

**Nature Tourism in Protected Areas of  
the Atlantic Coastal Forest of Brazil**

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## INTRODUCTION

The demand for both conservation of tropical forests and improved living standards in forested regions has focused attention on nature tourism as a possible sustainable development strategy. Clearly, one of the benefits from and reasons for conservation of natural areas is that they provide opportunities for outdoor recreation and observation of nature. The recent focus on nature tourism, however, is due more to the potential of such tourism to **achieve** conservation. One of the ecosystems considered most critical for conservation efforts is the Atlantic Coastal Forest (ACF) of southern Brazil. The remaining 4% of its original area is characterized by extremely high rates of biodiversity and is habitat for numerous endemic species. (S.P.V.S., 1992) In the state of Paraná, the Área de Proteção Ambiental of Guaraqueçaba protects more than 250,000 hectares of ACF. The area is increasingly popular as a tourism destination. Many conservation organizations are promoting “ecotourism” in the ACF, by which they generally mean nature tourism which contributes to the conservation of nature. In order to evaluate this strategy, we conducted case studies of tourism management in various protected areas in the ACF. This paper reports on the results of those case studies and offers some conclusions about the institutional arrangements that appear most conducive to capturing conservation benefits from nature tourism. Appendices provide findings specific to Guaraqueçaba, summaries of the various case studies, copies of tourist literature from the sites, the schedule and final report for the case studies, preliminary information on the sites gathered from Brazilian travel agents, and references.

## METHODOLOGY

The case studies were conducted as part of a U.S.D.A. Forest Service research project to evaluate the potential market for and impacts of ecotourism in the Guaraqueçaba APA (Área de Proteção Ambiental), a region of southern Brazil specially zoned for conservation of the ACF. The project was conducted by the Forest Economics Unit of the Southeastern Forest Experiment Station in Research Triangle Park, North Carolina in cooperation with the Sociedade de Pesquisa em Vida Selvagem (S.P.V.S.) in Curitiba, Paraná, Brazil. (See Sills, et al., 1996 for an overview of the project.) One of the conclusions of the project was that the current market, and perhaps the market with most potential, for nature tourism in the ACF is

the population of southern, southeastern, and central Brazil. Thus, our case studies focus on domestic Brazilian nature tourism.

The U.S.D.A. Forest Service project involved a review of the literature on ecotourism and of the relevant documents from the Brazilian government and tourism industry, which together allowed identification of the main criteria for ecotourism. Travel agents and government officials in conservation and tourism ministries helped identify protected areas, such as national parks, in the ACF that currently receive nature tourists. (See Appendix B for the results of a survey of Brazilian travel agents.) Twenty-one protected areas in seven states, representing a variety of institutional arrangements and tourism attractions, were chosen for the case studies.<sup>1</sup> (See Map and Table 1 for locations, types of areas, and timing of visits.) The case studies involved visits to the protected areas, where park staff, researchers, tourism agencies and guides, local residents, and tourists were interviewed in an open-ended format.<sup>2</sup> In the case of the protected areas in Paraná, tourists were also systematically surveyed with closed-ended questionnaires. (See Sills, et al., 1994 for more detailed results of those surveys.)

**Table 1.**

State	Protected Area	Administration	Principal Attractions
Alagoas	Paripueira Marine Park Piacabuçu APA‡	Municipal Federal	manatees beaches
Bahia	Project Mico-Leão Baiano Project Tamar/ Praia do Forte Reserve	Private/Federal Federal	lion tamarin sea turtles, other wildlife
Minas Gerais	Caparaó National Park Caraça Park Caratinga Reserve Rio Doce State Park	Federal Private/Federal Private State	mountain peaks trails, waterfalls primates lakes
Paraná	Anhangava Guaraqueçaba APA‡ Iguaçu National Park Ilha do Mel Reserve Marumbi Park	Private Private/Federal Federal State Federal	rock faces, trails island beaches and bay waterfalls beaches rock faces, trails

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<sup>1</sup>We also visited private protected areas in the Pantanal of Mato Grosso and Mato Grosso do Sul, and nature tourism sites in the Amazonian state of Pará, although these were not considered as part of the case studies since they represent different ecosystems.

<sup>2</sup>Significantly less time was spent at each site and less information gathered than in other recent case studies of ecotourism in Latin America (Lindberg, et al., 1996, for example), but the criteria used are similar.

**Table 1.** (continued)

State	Protected Area	Administration	Principal Attractions
Rio de Janeiro	Itatiaia National Park Trindade/ Cairuçu APA‡ Serra da Bocaina National Park	Federal Private/Federal Federal	trails, waterfalls beaches trails
Santa Catarina	Vila da Glória Reserve	Private	bay
São Paulo	Alto Ribeira State Park Picinguaba State Park Mar Virado	State State Private	caves, trails beaches, trails bay

‡APA= Área de Proteção Ambiental, or Environmental Protection Area

### ECOTOURISM CRITERIA

The term “ecotourism” has been applied very broadly to any kind of pleasure travel that involves outdoor activities. In this study, ecotourism is considered to be just one type of nature tourism, which involves travel for the primary purpose of enjoying nature, whether through observation or activities which can only be enjoyed in undeveloped natural sites.<sup>3</sup> Ecotourism should also be ecologically sustainable and contribute to conservation. Sustainability clearly requires that the tourism have minimum negative environmental impact. More than that, it requires that the tourism have a positive impact, through direct contributions or fees paid to conservation units, through the creation of economic alternatives for local people who would otherwise be involved in activities which exhaust the forest resource, through direct assistance such as monitoring illegal activities or volunteering to help with scientific research, or through creation of environmental consciousness in the tourists which inspires them to later become active in the preservation of the areas that they have visited. The more channels through which tourism contributes to conservation the better.<sup>4</sup> Finally, in order to have a positive impact, the

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<sup>3</sup>Some would argue that mass tourism, in which tourists stay on cruise ships for example, is more environmentally friendly than nature tourism which necessarily implies human activity in natural areas. There will clearly continue to be a demand for nature tourism, and the challenge is thus to mold it into ecotourism. Wheeler (1993) and Järviluomo (1992) are two skeptics of ecotourism. Western (1993) argues that ecotourism should not be considered a hard and fast concept but rather a set of operating principles that all tourism operations should strive to achieve.

