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LEGAL GUARDIANSHIP OF THE MATO-GROSSO'S PANTANAL:REVIEW OF THE FEDERAL LEGAL REGIME AND THAT OF THE STATES OF MATO GROSSO AND MATO GROSSO DO SUL

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ABSTRACT

The Pantanal biome is one of the largest extensions of continuous flooded areas on earth, being sensitive and dependent on its hydrological regime to maintain the integrity of its ecosystems. Located at the Upper Paraguay Basin, it encompasses the states of Mato Grosso and Mato Grosso do Sul, and part of Bolivia and Paraguay. It is susceptible to disarray by human actions developed in the surrounding plateau and plain, which compromise its conservation. This leads to the need for reviewing its legal protection at a federal and state level, in order to verify if the existing legal regime is

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responsive to the challenges posed by its sustainability. The deductive method of exploratory nature was used through literary review; document analysis; interviews with public managers, authorities and community members. It was found that the legal system has legal gaps, notably the absence of a national regulatory framework, as well as the existence of fragmented laws between the states that share the biome, i.e., Mato Grosso and Mato Grosso do Sul. It reckons that there is the need for building a federal regulatory framework, which includes the Pantanal as a unique biome, and harmonize state legislation in order to ensure its preservation and the sustainable use of its natural resources.

Keywords: restricted use area; Pantanal; sustainability; legal guardianship.

TUTELA LEGAL DO PANTANAL MATO-GROSSENSE: ANÁLISE DO REGIME LEGAL FEDERAL E DOS ESTADOS DE MATO GROSSO E MATO GROSSO DO SUL

RESUMO

O bioma Pantanal é uma das maiores extensões de áreas contínuas alagadas do planeta, sendo sensível e dependente de seu regime hidrológico para manter a integridade de seus ecossistemas. Localizado na Bacia do Alto Paraguai abrange os estados de Mato Grosso e Mato Grosso do Sul, e parte da Bolívia e do Paraguai. É suscetível às ações antrópicas desordenadas desenvolvidas no planalto circundante e planície, que comprometem sua conservação, sendo necessário analisar sua tutela jurídica em nível federal e estadual, a fim de verificar se o regime legal existente é responsivo aos desafios para sua sustentabilidade. Para a referida análise, foi utilizado o método dedutivo, de caráter exploratório, com abordagem qualitativa, por meio de revisão bibliográfica, análise documental, entrevistas com gestores públicos, autoridades e membros da comunidade. Constatou-se que o ordenamento jurídico apresenta lacunas jurídicas, destacando-se a ausência do marco regulatório nacional, bem como a existência de uma legislação fragmentada entre os estados que compartilham o bioma, ou seja, Mato Grosso e Mato Grosso do Sul. Concluiu-se pela necessidade da edição de um marco regulatório federal que contemple o Pantanal como bioma único e de uma harmonização da legislação estadual de modo a assegurar sua preservação e o uso sustentável de seus recursos naturais.

***Palavras-chave**: área de uso restrito; Pantanal; sustentabilidade; tutela legal.*

INTRODUCTION

The Pantanal biome, besides being a National Heritage under art. 225 of the 1988 Federal Constitution, is also listed as World Natural Heritage by UNESCO, comprising the third largest Biosphere Reserve in the world. It is home to three important Ramsar Sites, namely: Pantanal Mato-Grossense-MT National Park; SESC Pantanal-MT Private Natural Heritage Reserve; and, Rio Negro-MS Private Natural Heritage Reserve. Besides these specially protected territorial spaces, the entire Pantanal is legally considered to be an area of restricted use.

It is a sensitive biome that depends on its hydrological regime to maintain the integrity of its rich biological diversity, landscapes, and supply of ecosystem services. In addition to the environmental wealth, it is an extensive area that brings together *Pantanal*, indigenous, and *quilombola* communities and traditional knowledge. These communities, among others, have contributed to the conservation of the biome for centuries.

Although it is estimated that it still has 85% of its natural vegetation preserved, Pantanal is a biome constantly threatened by uncontrolled anthropic actions, and by the exploitative economic activities developed mainly on its plain. Moreover, it is vulnerable to the deleterious and inescapable effects of the global climate change. In this sense, it is worth recalling the countless forest fires that occurred there in the year 2019 with intensity and volume atypical for that area.

It is a must to recognize that its exploitation should be anchored in scientific and legal bases that guarantee its conservation, and the sustainable use of its resources for present and future generations the light of global solidarity.

