

## An overview on visitation and guiding visitors in Brazilian Parks

Panorama da visitação e da condução de visitantes em Parques brasileiros

Panorama de las visitas y conducción de visitantes en Parques brasileños

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**Abstract: Proposal:** Public use of Conservation Units (UCs), mainly through visits, can bring direct and indirect benefits to society. The parks constitute areas prone to visitation and can be an opportunity for visitors to know, understand, and value the natural and cultural resources, while contributing to local socio-economic development. An overview of visitation in Brazilian parks, as well as of the visitor guiding services, important in visit planning, is of utmost importance for managing the increasing public use of these areas and for the evaluation of the impact of the activity on local communities. **Objective:** The present work aims, through documentary research and survey with managers of Conservation Units, to contribute with data on the current situation of visitation in Brazilian parks and visitor guiding services in these areas. **Methodological Design:** We draw on data from the National Register of Conservation Units (CNUC) and on information from a questionnaire to managers, designed and sent through Google.docs. **Results:** Based on the CNUC data, only 33.42% of the Parks are open to visitors. The highest percentage of units open to visitors are the parks managed at the federal (45.07%) or municipal (44.55%) levels, as well as those located in the Caatinga (40.00%) or Atlantic Forest (38, 91%). Regarding the information provided by the park managers, it is evident that the number of visitors per year is more than 10,000 (46.88%), that the local guides work exclusively in 52.13%, being present in 81.25% of them, and that in 39.06% of the areas guiding activities are carried out in an associative way. **Originality:** Despite the increasing number of visitors, the proportion of parks with visitation, national and statewide, has not changed in the last 10 years. The local guides have a leading role in guiding visitors in Brazilian parks. The collective practice of guides is a reality in little more than a third of these areas.

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**Keywords:** Visits. Protected Areas. Parks. Guiding visitors.

**Resumo: Propósito do tema:** O uso público em Unidades de Conservação (UCs), principalmente através da visitação, pode trazer benefícios diretos e indiretos à sociedade. Os Parques constituem-se em áreas muito favoráveis à visitação, podendo proporcionar aos visitantes a oportunidade de conhecer, entender e valorizar os recursos naturais e culturais existentes nessas áreas e contribuir com o desenvolvimento socioeconômico local. O conhecimento do panorama em que se dá a visitação nos Parques brasileiros, assim como da condução de visitantes, importante atividade no ordenamento dessa visitação, é de fundamental importância para a gestão do uso público crescente nessas áreas e para a avaliação do impacto da atividade nas comunidades locais. **Objetivo:** O presente trabalho objetivou, através de uma pesquisa documental e do levantamento de informações junto aos gestores das UCs, contribuir com informações sobre a visitação atual nos Parques brasileiros e sobre a condução de visitantes nessas áreas. **Metodologia e abordagem:** A pesquisa documental foi baseada nos dados do Cadastro Nacional de Unidades de Conservação (CNUC) e as informações junto aos gestores foram obtidas através de questionário elaborado e enviado a estes através da ferramenta Google.docs. **Resultados:** Com base no CNUC, apenas 33,42% dos Parques estão abertos à visitação. O maior percentual de unidades abertas à visitação é observado entre os parques geridos pela esfera federal (45,07%) ou municipal (44,55%), assim como entre aqueles localizados nos biomas Caatinga (40,00%) ou Mata Atlântica (38,91%). Em relação às informações fornecidas pelos gestores dos Parques, evidencia-se que o número anual de visitantes predominante nestes é superior a 10.000 (46,88%), que os condutores locais atuam de forma exclusiva em 52,13%, estando presentes em 81,25% deles, e que em 39,06% das áreas a atuação dos condutores de visitantes é feita de forma associativada. **Originalidade:** Apesar do incremento do número de visitantes, a proporção de Parques com visitação, pelo menos no que diz respeito aos Nacionais e Estaduais, não se alterou nos últimos 10 anos. Os condutores locais têm um papel protagonista na condução de visitantes nos Parques brasileiros. A atuação coletiva dos prestadores de serviço de condução de visitantes é uma realidade em pouco mais de um terço dessas áreas.

**Palavras-chave:** Visitação. Unidades de Conservação. Parques. Condutores de visitantes.

**Resumen: Finalidad tema:** El uso público en áreas protegidas (APs), especialmente a través de las visitas, puede aportar beneficios directos e indirectos para la sociedad. Parques están en muy favorable para visitación y puede ofrecer a los visitantes la oportunidad de aprender, comprender y valorar los recursos naturales y culturales existentes en estas áreas y contribuir al desarrollo socioeconómico local. El conocimiento del panorama que se da a esta visita en los parques de Brasil, así como de la conducción de visitantes, actividad importante en la planificación de esta visita es de importancia fundamental para la gestión del uso público cada vez mayor en estas áreas y para evaluar el impacto de la actividad en comunidades locales. **Meta:** Este estudio tuvo como objetivo, a través de la investigación documental y la encuesta de información con los administradores de áreas protegidas, aportar información sobre la visita actual en Parques brasileños y visitantes acerca de la conducción en estas áreas. **Metodología y el enfoque:** La investigación documental se basa en el Registro Nacional de Unidades de Conservación (CNUC) e información con los gerentes se obtuvieron mediante un cuestionario preparado y enviado a estos a través de la herramienta Google.docs. **Los resultados:** Basado en CNUC, sólo el 33,42% de los parques están abiertos a los visitantes. Se observa el mayor porcentaje de unidades que se pueden visitar entre los parques administrados por el nivel federal (45,07%) o Municipal (44,55%), así como los ubicados en la Caatinga (40,00%) o el Mata Atlántica (38,91%). En cuanto a la información proporcionada por los gestores de parques, muestra que el número anual de visitantes predominante en estas es mayor que 10.000 (46,88%), estando presentes los conductores locales que operan exclusivamente en 52,13%, en 81,25% de ellos, y en el 39,06% de las áreas de las actividades de los conductores de visitantes se hace de manera asociativada. **La originalidad:** A pesar del aumento en el número de visitantes, la relación de los parques para visitar, al menos con respecto a Nacional y el Estado, no ha cambiado en los últimos 10 años. Los conductores locales tienen un papel principal en la conducción de los visitantes en los parques brasileños. El trabajo colectivo de los conductores de visitantes es una realidad en poco más de un tercio de estas áreas.