<sup>4</sup>Ecotourism should probably be defined in terms of positive net impact, since tourists will always have some negative effects on the local environment, culture, and social structure of tourist destinations. While not specifically considered in this study, the socio-cultural impact of tourism is clearly an important factor to evaluate before promoting any tourism that will involve local communities.

market for ecotourism should also be sustainable, in contrast to the boom and bust cycle of much traditional tourism.

This definition of ecotourism clearly does not allow one to draw sharp lines. A number of public and private organizations in Brazil are attempting to develop certification programs and standards for ecotourism operations which will provide a more specific definition of the concept. For example, a joint commission of the Brazilian federal government's tourism department and environmental institute (EMBRATUR and IBAMA, respectively) has developed a definition of ecotourism similar to the one offered here, although they more explicitly require that ecotourism offer tourists contact with local culture and improve the quality of life in the receptive region (EMBRATUR, 1994).<sup>5</sup>

### **Domestic Brazilian Ecotourism in the Atlantic Coastal Forest**

Most people in the Brazilian government and travel industry think of ecotourism in Brazil as wealthy North Americans and Europeans visiting the Amazon to stay in "jungle lodges" or go on river cruises. (See Ruschmann, 1992 and Wallace and Pierce, 1996 for descriptions of international ecotourism in the Amazon.) They are convinced that international tourists are the only true ecotourists, with enough money to spend and the sensibilities to enjoy and respect nature. Increasing numbers of Brazilians from the major southern cities, however, are also participating in nature tourism, often in the ACF. Domestic nature tourism in southern Brazil is a separate phenomena from international Amazonian tourism in part because the structure of airfares means that very few people from southern Brazil can afford to visit the Amazon. The airfare from São Paulo to Miami is often less expensive than that to Manaus. International tourists can take advantage of a discount "airpass" program for domestic travel offered only in conjunction with international tickets. Nevertheless, the ACF is usually not one of their stops, largely because it is not well known internationally as an environmental issue or as a tourist destination.

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<sup>5</sup>The Technical Commission on Ecotourism between IBAMA and EMBRATUR defines ecotourism as tourism in areas of ecological potential, carried out in a conservationist manner, seeking to reconcile tourism development with the environment, harmonizing actions with nature, in addition to offering the tourists intimate contact with the natural resources and the culture of the region, seeking to form an ecological consciousness. Ecotourism, according to this definition, also promotes the socioeconomic development of the regions where it is developed and should be an instrument for improving the quality of life for the local populations of the tourism destination regions.

The ACF does have, however, many of the characteristics that both travel agents and tourists cite as the most appealing for nature tourism destinations. For example, the ACF covers a wider range of habitat in a smaller geographic area than the Amazon, stretching from the sea up over the coastal mountain range and down into the river valleys in the west. This topography also creates more interesting tourist landscapes with waterfalls and views. (Healy, 1995) Much of the remaining ACF is found in federal, state, local, and private protected areas or in specially zoned areas where the government can legally exercise great control over land use, hence preserving the tourism landscape.

While none of the protected areas in the ACF maintain good records on the socio-economic characteristics of their visitors, it is clear that almost all their Brazilian visitors are from the middle and upper classes, representing a fairly small proportion of the national population. Many are from São Paulo, the world's third largest city. They can be roughly divided into five major categories. First, there are tourists for whom nature tourism is almost entirely incidental to their trip, including, for example, people who travel to the Paraguayan border to shop and visit Iguazu National Park just because they are in the vicinity. Second are families or groups of adult friends who plan their own trips to protected areas, requiring previous knowledge of the area and at least a minimal degree of comfort. Younger people, mostly students, who are budget adventure travelers comprise the third group; they are usually seeking opportunities for outdoor recreation such as rock climbing. Fourth are those who travel with nature tourism agencies, most commonly in groups of 10 to 20 people on long holiday weekends. Finally, there are environmental education trips for students, mostly from private elementary and high schools. These trips use tourist facilities and provide revenue for travel agencies during the low seasons for tourism.

On the supply side of the ecotourism market, in addition to the management of the protected areas, are the travel agencies, guides, and other on-site tourism service providers. Nature tourism agencies are generally located in the major cities, and they tend to employ recent college graduates or graduate students in the natural sciences as their "nature guides." Trips organized by these agencies and by families or adult groups traveling independently tend to stay in local hotels, either near or in concessions in the protected areas. Many of the smaller hotels, including bed-and-breakfasts and hostels, are owned by people from the communities near the protected areas. In general, however, the larger and more luxurious hotels that require

substantial capital investment are owned by people from outside the community. Some travel agencies hire local people as guides or contract them to provide meals, but it is often less expensive and hence more common to bring all supplies from the larger cities. This is even more often the case with young adventure travelers, who try to reduce their costs by bringing food, and even lodging in the form of a tent, with them. The family or adult groups who travel independently seem to make the most use of local services, including meals, lodging, transportation, and guide services.

