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Understanding the factors that influence visitor perceptions regarding tourism with Amazon River dolphins in Anavilhanas National Park, Amazonas, Brazil

Compreendendo os fatores que influenciam a percepção dos visitantes sobre o turismo com botos no Parque Nacional de Anavilhanas, Amazonas, Brasil

Comprendiendo los factores que influyen en la percepción de los visitantes sobre el turismo con bufeos en el Parque Nacional de Anavilhanas, Amazonas, Brasil

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Abstract: Understanding the factors that influence the visitor's perceptions regarding wildlife tourism is essential to management of its potential impacts. This article presents the profile, and visitor perception, regarding tourism with Amazon River dolphins in Anavilhanas National Park, Amazonas, Brazil. Using a semi-structured script, interviews were carried out with 175 visitors of the "Flutuante dos Botos", company where the interactions with cetaceans occur. The interviewees were from 12 countries from North and South America and Europe. Most interviewees reported an age within a range from 18-27 years, a higher education degree and a high monthly household income. The main feeling caused by the interactions with dolphins was that of happiness yet many visitors have expressed dissatisfaction with the company staff. Although the model of how the activity is carried out, based on food supply, harms the cetaceans' natural behaviour based on hunting, most interviewees believe that tourism helps to preserve the species by promoting people's awareness and making people acquire important knowledge regarding the dolphins. The results provide important information for the company managers and the Protected Area, so they can better understand tourism and develop adequate management strategies for interactions between the tourist and the Amazon River dolphin.

Key words: Boto; Ecotourism; *Inia geoffrensis*; Protected area; Wildlife.

Resumo: Compreender os fatores que influenciam as percepções dos visitantes em relação ao turismo com fauna é essencial para o manejo de seus potenciais impactos. Este artigo apresenta o perfil e a percepção do visitante sobre as interações com botos no Parque Nacional de Anavilhanas, Amazonas, Brasil. Foram realizadas entrevistas com 175 visitantes do Flutuante dos Botos, empreendimento onde são desenvolvidas as interações com os cetáceos. Os entrevistados eram oriundos de 12 países das Américas do Norte e do Sul e da Europa. A maioria declarou idade entre 18 e 27 anos, ensino superior completo e renda familiar mensal elevada. O principal sentimento gerado pelas interações com os botos foi de felicidade, embora muitos visitantes tenham expressado insatisfação com a equipe do empreendimento. Ainda que o modelo da atividade, baseado na oferta alimentar, prejudique o comportamento

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natural de caça dos cetáceos, a maioria dos visitantes acredita que o turismo com os botos auxilia na preservação da espécie por promover a sensibilização das pessoas e o aumento do conhecimento sobre os animais. Os resultados oferecem informações importantes para que gestores do empreendimento e do Parque possam entender melhor o turismo e formular estratégias de gestão mais adequadas para as interações com os botos.

Palavras-chave: Área protegida; Boto; Ecoturismo; Fauna silvestre; *Inia geoffrensis*.

Resumen: Comprender los factores que influyen en las percepciones de los visitantes en relación a el turismo con la fauna es fundamental para manejar sus potenciales impactos. Este artículo presenta el perfil y la percepción del visitante sobre las interacciones con los bufeos en el Parque Nacional de Anavilhanas, Amazonas, Brasil. Se realizaron entrevistas a 175 visitantes del "Flutuante dos Botos", donde se desarrollan las interacciones con los cetáceos. Los entrevistados procedían de 12 países de América del Norte y del Sur y Europa. La mayoría declaró edades comprendidas entre 18 y 27 años, estudio superior completo y alto ingreso familiar mensual. El principal sentimiento generado por las interacciones con los delfines fue de felicidad, aunque muchos visitantes expresaron su descontento con el equipo del Flotante. Si bien el modelo de actividad, basado en el suministro de alimentos, perjudica el comportamiento natural de caza de los cetáceos, la mayoría de los visitantes cree que el turismo con bufeos ayuda en la preservación de la especie al promover la conciencia de las personas y aumentar el conocimiento sobre los animales. Los resultados ofrecen información importante para que los administradores del Flotante y del Parque puedan comprender mejor el turismo y formular estrategias de manejo más apropiadas para las interacciones con los bufeos.

Palabras clave: Área protegida; Bufeo; Ecoturismo; Fauna silvestre; *Inia geoffrensis*..

1 Introduction

There is much appeal in the role of tourism and recreation within protected natural areas, with such activities occupying a key position, overlapping the role of preservation (Souza & Noronha-Oliveira, 2012). Therefore, the establishment of compatibility between the protection of plants and animals and the development of tourism and leisure activities becomes imperative in protected natural areas.