**Palabras Clave:** Visitación. Unidades de Conservación. Parques. Condutores de Visitantes.

## 1 INTRODUCTION

The fauna and flora, the rivers, the seas, the mountains, each element has a role to play in the balance of nature. Throughout history many peoples and civilizations for the most diverse reasons have recognized the need to protect natural areas with special features, - association with myths, historical facts, and protection of water sources, hunting sites, medicinal plants, and other natural resources.

Over time, many natural areas have been destroyed to make way to human development. Animals and plants were eliminated, some disappeared and others are on the verge of extinction. By the late 19th century, in the United States, the scenic beauties were at the origin of the first modern protected area, Yellowstone National Park, in 1872 (Ganem, 2010). After this milestone, throughout the 20th century, several countries adopted the same strategy, creating national parks and other conservation units, including Brazil.

In Brazil, considered the richest country in biodiversity (Cutolo, Malheiros & Philippi Jr., 2010), initiatives aimed at conservation date back to the empire, and were linked to the maintenance of water sources and quality of the water. An example, was the replanting of part of the Tijuca Forest, in Rio de Janeiro, between 1861 and 1889 (Drummond, Franco & Oliveira, 2010). However, the Brazilian Conservation Units (UC in Portuguese) date to the 1930s with the creation of Itatiaia National Park, in 1937.

The National System of Conservation

Units (SNUC in Portuguese) (Law 9.985, 2000), enacted by Law No. 9,985, of July 18, 2000, represented a major advance in the creation and management of UCs in the three levels of government (federal, state, and local), as it provided an overview of the natural areas to be preserved. In addition, this Law established mechanisms that regulate the participation of society in the management of these areas, enhancing the relationship between the State, the citizens, and the environment.

According to the SNUC, a Conservation Unit (UC) is the name given to:

territorial spaces and their environmental resources, including jurisdictional waters, with relevant natural characteristics, legitimately established by the Government, with conservation objectives and defined limits, under a special administration regime (Law 9.985, 2000).

The SNUC organizes the UCs according to their management objectives and types of use: Integral Protection and Sustainable Use. The purpose of Integral Protection Units is to preserve nature, with only indirect use of their natural resources, such as nature recreation, ecological tourism, scientific research, education, and environmental interpretation, among others. The Sustainable Use Units, in turn, aim to reconcile nature conservation with the sustainable use of resources, integrating human activity in these areas. In these units, activities involving the collection and use of natural resources are allowed, providing that renewable environmental resources and ecological processes are maintained (Law

9.985, 2000).

The National Parks (Parna) are areas of integral protection whose main objective is the preservation of natural ecosystems of great ecological importance and scenic beauty. These areas enable the accomplishment of scientific researches, development of education activities and environmental interpretation, nature recreation and ecotourism. The units of this category, when created by the state or municipality, are called, respectively, State Park (PE) and Municipal Natural Park (PNM).

While UC of integral protection, allowing only the indirect use of natural resources, the parks are prone areas for the promotion of educational, leisure, sports, recreational, scientific, and environmental interpretation activities, which give the visitor the opportunity to get to know, understand, and value natural and cultural resources in protected areas. Public use is a term directly associated with this set of activities in the UCs (MMA, 2005). According to Law No. 9,985 (2000), such activities can only be implemented in the UC once a management plan is in place.

The National Strategic Plan for Protected Areas (Decree No. 5,758, 2006) presents the principles and guidelines for the actions of the UCs. The document underlines the strategies for consolidating the SNUC, such as strengthening communication, education and raising awareness about participation and control of these areas, promoting sustainable development and poverty reduction. Thus, the dissemination of public use in UCs, mainly through visitation,

is one of the main strategies to achieve these goals, bringing several direct and indirect benefits to society and to the territorial management of these areas (Vallejo, 2013). In addition to the personal benefits related to the improvement of the physical and mental condition of visitors, public use can promote the appreciation of these spaces, reducing possible territorial conflicts resulting from their creation. Also, the income generated from the visits benefit local populations, e.g. jobs and increase of revenues.

According to ICMBio (2016), from 2007 to 2015, the annual visits to National Parks increased from about 3 million people to about 7 million. This represents a very significant increase in the number of visitors. Considering that, in 2015, this represented almost 90% of the visitors in federal UCs, it is evident the importance of the parks for growing visitation in the Brazilian federal UCs.

Medeiros and Young (2011) studied the economic impact of visitation to Brazilian national and state parks on the local economy. The authors estimated, based on the current trends of growth of the tourist flow in the country, in the increasing interest for recreational activities in nature, and in the investments made in national parks in recent years, that the economic impact would be in the order of R\$ 2.2 billion, equivalent to 3.5 times more than in 2009. According to the authors, this scenario has a multiplier effect on the local economy, since the provision of tourism support services in UCs goes beyond the limits of the areas, showing the interdependence between the various sectors that make up

the productive arrangement of tourism.

Among visitation support services in UCs, visitor guiding services have a high potential for inclusion of local community in the productive arrangement of tourism, often allowing the transition from occupations with a greater impact on the environment to an activity relevant to the conservation of these areas (Pisciotta, 1994; Silveira, 1997). According to Ferreira and Coutinho (2010), the guide can be the link between the natural and cultural environment of the place and the visitor, contributing decisively to the planning and visit of natural attractions.

Despite the fundamental role that visitation and visitors guiding can play in UCs sustainability and development of local communities, we verify that the data on these subjects are still scarce, often scattered information, and concerning a specific protected area. Thus, the aim of this study is to systematize some current information regarding visitation and guiding visitors in the parks, the main destination among the Brazilian UCs.