### **CASE STUDIES**

The protected areas used as case studies are neither a comprehensive nor a random sample of nature tourism destinations in the ACF. They are, however, representative of the range of ownership regimes, tourism attractions, and ecological and economic impacts of tourism, as shown in tables one through three. Some areas are clearly more successful than others in attracting and managing Brazilian nature tourists in order to achieve ecotourism. This variation provides insights into the frequency and conditions under which the key criteria of ecotourism are met.

In order to have ecotourism, there must first be a market for nature tourism. Visits to the beach and to waterfalls have long been popular among Brazilians. Travel agents and the management of protected areas have noted an increasing interest in visiting and learning about the forest, especially since the United Nations Conference on Conservation and Development was held in Rio de Janeiro in 1992. The sites that offer interpretive trails and environmental education programs are in high demand, especially by families and school trips. Table 1 lists the attributes that attract tourists to the case study sites. Further evidence comes from the surveys of tourists in Paraná. Most of the respondents were interested in having an environmental education center for the protected area where they were interviewed, and the mean entrance fee they were willing to pay was approximately \$2.50. (Data is reported in Sills, et al., 1994.)



**Table 2.**

<b>Protected Area</b>	<b>Principal Problems</b>	<b>Control Measures</b>
Alto Ribeira State Park	damage to caves and to camping area	require cavers to be accompanied by registered guides, restrict number of campers
Anhangava	litter, fire, erosion, damage to vegetation	restoration of ecosystem, proposal to create a state park, environmental education
Caparaó National Park	litter, erosion, trampling of campground area	close trails in areas susceptible to erosion, reservation system for campground
Caraça Park	opening new trails and erosion of current trails	trail maintenance by cooperating organizations
Caratinga Reserve	alteration of wildlife behavior	require that tourists stay on maintenance road and/or be accompanied by staff
Guaraqueçaba APA	sale of endangered species, lack of infrastructure for tourists	project to create visitors center, road checks for illegal fauna and flora purchases
Iguaçu National Park	large numbers of visitors	restrict areas open to visitation
Ilha do Mel Reserve	litter, unregulated access	trash collection
Itatiaia National Park	litter, unregulated access, erosion, lack of sufficient infrastructure	close trails in areas susceptible to erosion, trail maintenance by association of local hotels
Mar Virado	unregulated camping	distribute brochures with camping regulations
Marumbi Park	litter, erosion, unregulated access	installation of state park facilities, periodic trash collection by hiking clubs
Paripueira Marine Park	lack of infrastructure and staff for resource management and tourist education	seeking grants for installation of visitors center
Piacabuçu APA	beach traffic disturbs migrating birds	close beach seasonally
Picinguaba State Park	illegal purchase of land within park, impact of trails	require groups to be accompanied by park guide
Project Mico-Leão Baiano	insignificant	environmental education
Project Tamar/ Praia do Forte Reserve	alteration of wildlife behavior (in the reserve)	none
Rio Doce State Park	fire hazard, introduction of diseases and exotic species to lakes, over-use of campground	regulate boating, reservation system for camp ground, environmental education with assistance of boy scouts
Serra da Bocaina National Park	litter, erosion, unregulated access	none (new NGO plans to intervene)
Trindade/ Cairuçu APA	unregulated camping	community organized campground and prohibited camping on beach
Vila da Glória - Itapoá	insignificant	tourists always accompanied by guide

The second criteria for ecotourism is the minimization of negative environmental impacts.<sup>6</sup> As shown in Table 2, nature tourism is affecting the ecosystems of the various protected areas. The negative impacts result from unregulated access, lack of facilities for camping, and entirely unplanned trail systems. In some cases, such as the island reserve Ilha do Mel, the sheer numbers of visitors and the garbage they leave behind cause problems. The administrations of the protected areas have chosen a number of different responses to the problem, as listed in the third column of Table 2. The national parks of Itatiaia and Caparaó, for example, have successfully closed trails and campgrounds in areas susceptible to erosion or otherwise environmentally sensitive, effectively concentrating negative environmental impacts on the trails and in the camping areas left open to public use. In general, however, the administrations of protected areas have not been able to close trails or sensitive areas without offering new alternatives, for which they often do not have the budget. Table 2 clearly shows that protected areas have not adopted control measures for all of the environmental problems caused by tourism. In most cases, the administrators of these areas believe that the negative impacts of tourism could be controlled if an adequate budget were available for staff to educate visitors, for transportation of park guards, and for infrastructure.

The third and related component of ecotourism is the generation of revenue for the management of protected areas. One of the reasons many people do not think of Brazilians as potential ecotourists is the perception that they cannot or will not make significant contributions to conservation. There are counter-examples, as indicated by Table 3. Caraça Park is run by the Catholic Church with very minimal assistance from the federal environmental agency and several non-profit environmental organizations. The Church administrators charge an entrance fee, run a hostel and cafeteria in the park, and have a gift shop, and with the resulting revenues they maintain the park facilities. The fact that Brazil is a largely Catholic country gives the administrators an advantage in protecting the park lands, but Caraça nevertheless demonstrates the potential to raise revenue from nature tourism. In the case of the Caratinga Reserve, the donations from and the purchases of

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<sup>6</sup>As Ionnides (1995) notes, “it is not the volumes of tourists per se who cause most environmental damage but the absence of adequate policies”; hence, the goals of achieving significant flows of tours and of limiting their environmental impact are not necessarily incompatible.

tourists provide important funds that are available immediately for needs which may not have been predicted in the main budget. Local administration of tourism revenue is critical for this flexibility. The local administrators of Caratinga were concerned that tourism revenues would no longer be as useful to them, since the general management of the reserve had recently passed to a non-governmental organization in the state capital, which had bureaucratic procedures for handling all revenues and expenditures. In both the case of Caraça and of Caratinga, the revenues from nature tourism would clearly not have been sufficient to purchase the land and establish the basic infrastructure in the reserves, but they are a critical component of the operating budget.<sup>7</sup>