For centuries, people have been enthralled and fascinated by animals, and interactive tourism with wild fauna symbolises the interface and tensions existing between society and wildlife resources (Rodger et al., 2010). These wildlife interactions range from observing animals in captivity, such as zoos and rehabilitation centres, to feeding activities, and swimming and diving with animals in their natural environment (Bernardon & Nassar, 2016; Cardiff et al., 2012; Fernandez et al., 2009; González-Pérez & Cubero-Pardo, 2010; Kojola & Heikkinen, 2012; Nakamura & Nishida, 2009; Van Der Duin et al., 2014).

Countries and regions with abundant, diverse, endemic and charismatic wildlife, such as Australia, the Amazon and the Galapagos Islands, are much sought-after by tourists who seek closer approximation to animal species. This form of wildlife interaction can provide residents of urban areas with a return to wild nature, arousing strong emotions, whether they see a cheetah

crossing the plains of the Serengeti, dive among barracudas in the coral reefs on the coast of Sulawesi, or observe colourful parrots in the Amazon rainforest (Higginbottom, 2004).

At Anavilhanas National Park, located in the Brazilian state of Amazonas, there is interactive tourism with Amazon River dolphins (Inia geoffrensis). This cetacean, also known as the pink river dolphin or locally as the boto, is a highly charismatic species well suited to tourism due to its docile behaviour, size, and endemism (Vidal, 2011), and it is a fundamental component of Amazonian folklore, where it is said that the dolphin is an enchanted animal capable of turning itself into a handsome man, skilled in dancing, seduction, and getting women pregnant (Cravalho, 1999; Romagnoli et al., 2011).

The interactions with cetaceans in the Anavilhanas National Park started by accident in 1998 when a child started offering fish to a dolphin that was close to a floating restaurant, anchored in the south-central region of the protected area, in front of the main urban beach of the city of Novo Airão (Barezani, 2005; Romagnoli, 2009; Vidal et al., 2018). This action slowly started attracting other dolphins because of the food offered, and the child started to swim with the animals, which caught the attention of visitors from the city, who started to buy portions of fish in the company so they could also feed the dolphins. From then on, interactive tourism between people and dolphins in Novo Airão, based on offering food to the cetaceans, became well known among both Brazilian and foreign visitors, and the activity became the main tourist attraction in the Anavilhanas National Park and in the city itself (Alves et al., 2009; Romagnoli, 2009; Vidal, 2011).

However, the interactions with cetaceans had no rules or monitoring for the animals' well-being of the animals and the tourists' safety, which led to negative consequences, such as a high number of tourists interacting with a few animals; tourists swimming with the dolphins and trying to hold them by force; tourists offering food that is not part of the dolphins' natural diet; tourists getting accidentally bitten by the dolphins during the feeding activities; fish offered to the dolphins while still frozen and handled with poor hygiene; and lack of control over the amount of fish given daily to the dolphins (Alves et al., 2011; Romagnoli, 2009; Vidal, 2011).

Because these problems experienced with Amazon River dolphins in the Anavilhanas National Park, some actions were adopted in 2010, to guarantee the safety and well-being of cetaceans and tourists alike, and also to promote the sustainability of this tourist activity (Vidal

et al., 2018). However, the food offered to the Amazon River dolphins continues to be produced by employees of the company where these tourist interactions take place.

From the 1960s onwards it has been essential to research the profile and perceptions of different actors, in order to understand the relationship between humans and the environment, and to improve the public tourism policies and the preservation of natural resources in the areas where the activities are executed (Diedrich & García-Buades, 2009; Ritchie & Inkari, 2006; Zeineddine et al., 2018).

Based on this context, this article identifies the visitor's profile and perception related to wildlife tourism with the Amazon River dolphin, in the Anavilhanas National Park. The aim is to understand the combination of factors that influence the perceptions regarding this model of wildlife interactions and to subsidise more efficient projects and public policies related to tourism in protected areas.

2 Research methodology

2.1 Study area

The study was carried out at Flutuante dos Botos, a private company located in the south-central part of the Anavilhanas National Park, in the city of Novo Airão (Figure 1). At this location, interactions with Amazon River dolphins occur every day at eight feeding sessions, each one lasting a maximum of 30 minutes. Only the local employees feed the dolphins, but visitors are allowed to observe the dolphins being fed, touch the dolphins, take pictures, and videos (Vidal et al., 2018).

