

Management, Interpretation and Visitor Perception in Remote National Parks: Parque Nacional da Chapada dos Veadeiros, Brazil

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Abstract: Interpretation, the education of visitors and local residents about a park, has the potential to be a major tool to address the management needs of sensitive ecosystems. A review of the park management plan for Parque Nacional da Chapada dos Veadeiros (PNCV) in Brazil suggests that while interpretation is given some discussion, there are no concrete plans to implement its use for management purposes. Visitors to PNCV felt very positive about their guided experience, but their knowledge of the management issues in PNCV was mixed due to the uncoordinated nature of the information they received. For sustainable development to be successful in the fragile ecosystems found in most national parks, managers need to more aware of the role of interpretation and make use of it to preserve and protect their lands.

Keywords: Brazil, national parks, interpretation, guides, visitor perception, park management

Introduction

Sustainable tourism is tourism that aims at preserving and perpetuating the natural and cultural systems inherent in a location while keeping these systems open to sensitive use by the tourism industry. Inskeep (1991) states that sustainable tourism development leads to management of resources in a way that fulfills present and future economic, social and aesthetic needs of both visitors and hosts to a region. Sustainable tourism development also suggests a positive socioeconomic change (Gunn, 1994). The process maintains cultural integrity, ecological processes and biological diversity. A primary challenge is to insure non-degradation of environmental resources and to actively protect local human and cultural resources from exploitation (Burr and Walsh, 1993). All authors discuss the maintenance of these resources and systems for both present and future generations. Wendt (1991) has suggested several control measures to help balance resource protection with the needs of tourists and contribute to the promotion of sustainable tourism development. Part of this list includes environmental interpretation and education.

Managing tourists through education and interpretation is a key tool in the protection of land and facilities (WTO and UNEP, 1992; Christensen, 1994). One of the three basic objectives of interpretation is the accomplishment of management goals which can be achieved by encouraging the visitor's wise use of the resource, especially fragile or threatened areas (Sharpe, 1976). Interpretation can also inform the public of critical management issues and controversial actions or policies that they may not understand or about which they have questions. Only when a point of understanding is reached can park managers expect visitors (and local residents) to play a role in minimizing threats to a park or protected area (Winter, 1993).

In the case of a lesser developed country (LDC), the methods of park interpretation may differ greatly from those in a more developed country (MDC) (Ham, et al., 1989; Ham and Sutherland, 1992). Park neighbors in LDC's may include people of lesser means living adjacent to or even within a protected area. Outreach of an interpretive nature to these individuals might, for example, include extension-type demonstrations. Ham and Sutherland (1992) mention other techniques such as radio broadcasts or helping schools to arrange field trips for dealing with the visitor and constituent populations that impact a park or protected area. Sharpe (1982) also notes that on-site interpretation does not always address park neighbors or visitors who need to be reached with a management message. Threats to the park come from both in and outside its boundaries. A small, local target audience that is presented with an interpretive program may help to change constituent behavior (Whatley, 1995). An interpretive program that reaches out to the community is a real asset (Sharpe, 1982). Pedersen (1991) suggests that park staff should document events and incidents relating to the attitudes of visitors and neighbors regarding park policies. By compiling this information, park managers will be able to determine if park management goals that relate to visitors are being met. Additionally, Pederson suggests that a handbook be developed as a management tool including descriptions of management issues faced by the park, ongoing local conservation projects being carried out by governmental and NGO's (non-governmental organizations), and a list of organizations where visitors or interested persons might donate time or funds.

Unfortunately, in many LDC's much of the potential for education and for raising the environmental awareness of tourists in parks has been neglected by both park managers and the private sector, especially as regards local and national tourism (Moore, 1991). With budgetary and other pressures placed on park management "too frequently interpretation is an afterthought rather than an integral part of a park planning and implementation process" (Sharpe, 1982:17).

