refinery.

It is important to note that in 2014 the Energy Research Company - EPE published a study of the Decennial Plan for the Expansion of the Pipeline Transportation Network - PEMAT 2022 presenting the methodology developed internally for the analysis of projects proposed by its own initiative or received via request by Third Parties. The final version of the first PEMAT 2022 was approved through MME Decree No. 128/2014, of 03/26/2014. The studies that served as the foundation, prepared by EPE, consider technical, economic and socio-environmental aspects of alternatives for the construction of gas pipelines in the country, taking into account supply and demand. The purpose of PEMAT is to identify opportunities for expansion of the national gas pipeline network.

In the history of the RBAC's implementation, SEMA-AM operates under strategic segments, seeking to prioritize shared, adaptive and participatory territorial management:

- a) The integration of technical agendas to meet common objectives in line with financial resources from programs and projects financed with public revenue from the Amazonian treasury and/or promoted by governmental and non-governmental partners;
- b) The provision of public activities, goods and services in the State UCs, whose overlap with the RBAC strengthens its socio-environmental relevance in raising public and private resources;
- c) The effective operationalization of CERBAC as an autonomous and proactive council for adequate decision-making that is compatible with the socio-territorial reality of the RBAC;
- d) Articulation with the Municipal Environment Secretariats – SEMMA, management bodies of protected areas (FUNAI, IPHAN, ICMBio, CECAV/ICMBio and FCP), civil society organizations and private entities operating in the territory of the RBAC, especially within the scope of the State UC Management Councils.

Financing the management of the RBAC has been a challenge for public environmental managers in the State of Amazonas due to: a) the absence of a budget line for the contribution of state treasury revenues for the supply of goods and services necessary for the management of the RBAC; b) lack of a permanent multidisciplinary team dedicated exclusively to the management of the RBAC; c) lack of project management focused on attracting national and international funding; d) budgetary limitation and short duration of external financing from national and international institutional articulations

and partnerships; and, e) the institutional governance of the environmental management policy, related to the change or permanency of those in charge. e parcerias institucionais nacionais e internacionais;

This PARBAC shows that the main programs and projects directly or indirectly correlated with the history of the RBAC implementation were: 1) Ecological Corridors/Central Amazon Corridor Project - PCE/CCA (2002-2014); 2) Amazon Protected Areas Program – ARPA (2002-to date): In 2020, ARPA will finance 19 (nineteen) UCs in the RBAC region; 3) Conservationist Project supported by the Gordon and Betty Moore Foundation (2004-2014); 4) Environmental Compensation of the Coari Manaus Gas Pipeline (2009-to date): includes 12 (twelve) State UCs covered by the RBAC; 5) Environmental Compensation of the Tucuruí Line – Lot C (2015-to date): includes the RDS Uatumã; 6) Environmental Compensation Program for the Novo Remanso Port Terminal (2020-to date): includes 04 (four) State UCs included in the RBAC; 7) Bolsa Floresta Program - PBF (2007-to date): benefits families living in 08 (eight) State UCs in the RBAC; 8) Environmental Conservation Support Program: Bolsa Verde Program – PBV (2011-2017); 9) Research and Technical Visits Program in state UCs in the RBAC: includes 14 (fourteen) State UCs presente in the RBAC; 10) State Program for Voluntary Environmental Agents at the RBAC: benefits 10 (ten) State UCs and 03 (three) Federal UCs; 11) Preparation, review and implementation of Federal, State and Municipal UC Management Plans; and, 12) Constitution, restructuring and operationalization of Federal, State and Municipal UC Management Councils.

The integration of Institutional Territories management instruments is of paramount importance for the consolidation of joint agendas that meet common management objectives, especially in combating environmental offenses, preventing and combating deforestation and fires, in licensing, mitigating and compensating projects, among others.

This data and information reveal that the RBAC is a “legal and institutional protection barrier of biodiversity”, with the area covered by the Metropolitan Region of Manaus – RMM being the main region of environmental degradation (deforestation, occupation and projects), even with the presence of UCs.

3.5. Planning of the RBAC – Lima Action Plan

Based on the technical contributions accumulated and developed during the process of preparing this PARBAC, the RBAC Planning Matrix – Lima Action Plan was created, which is attached. These actions were discussed, improved and approved in 04 (four) technical meetings: a) 3rd Meeting of the GT/PARBAC-CERBAC, held on 11/24/2020; b) 1st Extraordinary Meeting of CERBAC – RE/CERBAC, held on 26 and 27/11/2020; c) 4th Meeting of the GT/PARBAC-CERBAC, held on 12/14/2020; and, d) 2nd Extraordinary Meeting of CERBAC – RE/CERBAC, held on 12/16/2020.

118 actions were approved for the PARBAC (2021-2024) by CERBAC duly linked to the Sub-areas of the Strategic Action Areas - AAE of the Lima Action Plan. It should be noted that the 118 actions of the PARBAC must be operationalized within 04 (four) years (Table 06), the monitoring indicators are added to assist the responsible organizations in social control, transparency and accountability for compliance with the measures in the territory of the RBAC.