**Table 3.**

<b>Protected Area</b>	<b>Entrance Fee</b>	<b>Other Sources of Tourism Revenues</b>
<b>Alto Ribeira State Park</b>	Yes	guides, festivals, lodging, meals
<b>Anhangava</b>	No	none
<b>Caparaó National Park</b>	Yes	guides, jeep transport, lodging, meals
<b>Caraça Park</b>	Yes	gift shop*, lodging*, meals*
<b>Caratinga</b>	Yes	gift shop*, donations*
<b>Guaraqueçaba APA ‡</b>	No	boat transport, lodging, meals
<b>Iguaçu National Park</b>	Yes	souvenirs, tours, lodging, meals
<b>Ilha do Mel Reserve</b>	No	boat transport, porters, lodging, meals
<b>Itatiaia National Park</b>	Yes	souvenirs, tours, lodging, meals
<b>Mar Virado</b>	No	boat transport*, lodging*, meals*
<b>Marumbi Park</b>	No	none
<b>Paripueira City Park</b>	No	handicrafts (sandals), t-shirts, pins **
<b>Piacabuçu APA ‡</b>	No	lodging, meals
<b>Picinguaba State Park</b>	Yes	sales of goods (books, T-shirts, pins, insect repellent) **
<b>Projeto Mico-Leão Baiano</b>	Yes	t-shirts, pins, handicrafts **
<b>Projeto Tamar / Praia do Forte</b>	No	gift shop**, turtle adoption **, tours*, refreshments
<b>Rio Doce State Park</b>	Yes	sales of goods (books, T-shirts, pins) ** donations, fee charged for housing and meals *
<b>Serra da Bocaina National Park</b>	No	lodging, meals

<sup>7</sup> Lindberg and Huber (1993), as reported in Laarman and Gregersen (1996: 249) list similar ideas on tourism revenue management as principles: “earmarking increases management’s incentives to set and collect fees efficiently. Visitors may be more willing to pay fees if they know that fees are used on site”; and “fees supplement but do not replace general sources of revenue.”

**Table 3.** (continued)

Protected Area	Entrance Fee	Other Sources of Tourism Revenues
<b>Trindade/ Cairuçu APA ‡</b>	No	bars, souvenirs, lodging, meals
<b>Vila da Glória</b>	No	restaurant and chalets, donations *

\* revenue collected by administration of protected area

\*\* revenue collected by foundations or individuals and shared with administration of protected area  
All other tourism revenue is collected by private individuals who live and or have  
businesses near or in the protected area.

‡ APA = Área de Proteção Ambiental

National parks such as Itatiaia and Iguaçu also charge entrance fees of several dollars per person to their many thousands of visitors. Despite national legislation which mandates that fifty percent of such revenue stay in the park, in practice the federal government keeps most of the revenues for general expenditures, and there is consequently no direct link between tourism and park funding. If the revenues were returned to and administered in an efficient manner by the park administrations, they would allow for better nature tourism facilities, environmental education programs, and natural resource management. In state parks, such as Rio Doce and Picinguaba, the state capital may keep all of the tourism revenue, fail to disburse it in a timely manner, or restrict the use of funds to such a degree that the park cannot meet day-to-day needs. At the same time, state law may prevent the parks from running gift shops or charging for use of their dormitory facilities. In some cases, park administrators have resorted to informal arrangements in which they themselves manage funds from donations, fees charged for housing and meals in the park, and sale of tourist goods. In a few cases, such as Project TAMAR in Bahia, there are private foundations which collect tourism revenues and then work with the local offices of government agencies to disburse the funds for environmental protection and management of protected areas.

Even where fees are not currently charged for visits to protected areas, Brazilian tourists appear to be willing to make some contribution to conservation. Both contingent valuation and travel cost analysis show that many current and potential visitors to the Guaraqueçaba APA value their trip more highly than the amount they actually must spend to reach the APA. (Lindberg and Johnson, 1994 discuss the use of contingent valuation and travel cost in the context of ecotourism in developing countries.) The mean entrance fee that Brazilian tourists were willing to pay to visit the APA was over three dollars. They clearly indicated, however, that their willingness to pay was contingent upon the revenues being used for conservation of the

APA or improvements in the quality of life of local residents and not for the general government budget. Although entrance fees are unlikely to be a substantial portion of the costs of visiting remote parks, their implementation could undermine other goals of ecotourism, such as education of the tourists, if they are too high for some to afford. Most of the protected areas that do charge fees therefore offer discounts for students or even free entry for participants in environmental education programs.

The fourth criteria for ecotourism is that it represents a real economic alternative for local people. At most of the sites visited, few local people are truly benefiting from nature tourism in the nearby protected areas. This is particularly true of protected areas that attract primarily budget adventure tourists or groups organized by travel agencies, since these groups often do not spend much money locally. Protected areas may not attract many incidental nature tourists or student groups when they are very isolated. Lack of information about protected areas discourages families or adult groups from planning their own trips, using local services. Once there is enough demand for tourism in an area to have a real economic impact, it attracts outside investors who have access to the information and the capital necessary to meet tourist demands for ecological information and comfortable lodging and transportation. Even when tourist services are provided by locals, there is usually a very small multiplier effect in the local economy because of the tendency to buy the necessary goods to provide such services from outside the local economy. In the case of the Guaraqueçaba APA, for example, most of the establishments which provide tourism services are owned by local residents. The newest and more expensive establishments, however, are all owned at least in part by outside investors, and the multiplier effect of tourism expenditures is extremely low.