## **1 VISITATION IN BRAZILIAN CONSERVATION UNITS AND GUIDING VISITORS: CONCEPTUAL AND LEGAL FRAMEWORKS**

Passold and Kinker (2010) argue that, although there is no corroborative data, there is evidence that the growth in visitation to Brazilian UCs is related to the increase in ecotourism in the country. This segment of tourism aims the sustainable use of the natural and cultural heritage, encourages its conservation, and seeks to create environmental awareness through interpretation activities,

promoting the well-being of the populations involved (Brazil, 1994). Contact with nature, a trend on contemporary tourism demand (Giatti, 2004), the development of community-based tourism, often associated with conservation units (Ferreira, 2014), and the increasing offer of different types of outdoor tourism experiences (Passold & Kinker, 2010) suggest the increase of this segment of tourism in Brazil. However, we cannot affirm that the growth in visitation to UCs represents a greater flow of tourism to these areas. Hence, in the present work we will consider the visits to UCs in general, including both the ecotourism flow and outdoor recreation and leisure activities or, also, environmental education and interpretation activities.

Nevertheless, it is pertinent to note that the conceptual framework and several regulations of the UCs related to public visitation have ecotourism as reference, as we will see.

The conceptual framework regarding visitation in UCs, according to Passold and Kinker (2010), was established in 1997 through the publication of *Conceptual Framework of the Federal Conservation Units of Brazil*, which defined the types of activities that can be developed by the public in general or by specialized segments of society in each management category of UCs. According to the authors, this document refers to the desired participation of local communities in ecotourism activities to enhance the quality of life and the development of local conditions. To this end, the document suggests hiring local people, preferring local or regional companies, and developing environ-

mental interpretation activities with visitors.

The conceptual approach to visitation in UCs linked to ecotourism then followed the global trends of a greater interest in environmental integrity, as opposed to the negative impacts caused by mass tourism in natural environments. Costa Rica, Ecuador, and Peru have large protected areas, and are important references regarding the development of ecotourism (Koens, Dieperink & Miranda, 2009, Hill & Hill, 2012).

In 1980s and 1990s several Brazilian states and municipalities have implemented policies and legislation aimed at the development of visitation in UCs (Passold and Kinker, 2010), however, it was the SNUC (Law 9.985, 2000) that set as one of the goals of the system the promotion of education and environmental interpretation, nature recreation, and ecotourism.

Therefore, in view of the need to produce guidelines and standards for planning and managing the growing number of visits to UCs, a little more than a decade ago the Ministry of the Environment analyzed visitation in national and state parks (MMA, 2005). The following year, based on the results of the study, and aiming to regulate the visits to UCs, through the adoption of rules and procedures that ensure the sustainability of tourism, the body released a document entitled *Guidelines for Visits to Conservation Units* (MMA, 2006). The document contains a series of principles, recommendations, and guidelines that aim, among other things, to integrate visits and local and regional development, to include the local communities and traditional populations in the manage-

ment of visits and to organize the provision of support services, including those related to guiding visitors.

Visitor guiding services in federal UCs, was first regulated by ICMBio Normative Instruction No. 08 (2008) from the Chico Mendes Institute for Biodiversity Conservation (ICMBio), which established "rules and procedures for the provision of services by guides related to visitation and tourism in Federal Conservation Units" Recently, this standard was revoked by the ICMBio Normative Instruction No. 02 (2016), providing for the administrative rules and procedures for authorization of use for visitor guiding services in federal conservation units. According to this regulation, the guide is:

the individual authorized by the Chico Mendes Institute to guide visitors in the conservation unit, developing informative and interactive activities on the natural and cultural environment visited, as well as contributing to the monitoring of socio-environmental impacts on the sites of visit (Normative Instruction ICMBio No.2, 2016).

The Normative Instruction ICMBio No. 02 (2016) also establishes that only persons authorized by the administration of the UC may act as guides, under the terms of a specific ordinance. In addition, that instruction refers that the guides should be residents in these UCs or in the surroundings areas, according to each category of management.

In relation to the regulation of the activity of guiding visitors in the state UCs, Nascimento, Canto-Silva, Melo and Marques (2016) report that only five federal units of

Brazil have a specific standard, four of which are located in the southeast and one in the south of the country. Although it was not the object of the study, the authors also refer that municipalities of the state of Santa Catarina have regulations on the subject

Like the federal regulations, the mentioned state regulations recognize as a guide the provider of this service that, among other requirements, presents a minimum qualification established by the standard or by the UCs (Instrução Normativa ICMBio n.2, 2016; Nascimento et al., 2016). It is not mentioned that this activity is a prerogative of a specific professional. Federal regulations mention, however, that professionals with training as tourist guides and registered with the Ministry of Tourism (CADASTUR) may benefit from a grandfather clause in the process of registration in the UC (Instrução Normativa ICMBio n.2., 2016).

According to Canto-Silva, Cunha, Bazzotti and Nascimento (2015), there are three professionals that carry out guiding activities linked to natural environments and institutionally formalized: the tour guide specialized in natural attractions, the adventure guide, and the local nature guide. These latter two are generally referred to as local guides.

Among these, the activities of tour guides were the first to be recognized, through Law No. 8,623 (1993). In fact, this is the only profession legally recognized in Brazil for monitoring, guiding, and giving information to people or groups, in urban, municipal, state, inter-state, international, or spe-

cialized visits. A recent ordinance of the Ministry of Tourism (MTUR) recognizes the guide specialized in natural attractions, whose activities include the provision of technical, specialized information on a certain type of natural attraction natural (Portaria MTUR n. 27, 2014).

The technical standards of the Brazilian Association of Technical Standards (ABNT), in partnership with the Ministry of Tourism (ABETA, 2009), recognize and describe the responsibilities of the adventure guide.