Table 06 –Number of Actions approved for the PARBAC (2021-2024)

Strategic Action Area – AAE	Sub-areas (Objectives/Results) of AAE	N.º of PARBAC actions
AAE.A – The World Network of Biosphere Reserves consists of effective models for sustainable development	A1. Recognize Biosphere Reserves - RB as models that contribute to implement the Sustainable Development Goals - SDGs and Multilateral Environmental Agreements - AMAB	06
	A2. Open and participatory selection, planning and implementation of RB	07
	A3. Integrate the RB, with the relevant legislation, in policies and/or programs that benefit from its functioning	07
	A4. Develop research, create learning opportunities and practical training that support RB management and sustainable development within RB	05
	A5. Financial Sustainability of RB	09
	A6. Effective functioning of the World Network of Biosphere Reserves - RMRB, with all RBs complying with their Statutory Framework	04
	A7. Recognize RB as sources and managers of ecosystem services	05
AAE.B – Collaboration and formation of inclusive, dynamic and results-oriented networks	B1. Effective RB managers/coordinators and RB stakeholder involvement	08
	B2. Inclusive regional and thematic networks	04
	B3. Regional and thematic networks with adequate resources	05
	B4. Effective collaboration at regional and thematic levels	05
	B5. Visibility of regional and thematic networks and their activities	07
	B6. Transnational and cross-border cooperation between RB	02
	B7. Active and open interdisciplinary network of scientists who share MAB's vision and mission	03
AAE.C – Effective external partnerships and sufficient and sustained funding	C1. Adequate resources for the MAB program and the World Network of Biosphere Reserves	01
	C2. Recognize the MAB Program as a key partner within UNESCO and with other relevant international organizations and conventions	02
	C3. RB and regional networks generating their own revenue	03
	C4. Private Sector recognition of the MAB Program as a key partner	03
	C5. Recognition that the MAB Program contributes to the achievement of national objectives, regional funding programs	01
	C6. Entrepreneurs and social companies contribute to RB activities	01
	C7. National and international recognition of RB	02
	C8. Enhanced synergies between RB	Vinc. ao A.6
AAE.D – Comprehensive, modern, open and transparent communication, and Data and information sharing	D1. Wide availability of MAB documents, data, information and other materials	04
	D2. Increased awareness of all aspects of the MAB Program	04
	D3. Broad engagement and awareness	03
AAE.E – Effective governance	E1. Strong support from Member State governments to implement the MAB program	-
	E2. MAB National Committees have a cross-disciplinary set of members	03
	E3. Regular updates of Member States' progress and monitoring of the Action Plan	08
	E4. Effective functioning of regional and thematic networks	06
TOTAL ACTIONS		118

Source: Organized by Reis (2020)

4. Final considerations

The PARBAC (2021-2024) is a socio-environmental planning instrument built in a participative manner by UNESCO Brazil, SEMA-AM and CERBAC, under the aegis of the Lima Action Plan (2016-2025) of MAB/UNESCO and the World Network of Biosphere Reserves. It contains 118 Strategic Actions necessary for structuring the RBAC's Operational Governance as a "Management Unit", concerned with the development of shared agendas between the different management bodies of the 289 Institutional Territories included in the reserve, as well as the other agents operating in the RBAC.

The PARBAC (2021-2024) foresees the elaboration of annual management reports with the undertaking of technical events to present the results of its execution. In this sense, the PARBAC's transparency and accountability are explained as essential for the effective execution of the 118 strategic actions, considering that the PARBAC's guideline is that the "RBAC's management is adaptive, resilient and participatory".

With a participative and transparent management, the RBAC's Operational Governance and Management System will be able to support the implementation of the 118 Strategic Actions of the PARBAC. Establishing institutional partnerships and sharing responsibility is essential for structuring the RBAC's Operational Governance and for the effective execution of the PARBAC, prioritizing the management bodies of the 289 Institutional Territories, Municipalities, civil society organizations, social and environmental movements, and financing organizations and/or companies and/or donors.

Finally, the internalization and dissemination of the RBAC, in its territory and in the different public, private and social organizations operating in the reserve, will advance its place as an instrument of shared territorial management, providing a solid foundation for its recognition and incorporation in the diversified products and services developed in its geographic scope.





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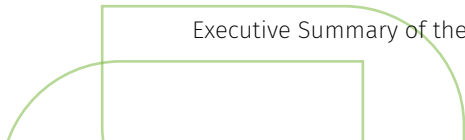
6. ANNEX: RBAC Planning Matrix (2021-2024)

6.1. AAE – A: RBAC as an effective operating model

Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
A1. Recognize Biosphere Reserves - RB as models that contribute to the implementation of the Sustainable Development Goals - SDGs and the Multilateral Environmental Agreements - AMAB	A1.1. Elaborate the “RBAC Network” Project, bringing together the management bodies of the 289 Institutional Territories included in the RBAC. This project will serve to raise national and international financial resources	SEMA-AM, CERBAC, ICMBio, SEMMA’s, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, FUNAI, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 05/2021 to 05/2022	Number of Meetings held and Agreements made between management bodies
	A1.2. Issue an administrative/normative act, endorsing in the State of Amazonas, the recognition of the RBAC by UNESCO in 2001, defining the official quantity of the area covered by the reserve and presenting the descriptive memorandum of the geographic limits of the RBAC as a whole and of each of its respective Zones (CZ - Core Zone, BZ - Buffer Zone and TZ - Transition Zone) - Linked to the definition of the new geographic boundaries and zones of the RBAC	SEMA-AM and CERBAC (technical and legal area, plus geoprocessing), with support from ICMBio, SEMMA’s, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, FUNAI, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2023	Administrative/normative act issued
	A1.3. Disseminate the Sustainable Development Goals - SDGs in the RBAC, through community and technical seminars, with the support of Municipalities and Institutional Territory Management Bodies (Generate a summarized product on the SDGs for the RBAC and make it available to organizations)	SEMA-AM, CERBAC, Municipalities, ICMBio, SEMMA’s, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, FUNAI, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Technical reports containing the results of the events
	A1.4. Survey and analyze visitation and tourism activities in the RBAC that are planned, executed or under development.	SEMA-AM, AMAZONASTUR, CERBAC, ICMBio and SEMTUR’s	From 10/2021 to 10/2022	Report with analysis of activities and number of visitors and tourists
	A1.5. Map and form partnerships with institutional initiatives for the conservation of endemic and endangered species (“flagship species”)	SEMA-AM, UFAM, UEA, IFAM, INPA and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2022	01 meeting to present the results of the survey and Number of partnerships made
	A1.6. Map, identify and spatialize sustainable project initiatives for income generation or projects for structuring the production chain of natural resources	SEMA-AM, SEDECTI, SEPROR, IDAM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 05/2021 to 12/2024	Database with consolidated social and environmental management initiatives, with status of execution and periodic update



Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
A2. Open and participatory selection, planning and implementation of RB	A2.1. Reactivate the Regional Committees of the RBAC, with recognition of the initiatives of existing collegiate bodies, with a total of three poles: a) Médio Rio Solimões (Tefê); b) Rio Negro (Mosaic of the Lower Rio Negro UC); and, c) Lower Solimões River (Manacapuru)	SEMA-AM, CERBAC	From 10/2021 to 05/2022	Database with consolidated social and environmental management initiatives, with status of execution and periodic update
	A2.2. Promote the diversity of institutional and social representations of the territory of the RBAC, both in CERBAC and in the Regional Committees, according to the geography of RBAC	SEMA-AM, CERBAC	From 10/2021 to 05/2022	Decree and/or Ordinances establishing the Committees. Number and Minutes of Meetings held.
	A2.3. Survey and diagnose the Municipal Conservation Units in the municipalities covered by the RBAC to support the mapping, registration and certification in the National Registry of Conservation Units - CNUC	SEMA-AM, CERBAC, SEMMA's, FOPES	From 10/2021 to 10/2022	Diagnosis prepared and publicized
	A2.4. Conduct discussions on the management models of Biosphere Reserves and Protected Areas, nationally and internationally	SEMA-AM, CERBAC, UFAM, UEA, IFAM, INPA, Private Universities and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2022 to 02/2023	Event report published on the RBAC website
	A2.5. Articulate with the existing communication channels in the Conservation Units and Indigenous Lands for the dissemination of the RBAC, engaging with local initiatives for the sustainable use of natural resources	SEMA-AM, FUNAI, INCRA, Federal, state and municipal UC managers, and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of recognized communication channels
	A2.6. Disseminate the development of capacities about the RBAC in the technical areas of SEMA-AM and other bodies (PARBAC Presentation), through the formulation and/or participation in meetings, workshops, among other events	SEMA-AM, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 10/2022	Number of events held for capacity building on the RBAC
	A2.7. (Re)Disclose and (Re)Introduce the RBAC at the local level, through meetings within Conservation Units management councils and specific community workshops, and planning and/or participating in academic and scientific events	SEMA-AM, CERBAC, ICMBio, UFAM, UEA, IFAM, INPA and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of meetings and workshops held to publicize the RBAC



Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
A3. Integrate the RB, with the relevant legislation, in policies and/or programs that benefit from its functioning	A3.1. Articulate the inclusion of the RBAC, as one of the actions of SEMA-AM's Pluriannual Plan - PPA, in order to guarantee public resources	SEMA-AM, CERBAC and SEFAZ-AM	From 02/2021 to 03/2023	Number of meetings held and institutional documents issued
	A3.2. Integrate the RBAC in the Environmental Services Programs of the State Environmental Services Law (State Law No. 4.266/2015, of 12/01/2015)	SEMA-AM, CERBAC and FAMC	From 02/2021 to 12/2024	Number of Meetings held to include the RBAC as an object of intervention. Number of Environmental Services Programs linked to the RBAC
	A3.3. Articulate the RBAC with the National Strategic Plan for Protected Areas - PNAP (Federal Decree n.º 5.758/2006, of 13/04/2006) and the National Policy for Territorial and Environmental Management of Indigenous Lands - PNGATI (Federal Decree n.º 7747/2012, of 06/05/2012)	SEMA-AM, CERBAC, MMA, ICM-Bio, IPHAN, FUNAI, CECAV, SEMMA's, FOPES, COBRAMAB, RNRB and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of Meetings held with organizations
	A3.4. Encourage the support of the Municipalities included in the RBAC, creating the Seal "Friends of the RBAC Municipality"	SEMA-AM, CERBAC and Municipalities	From 02/2021 to 12/2024	Número de Prefeituras Number of Municipalities covered by the Seal
	A3.5. Sensitize the Municipal Governments, through the Municipal Environment Secretariats - SEMMA's and the Permanent Forum of the SEMMA's - FOPES, about the importance of the RBAC	SEMA-AM, CERBAC and Municipalities	From 02/2021 to 12/2024	Number of documents sent
	A3.6. Map, survey and spatialize governmental and non-governmental projects with the application of financial resources executed in the territory of the RBAC, in order to insert the RBAC as a "brand" in the resulting products and services	SEMA-AM, ICMBio, INCRA, FUNAI, UFAM, UEA, INPA, SEPROR, IDAM, BASA, AFEAM, SUFRAMA, SUDAM, FNO, CNAL and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2022	Consolidated database, with execution status and periodic update
	A3.7. Survey and verify the actions of creation, implementation and consolidation of Conservation Units financed with resources from the compensation of art. 36 of Federal Law No. 9,985/2000, both federal and state	SEMA-AM, ICMBio, IBAMA, IPAAM	From 10/2021 to 10/2022	Consolidated database, with execution status and periodic update