The purpose of this article is to review the Brazilian legal regime for the protection of this biome. It approaches the federal provisions, notably the 1988 Brazilian Federal Constitution, and the state provisions provided for in the state laws of Mato Grosso and Mato Grosso do Sul. The aim is to present a comparison between the state and federal commands comprising compliance, antagonisms, and desirable adjustments to cope with the challenges imposed on the sustainable development of this important national heritage.

The analysis used the deductive exploratory method, in a qualitative approach through means of bibliographical review, with theoretical and documentary review. The main elements of search were the federal laws

and the state laws of Mato Grosso and Mato Grosso do Sul. Participation in public hearings and seminars allowed capturing legal and non-legal impressions about the laws that rule the Pantanal, including interviews with members of the Public Prosecutor's Office, and visits to agencies that provide technical support to that Office.

In the first section of this work, the constitutional grounds on the protection of the biome at the federal level are highlighted. The next section presents the biome as an area of restricted use, as ranked by the Brazilian Forest Code, addressing its implications, and doctrinal and jurisprudential discussions. The third and fourth sections introduce the legal frameworks of the states of Mato Grosso and Mato Grosso do Sul. The last section outlines an overview of the limits of protection and desirable adjustments for a greater ethical, conceptual and legal approximation between the political entities.

1 CONSTITUTIONAL ASPECTS OF THE GUARDIANSHIP OF A THREATENED NATIONAL HERITAGE

Firstly, it should be made clear that authors diverge regarding the size of t

he Pantanal. This article elected the data from the Brazilian Institute of Geography and Statistics (IBGE 2004), which assigned an area of 150,335 km2 to the Pantanal biome. It should be noted that about 62% of the Pantanal is in Brazil, 20% in Bolivia, and 18% in Paraguay (WWF, 2018)[4].

The Pantanal Mato-Grossense occupies 1.8% of the Brazilian territory, is located in the Upper Paraguay River Basin (UPB) comprising part of the states of Mato Grosso and Mato Grosso do Sul, and is considered to be the smallest national biome. On the other hand, the periodically flooded plain is considered one of the largest extensions of continuous Wetlands on earth.

Because of its ecological relevance and the countless threats it faces, the Pantanal region was constitutionally recognized as a national heritage site, as stated in art. 225, paragraph 4 of the Brazilian Federal Constitution[5].

4 There are controversies as to the actual size of the biome. This is why we elected the figures corresponding to the biome map defined by the IBGE, emphasizing that it is an approximation.

5 Freely translated, following is the provision of the Brazilian Federal Constitution, art. 225, paragraph 4: "The Brazilian Amazon Forest, the Atlantic Forest, the *Serra do Mar*, the Pantanal Mato-Grossense, and the Coastal Zone are national heritage, and, according to the law, their use are dependent upon conditions that ensure the preservation of the environment, including the use of natural resources".

It is worth noting that most of these threats arise from the surrounding plateau where the catchment areas are located, external to the wetland, including damming of tributary streams of the Upper Paraguay Basin, erosion, silting, pesticide use, deforestation, among others.

An estimated 60% deforestation at the upstream headwaters areas, causing soil erosion and affecting water quality in the region (WETLANDS, 2015; SILVA; CARLINI, 2014). Deposits of sediments from the plateaus resulting from inadequate uses and management silts up the drainage network channels that converge to the plains (MATO GROSSO DO SUL, 2015).

It is worth noticing the emblematic silting up of the Taquari River, which changed the flood pulse in this region of the Pantanal, and affected an area of about 11,000 km². Similar processes tend to occur along other rivers, whose headwaters are being used for agriculture and cattle farming (CUNHA; JUNK, 2019).

On the Pantanal plain, in both states, deforestation has also advanced in recent years. According to Silva *et al.* (2011), by 2008 the Upper Paraguay River Basin (UPB) in the state of Mato Grosso lost, in absolute terms, 42.12 % of its original vegetation cover, while the UPB, in the state of Mato Grosso do Sul, lost 39.98 % of its territory.

This conversion came along with a considerable increase in burnings and fires, worsened by climate change and prolonged droughts. From 2018 to 2020, the following panorama of heat spots was identified in the Brazilian portion of the Pantanal: 1,541 heat spots in 2018; 9,815 in 2019, and 20,977 in 2020. The contribution of both states to the occurrence of heat points throughout the 3-year period changed. In 2018, Mato Grosso do Sul gathered 64,8% of the heat points; these figures, however, fell to 41.1% in 2020. The state of Mato Grosso jumped from 35.2% in 2018 to 58.9% in 2020 (EMBRAPA, 2021).