Many LDC's find that the financial resources, personnel and infrastructure available to their national parks are insufficient, requiring them to rely on

outside or private guides to provide the interpretation in their parks. In both LDC's and MDC's, legal mandates may require the provision of interpretive services but not the funds necessary to effectively implement and manage an interpretive program. In cases such as this, the training of private tour guides by the park can be a way to educate concessionaires about park management policies and goals (Roggenbuck, et.al., 1992). This training, says Roggenbuck, will help to develop more cooperation between government entities and the private sector and will naturally lead to increased knowledge and appropriate behavior by visitors consistent with park management goals. The specific role of the private sector (tour guides, concessionaires, private operators) needs to be addressed during planning in order to insure appropriate management of the private sector responsibilities (Moore, 1991). Dare (1991) notes that both management/ranger teams and tour operators/guides are responsible for educating visitors to care for the environment.

Mention of interpretation or interpretation as a tool in park management within other Brazilian national park management plans is limited. Several park management plans were examined as part of this study (including Parque Nacional de Abrolhos, Serra da Canastra, Iguaçu, and Caparão). These plans were all based on a pre-formulated template and each contained a section entitled "Public Use" with sub-programs of Recreation, Interpretation, Education, Tourism, Public Relations, and Extension listed. The interpretation section within each plan included helping the visitor understand and appreciate the natural and cultural resources of the area in a way that would be both positive and pleasant (IBDF and Funatura, 1981). All mentioned the use of pamphlets, slides, and publications about the flora and fauna of their respective regions. Reference was made to orienting visitors to park areas least susceptible to degradation and helping tourists to understand about Brazilian national parks in general and the placement of each particular park within the context of national parks. Some of this language hinted at the use of interpretation for visitor management and park management, but only in general terms. However, no specifics were mentioned regarding using guides, signage, interpretive exhibits, or employees to communicate management messages to the park visitors.

The Geographical Setting

Parque Nacional da Chapada dos Veadeiros (PNCV) is located in central Brazil, in the state of Goiás, approximately 252 km north of the national capital, Brasília, and approximately 485 km northeast of Goiânia, the state capital (Paes, 1995). The region experiences a four to five month dry season and maintains a median annual temperature between 24-26 degrees Celsius (IBAMA, 1989). The region lies in a faulted area, creating both mountainous and hilly terrain interspersed with rivers that form canyons, slopes and spectacular waterfalls.

The nearly 66,000 hectare (approximately 163,086 acres) park lies within the cerrado, one of Brazil's nine distinct ecosystems (Rizzoni, 1991). The cerrado, a savannah ecosystem, may rival the rainforest in its biodiversity. It is known to contain 429 unique woody savanna species — greater than any other savannah ecosystem on the planet (Klink, et al., 1992). The vegetation types vary from grasslands to a gallery forest and the ecosystem creates a variety of habitats for its floral and faunal species. In many areas of the cerrado, fire is occurring more frequently due to agricultural burning (Klink, et al., 1992). Various local agricultural development schemes have also been proposed for the area by past governments with limited success (Paes, 1995). An increase in agriculture within the cerrado has affected floral diversity due to frequent burning and introduction of herbicides and pesticides to the ecosystem (Klink, et al., 1992). Less and less of the cerrado's natural vegetation remains due, in part, to government support of large scale agriculture.

In 1960 a national park for the region was proposed by a letter to Brazil's President Juscelino Kubitschek (the president responsible for relocating Brazil's national capital to Brasília) to preserve the unique characteristics and beauty of the cerrado (Paes, 1995). Parque Nacional do Tocantins was established in December of 1961 with an area of approximately 625,000 hectares. The park was renamed Parque Nacional da Chapada dos Veadeiros (PNCV) in 1972 with a reduction in size to 172,000 ha and reduced again in 1981 to 60,000 ha (Paes, 1995). In 1990 monies were released to purchase private property within the existing park boundaries and PNCV's area now stands at 65,515 ha. Private landholdings, however, continue to exist within the park today (Leão, n.d.; A.V. Miranda, personal conversation with the Director of Parque Nacional da Chapada dos Veadeiros).

The park was first established under the Instituto Brasileiro de Desenvolvimento Florestal (Brazilian Institute of Forest Development, or IBDF). A new agency, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazilian Institute of the Environment and Renewable Natural Resources, or IBAMA), combining the IBDF and other environmental agencies, was created in 1988 after the realization that Brazil's environment was in danger, especially in the Amazon rainforest (IBAMA, n.d.). Prior to 1990 there was considerable environmental degradation within the park due to unregulated use (both day and overnight), vehicles parking at the margins of the rivers, driving in restricted areas, and trash and garbage accumulation. In 1990 IBAMA closed the park to reevaluate its management. PNCV was reopened to the public in 1991.