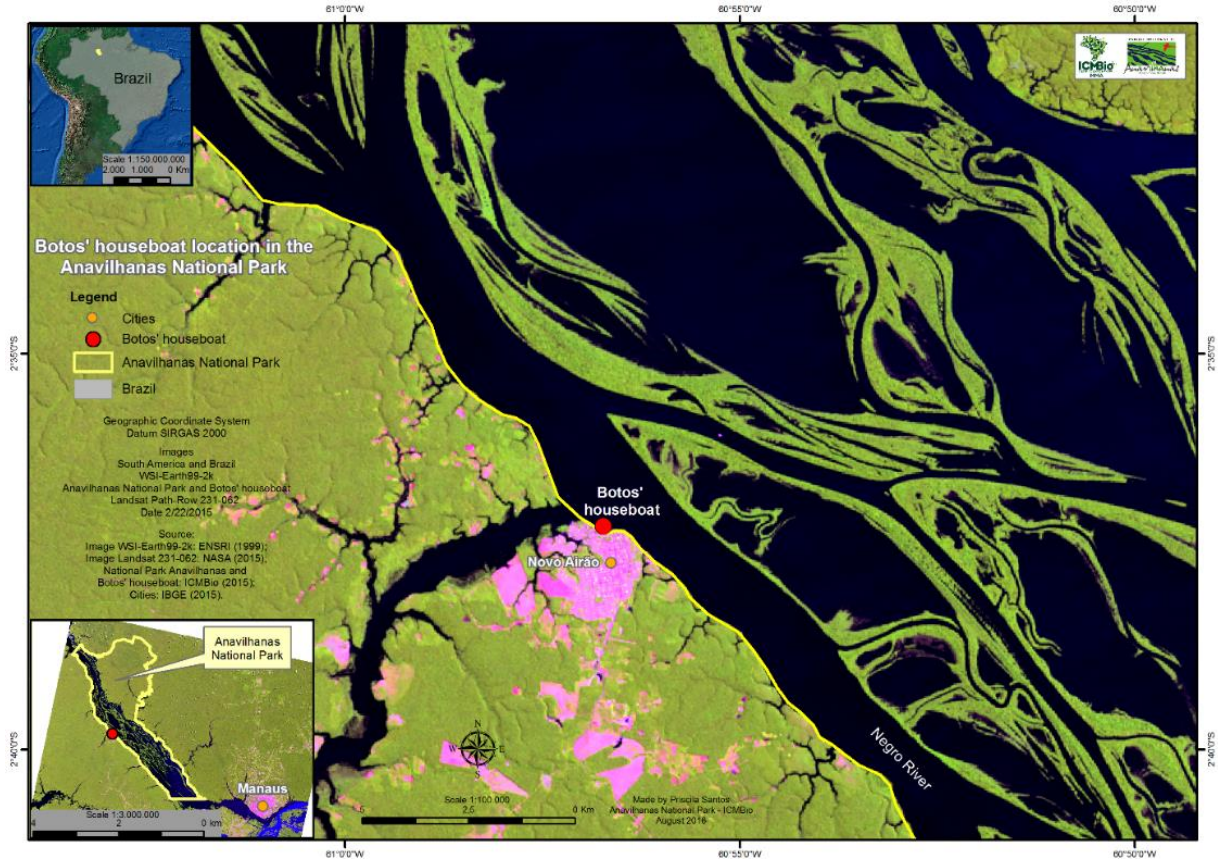
Novo Airão is a small city with a population of 18,133 (IBGE, 2017), on the right bank of the Negro River, a 183 km drive from Manaus, capital of the Brazilian state of Amazonas. Due to its proximity to Manaus and easy access by paved road, Novo Airão is currently one of the main tourist destinations for those who visit the Amazon, and for the inhabitants of Manaus and neighbouring cities, mainly due to its natural attractions (Alves et al., 2013; Vidal et al., 2018).

Anavilhanas National Park has an area of approximately 350,000 hectares and includes around 400 islands, making it the second largest river archipelago in the world. The protected area includes forest formations of terra-firme (non-floodable areas) and igapó (low areas

seasonally flooded by the Negro River), in addition to several igarapés (streams), lakes, and paranãs (secondary channels) (ICMBIO, 2011, 2017).

The main visitation activities in Anavilhanas National Park include interactions with Amazon River dolphins, water trails, nautical activities, visits and overnight on beaches, hiking on trails, scenic flight, tree climbing, and fauna and flora observation (Silva & Simonetti, 2020).

Figure 1 - Map identifying the city of Novo Airão, Anavilhanas National Park, and the location of the Flutuante dos Botos ("Botos Houseboat").



Source: Authors (2020).

2.2 Data collection and analysis

One hundred and seventy-five visitors were interviewed at Flutuante dos Botos over the weekends, during January and February in 2012 and 2013, periods with more visitors in the area.

The interviewees were selected using non-probability sampling by the interviewers, who

approached the visitors after these visitors had interacted with the dolphins (Figure 2). If the visitor was available to participate in the research, the data collection instrument was applied; otherwise, a new potential interviewee would be selected.

The interviews were guided by a semi-structured questionnaire, with open and closed questions, divided in four sections: social and economic profile of the visitor; visit characteristics; characteristics of the visit to Flutuante dos Botos; and visitor perceptions of wildlife tourism with the dolphins.