Objective	Action	Reponsible Party	Time (month/year)	Monitoring indicator
A4. Develop research, create learning opportunities and practical training that support RB management and sustainable development within RB	A4.1. Formulate and implement the “RBAC Territory” Program, which will bring together courses and training initiatives on biodiversity conservation, types of protected areas, areas of international recognition and RBAC management	SEMA-AM, UFAM, UEA, IFAM, INPA, BASA, AFEAM, SUFRAMA, SUDAM, FNO, CNAL and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of people served by the program
	A4.2. Collect information on and analyze the nature of academic, technical and private research projects planned, executed or under development at the RBAC	SEMA-AM, UFAM, UEA, IFAM, INPA, ICMBio, FUNAI, CNAL, EMBRAPA, BASA, SUFRAMA, AFEAM, SUDAM, FNO, Private Universities and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2022	Report prepared and published on the RBAC website
	A4.3. Collect information on academic production about the RBAC, carried out in the form of books, book chapters, scientific articles and reports, and publicize it on the RBAC institutional website	SEMA-AM, UFAM, UEA, IFAM, INPA, FAPEAM, CNPQ, CAPES, CNAL, EMBRAPA, AFEAM, BASA, SUFRAMA, SUDAM, FNO, CNAL and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 09/2021 to 12/2024	Published academic and technical production
	A4.4. Formulate the “Research Incentive and Support Program at the RBAC”, containing the details of administrative and operational assistance measures for researchers, as well as discriminating the areas of greatest need in knowledge generation, in order to strengthen the dissemination of the RBAC and attract scientists/researchers	SEMA-AM, UFAM, UEA, IFAM, INPA, CNAL, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO and Private Universities + AFEAM, FAPEAM, CNPQ, CAPES, BASA and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 05/2021 to 10/2022	Research Incentive and Support Program at the RBAC
	A4.5. Implement the “Research Incentive and Support Program at the RBAC”	SEMA-AM, UFAM, UEA, IFAM, INPA e Private Universities + FAPEAM, CNPQ, CAPES, CNAL, AFEAM, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 11/2022 to 12/2024	Number of research projects executed and under development

Objective	Action	Responsible Party	Time (month/year)	Monitoring indicator
A5. Financial Sustainability of RB	A5.1. Implement the “RBAC Network” Project, with awareness workshops and the development of pilot projects to support the management of Institutional Territories	SEMA-AM, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI, CNAL, BASA, AFEAM, SUFRAMA, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2022 to 12/2024	Number of Workshops held to publicize the Project. Number of initiatives financed by the Project
	A5.2. Promote the creation of a Working Group for the preparation and submission of projects to raise the financial resources necessary for structuring the Operational Governance	SEMA-AM, CERBAC, UNESCO	From 02/2021 to 02/2022	Number of projects prepared and submitted
	AA5.3. Seek sources of funding to support the “RBAC Network” Project	SEMA-AM, SEFAZ-AM, FAPE-AM, FIEAM, Head of Executive Power, Amazon Fund-MMA, CNAL, AFEAM, BASA, SUFRAMA, SUDAM, FNO, FEMA-AM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2022 to 12/2024	Database with the financing Public Organizations, with status of execution and periodic update
	A5.4. Submit Financing Projects to the State Fund for the Environment of Amazonas - FEMA-AM	SEMA-AM, FEMA-AM, CEMAAM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2022 to 12/2024	Number of Projects approved and executed
	A5.5. Linked to Action A5.9			
	A5.6. Prioritize the allocation and application of compensation resources under art. 36 of Federal Law No. 9.985/2000-SNUC in federal, state and municipal Conservation Units included in the RBAC	SEMA-AM, CECA-AM, IPAAM, IBAMA, CCAF-IBAMA and ICMBio	From 03/2021 to 12/2024	Number of Environmental Compensation Execution Plan - PECA directed at the RBAC's federal, state and municipal UCs
	A5.7. Prioritize the execution of the compensation of the legal reserve provided for in Item III and § 5th to 9th of Art. 66 of Federal Law nº. 12,651/2012 in Conservation Units covered by the RBAC	SEMA-AM and CERBAC	From 03/2021 to 12/2024	Number of Legal Reserve Compensations made at the RBAC
	A5.8. Analyze the implementation of certification or seal of origin, or recognition of geographical indication of the RBAC, in products and services that have already been developed or that may be implemented in its territory	SEMA-AM, SEBRAE, IDAM, SEPROR, PGE-AM, EMBRAPA, AFEAM, BASA, SUFRAMA, SUDAM, FNO and OSC (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 10/2021 to 12/2024	Prepared and publicized study
	A5.9. Consolidate a portfolio of national and international partners and donors to support the financing of the “RBAC Network” Project - Systematize data about the main national and international donors and partners, as well as the criteria, deadlines and guidelines for the submission of funding proposals	SEMA-AM, CERBAC, UNESCO, MMA, CNAL, BASA, SUFRAMA, AFEAM, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 05/2021 to 12/2024	Database including financing Private or Civil Society organizations, with status of execution and periodic update