PNCV Visitation

To enter the park, a visitor must be accompanied by a park approved guide from the local guide association (Association of Chapada dos Veadeiros Guides,

or ACVCV) and pay fees to both the guide and the park. The park fee was \$R1,25 at the time of the study (equivalent to US\$1.30 in 1995). Additionally, each guide charged a fee of \$R20,00 (US\$20.83) per group to enter the park. The park management plan states that group size may go as high as twenty individuals, but most guides take groups no larger than ten people (Paes, 1995). This is most likely due to guides being better able to watch and care for smaller groups. For groups of over ten persons, guides will charge an additional \$R2,00 per person. Tourists wishing to enter the park sometimes encounter a qualified guide in the village of São Jorge (adjacent to PNCV) or in Alto Paraíso, some 35 km away. Others find guides at the park entrance. Visitors may enter the park on a day use basis only. Local residents may enter the park without paying (Paes, 1995). Non-ACVCV guides (e.g., those on buses from Brasília) bring groups to the park but must be joined by an ACVCV guide when inside the park.

Visitation to the park in 1993 was less than 3000. It reached approximately 5500 in 1994 and had climbed to 5000 visitors for the first five months of 1995. In July 1995 alone the park recording approximately 2700 visitors. Most visitors to the park come in private vehicles and stay in simple pousadas in São Jorge or Alto Paraíso. A few pousadas have facilities for food service while a small selection of restaurants is open for meals at various times during the day. There is also a range of primitive camping available, especially in São Jorge. Some visitors to the park arrive via public transportation while others come with organized excursions in mini-vans or tour buses.

The park's Visitor Center, through which all visitors are supposed to enter the park, was constructed in 1992 (Paes, 1995) and has a reception area, a classroom, office facilities, a kitchen and restrooms. During the research period electrical service was not available to the Visitor Center. For classes or meetings that took place in the Visitor Center, a generator was installed to allow for the use of slide and film projectors or a VCR.

Park visitors must first contact a park employee and pay the entrance fee at the Visitor Center. According to the park director, this is the primary, and probably the only, interaction between a park employee and the visitor. Guides, rather than park employees, orient the public and interpret the park to those entering the park. Guides certified by ACVCV are the only official guides within the park. At the time of the research, PNCV was the sole Brazilian national park to require the use of a local guide within a park. Each guide was to wear his or her identification tag when coming into the park. No special park programs were offered to visitors nor was there any special attention provided for children, the elderly or handicapped citizens.

A day trip within the park involved arranging for guide service for the day; choosing the destination based on the areas that were currently open, guide

recommendation and past experience; paying the park entrance fees; and receiving a short talk by the guide on rules and regulations within the park before entering. Excursions within the park involve more walking than actual hiking and took place on well-defined, if not well-marked, trails. Roundtrip distances travelled during a day vary from 10 to 12 km to reach the principle destinations (Paes, 1995). Two days of excursions allow most visitors to see the attractions currently open to the public. The park employee stationed at the Visitor Center waits until all groups exit the park in the afternoon and then locks the gate until the next morning.

Written or published information on the park is limited, both within the communities nearby as well as inside the park itself. The Visitors Center does not have a park map posted nor are pamphlets about the park or interpretive signs available or displayed. Several members of ACVCV carried outdated and well-worn copies of old maps and pamphlets that they guard protectively. There has been some opposition to the production and display of a park map, as well as the marking of trails because of their potential to diminish the usefulness of the guides and the service they provide (Grupo Nativa, 1995). Little written information about the park was available at IBAMA's headquarters in Brasília or the state superintendency in Goiânia. In general, printed information on most national parks within Brazil is extremely limited.

