

ENVIRONMENTAL CONSERVATION UNITS IN THE STATE OF CEARÁ: IMPLEMENTATION AND SUSTAINABILITY

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ABSTRACT

This article analyzes the Conservation Units (CUs) created in the State of Ceará, considering their effectiveness for environmental preservation vis-a-vis the implementation of development strategies. A historical contextualization of the path of economic development is provided, relating it to natural resources and the need for their preservation. Next, the normative obligations regarding the creation of CUs are explained. Finally, the actions of the State of Ceará aimed at meeting the current norms guiding the implementation of Management Boards and Management Plans are evaluated. Methodologically, bibliographic and documentary research was adopted, which was supplemented with the direct-observation technique. We concluded that the Court of Accounts of the State of Ceará, regulated for the inspection of engineering and environmental works, should act in order to monitor CUs compliance with the Law of the National System for the Conservation of Nature (SNUC), aiming to guarantee environmental sustainability and conservation.

Keywords: Development; Environmental Law; sustainability; Conservation Units.

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UNIDADES DE CONSERVAÇÃO AMBIENTAL NO ESTADO DO CEARÁ: IMPLANTAÇÃO E SUSTENTABILIDADE

RESUMO

Este artigo analisa as Unidades de Conservação (UCs) criadas no Estado do Ceará, considerando sua efetividade para a preservação ambiental vis-à-vis a implantação de estratégias de desenvolvimento. Faz-se uma contextualização histórica da trajetória do desenvolvimento econômico relacionando-o aos recursos naturais e a necessidade de sua preservação. Em seguida, explicita-se as obrigações normativas referentes à criação das UCs. Por último, avaliam-se as ações do Estado do Ceará direcionadas ao atendimento das normas vigentes orientadoras da implantação dos Conselhos Gestores e dos Planos de Manejo. Metodologicamente, adotou-se pesquisa bibliográfica e documental, que foi complementada com a técnica de observação direta. Conclui-se que se faz necessária a atuação do Tribunal de Contas do Estado do Ceará, regulamentado para a fiscalização de obras de engenharia e meio ambiente, no sentido de acompanhar a adequação das UCs à Lei do Sistema Nacional de Conservação da Natureza (SNUC), visando garantir a sustentabilidade e conservação do meio ambiente.

Palavras-chave: desenvolvimento; Direito Ambiental; sustentabilidade; Unidades de Conservação.

INTRODUCTION

The American writer Rash (2018), who, among other novels, published *Serena* in 2011, in which he denounces forests devastation in the south of the Appalachian region by extensive cattle breeding, due to the growing demand of leather and food artifacts by production industries, comes back in his environmental activism in defense of nature reserves that never cease to be supplanted, some even migrating to the condition of desert areas. This time, the novelist draws attention to the political movements of legislators who work to open up federally protected federal lands to mining and oil prospecting. The Trump administration is promoting a relaxation of protection rules, having already signed a decree modifying the limits of the Grand Staircase reserve, where 300,000 hectares can now be explored. Despite protests by ecologists, archaeologists and environmentalists, Rash (2018) announces that the presidential decision has already been approved.

The tension derived from the clash of interests of business groups and environmentalists has not yet been solved and does not show any signs that it will be overcome. On the contrary, since the establishment of industrial production in the early 20th century, the clash has been increasingly fierce and present in all continents, after the acceleration of the globalization process in the 1980s. Although the signs are already absolutely clear that the environmental crisis is turning against the very sustainability of the modern industrial production model and, therefore, of the social organization inaugurated with the modernity project, we witness an advance of economic interests over natural resources on a world scale (BECK; GIDDENS; LASH, 1997).

In line with the international social movements that raised the right to the environment to the condition of human rights, as noted by Bobbio (1992), belonging to the third generation, the 1988 Brazilian Constitution, following a trend observed in other national Constitutions, welcomed the environmental law as unavailable, thus intending to guarantee its enjoyment in a sustainable and extensive manner to future generations. In this sense, the creation of permanent and specific areas of environmental protection was the instrument most frequently adopted, aiming at environmental preservation and ecological balance. In fact, the Brazilian legal system established Conservation Units (CUs) by Federal Law no. 9,985, of July 18, 2000, which are intended for the preservation of natural ecosystems considered to be of broad ecological relevance.

Finally, the Brazilian legal system defined the environment as a kind of asset of common use, that is, of free access to the community, which is why public administration, through compatible control bodies, must act in the inspection of the implementation of effective mechanisms for environmental defense, and, when necessary, apply the sanctions allowed for cases of misuse of environmental resources.

The National System for the Conservation of Nature (SNUC) was institutionalized in the wake of CUs, with the objective of conserving, in an effective and efficient way, nature within the Brazilian territory. The creation of the SNUC gave support and feasibility to the management of CUs at the levels of the federal, state, district and municipal government, since it allows an overview of the natural areas subject to preservation. In addition, it establishes mechanisms that regulate society's participation in the management of CUs, enhancing the relationship between the State and citizens in the proper treatment of the environment.³

More specifically, in the State of Ceará, the institution of 26 CUs was regulated. The standardization of these CUs, including those defined as of sustainable use and those of integral protection, is not a full guarantee that natural resources, in general, and biodiversity, in particular, are not at risk of imbalance or even extinction. This is because the creation of CUs, although a relevant initiative, is a state action that needs to be permanently monitored.