The biome's main economic activity is beef cattle farming, traditionally practiced extensively because of the richness of native pastures. This favored the establishment of beef cattle ranches since colonial times (SANTOS, 2020). However, the conversion of native vegetation into pastures changes the natural features of the region, and may influence climatic conditions and the ecological balance (PERES *et al.,* 2016). In addition to cattle farming, fishing, tourism, and mining activities are developed. The latter is responsible for releasing pollutants into the water bodies of the region. The risks arising from the development of the Paraguay-Paraná Waterway

projects also stand out, including the construction of ports, works on channels, and the regularization of flows with impacts that are difficult to quantify (IRIGARAY, 2015).

The fast-paced expansion of hydroelectric power generation became one of the main economic pressures in the Pantanal region. It is considered to be the most harmful strategy to biodiversity conservation in Brazil (GANEM *et al.,* 2014). In the UPB, there are five Hydroelectric Power Plants (HPP), 15 Small Hydroelectric Power Plants (SHPs) installed, and 30 in the implementation phase (ANEEL, 2018), besides 116 enterprises in the process of analysis in Mato Grosso, which accounts for 70 % of the BAP/Pantanal System waters. The Cuiabá River, with about 40 % of the system's water, is the main tributary that makes up the Pantanal (CUNHA, 2020).

The great challenge is to set parameters so that such a fragile set of ecosystems, typical to wetlands, may be economically exploited in a smart way, effectively enforcing the constitutional rule that provides for the need for a law in which rules are defined on the appropriate use of national heritage areas.

It is worth noting that the Federal Constitution (BRASIL, 1988), in its article 24, VI, VII and VIII, assigns concurrent legislative competence to the Federal Government and the states. It tasks the Union with the establishment of general rules, i.e., "levels" of environmental protection, leaving to the states and the Federal District the competence to supplement them.

This way, the Federal Government should establish "minimum levels" of environmental protection to be respected by the states and municipalities. The states cannot legislate in a way that offers less protection to the environment than the Federal Government. This organization is important because both are closer and more attentive to regional and local peculiarities (FIORILLO, 2013), and all these entities have the power and duty to execute the commands provided in the constitutional and infra-constitutional rules (BRASIL, 1988).

In order to outline aspects of this shared competence, avoiding overlaps in the performance of the federated entities, the Complementary Law # 140 of December 8, 2011 was edited. It sets the standards for cooperation between the Federal Government, the states, the Federal District, and the municipalities regarding administrative actions ensuing from the exercise of the shared competence for environmental protection.

It is worth noting that the rules issued by both the Federal Government and the states and municipalities should be aligned to the constitutional principles established in the chapter on environment, art. 225 of the CF/1988 (BRASIL, 1988). On its heading, the chapter recognizes as fundamental the right of all to a healthy and balanced environment, imposing on public authorities and the community the duty to advocate for and preserve it in intra and intergenerational solidarity.

The Environmental Constitutional Law sets a true clause on the "prevalence of public-environmental interest", which demands the implementation of pro-environmental stances, and compliance to the existing rules of law (MAZUOLLI; LIMA, 2016). It also presents the right to environment in four dimensions: as a fundamental right of the human person; an asset of common use of the people; an essential value to the healthy life quality, and an asset that should be preserved for the current and future generations (SIRVINSKAS, 2013).

Hence, the principle of sustainability that should drive anticipatory postures by the Public Power and, in this sense, has been considered an ecological approach to human rights in order to acknowledge the interdependence of rights and duties, as Bosselmann (2008, p. 38) points out:

> Human beings need to use natural resources, but they are also completely dependent on the natural environment. This makes self-restrictions essential, not only in practical terms, but also in normative terms. Subjective legal stances with regard to natural resources and a healthy environment, conveniently expressed as rights, cannot be understood in purely anthropocentric terms. Human rights, like all legal instruments, should respect ecological limits. These limits may be expressed in ethical and legal terms, insofar as they define the content and limits of human rights.