PNCV's Park Management Plan

The most recent comprehensive park management plan for PNCV was in effect from 1992-95 and entitled "Orientações Básicas ao Manejo do Parque Nacional da Chapada dos Veadeiros" (Basic Orientation to the Management of PNCV) (Paes, 1995). This document came out of research done by a team of ex-IBDF employees in 1986 and was based on many of their recommendations (Paes, 1995). The current document in use is the "Plano de Ação Emergencial" (Emergency Action Plan, or PAE) which was adopted in 1995 and will carry PNCV through July of 1997. It is not as comprehensive as the park management plan, but proposes actions and details priorities in all areas of park operations. The PAE identified inadequate management of natural resources as the most critical management problem at PNCV (Paes, 1995). Other management problems identified in the PAE include:

- Shortage of employees — nine for a park of 66,000 hectares and a lack of adequate employee training
- Wildfires caused primarily by the burning of private land in and around the park along with a lack of firefighting resources — both human and material
- Inadequate methods of protection for the park with little importance given to public relations, regional environmental education efforts, and no radios for in-park communication

- Lack of scientific knowledge about the park and, therefore, an inability to make management decisions based on science
- Limited environmental education
- Insufficient public use of PNCV, combined with an inadequate physical and operational infrastructure and problems controlling visitor access to the park.

In addition, there are several other issues of concern to park management, which were mentioned within the PAE (Paes, 1995), and noted by guides, employees and others (Leão, n.d.), including:

- Existence of private landholdings within the park (Leão, n.d.), and cited by the park director as one of the most critical management problems faced by the park (A.V. Miranda, personal conversation)
- Use of the park by non-authorized visitors — hunters, miners, tourists and others who enter the park illegally
- Overcrowding of sites during periods of high visitation
- Agrochemical contamination
- Wildflower extraction from within the park (flowers are picked and sold for the dried flower market)
- Changing behavior of visitors (primarily among the younger age groups), including the use alcohol and drugs within the park (and in the neighboring community of São Jorge)
- Lack of official authority by guides when guiding within the park

Besides these critical management needs, the park deals with ongoing management issues, such as litter control, patrolling of the park and its perimeter, and safety of tourists within the park.

During the period when the Emergency Action Plan (PAE) was being written, the park's condition was evaluated and the results of this evaluation placed within the plan. One of Brazil's national park policies was cited in this section:

A visit inside a national park is always welcome when it provides the opportunity to acquaint man and nature, involving knowledge and leisure. Its aim, overall, is to instill the values of the local ecosystems and the importance of preservation of natural resources endowed with exceptional attributes to guarantee integral protection of flora and wildlife, soils, waters, and scenic beauty, with scientific, educational, recreational and cultural objectives. [Translated from Portuguese by the authors.]

Reg. Parques Nacionais Brasileiros - Dec. 84.017 de 21/9/79 (cited in Paes, 1995:4)

This policy addresses the nurturing of environmental values within the park visitor while the visitor is enjoying the resources of a national park. However, within the portion of the regulation that is quoted in the PAE, it is not clear how these environmental values will be instilled. A breakdown of other Current Conditions at PNCV follows with relation to mention of interpretation and includes Visitor Contact, Environmental Education, and the Visitor Center.

Regarding Visitor Contact, guides are seen as being present to “control and orient the visitation” (Paes, 1995:28). At the entrance, one employee takes the entrance fee, the other “attends to tourists” (Paes, 1995: 28). Four of ten employees had attended a guide training course; two of ten, a course in environmental education. This accounting mentioned that few employees had training in areas of public relations, leadership, group motivation or management techniques indicating a critical lack of training for dealing with the public. Locals have been trained for guiding ecotourists. This section stated that the public reception of tourists is restricted to information presented by employees at the entrance and generalized information given by the guides who “in the majority, lack specialization or a profound environmental or cultural understanding” (Paes, 1995:31). The plan noted that the park does not have appropriate material at its disposal — either environmental or scientific information — and has no way to subsidize its acquisition. Additionally, reference was made to complaints by employees about being overworked and their worry about disruptive visitors. The Environmental Education section evaluated the park primarily with regard to educating the park’s neighbors and cited the lack of an organized program, as well as inadequate equipment and facilities. The PAE suggested that environmental education at the park should instill in visitors and students a better comprehension of what a national park is. A greater portion of the environmental education program focused on fire. Other organizations that assist and support the park in its environmental education efforts include World Wildlife Fund, the ACVCV guides association, and EMATER (Empresa de Assistência Técnica e Extensão Rural, or Technical Assistance and Rural Extension Enterprise).