Figure 2 - Visitor's interactions with Amazon River dolphin in the Flutuante dos Botos, Anavilhanas National Park, Brazil.

Source: Authors (2020).

The questions allowing only one answer were analysed using percentage calculations (descriptive statistics). The questions in which the participants could provide more than one answer were analysed for their frequencies, considering the number of times they appeared in all the answers (Peterson, 2005). The answers related to open questions were standardised using categories that grouped the answers, facilitating the interviews interpretation (Bogdan & Biklen, 1994).

Logistic regression analyses were conducted (with a significance level of 5%) using the analytics software package Statistica 13.2 (Dell Inc., 2016) to determine if there were any significant differences regarding age range and education of visitors considering their perceptions on (i) the importance of rules related with the interaction and (ii) the benefits of tourism with Amazon River dolphins for the preservation of the species.

The study was developed by the National Centre for Research and Conservation of Sociobiodiversity Associated with Traditional Peoples and Communities - CNPT/ICMBIO and was authorised by the visitors and the governmental research committee.

3 Results

3.1 Social and economic profile of the visitors

The interviewees came from 12 countries from North America, South America, and Europe (Table 1), with the majority being from Brazil (89.7%). Among the Brazilians, most of them came from the states of Amazonas (42.7%), Rio de Janeiro (15.9%) and São Paulo (10.8%). The other 48 interviewees came from 18 other Brazilian states.

Table 1 - Country of origin of the visitors interviewed in the Flutuante dos Botos, Anavilhanas National Park.

Region	Country of origin	Percentage
South America	Brazil	89.7
	Paraguay	0.6
North America	United States	2.3
	Canada	0.6
Europe	England	1.7
	Spain	1.1
	Portugal	1.1
	France	0.6
	Romania	0.6

	Sweden	0.6
	Switzerland	0.6
	Germany	0.6

Source: Authors (2020).

The predominant age range was between 18 and 27 years of age (28.0%). Most of the interviewees reported a university degree (50.9%) and a monthly household income higher than R$ 6,780.00 (32.6%), Table 2.

Table 2 - Socioeconomic profile of the visitors interviewed in the Flutuante dos Botos, Anavilhanas National Park.

Variable	Category	Percentage
Gender	Female	50.9
	Male	49.1
Age range	18-27	28.0
	28-37	18.9
	38-47	22.3
	48-57	17.1
	58-67	11.4
	< 67	2.3
Marital status	Married	54.3
	Single	38.9
	Divorced	4.0
	Widowed	1.7
	Other	1.1
Education	Higher education complete	50.9
	Higher education incomplete	18.3
	Secondary school complete	22.9
	Secondary school incomplete	4.6
	Basic education complete	1.7
	Basic education incomplete	1.1
	Illiterate	0.6
Monthly household income (R$)*	More than 6,780	32.6
	3,391-6,780	24.6
	1,357-3,390	29.7
	Up to 1,356	13.1

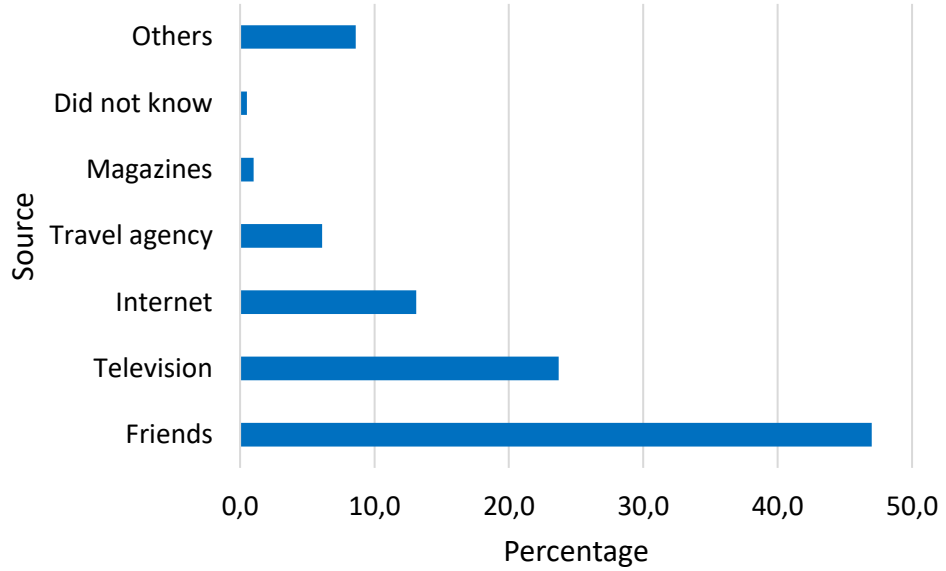
* At the time of data collection, the average exchange rate was US$1 = R$3.20.
Source: Authors (2020).