Among the duties imposed on public authorities, the most noteworthy, for its direct correlation with the protection of the Pantanal as a wetland, is the public authority's duty to preserve and restore the essential ecological processes, and to provide for the ecological management of species and ecosystems, forbidding practices that place them at risk or cause their extinction (CF, art. 225 paragraph 1, I). Equally relevant is the liability principle when it determines that conducts and activities that are harmful to the environment shall subject violators to criminal and administrative sanctions, regardless of the obligation to repair the damage caused (FC, art. 225 paragraph 3).

As emphasized, although the Constitution has determined the need for specific law to guide the use of areas recognized as national heritage in a

safe and sustainable way, Brazil still misses a law devoted to the protection of the Pantanal, following the example of the Atlantic Forest biome[6].

As regards other biomes, there are few laws that "lend" applicable commands, such as: the law that establishes the National System of Conservation Units – SNUC – Law # 9.985/2000 (BRASIL, 2000), the Environmental Crimes Law – Law # 9. 605/1998 (BRASIL, 1998), the Law that established the National Water Resources Policy – Law # 9.433/1997 (BRASIL, 1997) and the Forest Code – Law # 12.651/2012 (BRASIL, 2012), among others. For Pantanal, the latter is worth of notice, as it defines the area as an area of restricted use.

2 THE BIOME AS AN AREA OF RESTRICTED USE

As a general federal rule, the Forest Code is the main legal diploma devoted to protecting the flora, having as purpose the sustainable development (art. 1, sole paragraph) and, as principles, among others, the biodiversity relevance, the strategic function of rural production, the protection of native vegetation, and the importance of economic instruments.

To this end, it maintained the protection of riparian forests as permanent preservation areas, also protecting the Legal Reserve areas, and creating a new category of protected territorial spaces as the Restricted Use Area that comprises the Pantanal plains as wetlands.

In this sense, the Forest Code, despite the setbacks found in the current norm, remains as one of the main legal references for the protection of the Pantanal and other wetlands. In its article 3, XXV, the Forest Code defines wetlands as being "flood areas and terrestrial surfaces periodically flooded by water, originally covered by forests or other forms of vegetation adapted to flooding". Such definition covers any flooded land, regardless of its size, number of species, diversity or habitat, protecting them by law, forbidding draining them (MALTCHIK *et al.,* 2017).

Among the aforementioned setbacks, certainly the one with the greatest impact in an ecological point of view was the change in the way Permanent Preservation Areas (PPAs) are considered. These were previously (Law No. 4.771/65) defined "from the highest level of watercourses" and, in the new Forest Code, these adjoining PPAs are considered "from the edge of the regular bed channel" (art. 4, I), which implied considerable reduction of the protection to riparian forests.

6 Its native vegetation is protected by Law # 11.428/2006, ruled by the Federal Decree # 6.660/2008.

According to the revoked code, virtually all the floodplain at the Upper Paraguay Basin could be considered to be a PPA since, during the flood season, most of this region is submerged, which is the defining criterion for the protection of these areas. Although this was not the predominant legal understanding about the applicability of this provision to the Pantanal, the legal text then in effect allowed for advancing the interpreters' understanding, which could have decisive legal consequences for the Pantanal conservation.

However, by defining that PPAs start from the edge of the watercourses regular bed, the federal legislator established a legal-environmental scenario that is extremely harmful to the Pantanal. Incidentally, for the purposes of this law, a regular bed is understood as "the channel through which the watercourse regularly flows during the year"[7]. This proved to be insufficient to protect a biome characterized by a cyclical dynamic of its hydrological regime (flood pulse), leaving unprotected the seasonally flooded plain which, as a wetland, plays a relevant environmental role in the maintenance of the regional ecological balance.

In any case, it is worth noting that the Highest Court of Justice, in a recent decision, recognized the relevance of wetlands as ecologically strategic and as "water sponges" and storers of organic matter, absorbing water and maintaining their water reserve in dry seasons. In this sense, the Court recognized that, whatever the class into which they fall (marsh, swamp, floodplain, wetland, ponds, swamplands, floodplain), these wetlands should be considered to be permanent preservation areas, specially protected by both international and national regulations, and their destruction is prohibited. The decision emphasized that, due to these specificities, the public administration and the judge should employ the principle '*in dubio pro natura*', that is, if in doubt, the public authority should opt for the hermeneutic that assures 'the conservation of these wetlands' (BRASIL, 2020).

It is worth noting that, although the relevance of wetlands is also internationally recognized in the Ramsar Convention of which Brazil is a signatory, their conservation runs into resistance and interests of those who intend to exploit them in an unsustainable way, including by making use of extensive drainage areas aimed to disfigure floodplains and lanes, so as to allow their intensive and predatory use.