In turn, the activity of guides in UCs, also named local nature guides, was established by the Normative Instruction ICMBio No. 08 (2008), formally recognized through the MTUR Ordinance No. 27 (2014), which defines the guide in UC as:

the professional who receives specific training to act in a particular unit, registered with the managing body, and with the attribution of guiding visitors in natural spaces and / or legally protected areas, presenting experiential ecological knowledge specific to the location in which he or she operates, being allowed to work within the limits of this area (Portaria MTUR n. 27, 2014).

Local nature guides are preferably members of the community wherein the UC is located, so that they can pass their inside knowledge about the local natural and cultural environment, thus becoming part of the attraction, since they promote a cultural exchange (Ribas and Hickenbick, 2012).

Although guiding visitors is fundamental for public use in UCs, little is known about the way in which it is being carried out,

whether it meets the current standards, and which workers are performing this task.

## 2 METHODOLOGY

The methodology of the present study consisted of documentary research of National Register of Conservation Units (CNUC) data and survey among the managers of the Brazilian Parks. For the scope of this work, we considered the three management levels: national, state, and municipal natural parks.

The research in the CNUC was carried out in November 2015, thus we consider the situation observed in that moment. From the survey, we created a database: name of the park, level of management (federal, state or municipal), biome (Amazon, Caatinga, Cerrado, Marine, Atlantic Forest, Pampa, or Pantanal), existence of management plan (yes or no), visitation situation (open to visitation, closed to visitation or without information), and electronic address of the manager.

We surveyed the managers of the UCs through an online questionnaire, elaborated and sent electronically using Google.docs. The questionnaire included seven closed or open questions, addressing: park identification; visitation (yes or no); annual number of visitors (less than 1,000, from 1,000 to 5,000,

from 5,000 to 10,000, more than 10,000); responsible for guiding visitors (without guide, local guides or specialized guides in natural attractions); registration of guides in the Park (yes or no); practice of the guides of visitors (independent or associative); and identification of associations, cooperatives, or collectives of guides working in the UC.

We sent the questionnaires to the managers of all the parks for at least eight times, in the months of December 2015 and July 2016. For the research with the national parks we have obtained Authorization for Activities with Scientific Purpose.

From the 368 questionnaires sent to park managers, 74 questionnaires were returned, which is equivalent to 20.11% of the total (Table 1). Considering the management levels the parks includes in the sample are 47.89% of national Parks, 13.27% of state parks, and 13.86% of municipal natural parks. However, when considering only the sampled parks with visitation (64) in relation to their number in the CNUC (123), this percentage reaches 93.75% of national parks, 47.83% of state parks and 12.67% of parks managed by municipalities. The sample composition indicates that the data used are very representative of the situation that we intend to characterize

**Table 1** – Frequency and percentage of sampled Parks in relation to the number of registered parks and the number of parks with visitation, according to data from CNUC

Level of management	Registered parks	Sampled parks (%)	Parks with visitation	Sampled parks (%)
<b>Federal</b>	71	34 (47.89)	32	30 (93.75)
<b>State</b>	196	26 (13.27)	46	22 (47.83)
<b>Local</b>	101	14 (13.86)	45	12 (26.67)
<b>Total</b>	368	74 (20.11)	123	64 (52.03)

Source: The authors

The following national parks were part of this study: Parna Campos Gerais, Parna da Boa Nova, Parna da Chapada das Mesas, Parna da Chapada Diamantina, Parna da Chapada dos Guimarães, Parna da Ilha Grande, Parna da Lagoa do Peixe, Parna da Serra da Bocaina, Parna da Serra da Canastra, Parna da Serra do Divisor, Parna da Serra do Itajaí, Parna da Serra dos Órgãos, Parna da Serra Geral, Parna da Tijuca, Parna das Emas, Parna das Sempre-Vivas, Parna de Anavilhanas, Parna de Catimbau, Parna de Saint-Hilaire/Lange, Parna de São Joaquim, Parna do Jaú, Parna do Juruena, Parna do Superagui, Parna do Viruá, Parna Grande Sertão Veredas, Parna Itatiaia, Parna Marinho dos Abrolhos, Parna Marinho Fernando de Noronha, Parna Nascentes do Rio Parnaíba and Parna Serra da Capivara.

At the state level the following parks participated: PE Alto Cariri, PE Cachoeira da Fumaça, PE Chandless, PE da Costa do Sol, PE da Pedra Azul, PE da Serra da Concórdia, PE da Serra do Rola Moça, PE da Serra Selada, PE das Sete passagens, PE de Grão Mogol, PE de Vila Velha, PE do Biribiri, PE do Juquery, PE do Morro do Diabo, PE do Pico do Itambé, PE do Prosa, PE do Rio Doce, PE do Utinga, PE Fritz Plaumann, PE Serra do Mar - Núcleo São Se-

bastião, PE Serra Negra and PE Sitio Fundão.

At the local level, we obtained information from the following parks: PNM Felisberto Neves, PNM da Mata Atlântica Aldeense, PNM de Navegantes, PNM Corredores de Biodiversidade, PNM de Governador Valadares, PNM do Atalaia, PNM Von Schilgen, PNM do Curió – Paracambi, PNM do Morro do Finder, PNM da Caieira, PNM Nascentes de Paranapiacaba and Parque Histórico Municipal Danziger Hoff.

All the results obtained in the research are presented as a percentage and analyzed descriptively (Silva, Gonçalves & Murolo, 1997). We analyzed visitation data by crossing information on the management level, existence of a management plan in the unit, and the location biome. The respondents' responses were analyzed by the level of management of the parks. The results were compared with those of the relevant literature, especially MMA (2005) and MMA (2006).