The picture is not universally negative, and local people are certainly capturing a larger percentage of tourist expenditures than in the case of international tourism in the Amazon. Locals are capable of providing services to Brazilian tourists much more easily than to international tourists who speak no Portuguese and are very concerned about health and safety issues. When travel agencies or park administrators work with communities to promote local bed-and-breakfasts, local handicrafts, festivals based on local culture, and certification programs for local guides, tourism can become a significant economic alternative. Table 3 lists numerous mechanisms by which local people are capturing tourism revenue. The Alto Ribeira State Park, for example, has hired and trained local people as guides for the park. The park administration

has encouraged local people to provide lodging and meals in their houses and then actively promoted such facilities to potential tourists who call for information. Good-will between the local community and the park is maintained in no small part because a portion of the revenue from entrance fees is given to local governments.

In other cases, such as Trindade, properly managed tourism can raise enough revenue for critical community needs. The community, with the support of the administration of the APA, has prohibited camping on the beach and runs its own campground. The revenues are used to maintain and buy fuel for a van which carries the children to school in the nearest town. In the case of Picinguaba, the park administration maintained a facility that was used to grind manioc flower for the local community and at the same time to teach students and tourists about local culture. Unfortunately, the community organization and the park administration failed to cooperate to maintain the facility and it is no longer operational. In Paraná, many of the tourists surveyed are interested in local culture, prefer local guides who can explain elements of local culture in addition to ecological aspects of the area, and believe that entry fees collected should be used in part in benefit of the local population. Finally, the sale of locally-made products can increase returns from tourism to the local community. In Alagoas, for example, there is an organization which hires youths to make sandals from reeds and which contracts out with poor women in the community to make t-shirts and other beach wear, which is then sold to tourists in local restaurants. Although such handicrafts are unlikely to form the economic basis of many communities, they can provide important supplementary income, especially for disadvantaged groups.

Fifth is the issue of whether the tourism contributes directly to conservation. The idea of volunteering on scientific projects or trail clean-ups definitely is not popular in Brazil. In a number of cases, however, there seems to be some benefit from having an area regularly used by tourists, and particularly organized tour groups, who can report illegal activities such as palm heart extraction. In the Serra da Bocaina National Park and in the vicinity of Trindade, for example, the palm heart extractors are generally thought to avoid areas used by tourists. It is very unclear whether there is a net benefit, however, because tourism also requires that new trails be opened which could provide access for poachers or palm heart extractors. There is an additional danger that tourists will become an easily accessible market for illegal forest products, such as parrots and song birds.

Many Brazilians emphasize the role of ecotourism in raising the environmental consciousness of the tourists themselves. This may be one of the major advantages of domestic as compared to international tourism. By welcoming visitors and providing them with a pleasant experience while at the same time educating them as to the needs of the protected areas, the parks may be creating a future constituency for themselves, by encouraging people to join environmental organizations and to vote for more conservation-minded candidates.

Finally, there is the question of the sustainability of the Brazilian market for ecotourism. Domestic nature tourism seems less vulnerable to the boom and bust cycle than international tourism, which quickly abandons countries in response to political difficulties, cholera epidemics, or swings in the exchange rate (Järviluomo, 1992). The increasing emphasis on environmental education in Brazilian schools also lends credence to the idea that nature tourism will last.

### **Institutional Issues**

Although few protected areas have succeeded in managing visitation so that it meets all of the criteria for ecotourism, domestic nature tourism in southern Brazil clearly has the potential to contribute to the conservation of the Atlantic Coastal Forest. All of the protected areas visited are struggling with the issue of how to effectively capture funds from tourists and then manage those funds so as to meet the day-to-day operational needs of the park and the long-term goals of working with local communities. Capable and creative administrators of many protected areas find themselves immobilized by bureaucratic requirements and the inconsistency of funding. On the other hand, in areas owned exclusively by private entities, such as Caratinga and the forest reserves in Praia do Forte, there is often great uncertainty about the long term use of the area, which depends entirely on the decisions of the private land owner. Such uncertainty may inhibit the development of ecotourism as a sustainable option for maintaining these areas or local communities.

Alternative institutional arrangements which combine public and private management can achieve both the stability of long term government planning and the flexibility of the private sector. The case studies indicate that private organizations which are locally based, or at least locally focused, are best positioned to provide support to protected areas that is complementary to the government administration. Local control results in rules and regulations better adapted to the local situation, provides the freedom to experiment with innovative mechanisms for capturing

revenue from tourists, and allows better decisions about how to allocate that revenue for park operating expenses and special programs. Since tourism revenue is rarely a sufficient source of funding and since private organizations do not have law enforcement authority, the government still must bear the responsibility of land acquisition and policing.

Table 1 lists the current administrative structure of the protected areas studied, showing that few are under joint management. Examples of functioning public-private partnerships include a sea turtle preservation project in Bahia that is run by the federal environmental agency and supported by TAMAR, a private foundation. The foundation works closely with the project (and with that project only) to raise revenue by selling merchandise to tourists, running “adopt-a-sea-turtle” programs, and attracting donations from Brazilian companies. The funds are then available for project operating expenses, for programs that involve the local community in turtle protection, and for development of opportunities for the local community to benefit from tourism. Caraça is another example of such a partnership between the Catholic Church, the federal government, and environmental organizations. The Rio Doce state park receives assistance from non-profit organizations to run its environmental education programs. The state park of Alto Ribeira manages to pay its cave guides on time and maintain the campground in no small part because the revenues from the park entrance fee are administered by a quasi-private foundation rather than the state government.

In Guaraqueçaba, the non-governmental organization (S.P.V.S.) that has collaborated with the Forest Service on this research project hopes to establish such a relationship with the local branch of the federal environmental agency in order to manage nature tourism in the APA. This type of public-private partnership is perhaps one of the most fruitful paths for Brazilians to pursue as they seek to turn nature tourism into ecotourism and conserve the remaining areas of Atlantic Coastal Forest.