In spite of the setback pointed out as a means to 'compensate' for

7 According to art. 3, XIX, of Law 12.651/2012.

the failure to protect floodplains, a new legal category, the Restricted Use Areas (AUR), was created by Law # 12,651/2012. The law also instituted the Brazilian Forest Code, as follows:

> Art. 10. Ecologically sustainable exploitation is allowed on the wetlands and Pantanal plains. The technical recommendations of official research agencies are to be considered, with new suppression of native vegetation for alternative land use conditioned to authorization by the state environmental agency, based on the recommendations mentioned in this article (BRASIL, 2012, p. 10).

Unfortunately, that rule is merely rhetorical, and does not lend itself to ensuring effective protection for wetlands, either because it does not have the necessary scope, due to the very nature of the recommendations, or because there is no systematization of research that could support the actions of state environmental agencies. In addition, the "official research agencies" competent to indicate such recommendations, as well as the procedure for this presentation, remain unidentified.

It should be noted that the Forest Code also innovated in the creation of the Rural Environmental Registry (CAR)[8], a nationwide electronic public registry, mandatory for all rural properties, aimed at integrating environmental information from rural properties and possessions. In this sense, both for the registration of rural property in the CAR and to support the requirement for suppression of native vegetation for alternative land use, the property location, Permanent Preservation Areas, Legal Reserve, and areas of restricted use must be informed through means of geographic coordinates (BRASIL, 2012).

However, threats persist to these areas of restricted use, even if delimited as such in the CAR. This evidences the need for a federal law providing for restrictions on unsustainable use, with no damage to state norms that may be added to the general norm that protects the Pantanal as a national heritage.

Considering that in the Brazilian territory it is shared by the states of Mato Grosso and Mato Grosso do Sul, in the next item we will examine some norms issued for this purpose. We will also draw a comparison between the state rules in order to analyze their sufficiency for facing the sustainability challenges of this biome.

8 Art. 29. The Rural Environmental Registry – CAR is created within the National Information System on the Environment – SINIMA, a national electronic public registry, mandatory for all rural properties. The CAR aims at integrating environmental information from rural properties and possessions, making up a database for the control, monitoring, environmental and economic planning, and fight against deforestation.

3 STATE OF MATO GROSSO: PANTANAL AS A PRIORITY HUB OF ENVIRONMENTAL PROTECTION

The State Constitution of Mato Grosso – MT, in its Art. 273 (MATO GROSSO, 2011), defines the Pantanal as a "priority hub of environmental protection", and provides for the creation and maintenance of joint action mechanisms aimed at preserving the biome.

In 1995, the State Environmental Code was established by Complementary Law # 38/1995 (MATO GROSSO, 1995). In its Art. 3, XII, it assigned to the State Council of Environment (*Conselho Estadual do Meio Ambiente*, CONSEMA) the duty of carrying out prior consultation with the similar authorities in the state of Mato Grosso do Sul on matters implying joint action on the Pantanal. It also provides that, for the Pantanal floodplain, no type of deforestation shall be allowed, except for those done for subsistence agriculture, and clearing of native and artificial pastures (art. 62, paragraph 3).

This rule was reinforced with the edition of State Decree # 8.188/2006 (MATO GROSSO, 2006) which ruled Forest Management in Mato Grosso by prohibiting the removal of native vegetation in the Pantanal floodplain, except when authorized by the environmental authority for subsistence agriculture and clearing of native and artificial pastures (art. 77).

An important step was taken in 2008 with the edition of Law # 8. 830/2008 (MATO GROSSO, 2008), which created the State Policy for Management and Protection of the Upper Paraguay River Basin (*Política Estadual de Gestão e Proteção à Bacia do Alto Paraguai*), defined as a geographic unit composed of the surface drainage system that concentrates its waters in the Paraguay River, according to the geographic boundaries established in the studies performed by the Upper Paraguay Conservation Program (*Programa de Conservação do Alto Paraguai*, PCBAP,1997) contemplated by the Socioeconomic-Ecological Zoning in the state of Mato Grosso, being considered delimiters of specific actions in the Floodplain of the Upper Paraguay Basin – (UPB) (art. 1, paragraphs 1 and 2).