Objective	Action	Responsible Party	Time (month/year)	Monitoring indicator
A6. Effective functioning of the World Network of Biosphere Reserves - RMRB, with all RBs complying with their Statutory Framework	A6.1. Structure the institutional memory of the RBAC, with transparency, disclosures, surveys and systematization of technical and administrative documents, and the constitution of a website for the RBAC with the disclosure of its Institutional Territories	SEMA-AM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 06/2021 to 12/2022	Database of Administrative and Technical Documents and Website made operational
	A6.2. Analyze, create or establish operational mechanisms for the formulation and execution of Projects in RBAC	SEMA-AM, CERBAC and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 06/2021 to 12/2022	Operational Mechanism established
	A6.3. Consolidate CERBAC's institutional website with the publication of all meeting minutes, legislation and other documents relating to the Council	SEMA-AM and CERBAC	From 06/2021 to 12/2022	Consolidated and updated CERBAC website
	A6.4. Actively participate in the National Network of Biosphere Reserves in Brazil	SEMA-AM and CERBAC	From 03/2021 to 12/2024	Technical Reports containing the results of participation in the Meetings
A7. Recognize RB as sources and managers of ecosystem services	A7.1. Collect information about and recognize the social and environmental management initiatives carried out by civil society organizations, as well as by the traditional and indigenous peoples and communities of the RBAC	SEMA-AM, UFAM, UEA, IFAM, INPA, FUNAI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2021 to 12/2024	Consolidated database, with execution status and periodic update
	A7.2. Mobilize awareness campaigns and dissemination of knowledge about the RBAC and ecosystem services	SEMA-AM, UFAM, UEA, IFAM, INPA and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2021 to 12/2024	Number of campaigns carried out in the territory of the RBAC
	A7.3. Map, recognize and disseminate the socio-biodiversity production chains - green businesses of the RBAC	SEMA-AM, UFAM, UEA, IFAM, INPA, CNAL, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2023	Consolidated database containing the RBAC's Sociobiodiversity Productive Chains
	A7.4. Diagnose and assign value to the ecosystem services offered by the RBAC, with the purpose of developing payment for conservation projects	SEMA-AM, UFAM, UEA, IFAM, INPA, CNAL, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2023	DDiagnosis prepared and publicized
	A7.5. Develop a Payment for Environmental Services Project - PSA for the RBAC, taking into account the conservation status of the region it covers and the urgency in meeting the management needs	SEMA-AM, UFAM, UEA, IFAM, INPA and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 11/2023 to 12/2024	Payment for Environmental Service Project developed for the RBAC

6.2. AAE – B: RBAC in the collaboration and formation of networks

Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
B1. Effective RB managers/ coordinators and RB stakeholder involvement	B1.1. Articulate and strengthen SEMA-AM with the constitution of an Effective and Active Technical Body (minimum technical team) to implement the PARBAC	SEMA-AM, CERBAC, UNESCO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 02/2023	PARBAC Implementation Team established and publicized
	B1.2. Redefine, in a participatory manner, the geographic limits of the RBAC, verifying the possibility of expanding the reserve, as well as the possible coverage of other federal entities in the Legal Amazon. Make three technical proposals to be approved by CERBAC - Linked to the Administrative Act	SEMA-AM and CERBAC	From 02/2021 to 12/2023	03 RBAC Redelimitation Proposals elaborated, approved and publicized
	B1.3. Raise awareness of the RBAC in public and civil society organizations in order for it to be an integral part of the daily management of the Institutional Territories covered by the reserve, starting with showing the existence of the RBAC on signposts, demarcation signs and tourist boards, as well as in the products and services being developed	SEMA-AM, UFAM, UEA, IFAM, INPA, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of documents sent
	B1.4. Identify and accredit, as "Amazon Center of the Biosphere Reserve", potential organizations that can support and collaborate with the RBAC - regional or local references	SEMA-AM, CERBAC	From 02/2021 to 12/2024	Number of accreditations performed
	B1.5. Build the Mission and Vision of the RBAC in a joint and participative way, based on the lessons learned in other projects	SEMA-AM, CERBAC	From 03/2021 to 03/2022	Number of meetings held
	B1.6. Use the meetings of the Management Councils of federal, state and municipal Conservation Units to raise awareness and publicize the RBAC	SEMA-AM, ICMBio, SEMMA's and FOPES	From 02/2021 to 12/2024	Reports/minutes of UC management council meetings that addressed the RBAC as a theme
	B1.7. Assess the ability to attract investments using the Biosphere Reserve "brand"	SEMA-AM, CERBAC, UNESCO e OSC (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 10/2021 to 10/2022	Report prepared and publicized
	B1.8. Internalize the RBAC with protected area managers to facilitate its dissemination and recognition, through training workshops	SEMA-AM, ICMBio, SEMMA's, FUNAI, FOPES and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 02/2021 to 12/2024	Reports/minutes of management council meetings that addressed the RBAC as a theme

Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
B2. Inclusive regional and thematic networks	B2.1. Promote the preparation of agendas for the RBAC Regional Committees, taking into account the specificities of each RBAC region	SEMA-AM, ICMBio, SEMMA's, FUNAI, FOPES and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 02/2021 to 12/2024	Reports/minutes of management council meetings that addressed the RBAC as a theme
	B2.2. Present governmental and non-governmental guidelines for adaptation to the political-institutional and biosanitary context during and after public calamities and the occurrence of socio-environmental risks and disasters	SEMA-AM, CERBAC and RBAC Regional Committees + SUSAM and SEMSA's, SESAI, FVS, MS-SUS, Civil defense, Municipalities and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Document with the guidelines for the RBAC prepared, approved and publicized
	B2.3. Promote environmental education agendas aimed at raising awareness about solid waste management, food safety and the use of pesticides, socio-biodiversity products, adaptation and mitigation of climate change, ecosystem services, preventing and combating deforestation and fires, payment for environmental services and protection of water resources	SEMA-AM, CERBAC and RBAC Regional Committees + SEPROR, IDAM, AFEAM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Events and workshops held
	B2.4. Identify, give value to and disseminate the sociodiversity products existing in the RBAC	SEMA-AM, CERBAC and RBAC Regional Committees - SEPROR, IDAM, AFEAM, CNAL, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO, SEDECTI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 02/2021 to 12/2024	Report prepared and publicized
B3. Regional and thematic networks with adequate resources	B3.1. Conduct research into the creation of the RBAC Trust Fund	SEMA-AM, CERBAC, PGE-AM, TCE-AM, MPC-AM	From 10/2021 to 10/2022	Terms of Reference prepared, approved and publicized
	B3.2. Define criteria for the selection of institutions and civil society organizations for the operationalization of RBAC projects and programs	SEMA-AM, CERBAC, PGE-AM, TCE-AM, MPC-AM	From 10/2021 to 10/2022	Terms of Reference prepared, approved and publicized
	B3.3. Ensure active and effective participation in meetings and events of the National Network of Biosphere Reserves in Brazil	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of meetings and results report
	B3.4. Expand institutional engagement with UNESCO to support dialogue with possible national and international donors	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Continuous agenda
	BB3.5. Expand institutional interaction with the MMA and the National Network of Biosphere Reserves to support dialogue with possible national and international donors	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Continuous agenda

Objective	Action	Responsible Part	Time frame (month/year)	Monitoring indicator
B4. Effective collaboration at regional and thematic levels	B4.1. Promote collaborative actions in the implementation of the Mosaic of Conservation Units of the Lower Rio Negro	SSEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of meetings and results report
	B4.2. Monitor the process of redelimiting the State Park - PE Rio Negro - North Sector	SSEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2021	Number of meetings and results report
	B4.3. Promote collaborative actions in the dissemination of the Environmental Services Law (State Law No. 4.266/2015, of 12/01/2015)	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of meetings and results reports
	B4.4. Follow discussions on the Amazon Central Corridor -CCA	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of meetings and results report
B5. Visibility of regional and thematic networks and their activities	B5.1. Disseminate the RBAC actions with the World and Brazilian RB Networks	SEMA-AM, CERBAC e Comitês Regionais da RBAC	De 02/2021 a 12/2024	Publicized actions
	B5.2. Encourage academic publication (articles, books, among others) in the territory of the RBAC, through the implementation of the "Incentive and Support Program for Research at RBAC"	SEMA-AM, UFAM, UEA, IFAM, INPA, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of articles published
	B5.3. Promote the Meeting "Managers and Partners of Institutional Territories of the RBAC"	SEMA-AM, CERBAC, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2022 to 12/2024	Results report
	B5.4. Promote the Seminar "Knowledge of Traditional Peoples and Communities of the RBAC"	SEMA-AM, CERBAC, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2022 to 12/2024	Results report
	B5.5. Promote workshops on Preventing and Combating Deforestation and Fires at the RBAC	SEMA-AM, CERBAC, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 07/2021 to 12/2024	Results report
	B5.6. Encourage organizations to give visibility to the RBAC during their technical training	SEMA-AM, CERBAC, Bodies responsible for these territories	From 07/2021 to 12/2024	Results report

Objective	Action	Responsible Part	Time frame (month/year)	Monitoring indicator
B.6. Trans-national and cross-border cooperation between RB	B6.1. Support the promotion of the 1st Symposium on Pan-Amazon Biosphere Reserves (Brazil, Bolivia, Colombia, Ecuador, Peru and Venezuela)	SEMA-AM, FAPEAM, UFAM, UEA, IFAM, INPA, Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others), ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO and Organizations from Bolivia, Colombia, Ecuador, Peru and Venezuela	From 02/2022 to 12/2024	Event Results Report
	B6.2. Promote collaborative actions for sharing experiences and learning in the management of Pan-Amazon Biosphere Reserves	SEMA-AM, FAPEAM, UFAM, UEA, IFAM, INPA, Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others), ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO and Organizations from Bolivia, Colombia, Ecuador, Peru and Venezuela	From 02/2022 to 12/2024	Event Results Report
B.7 Active and open interdisciplinary network of scientists who share MAB's vision and mission	B7.1. Create the "Science at the RBAC" Network within the scope of the "Research Incentive and Support Program at the RBAC", which will bring together research and studies carried out at the RBAC	SEMA-AM, FAPEAM, UFAM, UEA, IFAM, INPA, Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others), ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention and BLI	From 02/2022 to 12/2024	Number of Researchers registered in the Network / Contact List
	B7.2. Support the preparation of a Book or Technical Series on the management experiences of the Institutional territories covered by the RBAC	SEMA-AM, FAPEAM, UFAM, UEA, IFAM, INPA, Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others), ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention and BLI	From 02/2022 to 12/2024	Book or Technical Series published and available on the web for free
	B7.3. Promote the preparation of a Book or Technical Series on the results of academic and scientific research carried out at the RBAC	SEMA-AM, FAPEAM, UFAM, UEA, IFAM, INPA, Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others), ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention and BLI	From 02/2022 to 12/2024	Book or Technical Series published and available on the web for free