## APPENDIX A: TECHNICAL SITE VISITS

### NATURE TOURISM IN PROTECTED AREAS OF THE ATLANTIC COASTAL FOREST OF BRAZIL

This appendix documents a series of technical visits to protected areas in seven Brazilian states during 1993 and 1994. The following table lists protected areas visited and the status of tourism in those areas. The ten sites presented as full case studies of ecotourism in this appendix are in bold. Vitória Yamada Müller and Erin Sills visited seven of those case study sites, while the rest were visited only by Erin Sills. In addition, we visited the coastal community of Poruba, near Picinguaba in São Paulo, which receives substantial tourism on a seasonal basis. In Minas Gerais, we also visited the University of Viçosa to discuss the Serra do Brigadeiro with faculty of the School of Forestry; the Serra is receiving increasing numbers of tourists and is being considered for protected area designation. We briefly visited Venda Nova de Imigrante in Espírito Santo, near Caparaó National Park, to collect information on the “agricultural tourism” being promoted by a local association of farmers and businesses. Finally, in Salvador, we interviewed the owner of Tatu Tours regarding ecotourism in Bahia.

<i>State</i>	<i>Protected Area</i>	<i>Administration</i>
Alagoas	<b>Paripueira Park</b>	<b>municipal</b>
	<b>Piacabuçu APA*</b>	<b>federal</b>
Bahia	Ilhéus Nature Center	private/ federal
	<b>Praia do Forte</b>	<b>private/ federal</b>
Minas Gerais	<b>Caparaó Park</b>	<b>federal</b>
	Caraça Park	private/ federal
	<b>Caratinga Reserve</b>	<b>private</b>
	Itacolomi Park	state
	<b>Rio Doce Park</b>	<b>state</b>
Serra do Cipó Park	federal	
Paraná	Anhangava	private
	Ilha do Mel Reserve	state
	Iguaçu Park	federal
	Marumbi Park	state
	Vila Velha Park	state
Rio de Janeiro	<b>Itatiaia</b>	<b>federal</b>
	Bocaina Park	federal
	<b>Trindade/ Cairuçu</b>	<b>federal/private</b>
Santa Catarina	Vila da Gloria	private
São Paulo	<b>Alto Ribeira Park</b>	<b>state</b>
	Juréia Ecolog. Station	state
	Maier's Mar Virado	private
	<b>Picinguaba Center</b>	<b>state</b>

\* APA = Area of Environmental Protection

The next section of this appendix presents data on each of the following topics for the ten main case studies (where available):

<b>Location:</b>	state and distance from major city
<b>Administration:</b>	entity responsible for management
<b>Area:</b>	number of hectares
<b>Year declared:</b>	when founded
<b>Highest point:</b>	in meters
<b>Ecosystems:</b>	general ecological categories
<b>Main attraction:</b>	factor(s) which most attracts tourists
<b>Nearby attractions:</b>	protected areas and other tourist destinations in same region
<b>Infrastructure:</b>	buildings, trails, and other facilities
<b>Regulations:</b>	rules for visitors to that particular protected area
<b>Visitation:</b>	data on number of visitors, when available, and general characteristics
<b>Revenues from tourism:</b>	data on amount, when available, and collection and distribution mechanisms
<b>Staff:</b>	personnel employed by administration
<b>Guides:</b>	who, if anyone, usually guides tourists around area
<b>Organizations:</b>	entities other than administration who assist with management of area
<b>Special circumstances:</b>	unusual circumstances or recent changes
<b>Local people:</b>	impact of tourism and protected area, including employment and use of natural resources

The remaining visits and study sites are not reported in this format either because sufficient information was not gathered or because they are not officially protected areas. A number of these areas were visited before the field research plan for this study was developed. Section 3 of this appendix presents basic information on these sites, focusing on aspects of their experience most relevant to the project in Guaraqueçaba. They are not intended to be complete descriptions of recreation and tourism at these sites. Section 4 contains information on the National Park of Iguaçu, in essay format. The visit to Iguaçu differed from others because the primary purpose was to set up a survey of tourists. (Results of that survey are reported in Mercer, et al., 1995.)

## CASE STUDIES

### PARQUE MUNICIPAL MARINHO DE PARIPUEIRA

**Location:** Alagoas, off-shore from Paripueira, 40 kilometers north of Maceió

**Administration:** municipal government, in collaboration with IBAMA's Projeto Peixe-Boi

**Area:** 5000 marine hectares

**Year declared:** 1993

**Highest point:** sea-level

**Ecosystems:** coral reefs, shallow-water marine

**Main attraction:** manatees

**Nearby attractions:** beaches (region has clear water year-round); Barra de Santo Antônio with restaurants

**Infrastructure:** marine corral to raise manatees and adapt them to local environment; municipal government has donated land for visitors center and funding is being sought

**Regulations:** motor boats and jet skis are prohibited in the park except in a marked corridor allowing passage from the coast to deep water

**Visitation:** popular beach destination, mostly for Brazilians

**Revenues from tourism:** tourists purchase T-shirts, pins, magnets, stickers, and other souvenirs with a manatee motif and profits are returned to the Projeto Peixe-Boi via quasi-public foundation, Fundação Mamíferos Marinos

**Staff:** 1 director and 2 guards for park; IBAMA's Projeto Peixe-Boi has 4 employees

**Guides:** none

**Organizations:** local restaurants provide space to sell manatee gifts; Fundação Mamíferos Marinos

**Special circumstances:** the creation of the park is primarily a result of the efforts of the former director of the Alagoas Center of IBAMA's Projeto Peixe-Boi, who subsequently became municipal secretary for the environment in Paripueira