In this sense, it is necessary the recurrence of studies and research about the implantation and operationalization of State actions directed to environmental protection, because of the growing intensification of the tension between business interests and environmental activists in all the continents, as shown by the cases mentioned here, which are taking place in North America, making this a topic of utmost importance. In Brazil, given its global importance for the environment, it could not be different, especially when the discourse that defends the flexibilization of environmental protection rules is strengthened, to the point that Bolsonaro's government even contemplated extinguishing the Ministry of the Environment altogether.

In this perspective, this article aims primarily to make an evaluative critique of the CUs in the State of Ceará, reflecting both on their effective creation and on their functioning in line with current regulations. In order

³ For more details, see the Ministry of the Environment's website, Available at: <http://www.mma.gov.br/areas-protegidas/unidades-de-conservacao.html>

to meet the defined objective, we adopted, in this article, a methodological approach based on bibliographic research, documentary research and direct observation, which was carried out in a sampling manner, taking the following CUs as the focus of analysis: EPA of Pacoti River and EPA of the Mundaú River Estuary.

1 ECONOMIC DEVELOPMENT AND NATURAL RESOURCES: BRIEF CONSIDERATIONS

Arrighi (1997), when studying the path of the development of industrial capitalism, based on the theory of long waves, describes the movement of economic progress and retraction characteristic of the capitalist mode of production and highlights the reflexes of the economic revolutions that followed in the period which comprises the late 18th century to the mid-20th century. Such revolutions formulated socioeconomic phenomena that were transforming the way of life and bringing implications that affected the human being in all relational spheres, such as in the family, work and religious environment. This brought about changes in people's interactions with one another and with the elements of nature, since mediations of all kinds were changing, disappearing and emerging.

The Industrial Revolution, which has its historical landmark at the late 18th century, inaugurated the elaboration of goods hegemonically produced in the large industry, which caused the emergence of productive chains, as a result of entrepreneurs seeking to reduce costs of scale by clustering nearby suppliers and customers. This fact enshrined an integrated system of input-output-consumers, in such a way that it was the improvements introduced there that created the conditions for the revolutions that followed in industrial modernity. This revolution started a spectacular transformation in the terrestrial landscape with the emergence of large cities, some of them megalopolises today. The tendency of agglomeration of producers attracted huge population contingents, promoting changes both in the composition of population distribution and in the political hierarchy, since the power of decision accompanied the migration of economic power and moved from the countryside to the city (SINGER, 1981).

The progress and wealth generated by the advent of large industry have found their limits in weakening local factors. In order to escape the trend of reduced profits due to the increased competition from producers in the exploitation of available factors, some seek to modify the composition

of their web of relationships. In this sense, the advent of technologies that brought about the emergence of rail and nautical steam transport, which made it possible to distribute products to distant markets, removed the economy from stagnation and put it on a new wave of progress. Indeed, access to new consumer markets was achieved with access to new sources of raw materials. Simultaneously, we have production and wealth resumed, as well as the distribution, on a much broader scale, of the effects of industrialization, especially with regard to the use of natural resources in hitherto native areas.

The Transport Revolution, which occurred from 1870 to 1875, was later followed by the Organizational Revolution, which began between 1914 and 1920, according to Arrighi (1997). The innovations, now, were concentrated within production, there was a combination of change in the energy adopted in the production, which in the past combined the use of animal traction with human force, was later replaced by the steam machine linked to human force, and, therefore, supplanted by electrical energy, which started to move machines controlled by men. The expansion of the energy force in production was associated with the rationalization of work, through the specialization process, which divided tasks into several stages, causing a routine and exponential simplification of work. This rationalization brought about by Taylor's ideas (1963) was added by innovations introduced by Henri Ford, according to Moraes Neto (1991), in the production system, which gave support to the Taylorist-Fordist model. An organizational formula was created that made possible the mass production of both existing and new goods, which were made commercially possible due to the adoption of the use of electric energy also in households.

These factors led industrial production to a significant increase in productivity, which caused a substantial increase in wealth. However, the living conditions of the working class remained unchanged, with low wages and long working hours predominating. To Henri Ford's thought that it was necessary to increase wages and reduce the working day to eight hours, as a strategy to generate an aggregate demand capable of facing mass industrial production, the theoretical proposition of Keynes was added (1970). The economist developed a political economic theory in the 1930s, in which he emphasized the presence of the State as a formulator of state actions capable of generating balance in the production-labor-consumption equation, thus reducing the negative impacts of falling profits, decreased wage income and increased unemployment.

According to Lipietz (1991), Keynesian Fordism contains the structuring elements of the welfare state, which, in a tripartite manner, that is, through consensuses established by negotiations between business entities and labor unions, mediated by the State, generated a period of prosperity that spanned the 1950s until the mid-1970s. After the two major shocks of the oil crisis, in 1973 and 1975, which caused a substantial increase in the cost of barrels and a general increase in commodity prices, there was a period of stagflation, in which stagnant production, with a non-increasing or decreasing Gross Domestic Product (GDP), coexisted with high levels of inflation, a phenomenon that took shape throughout all industrialized nations.