### 3 RESULTS

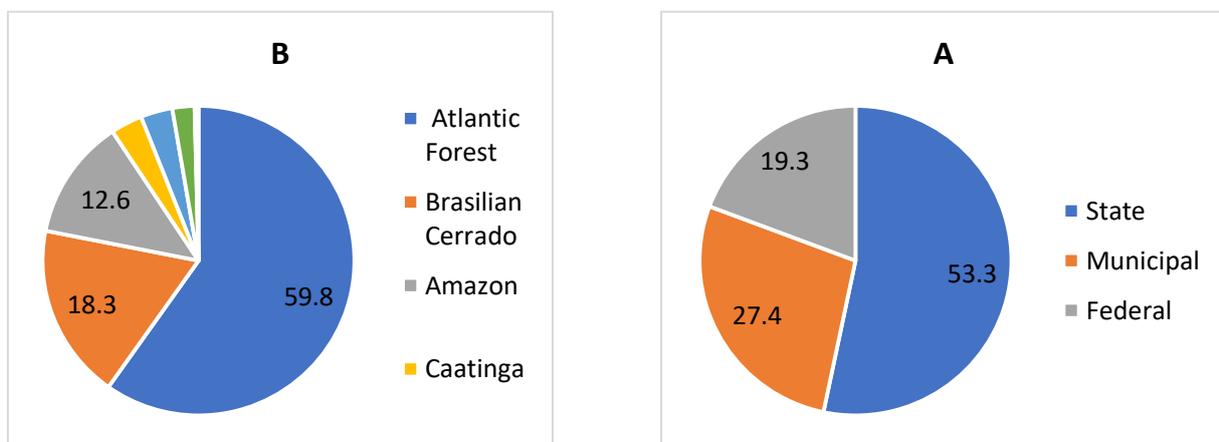
The database developed from CNUC data gathered 368 conservation units of the park category, including national, state and

natural municipal parks from all over Brazil. According to the information obtained, it is possible to draw the following scenarios regarding the situation of these protected areas.

The state level has 196 registered parks in the CNUC, corresponding to 53.3% of

the total number parks (Figure 1A). The municipal natural parks amount to 101 (27.4%) and the national parks to 71 (19.3%) (Figure 1A). The Atlantic Forest biome is the one that is better represented among the parks, corresponding to 59.8% of these (Figure 1B).

**Figure 1** – Frequency of registered parks in the CNUC according to the different levels of management (A); and to the different Brazilian biomes (B)

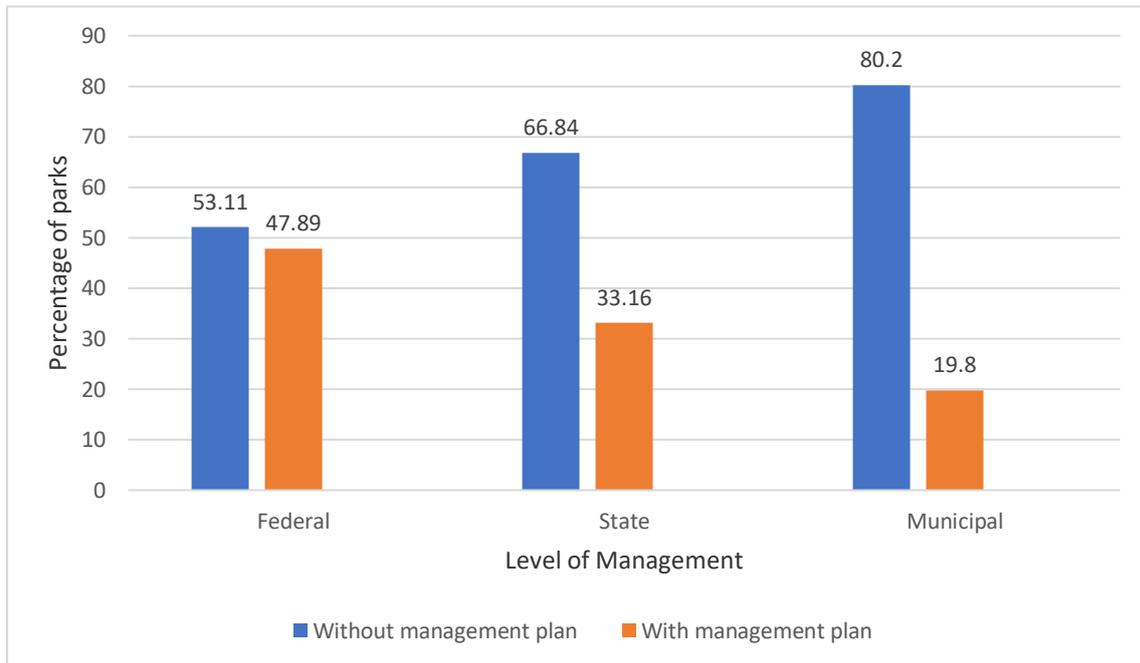


Source: The authors

Regarding the existence of a management plan, most parks, at any level, do not present this document (Figure 2). The federal level of management has the highest percentage of parks with management plan,

reaching 47.89% (Figure 2). The municipal natural parks, administered at the local level, are those with the lowest percentage of units in accordance with the legislation (19.80%).

**Figure 2** – Frequency of parks with and without management plan at the different levels of management, according to data from CNUC