**Local people:** park plans to restrict fishing; the tourism industry generates substantial local employment and is the market for a local cooperative that produces T-shirts with environmental messages and sandals made from a marsh grass; however, park has thus far had minimal or no direct impact on local economy

## ÁREA DE PROTEÇÃO AMBIENTAL DE PIAÇABUÇU

**Location:** Alagoas coast, 200 kilometers south of Maceió

**Administration:** IBAMA (federal government agency)

**Area:** 8600 hectares

**Year declared:** 1983

**Highest point:** < 50 meters

**Ecosystems:** coastal: beach, dunes, marsh, small areas of maritime forest

**Main attraction:** Beach

**Nearby attractions:** beaches, Penedo on Rio São Francisco

**Infrastructure:** IBAMA office in trailer on beach; fence and gate to regulate vehicle traffic on beach

**Regulations:** trucks, buses, and other large vehicles are prohibited from entering APA; migratory birds and turtles are not to be disturbed

**Visitation:** no records maintained; considered to be one of the three federal APAs with highest visitation rates in Brazil; most visitors on holiday weekends; almost no international visitors

**Revenues from tourism:** none collected by IBAMA

**Staff:** two technical staff and three support staff

**Guides:** none

**Organizations:** PETROBRAS donated trailers that serve as IBAMA office; SEMAVE monitors migrant bird population; Projeto Tamar has environmental education programs about sea turtles

**Special circumstances:** the APA is partially private land zoned for strict environmental protection

**Local people:** there are four fishing communities inside the APA; largest community near the APA has two basic hotels and restaurant/bars that serve tourists; IBAMA would like to establish system of training and registering local people as guides and only allowing jeeps run by registered local guides to enter the APA beach

## **PRAIA DO FORTE: PROJETO TAMAR, RESERVA SAPIRANGA**

**Location:** Bahia coast, 55 kilometers north of Salvador

**Administration:** Projeto Tamar is run by IBAMA (federal government agency); Sapiranga Reserve is run by the private Praia do Forte Resort

**Area:** Projeto Tamar's center covers no more than a hectare (donated by Praia do Forte resort); the Sapiranga Reserve is 700 hectares

**Year declared:** Projeto Tamar visitors center established in 1983

**Highest point:** < 50 meters

**Ecosystems:** coastal: beach, dunes, marsh, restinga forest, Atlantic Coastal Forest

**Main attraction:** Beach; turtle tanks and primates

**Nearby attractions:** Itacimirim and Imbassai Beaches; state APA associated with Linha Verde; tours run by the resort and other travel agencies often visit local lake, mangrove area near Rio Timeantudo, turtle nesting areas on beaches, and the grounds and ruins of a castle (officially a state park)

**Infrastructure:** reserve has several unmarked trails; Projeto Tamar has a museum where videos are shown, tanks where recuperating turtles can be observed, facilities to hatch and release turtles

**Regulations:** Praia do Forte Resort is not successful in controlling access to the reserve and effectively any travel agency can take tourists there; Projeto Tamar enforces regulations prohibiting capture of sea turtles and consumption of their eggs

**Visitation:** high; mostly international tourists to reserve; both Brazilian and international to Projeto Tamar's visitors center

**Revenues from tourism:** Fundação Pro-Tamar (Fundação Centro Brasileira de Proteção e Pesquisa das Tartarugas Marinhas) receives funds from "turtle-by-night" tours, the "adopt-a-turtle" program, and gift shop sales of handicrafts from other regions with Tamar centers, T-shirts, hats, pins, and other merchandise; these funds comprise less than 10% of Projeto Tamar's total budget but are critical for operations because they can be used for most pressing needs and for creative initiatives not included in official budget

**Staff:** resort employs two nature guides; Projeto Tamar employs 50; Fundação employs 200

**Guides:** Foundation, resort, and travel agency staff guide tourists

**Organizations:** PETROBRAS provides 40% of the operational expenses of Projeto Tamar

**Special circumstances:** Praia do Forte Resort dominates local economy and politics

**Local people:** there are approximately 200 residents of Sapiranga; they are paid to watch the cars that transport tourists and to show visitors their agricultural processing equipment (casas de farinha); during peak season, a few also sell softdrinks and fruits; most of the resident families have at least one member employed by the resort, which has 300 employees; Projeto Tamar hires local fishermen to patrol the beaches at night watching for turtle nests during nesting season and employs 12 local people year-round

## PARQUE NACIONAL DO CAPARAÓ

**Location:** Minas Gerais (315 kilometers from Belo Horizonte) and Espirito Santo (unmonitored access by dirt road)

**Administration:** IBAMA (federal government agency)

**Area:** 25000 hectares

**Year declared:** 1961

**Highest point:** Pico da Bandeira, 2890 meters

**Ecosystems:** Atlantic Coastal Forest and high-altitude plains

**Main attraction:** Peaks (winter) and waterfalls (summer)

**Nearby attractions:** Venda Nova do Imigrante (agrotourism and Pedra Azul)

**Infrastructure:** trail to Pico da Bandeira (17 km); restrooms, bathhouse, water faucets, and fire rings at Tronqueira campground; picnic facilities; hardened trail to waterfalls and improved trail to minor cave; administrative offices; vehicles and radio system

**Regulations:** many trails previously used are closed due to problems with erosion and lack of staff to monitor their use; staff attempt to prevent littering, large campfires, and excessive noise; most of park is rarely visited

**Visitation:** up to 2000 visitors per day when full moon coincides with holiday; more than 20000 visitors in 1993; few international visitors; most Brazilian visitors are from neighboring states

**Revenues from tourism:** entrance and camping fees collected at gate reverts to federal budget; approximately \$30000 collected in 1993