3.2 Characteristics of the visit to the region and to Flutuante dos Botos

The largest part of the interviewees were on day trips (40.0%), travelling in their own car (80.6%). The majority of the interviewees learned about the interactions with dolphins in the region through friends (47.0%) or on television (23.7%), Figure 3.

When questioned about the number of times they have been to Flutuante dos Botos, 82.9% of those interviewed said that this was their first visit. Asked about the activities they participated during the interaction with the dolphins, 46.9% of the interviewees only observed the animals, while the other 53.1% had also touched them.

Figure 3 - How interviewed visitors learned about the dolphin interactions in the Flutuante dos Botos, Anavilhanas National Park.



Source: Authors (2020).

3.3 Visitor perceptions regarding interactive tourism

According to the interviewees, the main feelings that the dolphin interactions caused in them was happiness/excitement (68.7%), followed by pity (5.0%) and fear (3.4%), Figure 4.

Figure 4 - Visitor feelings that the interactions with dolphins caused in the Flutuante dos Botos, Anavilhanas National Park.

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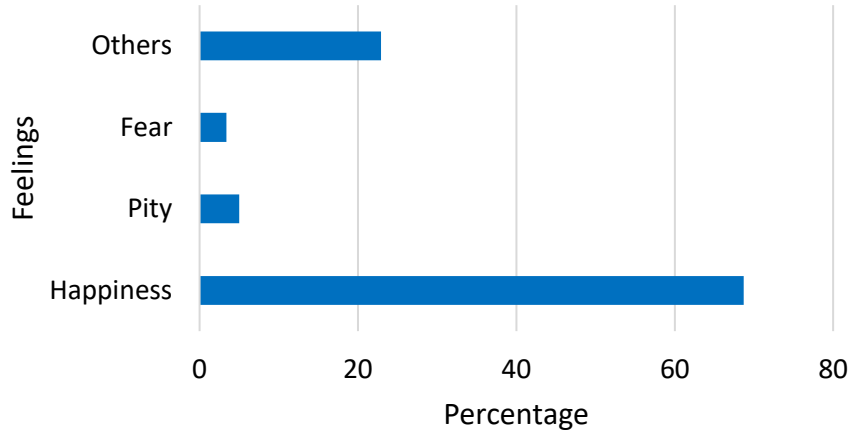

Source: Authors (2020).

Over three-quarters (78.9%) of the interviewees reported they had received instructions concerning the guidelines regarding how to interact with the dolphins, while 21.1% said they had not. Among the guidelines, those most mentioned by the interviewees were: the prohibition on visitors feeding the dolphins (25.6%); the prohibition on swimming with the dolphins (24.7%); and guidelines about where and how to touch the animals (17.9%). Asked about whether these guidelines were important, a majority of the interviewees agreed (81.7%). When establishing relationships between the frequencies of positive and negative responses with the variables of interviewee profiles, we found significant differences in terms of levels of education: complete secondary school education (p=0.0080), incomplete University studies (p=0.0165), completed University studies (p=0.0010), all with a proportion of positive answers higher than expected. No statistically significant difference was found in relation to the age range of the interviewees.

Only 39.4% of the interviewees reported they had received biological information about the dolphins, with the other 60.6% saying they had not received any information about the animals. The items of information mentioned most often by the interviewees were those related to aspects of feeding (28.6%), life cycle (19.0%), anatomy (14.3%) and reproduction (14.3%).

Most (65.1%) of the interviewees said their expectations regarding interacting with the dolphins were met; another 22.3% felt their interaction with the dolphins had surpassed their expectations, while 12.6% felt disappointed. Among those who were disappointed, the most commonly mentioned fact (27.3%) was that they could not feed the dolphins.

Most of the interviewees (74.3%) said that they enjoyed everything they saw at Flutuante

dos Botos, while another 25.7% reported some negative comments during the visit. Some of the reasons mentioned by those who did not like something were "The service at the company is not good", "The infrastructure of the company was not the desirable" and "I saw a lot of dirt in the water".

When questioned on whether wildlife tourism with the dolphins helped to preserve the species, a clear majority (87.4%) of the interviewees responded positively, while only a small number (9.7%) responded negatively, and 2.9% said they did not know. Among those who responded positively, the reason mentioned most often (36.6%) was that the activity helps to raise people's awareness about the protection of dolphins (Table 3). Among the few who responded negatively, the most common reason (29.4%) was how the activity is carried out, based on offering food to the dolphins, hinders the cetaceans' natural behaviour based on hunting. On establishing relationships between positive and negative frequencies, of responses with the variables of the interviewee profiles, we find significant differences in terms of the levels of education: illiterate (p=0.0000), with a proportion of positive answers below that expected, complete secondary school (p=0.000145), incomplete University studies (p=0.0007) and completed University studies (p=0.0000), all with a proportion of positive answers above the expected. No statistically significant difference was found in relation to the age range of the interviewees.