**Source:** The authors

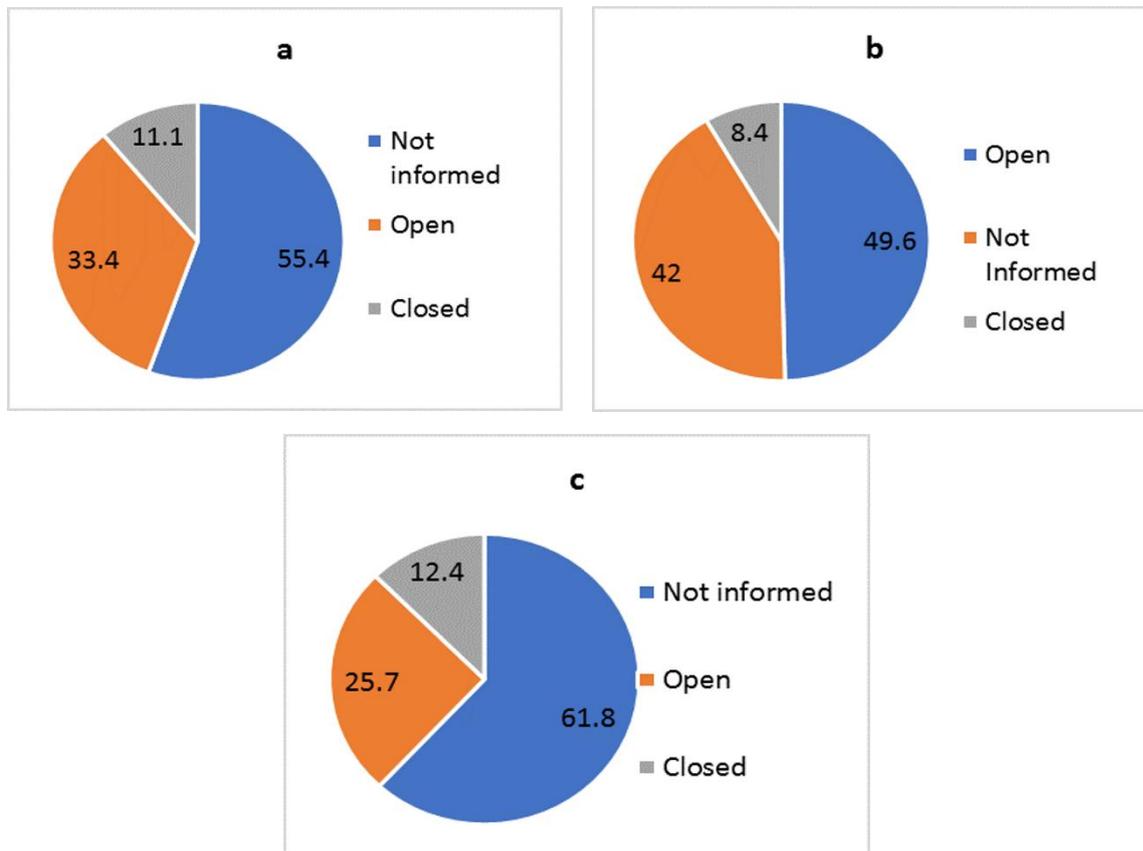
Regarding visitation in the Brazilian parks, 55.4% of those registered in the CNUC do not provide such information (Figure 3A). Thus, considering the total of parks, we can observe that only 33.42% are open to visitation (Figure 3A). Another noteworthy issue is that, despite the legislation establishing that only UCs with management plan can carry out public use activities, 25.7% of parks without management plan are open to visitation (Figure 3C). When considering only parks with management plan, the percentage with visitation reaches 49.6% (Figure 3B).

Considering the visitation by level of management (Table 2), the state parks are

those that present the largest number of units without this information in the CNUC (63.35%). They are also the parks with the lowest percentage of units with visitation (23.47%), whether among parks with management plan (36.92%) or without management plan (16.79%). The national parks and the municipal natural present the highest percentage of units with visitation, respectively 45.07% and 44.55%.

It can also be seen from Table 2 that the municipal natural parks are those where visitation without a management plan is more frequent. There is visitation in 38.27% of the units without this document.

**Figure 3** – Frequency of registered parks in the CNUC regarding visitation: Total of parks (A); Parks with management plan (B); Parks without management plan (C).



Source: The authors

**Table 2** – Frequency and percentage of parks open or closed to visitation by level of management and existence of management plan, according to data from CNUC

Level of management of the park	Existence of Management Plan	Open to visitation (%)	Closed to visitation (%)	Without information (%)	Total
Federal	Yes	21 (61.76)	3 (8.82)	10 (29.41)	34
	No	11 (29.73)	9 (24.32)	17 (49.95)	37
	<b>Total</b>	<b>32 (45.07)</b>	<b>12 (16.90)</b>	<b>27 (38.02)</b>	<b>71</b>
State	Yes	24 (36.92)	7 (10.77)	34 (53.31)	65
	No	22 (16.79)	11 (8.40)	98 (74.81)	131
	<b>Total</b>	<b>46 (23.47)</b>	<b>18 (9.18)</b>	<b>132 (63.35)</b>	<b>196</b>
Local	Yes	14 (70)	0	6 (30.00)	20
	No	31 (38.27)	11 (13.58)	39 (48.15)	81
	<b>Total</b>	<b>45 (44.55)</b>	<b>11 (10.89)</b>	<b>45 (44.55)</b>	<b>101</b>
<b>Total</b>		<b>123 (33,42)</b>	<b>41 (11.14)</b>	<b>204 (55.43)</b>	<b>368</b>

Source: The authors

When analyzing CNUC data regarding visitation in the parks by biome (Table 3), we verify that, except for the Amazon biome, the frequency of parks without information on visitation is greater than 50%. The biomes that present the highest frequency of parks with visitation are the Caatinga (40.00%) and the Atlantic Forest (38.91%). Not counting the Pantanal biome, which does not have parks open to visitation, the Amazon biome presents the least frequency of parks with this activity (26.09%), equivalent to the percentage of parks without visitation. Except for the Pampa biome, all the others have parks without management plan open to visitors. It should be noted, however, that the frequencies presented should be carefully evaluated given the different number of UCs of this category per biome.

Based on the information from the UCs managers, obtained from the questionnaires, we can observe that, in relation to the estimate of visitors, more than 50% of national and state parks receive over 10,000 visitors annually (Table 4). The municipal natural parks have a relatively uniform distribution of visitors, prevailing those that receive less than 1,000 visitors per year. Considering the total of parks, 46.88% attend an annual public over 10,000 visitors.

Regarding visitor guiding services, considering the total of the parks, more than half (52.13%) is served exclusively by local guides (Table 4). However, it is possible to affirm that these professionals are involved in guiding visitors in 81.25% of the examined

parks. In turn, only in 6.25% of these the guidance is carried out exclusively by guides specialized in natural attractions. A total of 18.75% of the parks have this type of guides. The same scenario is observed when considering separately the parks of the different management levels (Table 4).