This scenario led companies to seek new alternatives to saturated input-product-consumption networks, therefore, unable to maintain the continuity of capital accumulation. This movement resulted in the Information Revolution, which brought changes inside and outside production, particularly production robotization, the virtual communication system and the acceleration of means of transport, reducing distances and bringing markets close to inputs from producers, and the latter to consumer markets. With this latest revolution, multinational organizations are being overcome and transnational organizations are being consolidated. In Furtado's opinion (1999), this weakens the political capacity of national states, whose political power is increasingly appropriated by transnational capital representatives, strong influencers in public policy making, including state actions aimed at the preservation and management of nature.

Although Brazilian industrialization goes back to the 1930s, the landmark of Brazilian economic growth took place in the 1950s, when, according to Pereira (1988, p. 32), Brazil became "a country in which the capitalist mode of production itself, that is, industrial capitalism, became dominant." In the wave of the Organizational Revolution, the country saw the advance of mechanical technology and the organization of mass production. After the consecration of this phase of industrialization, Brazil has been promoting the adoption of science and technology in production, under the imperious influence of the Information Revolution, which has led to an expansion of its competitiveness and to an increase in participation in global transactions. Finally, Brazil, currently, is immersed in the general production mode of globalization that, in Santos' understanding (2001, p. 71), causes "specific impact on local conditions produced by transnational practices and imperatives." The author asserts that the environmental

conditions of a given region are disintegrated to respond to the interests of transnational corporations.

It is in this context, one that involves globalization and its need to expand markets, that environment-protecting state intervention is necessary, since it is from the environment that resources are extracted to promote development. However, the State alone is not able to guarantee effective environmental protection, it is necessary to consider local communities' capacity to preserve their own sustainability and that of nature. Conservation Units were created under this guidance, in order to promote environmental conservation through the involvement of the State and the citizen.

2 NORMATIVE ASPECTS CONCERNING THE CREATION OF CONSERVATION UNITS

Conservation Units were instituted by Federal Law no. 9,985, of July 18, 2000. Its art. 2 defines CUs as territorial spaces “legally instituted by the Public Power, with conservation goals and defined limits, under a special administration regime, to which adequate guarantees of protection apply.” Broadly speaking, CUs can be described as areas created with the objective of maintaining biodiversity and ecological balance, as well as protecting places of great scenic beauty, such as mountains, dunes and waterfalls. In addition to allowing the survival of animal and plant diversity, these areas contribute to the provision of ecosystem services such as climate regulation, nutrient cycling, availability of water for human supply, thus ensuring quality of life for populations.

The CUs that are part of SNUC, under the terms of art. 7 of the aforementioned Law, are divided into two groups with different specificities: Comprehensive Protection Units⁴ and Sustainable Use Units⁵. The same normative in art. 8 divides the Integral Protection Units into five categories of conservation units: Ecological Station, Biological Reserve, National Park, Natural Monument and Wildlife Refuge. Art. 14 discriminates the Units of Sustainable Use in the following groups: Environmental Protection Area, Area of Relevant Ecological Interest, National Forest, Extractive Reserve, Fauna Reserve, Sustainable Development Reserve and Private Reserve of Natural Heritage.

4 Comprehensive Protection Units aim to preserve nature, with only the indirect use of their natural resources being allowed (art. 7, § 1, of the SNUC Law).

5 Sustainable Use Units have the objective of making nature conservation compatible with the sustainable use of part of its natural resources (art. 7, § 2, of the SNUC Law).

The competent entities for the creation of CUs are defined in Complementary Law no. 140, of December 8, 2011, which are: the Union (art. 7, X), the States (art. 8, X) and the Municipalities (art. 9, X), each within the scope of its powers. Still in relation to the creation of CUs, it is important to highlight that there are three legal requirements required in art. 22⁶, of the SNUC Law, namely: (i) existence of previous technical studies; (ii) conducting a public consultation; and (iii) publication of a Government act establishing, among others, the size and limits of the preserved area.

Therefore, the creation requirements of CUs are interrelated and successive and must be carried out in a sequential manner. Marcon (2014, p. 189-190) adds that “[...] as each act has its importance and its consequence for the Unit, all are indispensable for it to actually be constituted, and thus be able to comply with its goals.” Jurisprudence of the Supreme Federal Court (STF) has a similar understanding when it asserts that “the process of creation and expansion of conservation units must be preceded by the regulation of the law, technical studies and public consultation” (MS 24.184/DF, Rapporteur Min. Ellen Gracie, Judgment: 13/08/2003, Full Court).

In this sense, Minister Celso de Melo, when making his decision in the process of expanding the Chapada dos Veadeiros National Park, expressed himself in the following terms: “The creation or expansion of a Conservation Unit must follow the script established in Law 9,985, of 2000, also known as the SNUC law, and regulated by Decree 4,340, of 2002” (MS 35.246/DF, Rapporteur Min. Celso de Melo, judgment: 12/04/2017, Full Court). It is concluded, then, that the initial steps for the creation of a Conservation Unit are preceded by technical studies, public consultation and, finally, issue and publication of a normative act of creation of the CU.