The assessment of the Visitor Center cited its unsuitability for intensive visitor use, noting its lack of an organized program of public use, including orientations and lectures for visitors. The PAE stated that the facility should include an auditorium for seventy and an exhibit room. More equipment is also needed before environmental education activities could begin. (During the four month period of this research project, two classes were given at the Visitor Center — one for locals learning dried flower arranging, which is a primary regional

export, and a training course for local guides on the park's botany and its interpretation).

In other areas related to interpretation and interpretation in park management, the PAE pointed to a recognition by the park for the increased training of guides so they can assist in implementing park management objectives. There needs to be increased participation of the park, its employees and its partners in communicating more environmental messages to its visitors and park neighbors. However, specific references to the use of interpretation seemed to come only in regard to fire management and the need to educate locals to the realities of fire throughout the region.

Despite infrequent references such as these, the PAE (similar to other Brazilian national park plans) made no direct connection between interpretation and park management. Since visitors to PNCV receive almost all information from the guides who act as park interpreters, it would be expected that major park management issues are not properly nor adequately communicated. If true, then PNCV administrators are missing a major opportunity in addressing these problems.

Visitor Awareness of Park Management Issues

The majority of tourists to PNCV are Brazilians. The Inventário de Oferta Turística (Tourist Offering Inventory), in a three day survey completed in February 1995 (during the Carnival celebration), found only five of 195 visitors (5.3%) surveyed to be foreigners (Grupo Nativa, 1995). Paes (1995) reported that the majority of tourists who visit PNCV are between 15-22 years of age and visit the park primarily during holidays, especially over three day weekends. Many school groups visit the park, which may account for the low average visitor age.

For the study presented in this chapter, tourists were surveyed to determine their awareness of park management issues. A total of 44 tourists were surveyed prior to entering the park. Twenty-seven were making their first visit to PNCV, while 17 had visited the park at least one time previously. Thirty-two visitors who completed the pre-visit surveys also completed follow-up surveys after leaving the park. Of these, 20 were first-time visitors and 12 were repeat visitors. Among those who had visited the park more than once, all but one of the previous visits had been made in 1995, the year these surveys were completed.

When asked, in an open-ended format, what is the most critical problem in management of the park, 68 percent of first-time visitors (prior to entering the park) answered that they had no opinion or did not have enough information to make a judgement. Overall, 72 percent of first-time visitors either were not aware of what the park management issues were, had no opinion, or did not feel there were any problems (Table 1). When repeat visitors responded to this

Management, Interpretation and Visitor Perception in Remote National Parks

same question prior to entering the park, 28.6 percent indicated “no opinion” or “not enough information.” Other responses of repeat visitors included 28.6 percent citing a lack of resources and 21.4 percent preservation and protection of the park. As might be expected, prior to entering the park, 72 percent of first-time visitors had little knowledge of park management issues while 71.4 percent of repeat visitors already had an opinion about park management issues.

Table 1. Visitor’s opinion of most critical park management problem (questioned prior to entering the park).

Most Critical Park Management Problem (Prior to Entering the Park)	First-time Visitor (n=25)	Repeat Visitor (n=14)
Lack of human and/or financial resources; training for employees	8%	28.6%
Preservation; protection; policing and inspection	--	21.4%
Necessity of entering park with a guide, expensive	8%	--
Fire	8%	--
Management and administration	4%	7.1%
Community problems; dealing with locals	--	7.1%
Maintenance of trails; general maintenance	--	7.1%
There aren't any problems	4%	--
No opinion; not enough information at this time; don't know	68%	28.6%

After exiting the park, visitors were again asked the same question: “What is the most critical problem in the management of the park?” Of the 18 first-time visitors who responded to the question (not all tourists filled out a follow-up questionnaire), the response of “no opinion” or “can’t make a judgement” dropped from 68 percent to 16.7 percent while “preservation and protection” as a response increased from 0 percent to 22.2 percent (Table 2). There was a major increase in awareness of different management-related issues between the pre-visit and post-visit surveys with first-time visitors. Only four management-related issues were noted when the question was asked prior to first-time visitors entering the park. However, of the ten different responses recorded in the post-visit survey, eight were management-related. These data indicate that a single visit to the park generates a significant increase in the first-time visitor’s awareness of park management issues.

Responses from repeat visitors showed that opinions varied widely with no single response garnering more than 22.2 percent. A total of seven different management-related responses were recorded in the after-visit interviews, compared to only five management-related responses in the pre-visit interviews. The level of awareness of park management issues in repeat visitors, therefore, appears fairly constant both before and after visiting the park.