6.3. AAE – C: RBAC with effective partnerships and funding

Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicator
C1. Adequate resources for the MAB program and the World Network of Biosphere Reserves	C1.1. Support UNESCO, MMA and the National Network of Biosphere Reserves in Brazil in the search for donors and funders, through support movements and in the preparation of technical proposals	SEMA-AM, CERBAC, RBAC Regional Committees	From 02/2021 to 12/2024	Number of Support Motions and Technical Proposals submitted
C2. Recognize the MAB Program as a key partner within UNESCO and with other relevant international organizations and conventions	C2.1. Institutionally link the RBAC with the management of other areas of international recognition, such as the Natural World Heritage Site “Central Amazon Conservation Complex” (PARNA do Jaú, RDS de Amanã, PARNA de Anavilhanas and RDS de Mamirauá) ; 04 (four) Ramsar Sites - Wetlands of International Importance (RDS Mamirauá Ramsar Site, PARNA Anavilhanas Ramsar Site, Rio Negro Regional Ramsar Site and Rio Juruá Regional Ramsar Site); 04 (four) Important Bird and Biodiversity Areas – IBA (RDS Mamirauá, PARNA Jaú, Anavilhanas Archipelago and ARIE PDBFF) and Cachoeiras do Amazonas Geopark – GCA	SEMA-AM, CERBAC, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Minutes of Meetings and/or number of joint projects
	C2.2. Encourage the development of integrated and joint management support projects, considering the relevant territorial overlap between the RBAC and other areas of international recognition	SSEMA-AM, CERBAC, UNESCO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2021 to 12/2024	Number of joint projects prepared
C3. RB and regional networks generating their own revenue	C3.1. Structure the “RBAC Network” Project as an “umbrella” project	SEMA-AM, ICMBio, SEMMA’s, FOPES, IPHAN, AFEAM, CE-CAV, INCRA, FUNAI, FCP, BASA, SUFRAMA, SUDAM, FNO, MMA, UNESCO, RAMSAR Convention and BLI	From 03/2022 to 12/2024	Number of Workshops held to publicize the Project. Number of initiatives financed by the Project
	C3.2. Support the implementation of the State Decree for Public Use in Amazonas State Conservation Units, specifically in the charging of admission, and payment for the use of images and events space	SEMA-AM, CERBAC, RBAC Regional Committees and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2022 to 12/2024	Number of meetings held
	C3.3. Publicize projects linked to socio-biodiversity products	SEMA-AM, SEPROR, IDAM, INCRA CNAL, AFEAM, EMBRAPA, BASA, SUFRAMA, SUDAM, FNO and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 03/2022 to 12/2024	Number of joint projects publicized
	B1.7. Avaliar a capacidade de atrair investimentos com o uso “marca” de uma Reserva da Biosfera	SEMA-AM, CERBAC, UNESCO e OSC (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	De 10/2021 a 10/2022	Relatório elaborado e divulgado

Objective	Action	Responsible Party	Time frame (month/year)	Monitoring indicators
C4. Private Sector recognition of the MAB Program as a key partner	C4.1. Study and identify small, medium and large enterprises located in the RBAC and the socio-environmental compensation they generate	SSEMA-AM, IPAAM, IBAMA, ICM-Bio and MMA	From 10/2021 to 10/2022	Study prepared and published on the RBAC website
	C4.2. Verify the companies in the Manaus Industrial Pole - PIM that are able to support social and environmental responsibility initiatives through the financing of RBAC projects	SEMA-AM, CERBAC and RBAC Regional Committees	From 10/2021 to 12/2024	Database created and periodically updated
	C4.3. Create the "Friends of the RBAC Company" Award, to recognize entrepreneurs who support and finance RBAC projects	SEMA-AM, CERBAC and RBAC Regional Committees	From 10/2021 to 12/2024	Award created
C5. Recognition that the MAB Program contributes to the achievement of national objectives, regional funding programs	C5. Recognition that the MAB Program contributes to the achievement of national objectives, regional funding programs	SEMA-AM, CERBAC, COBRAMAB	From 03/2022 to 12/2024	Number of Supporting Motions issued
C6. Entrepreneurs and social companies contribute to RB activities	C6.1. Create a portfolio of RBAC Projects available on the web for evaluation of support by entrepreneurs - support and partnership needs	SEMA-AM, CERBAC and RBAC Regional Committees	From 10/2021 to 12/2024	Project Portfolio created
C7. National and international recognition of RB	CC7.1. Participate in national and international meetings on Biosphere Reserves	SEMA-AM, CERBAC and RBAC Regional Committees	From 03/2021 to 01/2022	Number of meetings held
	C7.2. Engage with Projects Supported by UNESCO and other international partners	SEMA-AM, CERBAC and RBAC Regional Committees	From 03/2021 to 01/2022	Number of meetings held
C8. Enhanced synergies between RB	Linked to A.6 of AAE.A			