The State of Ceará created, through State Law no. 14,950, of June 27, 2011, the State System of Conservation Units (SEUC). This state action instituted the state register of Conservation Units, which made it possible to classify the CUs previously created in the SNUC categories, in addition to the ordering of criteria for the implementation of new CUs. On the other hand, in order to identify all Conservation Units created in Ceará until 2018, an inventory of the protected areas of the State was carried out based on three sources: (i) the National Register of Conservation Units available on the MMA website (BRASIL, 2018); (ii) information published on the internet by the State Environment Superintendence (SEMACE) (CEARÁ, 2018), the body responsible for the management of SNUC; (iii) information

6 Art. 22. The conservation units are created by an act of the Public Power.

published in the Official Gazette of the State of Ceará – DOE, from 1990 to 2018 (CEARÁ, 2018).

Based on the Parameterized Report of the Conservation Unit, Table I shows the CUs legally established in Ceará. In addition, from research carried out in the Official Gazette of the State of Ceará, the normative acts corresponding to the creation of each of the CUs were added, therefore, identifying the article that describes and delimits the polygonal of the protected area. It should be noted that the Ministry of the Environment (MMA), as established in art. 50 of the SNUC Law, maintains, with the collaboration of federal, state and municipal management bodies, the National Register of Conservation Units and makes available to all society a database with official SNUC information.

Table 1 Conservation Units in the State of Ceará⁷

Nome da Unidade de Conservação	Ato Legal de Criação	Data	Poligonal
Serra de Baturité Environmental Protection Area	Decree no. 20,956	9/18/1990	Art. 1
Ceará Botanical State Park	Decree no. 24,216	09/09/1996	Art 2
Pedra da Risca do Meio Marine State Park	Law no. 12,717	09/05/1997	Art 2
Serra da Aratânia Environmental Protection Area	Decree no. 24,959	06/05/1998	Art. 1
Pecém Environmental Protection Area	Decree no. 24,957	06/05/1998	Art. 1, II
Environmental Protection Area of Lagamar do Cauibe	Decree no. 24,957	06/05/1998	Art. 1, I
Environmental Protection Area of Bica do Ipu	Decree no. 25,354	1/26/1999	Art. 1
Environmental Protection Area of Lagoa do Uruaú	Decree no. 25,355	1/26/1999	Art. 1
Environmental Protection Area of the Ceará River Estuary	Decree no. 25,413	3/29/1999	Art. 1
Environmental Protection Area of the Mundaú River Estuary	Decree no. 25,414	3/29/1999	Art. 1
Environmental Protection Area of the Rio Curu Estuary	Decree no. 25,416	3/29/1999	Art. 1
Lagoinha Dunes Environmental Protection Area	Decree no. 25,417	3/29/1999	Art. 1
Paracuru Dunes Environmental Protection Area	Decree no. 25,418	3/29/1999	Art. 1
Pecém Ecological Station	Decree no. 25,777	2/15/2000	Art. 1
Pacoti River Environmental Protection Area	Decree no. 25,778	2/15/2000	Annex I
Environmental Protection Area of Lagoa da Jijoca	Decree no. 25,975	08/10/2000	Art. 1
Natural Monument Monoliths of Quixadá	Decree no. 26,805	10/25/2002	Art. 1
Natural Monument of the Cliffs of Beberibe	Decree no. 27,461	06/04/2004	Art. 1
Carnaúbas State Park	Decree no. 28,154	02/15/2006	Art. 1
Area of Relevant Ecological Interest of Sítio Curió	Decree no. 28,333	07/28/2006	Art. 1

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⁷ The data for preparation of the Table were extracted from the Ministry of the Environment website, Available at: <http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-gerar-relatorio-de-uc.html>. Access on: Oct. 25, 2018.

Continuação

Natural Monument Sítio Cana Brava	Decree no. 28,506	12/01/2006	Annex I
Natural Monument Sítio Riacho do Meio	Decree no. 28,506	12/01/2006	Annex II
Sítio Fundão State Park	Decree no. 29,307	06/05/2008	Art 2
Area of Relevant Ecological Interest for agues Emendadas dos Inhamuns	Decree no. 31,403	1/24/2014	Art. 1
Cocó State Park	Decree no. 32,248	06/07/2017	Art. 1
Wildlife Refuge Periquito cara-suja	Decree no. 32,791	8/17/2018	Art. 3

Source: Parameterized Report of the Conservation Unit/Official Gazette of the State of Ceará

Table 1 shows that a total of 26 Conservation Units (CUs) were created, in order to meet the legal requirements designed and established in the SNUC Law. Considering that the establishment of any CU is obligatorily preceded by a normative act that guides technical study and public consultation, we find that in the State of Ceará, with regard to the legal perspective, as well as in the sense of spatial coverage, state actions to protect Ceará's environment are broadly in line with the expectations of national and international entities and groups that work in defense of environmental protection and ecological balance.