Here lies a first question about the effectiveness of the rule, since a large part of the problems that directly affect the Pantanal originate in the surrounding plateau, where the tributary rivers that form this basin are born after crossing agricultural areas, also allowing the construction of dams that threaten the biome.

In this sense, Irigaray and Souza's (2008, p. 16) questionings about the limits of the state law are pertinent:

> With regard to the actual management of the 'surrounding areas' of the floodable area, no progress can be pointed out. This is regrettable, since the vast majority of the problems affecting the Pantanal occurs in its surroundings, where extensive grain crops are installed on fragile soil, where large amounts of fertilizers and pesticides are deposited, and end up being carried along with the sand banks that are gradually filling up the wetlands basin. […] The state law suppresses a relevant omission, and open perspectives for an integrated and broad management of the Pantanal. However, this biome – a veritable ecological sanctuary – cries out for the lack of specific federal legislation that may give greater effectiveness and applicability to the constitutional recognition of the Mato Grosso Pantanal as a 'national heritage'.

Besides the principles and guidelines defined in the aforementioned law, which little contribute to the sustainable management of the northern portion of the mentioned biome, a relevant aspect foreseen in this law refers to the definition of Permanent Conservation Areas. These areas encompass some macrohabitats, especially sensitive objects of special protection, including floodable fields, *corixos*, river meanders, bays and marginal lagoons, ranges, natural marginal dikes, and bush and *murunduns* hummocks (art. 8). The access to and use of these ecosystems are allowed for extensive cattle-raising, with interventions that impair the water flow being prohibited.

The state law also contains some prohibitions, which include the licensing of farms for fauna species that are not native to the water basin; implementation of agricultural projects, except for subsistence farming and extensive cattle farming; construction of dikes, dams, or works to change water courses, except for dams, fishponds for fish farming and extensive cattle farming, established outside the drainage lines, as well as for environmental recovery; implementation of rural settlements; and installation and operation of medium and high polluting and/or environmentally degrading activities on the floodplain, such as the planting of sugarcane, implementation of alcohol and sugar mills, charcoal works, slaughterhouses, and other medium and high polluting and/or environmentally degrading activities (art. 9).

Two provisions of this law were further revoked by Law # 10.264, date January 30, 2015. The revocation, however, was suspended through a direct claim on grounds of unconstitutionality (*Ação Direta de Inconstitucionalidade*) brought by the Public Prosecutor's Office[9] and, therefore,

9 TJ-MT – Ação Direta de Inconstitucionalidade. Case files: 1006725-15.2017.8.11.0000.

the law remains in force. The revoked provisions deal with the requirement for prior inspection for granting license to enterprises or activities located at the floodplain of the UPB, and on the 10-kilometer marginal strip (art. 10). They also restrict the installation of fish farming and the raising of wild animals, provided the species are of natural occurrence in the Upper Paraguay Basin (art. 12).

In 2017, the state issued the Decree # 1.031/2017, which established the Mato Grosso System for Rural Environmental Registration (*Sistema Mato-Grossense de Cadastro Ambiental Rural*, SIMCAR) (MATO GROSSO, 2017). In arts. 35 and 36, an analysis of the AUR was presented, considering as such "the areas that present slopes from 25º to 45º, the swamplands and swampland plains", and included in its paragraph 4, into the AUR, the figure of the 'permanent conservation areas' (art. 8, UPB Law). The AURs must be identified by the responsible person when registering in the CAR (art. 36), and may coincide with Permanent Preservation Areas, Legal Reserves, consolidated areas, and remnants of native vegetation.

Finally, it should be noted that this state does not have its ecological-economic zoning, an essential political-legal instrument to define the conditions for use and exploitation of its territory and, in particular, the Pantanal biome.

4 STATE OF MATO GROSSO DO SUL: PANTANAL AS A SPECIAL AREA OF ENVIRONMENTAL PROTECTION

The Constitution of Mato Grosso do Sul was enacted on October 5, 1989 (MATO GROSSO DO SUL, 1989). In its art. 224, it defines the Pantanal biome as a 'special area of environmental protection' to be used in the form of the law, foreseeing the establishment and maintenance of mechanisms of actions jointly developed with the State of Mato Grosso, aiming at preserving the Pantanal and its natural resources. Prior to that, still in 1982, Law 328/82 was issued prohibiting the installation of alcohol distilleries and sugar mills in the Pantanal area in Mato Grosso do Sul (MATO GROSSO DO SUL, 1982).