Table 3. Reasons for the visitors interviewed in the Flutuante dos Botos, Anavilhanas National Park to believe that the interactive tourism with dolphins helped to preserve the species.

Reason	Percentage
Helps in raising people's awareness	36.6
Promotes increased knowledge about dolphins	13.1
The contact and feeding are controlled	4.6
Good for people and for the dolphins	3.3
Reduces dolphin hunting	0.7
Not informed	41.8

Source: Authors (2020).

4 Discussion

The visitor profile at Flutuante dos Botos, Anavilhanas National Park, is that most of the visitors were predominantly young and middle-aged Brazilians, many of whom from the state of

Amazonas and with higher levels of education and income.

This origin profile is similar to that found in some studies (Campos et al., 2011; Espírito Santo & Matos, 2015) from Tijuca National Park, in Rio de Janeiro, and at the Serra do Cipó National Park, in Minas Gerais, studies that show that these protected areas catered largely to residents of the neighbouring cities. In the case of the Anavilhanas National Park, this fact can partly be ascribed to the lower cost and travelling time by tourists who live in the nearby cities such as Manaus, Manacapuru and Iranduba, all of which stand within a 200-km radius from where the dolphin interactions take place.

The predominant age range and educational level in this study suggest a profile similar to that found for visitors of Fernando de Noronha National Marine Park, and at the Jalapão State Park, where the visitors consisted mainly of youths and adults with a university education (Dutra et al., 2008; Lima, 2002). The high educational level of the visitors at Flutuante dos Botos can be a positive factor to be used in programmes and projects for environmental education, as these visitors have an educational knowledge that, in theory, can facilitate understanding of techniques and strategies aimed at reducing the impacts of tourism on the environment and on the species.

The majority of the interviewees declared a monthly household income of more than R$ 6,780.00, an amount that at the time in which this research was performed, was equivalent of 11 Brazilian national minimum wages. A similar result was found for visitors to the Superagui National Park (Niefer et al., 2000) and to the Municipal Baths of Bonito (Santos et al., 2007), where one of the attractions is to offer the food to the piraputanga fish (Brycon hilarii). In these areas, the household income of the visitors was clearly higher than the average household income in Brazil. In general, the levels of education and income are directly correlated, and this same relationship is present in tourism, as people who have higher incomes travel more than those with lower incomes (Batista, 2005).

According to Kinker (2002), the visitors' length of stay at Brazilian National Parks is directly proportional to the number of attractions and activities available, and to the difficulties that the visitor has in moving around these areas. In Novo Airão, most of the tourist attractions are located outside the urban area and are accessible only by river. Therefore, the relative lack of other tourist activities in the urban area of the city and the high cost of the river cruises within the Anavilhanas National Park, which can be as high as R$ 150.00/person for a two-hour tour,

help to bring down the lengths of stay in Novo Airão.

According to Romagnoli (2009), the tourists that arrived in Novo Airão to interact with the dolphins used river or land transportation. The results show that there were changes in this travel profile. Currently, most visitors arrive at the city using their own car. This change is probably related to the 2011 inauguration of the Negro River Bridge, which connects Manaus to the cities of Iranduba, Manacapuru and Novo Airão. After the bridge was built, access to the Anavilhanas National Park became easier and faster, it is not necessary to cross the Negro River on the old ferries that transported cargo, vehicles and passengers. The inauguration of the Negro River Bridge also turned the Anavilhanas National Park into one of the few Brazilian parks located in the Amazon that has access by land, and in the proximity of a state capital.

The development of tourist activities to interact with the wild fauna (observation, touching, feeding, diving, swimming) has a significant role in the marketing of tourism (Curtin, 2009; Reynolds & Braithwaite, 2001; Tremblay, 2002), especially when done with iconic and charismatic species. Considering this aspect, television and the internet are important sources of information and can influence the choice of a tourist destination. However, in the dolphin interactions tourism in Novo Airão, these marketing tools are somewhat underused. The City Hall and local business people, who would benefit directly from the dolphin interactions, invest very little in marketing this activity on the media. In fact, Novo Airão seems to suffer from an identity crisis in relation to fauna as a tourist attraction. The dolphins are actively exploited but, the symbol of the city, present on various governmental buildings, is the manatee, while the main city square is adorned with an enormous dinosaur structure. Every year in October, the city holds the Manatee Festival, where two associations (Jaú and Anavilhanas) compete in an annual tournament. On the other hand, the dolphin, the main tourist attraction of the city, does not have any festival in its honour or recognition.