3 MANAGEMENT INSTRUMENTS OF CONSERVATION UNITS IN CEARÁ

CUs were strategically designed for protecting environmental areas effectively and meeting the requirements that are becoming a consensus generated from the expectations of environmental technicians and economic and academic groups, such as Santos (2008), who defends the need for a balanced political and economic guidance on the access and use of natural resources, maintaining the ecological functions of the planet. In this perspective, the creation of CUs alone does not make it possible to guarantee ecosystem protection; it is necessary to provide this equipment with management instruments that make their sustainability feasible. The legislator, aiming at a feasible solution, inserted in the ordering of creation of CUs the obligation of two management instruments: the Management Board and the Management Plan.

The mandatory creation of the Management Board is established in Law no. 9,985, of July 18, 2000, and its purpose is to manage the Conservation Unit. The composition and powers of Boards are regulated in Decree no. 4,340, of August 22, 2002, which also limits the term of office of directors in two years, renewable for an equal period. The guide of the Chico Mendes Institute for Biodiversity Conservation (ICMBIO) states

that the Federal Conservation Units Management Boards are forums for discussion, negotiation and management, and should conduct their actions in a perspective that addresses environmental, socioeconomic, cultural and political issues. Its constitution is obligatorily linked to CU management, thus establishing a collegiate administration aiming at greater interaction with society (ABIRACHED; TALBOT, 2014).

It can be seen there that the SNUC Law provided for the participation of society through the Management Boards, a fact that contributed to give transparency to the actions carried out within the limits of the protected area. Thus, it is not an overstatement that it is about a State action, within the normative scope, with viability and the possibility of achieving success in the conservation of biodiversity.

The Management Plan is also a management tool, as provided for in art. 27, § 3, of the SNUC Law, which determines a deadline of five years, counting from the creation of the Conservation Unit, for its preparation. Esteves and Souza (2014, p. 78), in a study on the importance of management and Management Plans in an Environmental Preservation Area, assert that “what differs them from unprotected areas is the establishment of the management plan and management of the area. Therefore, EPAs without management and without a management plan will hardly fulfill the function of a CU.” In short, the Management Plan is defined as an instrument of significant importance for CUs, since it produces a diagnosis of the area and, therefore, details actions to be taken, defining what can and cannot be done in that protected environment.

CUs in Ceará are managed jointly by the Council for Environmental Policies and Management (CONPAM) and the Regional University of Cariri (URCA). In order to identify the CUs that have a Management Board and a Management Plan, information was systematized using the data made available on the websites of the Ministry of the Environment (MMA), of the Ceará State Secretariat for the Environment (SEMACE) and the Public Ministry of the State of Ceará (MPCE).

Table 2 Implementation of the Management Board and Preparation of the Management Plan for CUs in Ceará⁸

Conservation Unit	Year of creation	Time course (years)	UC with Management Council	UC with management plan
EPA Serra de Baturité	1990	28	Decree no. 27,216, 10/17/03	No
Ceará Botanical Park	1996	22	Ordinance no. 257, 9/14/15	No
P. Risca do Meio Marine Park	1997	21	Ordinance no. 312, 12/10/15	No
EPA Serra da Aratanha	1998	20	Decree no. 27,464, 6/4/04	No
EPA Pecém	1998	20	Ordinance no. 254, 9/14/15	No
EPA Lagamar do Cauipe	1998	20	Decree no. 27.463, 6/4/04	No
EPA Bica do Ipu	1999	19	Ordinance no. 302, 11/24/15	No
EPA Lagoa do Uruaú	1999	19	Ordinance no. 294, 11/4/15	No
EPA Estuary of the Ceará River	1999	19	Decree no. 27,465, 6/4/04	No
EPA Mundaú River Estuary	1999	19	Ordinance no. 253, 9/14/15	No
EPA of the Curu River Estuary	1999	19	Ordinance no. 255, 9/14/15	No
EPA Dunes of Lagoinha	1999	19	Ordinance no. 251, 9/14/15	No
EPA Dunes of Paracuru	1999	19	Ordinance no. 252, 9/14/15	Yes
Pecém Ecological Station	2000	18	Ordinance no. 250, 9/14/15	No
EPA Rio Pacoti	2000	18	Decree no. 29,048, 11/1/07	No
EPA Lagoa da Jijoca	2000	18	Decree no. 27,462, 06/04/04	No
Natural Monument of Quixadá	2002	16	Decree no. 28.196, 4/11/06	No
Beberibe Natural Monument	2004	14	Ordinance no. 258, 9/14/15	No
Carnaúbas State Park	2006	12	Not	No
ARIE of Sítio Curió	2006	12	Ordinance no. 293, 11/4/15	No
Natural Monument Cana Brava	2006	12	Not	No
Natural Monument Riacho do Meio	2006	12	Not	No
Sítio Fundão State Park	2008	10	Ordinance no. 256, 9/14/15	No
ARIE of the Inhamuns	2014	4	Ordinance no. 319, 12/23/15	No
Cocó State Park	2017	1	Ordinance no. 94, 06/29/18	No
Periquito cara-suja Refuge	2018	0	No	No

Source: prepared by the author of this work (2018)