Table 2. Visitor's opinion of most critical park management problem (questioned after visiting the park).

Most Critical Park Management Problem (After Visiting the Park)	First-time Visitors (n=18)	Repeat Visitors (n=9)
Preservation, protection, policing and inspection	22.2%	11.1%
Information, lack of information (including park's interior), lack of signs	11.1%	22.2%
Lack of human and/or financial resources, training for employees	11.1%	22.2%
There aren't any problems	11.1%	11.1%
Lack of conscientious visitors/difficulty of making them conscious to maintenance of park	5.6%	11.1%
Lack of trails	--	11.1%
Needs greater control over visitors and guides	--	11.1%
Difficulty of access and park preservation	5.6%	--
Lack of interested employees; seem unmotivated, never around	5.6%	--
Lack of well-trained guides	5.6%	--
Park doesn't do everything possible to improve facilities for visitors, infrastructure	5.6%	--
Fire	--	--
Maintenance of trails, general maintenance	--	--
Management and administration	--	--
Necessity of entering park with a guide, expensive	--	--
No opinion, not enough information at this time, don't know	16.7%	--

Other questions further examined changes in visitor awareness of park management issues after visiting PNCV. When asked if experience with the local guide increased their knowledge of the region, first-time and repeat visitors both responded positively two-thirds of the time. Guides appear to be transmitting information to tourists and repeat visitors still seem to be learning, although it was not clear how much of this information was about park management issues. Regarding their opinion on information received on the day of their visit from the local guide, 75 percent of first-time visitors and 91 percent of repeat visitors responded that it was either "satisfactory" or "very satisfactory." Tourists who have visited the park more than once seemed to be more satisfied with their local guides. This may be because the repeat visitor is more prepared for the experience and retains more of the information received. Also, repeat visitors may have chosen their guide due to previous contact, may

have lower expectations of guides after visiting the park previously, or have an increased interest in the park (which was the reason for a return visit).

First-time visitors, when asked about the information they received on park management and conservation after their visit, answered “unsatisfactory” or “very unsatisfactory” 35 percent of the time with an additional 25 percent citing “no opinion” (Table 3). For repeat visitors to the park, responses to the same question were somewhat lower. As with the general awareness of park issues, visitor opinion on the quality of information they received on park management and conservation seems to improve the more times they visit the park. However, rankings by both first-time and repeat visitors are high in the “unsatisfactory” and “without opinion” categories (60% for first-time visitors; 45% for repeat visitors) which may indicate that their awareness of management issues (Table 2) was not obtained in a systematic way, and that they would be receptive to more organized and in-depth information on the park’s management and conservation. With respect to the current situation, visitors to PNCV reported that about half of the information they received from guides was related to park management issues. This was true for both ACVVCV guides (43.9% of the information received) and non-ACVVCV guides (50%).

Table 3. Tourist opinions on information received on park management and conservation.

Opinion Ratings on Information Received on Park Management and Conservation	First-time Visitors (n=20)	Repeat Visitors (n=11)
Very Unsatisfactory	5%	--
Unsatisfactory	30%	27.3%
Without Opinion	25%	18.2%
Satisfactory	25%	36.4%
Very Satisfactory	15%	18.2%

After visiting the park, tourists were asked, in an open-ended format, what was the most important aspect about the region that they learned during their trip (Table 4). “Learning about nature,” “preservation of nature,” and “physical geography” each received 16.1 percent of total responses. Of the full range of responses, three dealt specifically with park management issues and were cited by a total of 22.5 percent of the respondents. However, only the response “maintenance of the park” (at 3.2%) referred specifically to PNCV.

Table 4. Most important aspect about the region which tourist learned during trip into park.