The low rate of interviewees revisiting Flutuante dos Botos to interact with the cetaceans can also be related to strategies for marketing this attraction. Kitterlin & Yoo (2014) suggest that marketing strategies to promote the loyalty of visitors should be directed towards the profile of the public that visits the attraction. And this can have an increased economic impact, because, in tourism, the costs incurred in attracting repeat visitors are lower than those of attracting first-time visitors (Lau & Mckercher, 2004; Weaver & Lawton, 2002). Other factors that could contribute

to the low level of returns and dissatisfaction of some visitors is the quality of the service offered at Flutuante dos Botos and how their managers handle visitor's complaints. Even with the changes implemented in the planning process of tourism with dolphins (Vidal et al., 2018), there are still complaints regarding the service provided, which is not carried out by a team of professionals duly trained and qualified for the role, but mostly by members of the same family. Regarding this, Lee et al. (2004), showed the existence of a direct correlation between the quality of the service offered and visitor satisfaction, and satisfaction as a prerequisite for loyalty to the tourist attraction.

Despite visitors being allowed to interact with the dolphins on a submerged platform after the feeding sessions with the cetaceans have ended, most of the interviewees would rather just observe and touch the animals from the emerged platform. If the visitor's stay in the water, even on a submerged platform, they can interact very close with the dolphins, which can lead to inappropriate behaviour, such as touching sensitive parts of the animal, (eyes and the spiracle), or even attempts to prevent the dolphins from swimming (Vidal et al., 2018). When properly done, touching the dolphins only from the emerged platform can be considered an activity with low impact on the animals, while being highly enjoyable for the visitors, and can be used as a tool for raising people's awareness in relation to the dolphins.

See the landscapes and the wild fauna are among the attractions that the visitors do on a short visit, they also take photographs and buy souvenirs (Franklin, 2003). However, some animals are more charismatic and attractive than others within a tourist context, especially when these animals have characteristics closer to those of the human species, such as intelligence, interspecies communication and parental care. This is the case with dolphins (Curtin, 2009), showing a link back to the psychological benefits (happiness, satisfaction, excitement) that interaction with dolphins at Anavilhanas National Park has provided to the visitors. On the other hand, it is possible that the feeling of pity for the animals, as expressed by a small number of visitors, is related to the perception of changes in the dolphins' natural behaviour, something observed in other studies involving interactions between people and wild animals (Alves et al., 2009; King & Heinen, 2003; Labrada, 2003; Vidal et al., 2017).

Ever since tourism with dolphins started to be organised at the Anavilhanas National Park, all visitors can only interact with the cetaceans after being briefed and instructed about the rules

of interaction and about the biology of the animals (Vidal et al., 2018). However, a significant part of the interviewees declared that they had not received any information about the biology of the cetaceans. Frequently, visitors that come in tour groups arrive at Flutuante dos Botos after a talk meant to pass on this information. In theory, these visitors should then wait for the next interaction session, which starts with a presentation given by the employees of the company. However, normally due to pressure from the guides that lead these groups, the employees allow visitors to witness the dolphin feeding without receiving any previous instruction. This clearly shows that the employees of Flutuante dos Botos have been disregarding the organisation rules.

The fact that 20% of the visitors did not receive instructions on the current rules in Flutuante dos Botos is a cause for concern. Visitors without any information about the location, the permitted activities and the possible safety risks involved, can cause negative impacts or even make themselves susceptible to potential accidents (Nunes, 2009). Since the dolphin interactions started to be organised, visitors have no longer been allowed to feed the cetaceans or swim with them in the Flutuante dos Botos area (Vidal et al., 2018). Even though these rules appear to restrict and inhibit the visitors, if well-applied the rules can have the opposite effect, making them feel more secure, knowing that precautions are being taken for the animals, as mentioned by Romagnoli et al. (2011). Awareness about the importance o these rules has been higher among visitors with a higher level of education. Education is an important factor, as it facilitates the development of environmental awareness (Espírito Santo & Matos 2015)

A small number of interviewees declared disappointment with the visit to Flutuante dos Botos, for no longer being able to feed the cetaceans in the area. This change has practically ended accidents and potential mistreatment involving visitors and the dolphins (Vidal et al., 2018). In fact, for more than a decade, visitors had purchased portions of fish to offer to the dolphins. However, this activity led to a range of negative consequences, including the dolphins being offered food that is not part of their natural diet; visitors accidentally bitten by the dolphins while feeding them; and fish offered to the dolphins while still frozen and handled with poor hygiene (Alves et al., 2011; Romagnoli, 2009; Vidal, 2011; Vidal et al., 2018).