The data in Table 2 indicate that, of the 26 state CUs, four do not have Management Boards, namely, Caraúbas State Park, Natural Monument Cana Brava, Natural Monument Sítio Riacho do Meio and Periquito Cara-suja Wildlife Refuge. As for the Management Plan, it should be noted that, of the 26 existing CUs, three were created less than five years ago. Therefore, they are still within the legal deadline established for instituting this management instrument, namely: Area of Relevant Ecological Interest

⁸ The data for the elaboration of Table 2 were extracted from the websites of the Ministry of the Environment, the Secretariat of the Environment of Ceará and the Public Ministry of the State of Ceará, consultations Available at: <http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-CUs/consulta-gerar-relatorio-de-uc.html>; <http://www.semace.ce.gov.br/monitoramento/areas-naturais-protegidas/ucs-estaduais/> e <http://www.mpce.mp.br/caomace/areas-protegidas/>, respectively. Access on: Oct. 14, 2018.

Águas dos Inhamuns, Cocó State Park and Periquito Cara-suja Wild Life Refuge. Among the other 23 CUs that were created more than five years ago, only the Environmental Protection Area Dunes of Paracuru prepared the Management Plan, instituted through Ordinance SEMACE no. 76, of March 22, 2011.

Still regarding the regularity of the Management Boards, it appears that the laws determine directors' term of office of two years, renewable for the same period, totaling the maximum term of four years. Therefore, the CUs that established Management Boards before 2015 are already past their terms. The following are the CUs that currently do not have current Management Boards: Serra de Baturité Environmental Protection Area, Serra de Aratanha Environmental Protection Area, Lagamar do Cauipe Environmental Protection Area, Rio Ceará Estuary Environmental Protection Area, Pacoti River Environmental Protection Area, Lagoa da Jijoca Environmental Protection Area and Monolitos de Quixada Natural Monument.

It is concluded, therefore, that, of the 26 Conservation Units created by the State of Ceará, 15% (4) do not have Management Boards and only 4% (1) developed a Management Plan. In addition, of the 22 CUs that created Management Boards, 31% (7) are no longer in force, since the maximum term (four years) of the Directors' term has expired.

4 RELEVANCE OF THE MANAGEMENT BOARD AND GOALS PLAN FOR CUs SUSTAINABILITY

A question arises, given the fact that the management instruments inserted in the institutional framework of CUs are practically nonexistent: what impacts does this absence have on the designated areas of environmental protection in the State of Ceará? As noted in the data shown, the institution of CUs in Ceará is quantitatively significant, which denotes an ambience, possibly due to social forces linked to the defense of natural heritage, favorable to the adoption of the laws and decrees in force. However, the standardization of areas alone is not sufficient to effectively guarantee environmental protection. There is a need for support of CUs management, one that makes it possible to coordinate the technical and operational components (human and financial resources) with the social actors who cohabit with the protected area.

Faria and Pires (2013, p. 34) assert that "After the existence of the area itself, the effective management of the conservation units is the most

powerful instrument to achieve the conservation of biodiversity insofar as it guarantees the permanence of the area over time.” In this sense, the Management Board, as a management instrument established by the SNUC Law, is essential, since it constitutes the element that establishes management negotiations and proposals; it is also necessary to participate in the preparation, implementation, monitoring, review of zoning and the management plan, thus promoting social pacts to overcome conflicts.

The current understanding of environmental conservation calls for social participation. It is known that, without concrete involvement of society, the results of actions aimed at protecting the environment have been poor. There are two types of boards defined in the SNUC Law, which can be consultative or deliberative. SNUC predicts that Conservation Units will have an advisory board, except Extractivist Reserves and Sustainable Development Reserves, which are managed by deliberative boards.

It is also necessary to understand that before the area legally became a Conservation Unit, in most cases, it was a territory where human presence was allowed and even used existing natural resources for its survival. As a result, the Management Board and the Conservation Unit constitute local or regional forums for political or economic discussion that work as an alternative to unveil man’s worthy survival strategies with respect to other existing forms of life and with respect to justice in resource distribution (SANTOS, 2008, p. 42).

It is understood, therefore, that the protection of intact areas must be consistent with human presence, in such a way as to establish conservation, preservation and even environmental recovery. For that, it is essential to have an active Management Board in CUs management that carry out the environmental education work and guarantee the participatory and shared management of these protected areas. The Management Board is also responsible for evaluating the Conservation Unit’s budget and annual financial report in relation to its objectives. The integration of CUs with other protected spaces and the compatibility of the unit with the interests of the various social segments related to it are attributions of the Management Board, which remain unfeasible without the existence of this management instrument.

The Management Board is also responsible for giving its opinion, ratifying the contracting and the provisions of the partnership agreement with the Civil Society Organization of Public Interest (OSCIP), in the event of shared management of the unit, as well as monitoring the regularity of its

management (Art. 20, VI and VII). Also, the Management Board must express its opinion on a work or activity that may have an impact on the CU, in its buffer zone, mosaics or ecological corridors (art. 20, VIII). Now, if there is no Management Board, what is the guarantee of the sustainability of the protected area's natural resources?