Law # 3.839/2009 defined the Ecological-Economic Zoning of the State of Mato Grosso do Sul, updated in 2015. The EEZ does not recommend, in the Pantanal biome, the installation of enterprises and activities that alter the land frame and the water regime of rivers; the installation of industrial enterprises and activities that potentially cause significant environmental

impacts, and the implementation of forestry with exotic species (MATO GROSSO DO SUL, 2009).

Decree No. 14.273/2015 ruled art. 10 of the Forest Code and, to this end, used the technical recommendations presented by the Brazilian Agricultural Research Corporation – Pantanal (*Empresa Brasileira de Pesquisa Agropecuária*, Embrapa Pantanal), and studies conducted by the Center for Advanced Studies in Applied Economics (*Centro de Estudos Avançados em Economia Aplicada*, Cepea) of the Luiz de Queiroz School of Agriculture of the Universidade de São Paulo (*Centro de Estudos Avançados em Economia Aplicada*, Esalq-USP). The decree delimits the restricted-use area (*Área de Uso Restrito*, AUR) of Pantanal, respecting the area of the Pantanal plain demarcated in the EZZ/MS, and considering that its use cannot damage the environmental functions of the biome. In this sense, the following restrictions are worth of notice (MATO GROSSO DO SUL, 2015):

> In native pastures at the Permanent Preservation Area, the extensive presence of cattle characterized as low impact is allowed. Agro-silvopastoral, ecotourism, and rural tourism activities may continue as long as they do not pose risk to people's lives or integrity (arts. 4, paragraphs 1 and 6, single paragraph).
> In relation to the percentage of the Legal Reserve Area (20%), it is established that it should preferably comprise areas of native arboreal vegetation to the detriment of native field areas. In these areas, extensive cattle grazing is allowed (art. 9, paragraphs 1 and 2).
> The suppression of native vegetation may be done upon prior environmental licensing (articles 12 and 13), and the areas of *cerrado* formation with high density of trees and native field at minimum percentages of 50% and 40% should be protected.

Rural properties geographically included, wholly or partially, in the AUR of the Pantanal floodplain, but which are not affected by the flood pulse and/or present landscape units different from those that characterize the Pantanal biome, are excluded from the prohibitions and restrictions set forth in this decree (art. 7).

Law # 5.235/2018 provides for the State Policy on Preservation of Environmental Services, establishes the State Program of Compensation for Environmental Services (*Programa Estadual de Pagamento por Serviços Ambientais*, PESA) and establishes a Management System for this program. Article 6 of that law presents, as one of its objectives, the reduction of deforestation of the *Cerrado*, Atlantic Forest, and Pantanal biomes in their several physiognomies, and the other forest formations in the state of

Mato Grosso do Sul. This provision is intended to minimize the emission of greenhouse gases, and to maintain the forest carbon stock.

5 LIMITS OF THE LEGAL REGIMES ON THE PANTANAL BIOME PROTECTION

As aforementioned, the Pantanal biome, constitutionally defined as a national heritage (art. 225, paragraph 4 of FC/1988) comprises areas of restricted use (art. 10 of the Forest Code) and, according to the State Constitution of Mato Grosso do Sul, is considered a priority area for environmental protection, and a special environmental protection area.

Although the above-mentioned denominations do not result in totally different regimes, it is certain that there are differences in the way both states rule the Pantanal management. Such distinctions do not contribute to an efficient hermeneutic process, and may confuse the operators of the Law, and other law enforcers. Thus, despite the institutional recognition of the relevance of this biome, the Pantanal effectively faces threats that put at risk its characterization as one of the largest and richest continuous wetlands in the world.

If, on the one hand, there is an excess of designations for this biome, on the other there is an absence of important regulations that effectively define the restrictions of use necessary for conservation, above all, of the Pantanal floodplain. The approval of a federal law that aims to define the regime of use and conservation of this national heritage is awaited in order to fill an important gap, and meet a constitutional provision that dates back three decades. Several bills have passed through the National Congress for this purpose, without having the legislative process completed. Currently, the Bill # 9.950/2018 authored by Congressman Alessandro Molon is underway, and provides for the conservation and sustainable use of the Pantanal Biome. Voting date is yet to be scheduled.