Most Important Aspect Learned about the Region	Tourist Responses n=31
<i>Management Related</i>	
Nature preservation; necessity of preservation; importance of preserving nature and the cerrado; necessity to preserve Brazil's natural beauty	16.1%
Integration of man with nature, ecology	3.2%
Maintenance of park	3.2%
<i>Non-management Related</i>	
Nature appreciation; learning about and liking nature through nature itself; respect of nature	16.1%
Geography; altitude; geology; climate	16.1%
Flora and fauna; vegetation	9.7%
There wasn't one; nothing significant	9.7%
Avoid trips with uninformed guides	3.2%
Beauty of cerrado; natural beauty of Brazil	3.2%
Fish live under the waterfalls	3.2%
How the river flow varies	3.2%
Local mores and customs	3.2%
Other trails which exist	3.2%
Respect for the mines and miners	3.2%
To be physically prepared is necessary	3.2%
Water(s)	3.2%

To further complicate the relationship of park management and visitor interpretation, PNCV visitors report that they were most interested in learning about the animals and plants (54.3% each) and least interested in learning about management of the park (8.6%) (Table 5). They indicated that they would like more pamphlets, lectures and presentations on these topics. They also cited a need for more signs and information on park research in the Visitor Center and they had an interest in receiving information about the park through maps, videos, films, and guide books. Seventy-four percent of tourists responding to this question requested maps, an important aid in interpretive presentations, but unfortunately, a resource that the park did not possess or display.

Table 5. *Subjects park visitors are most interested in learning (from a prepared list).*

Most Interested in Learning More About:	Tourist Responses n=35 ^a
Animals of the cerrado	54.3%
Plants of the cerrado	54.3%
Geology	40.8%
Geography	34.3%
History of the region	31.4%
Spiritual/mystical aspects of the region	28.6%
Hydrology	25.7%
Birds of the cerrado	22.8%
Research within the park	22.8%
Management of the park	8.6%
Other	2.9%

^aColumn total >100% due to multiple responses per tourist

Discussion and Management Recommendations

The assessment of Brazilian national park management plans, including those for PNCV, found that they do little to address the role that employees, guides and other interpretive sources can provide to assist in implementing park management objectives. Despite the considerable potential that interpretation offers as a form of low impact, sustainable practice, only occasional references were made to the use of signs, training of employees and the development of other media or activities that could be linked to the use of interpretation as a management tool.

Tourists were found to have gained a greater awareness of management issues at PNCV the more times they visit the park, due more to information communicated to them by ACVCV guides and not park employees whom they contact only at the park entrance. This information appears to be transmitted in a haphazard manner, which may or may not specifically support the management objectives of the park. Tourists report that approximately 50 percent of the information they receive deals with park management issues, which indicates that guides are incorporating management messages into their dialog with visitors, whether or not this is intentional. Both first-time and repeat visitors report some dissatisfaction with information received on park management and conservation.

It is primarily the extremely limited resources (both human and financial) available for daily park operations that results in an inadequate use of interpretation to achieve management objectives. Both park employees and

ACVCV guides were apparently aware of park management problems and were providing information on these to park visitors. The source of this information, however, came not from park management, but rather from a combination of their familiarity with the region, constant proximity to the park and periodic training.

Based on the tenuous situation inherent in national parks in lesser developed countries and the certainty that management problems will continue to demand time and effort of park staff, it is important for parks at the administrative and management levels to recognize that interpretation is a powerful and cost-efficient tool for implementing park management objectives. They should not treat interpretation as an afterthought in park management plans, but as an integral part of the planning process (Sharpe, 1982). Communication of information on park management through various types of interpretive programs gives visitors, guides and other park 'friends' a sense of involvement in the park, leading to the creation of partnerships rather than adversarial relationships. This can create allies for park management in its efforts to preserve and protect its natural and cultural resources.

The future at Parque Nacional da Chapada dos Veadeiros suggests continued change and adjustment as the park becomes better known as a destination and as other development activities occur in the region. Not far from the park, the Serra da Mesa hydroelectric project within the upper Tocantins River basin is nearing completion and threatens indigenous lands while touting increased recreational use on the large reservoir it will create. In addition, a nomination has been made to include PNCV as part of an international biosphere reserve. These two projects will likely increase the pressures on, and threats to, resources (both natural and cultural) at the park as well as to those outside it. Careful consideration of the impacts of these projects should be undertaken, as well as research and planning to prepare the park for their eventuality.

If sustainable tourism is to continue at PNCV, effective interpretation should be utilized as a management tool to prepare and inform park employees, guides, tourists and friends as conditions change both inside and outside park boundaries. Efforts to maintain a high level of awareness of changing management issues will help to preserve and sustain the park for future generations.

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