As the former WWF-Brazil Superintendent of Conservation (Mauro José Capóssoli Armelin) mentioned, at the presentation of the work Conservation Units Board Management Cycle, the Conservation Units Management Boards are part of the most classic conception of the social participation concept established in the Constitution of the Federative Republic of Brazil of 1988, which is to make room for the members of the community in the decision-making center, allowing “that different strata and social strata not only decide on referrals concerning Brazilian protected areas; but also enjoy, in the most egalitarian and fair way possible, the benefits they produce and offer” (ICMBIO, 2016, p. 6).

Art. 2, XVII, of the SNUC Law defines the Management Plan as:

Art. 2, item XVII, of Federal Law no. 9,985/2000. management plan: technical document which, based on the general objectives of a conservation unit, defines its zoning and the rules that should govern the use of the area and the management of natural resources, including the implementation of the physical structures necessary for unit management.

The SNUC Law is decisive as to the mandatory implementation of this instrument when it states that “conservation units must have a Management Plan” (art. 27 of Law No. 9,958, of July 18, 2000), not leaving it to the public administrator's discretion. The indispensability of the Conservation Unit Management Plan is so evident for environmental conservation that the Regional Federal Court, in a decision made in the records of the Public Civil Action filed by the Federal Public Ministry to compel the Chico Mendes Institute for Biodiversity Conservation – ICMBio to prepare and implement a Management Plan of the National Forest of Açu, understood by the inertia of the public administrator that it has the duty to act when its performance is focused on the interests of the community, *in verbis* (AC 08000422620154058403 RN, Rapporteur Desemb. Fed. Carlos Rebêlo Júnior, Judgment: 9/29/2018, 3rd Panel):

ADMINISTRATIVE AND ENVIRONMENTAL. PUBLIC CIVIL ACTION. CONSERVATION UNIT. ASSU NATIONAL FOREST. INERTIA OF THE ADMINISTRATOR BEFORE THE DUTY OF PREPARING THE MANAGEMENT PLAN. SETTING THE DEADLINE FOR THE PREPARATION. POSSIBILITY

OF EXTENSION. PARTIALLY PROVIDED APPEAL.

1. Appeal insurgency in the face of a sentence that condemned the CHICO MENDES INSTITUTE FOR BIODIVERSITY CONSERVATION – ICMBio in the obligation to promote, within 01 (one) year, the necessary actions for the preparation of the management plan of the Assu National Forest.

[...]

4. The management plan meets the current needs for parameters for maintaining a preservation area in harmony with the region's economic and demographic growth.

5. Public prerogatives are granted to public agents with the intention that their performance is aimed at community interests, constituting powers and duties, and at the same time prohibit this same administrator from being inert when he has the duty to act.

The main function of the Management Plan is to assist in the organization and administration of the protected space, promoting better efficiency in environmental preservation and conservation. Thus, it serves as a basis for assessing the efficiency, efficacy and effectiveness of the CUs management, measuring the expected positive impacts and generating solutions to problems that may prevent CU conservation from exercising its role of environmental preservation (IBASE, 2006, p. 22).

It is also in the Management Plan that restrictions on public visitation in the protected area must be regulated, how traditional populations remain in National Forests, whether or not to allow commercial exploitation of natural resources and all management, maintenance and protection actions of the protected area, ensuring the preservation of the area in harmony with the growth of the region.

In addition, the action of preserving the environment is a fundamental duty that includes, in addition to non-degradation, the practice of acts aimed at recovering, restoring and defending the environment, the Management Plan being the essential instrument for preserving the Conservation Unit, depending on the understanding of the Superior Court of Justice (RE No. 1,163,524 – SC, Rapporteur Min. Humberto Martins, Judgment: 05/05/2011, Second Panel):

2. Under the terms of art. 225 of the FC, the Public Power has a duty to preserve the environment. It is a fundamental duty, which is not only summarized in a negative commandment, consistent with no degradation, but also has a positive disposition that imposes on everyone – Public Power and collectivity – the practice of acts tending to recover, restore and defend the ecologically balanced environment.

3. In this sense, the preparation of the management plan is essential for the preservation of the conservation unit, since it is there that the rules are established that should govern the use of the area and the management of natural resources, including the

implementation of the physical structures necessary for the management of the unit (Article 2, XVII, of Law No. 9,985 / 2000).

4. Therefore, the omission of the Public Power in the preparation of the management plan of the Baleia Franca EPA puts at risk the very integrity of the conservation unit, and constitutes a violation of the fundamental duty to protect the environment.

The Conservation Unit is vulnerable to environmental crimes when it does not have a Management Board and a Management Plan. This can be seen in the journalistic story of newspaper *O Povo*, which denounces environmental crime, as provided for in Decree no. 25,778, of February 15, 2000, of the State Superintendence of the Environment (SEMACE), registered at the Pacoti River APA, where vehicles circulation is expressly prohibited, but, the article reads: “At the end of yesterday morning, while *O Povo* was in the area, just after the green area on the banks of Pacoti, at least 10 vehicles, including cars, buggies and motorcycles, were seen traveling on the dunes” (LAZARI, 2011).