Most of the interviewees, mainly those with higher levels of education, believe that the tourist interactions with Amazon River dolphins help to preserve the species. The activities raise people's awareness about the dolphin's protection. Vidal (2011) considers the touristic

interactions with dolphins as something positive, since direct contact with the animals increases people's curiosity and, consequently, their knowledge, being an important tool for environmental awareness-raising. The importance of the touristic interactions with the dolphins, as far as preservation is concerned, is reinforced by the reports of local residents of Novo Airão, who declare that the tourist activity is important for the preservation of the species because it guides people to not kill them (Vidal et al., 2019), and by the artisanal fishermen, who declare that there is no slaughter of Amazon River dolphins and use of their meat as bait for fishing piracatinga (Calophysus macropterus) in the Lower Negro River (Vidal et al., 2017), an illegal activity carried out in other areas of Amazonas state, especially in the Middle Solimões River, where the dolphin populations have been depleted (Brum et al., 2015; Iriarte & Marmontel, 2013; Mintzer et al., 2013).

Some animals more than others evoke emotional responses and cause concern about their state of conservation among visitors. They can be used as a flagship species to assist in the preservation of the less charismatic species. In Indonesia, the Komodo dragon (Varanus komodoensis) is an example of the value of a flagship species for tourism. Though established to preserve the dragon, the main attraction of the Komodo National Park, the protected area also benefits other endangered species, a distinct assembly of land and marine species, and helps to bring jobs and income to the local population (Walpole & Goodwin, 2000, 2001).

In Brazil, some marine protected areas are renowned destinations for those who seek interactions with local fauna. The areas that develop most of these activities are those that have groups of endemic or iconic species. The Abrolhos National Park, on the southern coast of Bahia state, receives hundreds of visitors annually aiming to watch the reproductive migration of the humpback whale (Megaptera novaeangliae). Further north, the Fernando de Noronha National Marine Park (Pernambuco state), is a tourist destination where spinner dolphins (Stenella longirostris) and sea turtles can be observed. In these insular areas, the awareness promoted by responsible and conscientious visitation contributes to the conservation of the species.

In Fernando de Noronha, the need to create or strengthen people's awareness of the environment, with regard to the importance of preservation of sea turtles has led the Tamar Project to encourage public participation in their activities, by creating the Ecotourism Programme, which involves five different free activities. They are very popular and attract

thousands of tourists each year. The community also participates and recognises the importance of preservation of the turtles. The chelonians are symbol animals of the archipelago and the Tamar Visitor Centre is a touristic product of Fernando de Noronha (Moreira & Robles, 2017). The archipelago also has the Golfinho Rotador Project, which has been carrying out research activities since 1990, with environmental education and community involvement to benefit the preservation of spinner dolphins, from the Fernando de Noronha archipelago, and marine biodiversity (Silva-Júnior et al., 2013).

Few interviewees, mainly those with lower levels of schooling, believe that the tourist activity with the dolphins in Flutuante dos Botos does not contribute to the preservation of the species, justifying this position mainly based on the fact that food is offered to the dolphins. The food offering to wild dolphins in their natural habitat is a strategy used by tourist guides and visitors to promote closer approximation of these animals (Orams, 2002), but can have negative consequences, including changes in population density, group composition, use of the environment and individual behaviour (Orams, 2002; Alves et al., 2013; Christiansen et al., 2016).

However, if adequately handled, offering food to the wild fauna can provide significant social, economic and psychological benefits (Walpole & Goodwin, 2001; Orams, 2002; Curtin, 2009). Wildlife feeding provides an opportunity to promote appropriate behaviour patterns (Newsome et al., 2005), making people environmentally responsible (Orams, 1996), as environmental education and interpretation are part of interactive tourism to feed the animals. In Australia, a benchmark country in interactions based on offering food to dolphins, there are at least three tourist locations (Bunbury, Monkey Mia and Queensland) with strict license control and long-term monitoring of bottlenose dolphins Tursiops sp. feeding (DEH, 2005; Smith et al., 2008).

5 Conclusions

It is important to understand the combination of factors that influence visitor perceptions regarding the impacts, positive and negative, of this kind of tourism. The results presented here provide an important source of information for the managers of Flutuante dos Botos and of Anavilhanas National Park, so they can better understand the visitation to the company and draw

up more appropriate management strategies for the interactions between tourists and the Amazon River dolphin.

In this study, the sociodemographic characteristics of the visitors affected their perceptions of wildlife tourism with dolphins and the potential of the activity to contribute to the preservation of the species. Considering this fact, we suggest carrying out research and activities with a multidisciplinary approach, aimed at reducing the negative impacts of the touristic interactions with the cetaceans and improving visitor perceptions. It is also important for the employees of Flutuante dos Botos to be trained to provide more professional services, interpreting about the ecology, anatomy, behaviour and threats to the dolphins, to all visitors. This is important in order to contribute to the awareness-raising and changes in voluntary behaviour of these stakeholders for preservation of the cetaceans and their environment.

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