6.4. AAE – D: RBAC in communication

Objective	Action	Responsible Party	Time (month/year)	Monitoring indicator
D1. Wide availability of MAB documents, data, information and other materials	D1.1. Build and maintain the RBAC website, with the dissemination of data, information and socio-environmental actions. Existing Institutional Territories must also be disclosed, as well as scientific and academic publications, maps, reports, studies, articles, books, plans and cartographic shapefiles	SEMA-AM, PRODAM	From 10/2021 to 12/2024	RBAC website built and publicized
	D1.2. Structure the CERBAC website on the SEMA-AM website, with the systematization of data and information about the Council. The legislation and minutes, reports and other event records must also be disclosed	SEMA-AM, PRODAM	From 10/2021 to 12/2024	PCERBAC website structured and publicized
	D1.3. Update, every 03 (three) months, the RBAC and CERBAC web pages	SEMA-AM, PRODAM	From 10/2021 to 12/2024	Updated web pages
	D1.4. Create and maintain the PARBAC execution transparency system, with the submission of compliance reports and execution status	SEMA-AM, PRODAM	From 10/2021 to 12/2024	PARBAC transparency system created and updated
D2. Increased awareness of all aspects of the MAB Program	D2.1. Prioritize the main themes for a strategic approach at the RBAC for the production of education and environmental awareness media	SEMA-AM, IDAM, SEPROR, FUNAI, ICMBio, UFAM, UEA, IFAM and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2022 to 12/2024	Number of environmental education and awareness media produced about the RBAC
	D2.2. Produce explanatory media on each of the Institutional Territories covered by the RBAC	SEMA-AM, ICMBio, SEMMA's, FOPES, IPHAN, CECAV, INCRA, FUNAI, FCP, MMA, UNESCO, RAMSAR Convention, BLI and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ among others)	From 02/2022 to 12/2024	Printed and downloaded media on the RBAC website
	D2.3. Promote digital campaigns about the RBAC	SSEMA-AM, CERBAC and RBAC Regional Committees	From 02/2022 to 12/2024	Registro da campanhaRegistration of the RBAC's digital campaign in the media and in social networks
	D2.4. Produce an outreach video about the relevance of the RBAC for biodiversity conservation which can be publicized in the media/social networks with the support of RBAC partners	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2022 to 12/2024	Video created and publicized in the media and in social networks

6.5. AAE – E: RBAC with effective governance

Objective	Action	Responsible Party	Time (month/year)	Monitoring indicator
E1. Strong support from Member State governments to implement the MAB program	This Subarea is outside the scope of the RBAC			
E2. MAB National Committees have a cross-disciplinary set of members	E2.1. Ensure the representation of the Amazon in COBRAMAB, in order to enable the participation of RBAC representatives that attend to traditional peoples and communities, indigenous peoples, Afro-descendants and youth	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of Meetings with RBAC representatives at COBRAMAB
	E2.2. Strengthen the insertion of regional proposals on the COBRAMAB meeting agenda	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Number of regional proposals in COBRAMAB
	E2.2. Strengthen the insertion of regional proposals on the COBRAMAB meeting agenda	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/202	Number of regional proposals in COBRAMAB
E3. Regular updates of Member States' progress and monitoring of the Action Plan	E3.1. Prepare annual reports on the implementation of the PARBAC	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Monitoring Report prepared and publicized
	E3.2. Evaluate the results of the PARBAC's operationalization, with an annual workshop	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	PARBAC Workshop Results Reports
	E3.3. Align the PARBAC's actions with the plans of the Institutional Territories included in the RBAC	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Minutes of meetings with Territory Managers
	E3.4. Encourage the creation of Conservation Units and the approval of Indigenous Lands and Quilombolas Lands, and other protected and/or conserved areas	SEMA-AM, CERBAC, RBAC Regional Committees and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 02/2021 to 12/2024	Support motions issued by CERBAC
	E3.5. Recognize the Councils of Conservation Units and Municipal Councils for the Environment as spaces for raising awareness, publicizing and strengthening of the RBAC	SEMA-AM, CERBAC, RBAC Regional Committees and Civil Society Organizations (WWF, FAS, WCS, IDESAM, IDSM, FVA, IPÊ)	From 02/2021 to 12/2024	Support motions issued by CERBAC
	E3.6. Encourage the implementation of Territorial and Environmental Management Plans for Indigenous Lands in the RBAC	SEMA-AM, CERBAC, FUNAI, MMA e OSC	From 02/2021 to 12/2024	Number of Incentive Plans
	E3.7. Encourage the implementation of the State Solid Waste Plan - PERS	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Support motions issued by CERBAC
	E3.8. Encourage the implementation of the State Water Resources Plan - PERH	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Support motions issued by CERBAC

Objective	Action	Responsible Party	Time (month, year)	Monitoring indicator
E4. Effective functioning of regional and thematic networks	E4.1. Disclose the results of the PARBAC implementation in a specific Management Report, containing transparency and accountability	SESEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	ReManagement Reports publicized
	E4.2. Strengthen the RBAC Researchers Network (established connections and contacts)	SSEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Researcher involvement report containing the surveys performed
	E4.3. Strengthen the Network of Management Bodies of Institutional Territories (established connections and contacts)	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Managers' involvement report containing the activities performed
	E4.4. Strengthen the Network of RBAC Partner Companies (established connections and contacts)	SSEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Company involvement report containing the activities performed
	E4.5. Strengthen the Network of RBAC partner organizations (established connections and contacts)	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Organizations involvement report containing the activities performed
	E4.6. Support the engagement of the RBAC with the Rio Negro Network, Middle Juruá Forum, Lower Rio Negro UC Mosaic and Integrated and Sustainable Development Forum of the Meso Alto Solimões Region	SEMA-AM, CERBAC and RBAC Regional Committees	From 02/2021 to 12/2024	Organizations involvement report containing the activities performed



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