As previously presented, the Rio Pacoti EPA was created through State Decree no. 25,778, of February 15, 2000, its Management Board was established seven years after its creation by State Decree no. 29,048, of November 1, 2007. However, the term of office of the directors ended in 2011 and there is no evidence of the institution of a new Management Board for the Unit. In addition, more than eighteen years have passed since its creation and the Management Plan has not been prepared.

Another occurrence was registered in October 2018, in the Environmental Preservation Area of the Mundaú River in the State of Ceará, according to an story published in the local newspaper that reports the deforestation of the area registered through photos taken by a drone:

The mapping of the estuary of the Environmental Protection Area (EPA) of the Mundaú River, in the Ceará municipality of Trairi, through photos taken by a drone, this week resulted in an unexpected record of deforestation in the area. Although this type of environmental conservation unit involves human occupation, it must be limited to spaces allowed by the law, so as not to compromise the local flora and fauna, causing irreparable damage (ÁREA DE PROTEÇÃO..., 2018).

The EPA of the Mundaú River Estuary was created through State Decree no. 25,414, of March 29, 1999, its Management Board was established sixteen years after its creation by Ordinance SEMACE no. 253, of September 14, 2015. Although the directors’ term of office is in force, more than nineteen years have passed since the creation of the UC and the Management Plan has not yet been drawn up, showing directors’ total inertia in

their duty to act in the protection of the environment.

These situations demonstrate that state ownership of a given area containing natural resources is not sufficient to ensure its sustainability. It is essential, among other factors, to legitimize the area of environmental protection with society, to ensure compliance with the law. It is known that today the great challenge for the implementation of CUs is to ensure the effectiveness of management.

In this sense, the Work Program for Protected Areas of the Convention on Biological Diversity (UN Treaty ratified by Brazil through Decree No. 2,519, of March 16, 1998), recommends assessing the effectiveness of management in protected areas, through the RAPPAM methodology (Rapid Assessment and Priorization of Protected Area Management). With the results obtained, it is possible to obtain data for prioritizing management in protected areas and with decisive elements for decision-making by the managers of protected areas, which are of fundamental importance for ecosystem preservation, providing scientific research, environmental management and education in the search for environmental conservation (ONAGA; DRUMOND; FERREIRA, 2012, p. 15).

All the aspects presented lead to the conclusion that the absence of management instruments (Management Board and Management Plan), or the inertia of CUs directors in their duty to prepare Management Plans, favors the occurrence of environmental crime, given the absence of society's involvement in inspection, use and conservation of the environment. In addition, it prevents effective social participation in the decision-making process of protected areas, as well as making their inspection unfeasible, due to the lack of delimitation of prohibited and permitted activities in the protected area.

FINAL CONSIDERATIONS

The data collected evidenced the creation of 26 CUs in the State of Ceará, which aim, as stated in the text of the SNUC Law, in addition to preserving, recovering, conserving and protecting nature and the ecosystem, to foster the economy of the areas defined for protection and boosting the socioeconomic development of the populations involved. It appears that, despite being regularly created by normative acts, CUs in Ceará are not effective in their operation, since the Management Boards and Management Plans, instruments that guarantee environmental protection, were not

implemented, or, when instituted, are not in force or have no applicability, which compromises environmental sustainability and conservation.

CUs existing in Ceará are thus formally delimited spaces that nevertheless have no guarantee regarding sustainability. Thus, nature reserves in Ceará are vulnerable to the occurrence of environmental crimes, since 42% of CUs do not even have Management Boards and only one Conservation Unit has a Management Plan.

There is no evidence of changes in the current scenario, as there are fifteen Conservation Units whose directors' terms of office will be over this year and have not even prepared the Management Plan, the Unit's main management instrument, which increases the risk of environmental crimes, as there are no control instruments for activities carried out in protected areas. The absence of these management instruments does not guarantee society's involvement in the inspection, use and conservation of the environment. In addition, it puts the protected area at risk as there is no definition of the activities that can be carried out inside.

It became evident that the public authorities of the State of Ceará, despite having formally created protected territorial spaces, have failed to implement them in practice, or, when they do implement them, they have failed to inspect the degrading activities carried out by third parties inside protected areas, making them not fully fulfill the purpose for which they were created. In this sense, the work of inspection bodies of the State of Ceará is essential, demanding that public administrators comply with their duty to act, adopting the administrative measures necessary for implementing environmental protection rules and protecting environmental goods and resources.

Thus, considering that the Court of Accounts of the State of Ceará (TCE)⁹ established competence for the Inspection Management of Engineering and Environment Works to carry out audits and inspections related to environmental management, it is necessary the effective action of this external control body, in order to inspect the Conservation Units of the State of Ceará, as regards their compliance with Federal Law no. 9,985, of

⁹ TCE Administrative Resolution no. 3,163 / 2007, as amended by TCE Administrative Resolution no. 02/2006. Art. 26-N. It is up to the Management of Supervision of Engineering and Environmental Works

[...]

XII – carry out audits and inspections related to environmental management in charge of the state bodies and entities responsible for the state's environmental policy, as well as oversee development actions, policies and programs, financed with state resources, which potentially or effectively cause environmental damage;

June 18, 2000, regarding the institution of Management Boards and Management Plans.

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