It is worth pointing out that the effective protection of the Pantanal will not be achieved by means of a merely programmatic and principled norm. The expected federal law should conceptualize and delimit the biome, recognizing it as a physical-territorial unit to be protected in its entirety, covering the interdependent relationship between plateau and plain, considering economic, ecological, and social aspects, as well as anticipating regulations capable of coping with future scenarios of growing demand for drinking water, population growth, and potential impacts of global climate change (INAU, 2018).

In this sense, it is important to stress that, although state constitutions of the states that share the biome refer to the implementation of 'joint action mechanisms,' the states of Mato Grosso and Mato Grosso do Sul still produce their rules in a unilateral way, losing sight of the unity of the Pantanal biome, and the complementary and vital relationship between plateau and plain. The Forest Code, by relocating the attribution of standardizing and regulating the grounds for its sustainable exploitation to the respective states, contributed even more to this scenario of regulatory divergences.

As a frequently cited example of the distance between the states in terms of legal harmonization, one could mention the regulation of the closed season for the *Piracema*, aimed at protecting the migratory phenomena associated to the reproductive period of freshwater fish. In the state of Mato Grosso, the closed season is established from October 1 to January 31 in the rivers of the Paraguay River Basin (CEPESCA Resolution # 04/2018). In the state of Mato Grosso do Sul, the closed season is from November 5 to February 28, in the same basin (Res. SEMAC # 002/2013).

In 2017, this lack of adjustment was one of the reasons that provoked the meeting of the governors of both states, who signed a term of commitment entitled 'Caiman Charter' aimed at setting consensual policies for the Pantanal, considering the environmental and cultural aspects that unite the two states. After the division of the state, in 1977, it was the first time that the governors met to discuss the Pantanal; however, this document had little practical result.

CONCLUSION

The lack of a federal regulatory framework to rule the use and protection of the Pantanal of Mato Grosso in the national territory is, in itself, an important gap in the Brazilian legal system. However, just as relevant as the existence of a regulatory framework is the existence of the political will to assure the conservation of the Pantanal, and its wise use.

State regimes for regulating the use are sometimes fragmented and dissonant. There is a history of disagreement between the governments of Mato Grosso and Mato Grosso do Sul, worsened by the pressure of economic interests that intend to promote an exploitation incompatible with the nature of this fragile biome, thus putting it at risk for present and future generations. This fact is acknowledged in the Caiman Charter.

These states should, in turn, apply their constitutional precepts, in an

attempt to establish joint actions and mechanisms required for a more effective environmental governance in this biome. It is suggested that a Special Secretariat for Pantanal Management be created in both states, consolidating bilateral actions and mechanisms, and defining common policies for the use of the Pantanal biome, substantiating the regional cooperation in its management and conservation. Likewise, it becomes imperative to rule art. 10 of the Forest Code, in order to make feasible technical recommendations from official research authorities, as technical support for the wise use of the Pantanal.

Likewise, although the use of command and control mechanisms as a means of containing predatory exploitation in the Pantanal and its surroundings is recognized as indispensable, biome management should also comprise the implementation of economic instruments capable of substantiating the promotional function of Law, highlighting the Compensation for Environmental Services, provided for in art. 41 of the Forest Code, as a means of retribution, monetary or otherwise, for activities of conservation and improvement of ecosystems, and that generate environmental services.

It should be emphasized that, whatever are the management mechanisms for public policy formulation and decision making, public and political entities should, whenever possible, engage the local community, implementing the principles of information and participation. This will directly reflect on the aspects of legal security and effectiveness of public policies adopted, valuing the knowledge accumulated by the Pantanal residents who, for more than two centuries, have contributed to the conservation of this fragile biome.

Finally, it should be emphasized that Brazilian Environmental Law, long recognized as one of the most modern in the world, has been affected by political options that undermine the value of sustainable development. Theoretically, the 'green revolution' is defended, supported by technological and scientific advances; in practice, however, it is contradictory and harmful. An example of this contradiction is the significant 92% reduction imposed on resources for scientific research and innovation in the 2022 budget. Meanwhile, almost one third of the Pantanal has been consumed by fires, the Amazon suffers from an exponential increase in deforestation, and an escalation in the practice of environmental crimes accompanied by a dismantling of governmental structures for environmental defense through euphemisms such as 'small-scale artisanal mining' to 'regularize' illegal mining activities.

In view of that, it is hoped that society and political entities come to redefine their contribution pact for the protection, conservation and sustainability of the Pantanal biome, definitively raising it to the level of importance that it has with the global community, considering the essentiality of the environmental resources existing in there, and that depend on its preservation to continue existing.

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