Table 4 shows that, in relation to the registration of guides in the parks, the frequency of units in which the registration of service providers occurs (54.69%) is slightly higher than those in which registration does not occur (45,31 %). The same pattern is observed when considering the parks in each level of management, except for the state parks, where there is a balance between registered and the non-registered guides.

Concerning the guides' practice, in 60.94% of the parks these operate independently, while in 39.06% the practice is associative, through associations, cooperatives, or other collectives (Table 4). Considering the different levels of management, only in national parks the proportion between the two forms of practice is more balanced, with 53.33% and 46.67%, respectively for independent and associative practices (Table 4). Hence, the Parnas are responsible for 22 of the 32 occurrences of associative entities mentioned in the study. The national parks of Chapada Diamantina, Serra da Capivara and Aparados da Serra / Serra Geral were the ones that contributed with the largest number of occurrences.

**Table 3** – Frequency and percentage of parks open or closed to visitation by biome and existence of management plan, according to CNUC data.

Biome	Existence of management plan	Open to visitation (%)	Closed to visitation (%)	Without information (%)	Total
Amazon	Yes	8 (40.00)	4 (20.00)	8 (40.00)	20
	No	4 (15.38)	8 (30.77)	14 (53.85)	26
	<b>total</b>	<b>12 (26.09)</b>	<b>12 (26.09)</b>	<b>22 (47.83)</b>	<b>46</b>
Caatinga	Yes	3 (75.00)	0	1 (25.00)	4
	No	3 (27.27)	0	8 (72.73)	11
	<b>total</b>	<b>6 (40.00)</b>	<b>0</b>	<b>9 (60.00)</b>	<b>15</b>
Cerrado	Yes	9 (39.13)	3 (13.04)	11 (47.83)	23
	No	5 (11.36)	6 (13.64)	33 (75.00)	44
	<b>total</b>	<b>14 (26.90)</b>	<b>9 (13.43)</b>	<b>44 (65.67)</b>	<b>67</b>
Marinho	Yes	1 (33.33)	0	2 (66.67)	3
	No	3 (30.00)	0	7 (70.00)	10
	<b>total</b>	<b>4 (30.77)</b>	<b>0</b>	<b>9 (69.23)</b>	<b>13</b>
Atlantic Forest	Yes	37 (55.22)	2 (2.99)	28 (41.79)	67
	No	49 (31.82)	17 (11.04)	88 (57.14)	154
	<b>total</b>	<b>86 (38.91)</b>	<b>19 (8.60)</b>	<b>116 (52.49)</b>	<b>221</b>
Pampa	Yes	1 (100)	0	0	1
	No	0	0	2 (100)	2
	<b>total</b>	<b>1 (33.33)</b>	<b>0</b>	<b>2 (66.67)</b>	<b>3</b>
Pantanal	Yes	0	1 (100)	0	1
	No	0	0	2 (100)	2
	<b>total</b>	<b>0</b>	<b>1 (33.33)</b>	<b>2 (66.67)</b>	<b>3</b>
<b>Total</b>		<b>123 (33.42)</b>	<b>41 (11.14)</b>	<b>204 (55.43)</b>	<b>368</b>

Source: The authors

**Table 4** – Frequency and percentage of parks with visitation, by management level, in relation to visitor estimate, guiding service providers and practice of the guides

Item	Options	Level of management of the park			Total (%)
		Federal (%)	State (%)	Local (%)	
Estimate of visitors	Less than 1,000	7 (23.33)	4 (18.88)	4 (33.33)	15 (23.44)
	From 1,000 to 5,000	6 (20.00)	4 (18.88)	3 (25.00)	13 (20.31)
	From 5,000 to 10,000	1 (3.33)	3 (13.64)	2 (16.67)	6 (9.38)
	Over 10,000	16 (53.33)	11 (50.00)	3 (25.00)	30 (46.88)
	<b>Total</b>	<b>30</b>	<b>22</b>	<b>12</b>	<b>64</b>
Guiding service providers	Only local guides	13 (43.33)	13 (59.09)	8 (66.67)	34 (52.13)
	Only guides specialized in natural attractions	0	2 (9.09)	2 (16.67)	4 (6.25)
	Local guides and guides specialized in natural attractions	3 (10.00)	2 (9.09)	0	5 (7.81)
	Without guiding	4 (13.33)	2 (9.09)	2 (16.67)	8 (12.50)
	Without guiding and local guides	8 (26.67)	2 (9.09)	0	10 (15.63)
	Without guiding, local guides and guides specialized in natural attractions	2 (6.67)	1 (4.55)	0	3 (4.69)
<b>Total</b>	<b>30</b>	<b>22</b>	<b>12</b>	<b>64</b>	
Practice of the guides	Guides registered in the Park	17 (56.67)	11 (50.00)	7 (58.33)	35 (54.69)
	Guides not registered in the Park	13 (43.33)	11 (50.00)	5 (41.67)	29 (45.31)
	<b>Total</b>	<b>30</b>	<b>22</b>	<b>12</b>	<b>64</b>
	Independent guides	16 (53.33)	14 (63.64)	9 (75.00)	39 (60.94)
	Associative guides	14 (46.67)	8 (36.36)	3 (25.00)	25 (39.06)
	<b>Total</b>	<b>30</b>	<b>22</b>	<b>12</b>	<b>64</b>
	Number of associations, cooperatives, and other collective of guides	22	7	3	32

Source: The authors

#### 4 DISCUSSION

The implementation of the park management plan is essential to the planning process of public use in these areas. However, 16 years after the SNUC Law, which established the obligation to prepare this technical document for all categories of UCs, the situation is still far from what is required.

Despite this scenario, the situation has changed over the last decade. According to a study by ICMBio (2011), the comparative evaluation of the effectiveness of management in federal UCs, in 2005-06 and 2010, shows that the percentage of national parks with management plan increased from 30.9% to 50%. Unfortunately, in recent years there has not been much change at this level, since the percentage observed in the present study for national parks is not very different (47.89%). Medeiros and Pereira (2011), in a study on the evolution and implementation of management plans in national parks in the state of Rio de Janeiro, also found that, in general, the management plans were not elaborated, neither revised within the dates and periodicity established by law. For the authors, this indicates a difficulty in the implementation of this management tool, probably due to the great complexity involved in its preparation and, thus, time and resource consuming, particularly given the limited budgets of the UCs. This situation can probably be applied to other management levels - state and local - which may explain the lack of management plans in many state and municipal natural parks.

It should be noted that there is no information about visitation in more than

half of the Parks registered in the CNUC. This is probably due to the fact that many of these UCs remain on paper and cannot be considered as actually implemented protected areas.

Comparing the data on visitation to national and state parks obtained in this study, with those obtained in 2005 (MMA, 2005), we verify that the picture has not changed much, since that work indicated that visitation happened in 23 of 52 national parks (44.23%) and 41 of 155 state parks (26.45%), values very close to those obtained in the present study.

The low percentage of state parks open to visitation (23.47%) may reflect the planning difficulties experienced by this administrative level in the management of protected areas. This is evidenced by the reduced number of state parks with a management plan and information about visitation. In contrast, the percentage of municipal natural parks with visitation is similar to that of national parks, although only a small portion presents a management plan and information about visitation. Possibly, the greater number of units with visitation result from being in urban areas, thus dealing with more pressure for visitation.

The fact that many parks without a management plan are open to visitation is not always a non-compliance. It is possible that some of the parks have a Public Use Emergency Plan, a provisional regulation that establishes norms for visitation until the publication of a management plan (IEF, 2015) or the parks may have Visitation Regulation Ordinance, which provides managers with tools for the management of public use and

establishes which and where activities are permitted (Castro & Kinker, 2012).

In this study, we verified that 53.33% of national parks receive over 10,000 visitors a year. This situation is slightly different from that observed in 2005, when the analysis of visitation indicated that approximately 79% of national parks served annually more than 10,000 visitors (MMA, 2005). However, it should be noted that relevant national parks in terms of visits such as Parna do Iguaçu, Parna de Jericoacoara, and Parna de Brasília did not take part in this research.

Regarding the provision of guiding services in Brazilian parks, the high contribution of local guides confirms a trend already visible in the analysis of visitation in national and state parks held in 2005 (MMA, 2005). In this study, these professionals called "local guides" were already the main providers of guiding services in Brazilian parks of all regions, except in the Northern Region, where "company guides" predominated (MMA, 2005).

The strengthening of the role of local guides in UCs is mentioned by Ribas and Hickenbick (2012) in their work on the role of local nature guides and of training courses in ecotourism development in southern Brazil. The authors point out that the publication of the Normative Instruction ICMBio No. 08 (2008), which regulate the activity of guides in federal UCs, also promoted the regulation of the local guides activities at state and municipal levels. According to the authors, the recognition of guides as professionals within the tourism industry and has led the Ministries of Tourism (MTur), Environment (MMA), and Education (MEC) to working together to regulate the guides' training and activity.

The predominance of local guides in the provision of visitor guiding services in parks is very relevant for the development of ecological tourism, since this contributes to meet the socioeconomic needs of the receiving regions. Canto-Silva et al. (2015) draw attention to the fact that the activities of local nature guides in UCs challenge exclusionary paradigms, by adopting the strategy of aggregating the knowledge and techniques of the residents of the surrounding areas of these protected areas, generating, in addition, job opportunities and income for local populations.

Regarding the registration of guides in the parks, the results show that one of the guidelines in the document "Guidelines for Visits to Conservation Units" (MMA, 2006), requiring the register of all types of guides in the UC wherein they operate, is still far from being achieved. Such situation is associated with the fact, underlined by Nascimento et al. (2016), that only 18.5% of the federal units of Brazil have a legal framework establishing norms and procedures for the provision of guiding services in their UCs. The data obtained in this study corroborate this assertion, since the state level was the one that presented the highest percentage of parks whose guides are not registered in the unit.

Finally, the data obtained allow us to note that although park guides are mostly independent professionals, it is very significant the number of parks wherein the guides' practice is associative. This may be considered a feature of ecological tourism, since, according to the Ministry of Labor (MTE, 2011), the solidarity economy is a form of production, commercialization, and consum-

ption that promotes the self-management of labor processes, considering criteria of efficiency as well as social and environmental aspects.

## 5 CONCLUSION

The absence of management plans and even the effective implementation of the parks, are still to be overcome. This situation certainly affects negatively the visitation in most of the Brazilian parks. More than the absence of management plans, other factors seem to be more determinant for this situation, perhaps those related to the lack of physical infrastructure and management capacity of these protected areas.

The percentage of parks open to visitors, apparently, has not changed in the last 10 years, at least as far as national and state parks are concerned. The increase in visitation observed in this period probably reflects the increase in visitation in parks wherein this activity is already consolidated, especially in the case of national parks. We also notice that the municipal natural parks contribute significantly to visitation in parks, although not in the number of visitors.

An important conclusion to be drawn from this study is the leading role of local guides in Brazilian parks. This is evident from the data analyzed, corroborating the trends observed in recent years and reflecting ecological-based tourism initiatives and the inclusion of communities around these protected areas. We also conclude that the administrative relationship of guides with the parks is still not adequate in all the studied units, requiring the implementation of legal

instruments aimed at the practice of these professionals. On the other hand, although not predominant in the parks studied, the organization of guides in associations, cooperatives and other collectives is a reality.

Finally, we believe that the present work is an up-to-date overview of visitation and guiding visitors in the Brazilian parks. Some questions arise from the scenario outlined, pointing to the need for better visitation planning and management. There is a clear need for greater funding of these areas so that they can effectively have management tools and the adequate infrastructure for visitation. On the other hand, in view of the important role of the local community for guiding visitors in the parks, it is pertinent that more studies be developed on the profile, limitations and needs of these professionals, to improve the quality of life of those involved and qualify the visitation services offered in the UCs. Finally, it is also evident that the establishment of regulations regarding guiding visitors in the different management levels is important for improved planning of the activity in these areas.

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