**Staff:** 31 total, of which 11 work with the public and 7 are on temporary contracts

**Guides:** local people can be hired as guides

**Organizations:** boy scouts occasionally assist with maintenance activities

**Special circumstances:** Espirito Santo would like to improve access to the park on its side

**Local people:** many sell transport, lodging, and meals to visitors, but employment and income flows from tourism are very irregular; local people own and operate jeeps to carry campers to Tronqueira; one large hotel (Caparaó Parque Hotel) employs number of local people; Park administration has good working relationship with local people, except for the large hotel

## ESTAÇÃO BIOLÓGICA DE CARATINGA

- Location:** east/central Minas Gerais, 310 kilometers from Belo Horizonte, last 20 on dirt road
- Administration:** private Fazenda Montes Claros, authorized by IBAMA as Reserva Particular de Patrimonia Natural
- Area:** 800 hectares
- Year declared:** 1990
- Highest point:** unknown
- Ecosystems:** Atlantic Coastal Forest
- Main attraction:** primates: Muriqui, Macaco Prego, Barbudo, and Sagüi
- Nearby attractions:** Parque Estadual do Rio Doce
- Infrastructure:** lodging for researchers with attached store that also serves for visitor orientation; network of trails is used primarily by researchers
- Regulations:** visitors are required to stay on the maintenance road so as not to disturb vegetation and wildlife; main purpose of reserve is habitat for and research on primates
- Visitation:** Brazilians from the region occasionally visit, and one travel agency has arranged visits for groups of international tourists on nature-oriented tours of Brazil
- Revenues from tourism:** donations from travel agency and from individual visitors; previously, sales of items in store (T-shirts and other souvenirs); staff claims that profit from store does not compensate for time to maintain, but that was a useful source of funds that could be used to meet immediate needs
- Staff:** manager and student assistant researchers
- Guides:** there was a program to train and involve local children/ teenagers in guiding tourists; tour groups arrange for one of researchers to act as guide; other visitors are not guided
- Organizations:** a professor from the University of Wisconsin has run the research project; management of the reserve had recently been taken over by Fundação Biodiversitas of Belo Horizonte
- Special circumstances:** organized tours to the reserve had been suspended as the result of management changes; staff concerned that Fundação will exercise too much bureaucratic control over revenues and donations from tourism
- Local people:** the reserve staff occasionally offers environmental education programs; generally has little impact on surrounding communities

## PARQUE ESTADUAL DO RIO DOCE

**Location:** central/eastern Minas Gerais, 250 kilometers from Belo Horizonte, last 35 on dirt road

**Administration:** Instituto Estadual de Florestas, an agency of the state government

**Area:** 35973 hectares

**Year declared:** 1944

**Highest point:** 515 meters

**Ecosystems:** Atlantic Coastal Forest

**Main attraction:** Lakes (38)

**Nearby attractions:** Reserva de Caratinga

**Infrastructure:** nursery, museum and interpretive center, labs, restaurant (concessionaire), boat rental (concessionaire) campgrounds with showers and restrooms, barbecue area; one interpretive trail; administrative offices; lodging-hotel for researchers

**Regulations:** the types of boats and fish catch are regulated; camping and picnicking are only allowed in designated spots; trails can only be walked with an official guide; most of the park is off-limits to tourists and designated for scientific research

**Visitation:** 400 per month in March-June of 1994, but expect thousands of visitors from surrounding region on major holiday weekends; campground capacity is 200 tents and have had up to 60 at one time; very few international visitors

**Revenues from tourism:** entrance and camping fees revert to general state budget; staff in charge of environmental education and interpretation sells pins and other souvenir items and uses the profits for emergency expenditures not in the budget; researchers are charged fees for housing and meals

**Staff:** 31 forest police, 41 IEF park staff, 10 temporary contract workers

**Guides:** one staff member responsible for environmental education guides all groups that visit trails

**Organizations:** boy scouts help to distribute questionnaires to tourists and to discourage littering; Relictos and Biodiversitas Foundations and Projeto Xerimbabo (USIMINAS) all assist park, especially research

**Special circumstances:** recently re-opened after construction of new facilities funded by World Bank

**Local people:** recreate in park (camping, cook-outs, swimming, fishing); environmental education programs; employed by park; very few other economic benefits from tourism; large landowners purchase seedlings from nursery at discount price; park staff says that would be willing to assist local people wishing to sell local products, such as cheese and handicrafts, to tourists



## PARQUE NACIONAL DE ITATIAIA

**Location:** Rio de Janeiro and Minas Gerais, 175 kilometers from city of Rio, near Penedo

**Administration:** IBAMA (federal agency)

**Area:** 30000 hectares

**Year declared:** 1938

**Highest point:** 2,787 m

**Ecosystems:** Atlantic Coastal Forest and high altitude plains

**Main attraction:** waterfalls (Rio de Janeiro) and peaks (Minas Gerais)

**Nearby attractions:** Visconde de Mauá, Engenheiro Passos

**Infrastructure:** museum, hardened and improved trails to waterfalls, marked trails to peaks; five hotels and 2 bed-and-breakfasts located inside the park (one with gardens)

**Regulations:** particularly steep trails have been closed; visitors are most often fined for littering

**Visitation:** average 7000 per month, dropping to 3500 per month in March and April and peaking at 11000 per month in January and February; mostly Brazilians who come for recreation in waterfall area or hiking in mountain area; also attracts spiritualists because was setting of popular book and soap opera; conventions are held in park hotels; foreigners comprise small percentage of visitors although there are a few ecotourism groups every year (bird watching, for example)

**Revenues from tourism:** substantial revenues from entrance fee revert to the federal budget

**Staff:** 30, most of whom are temporary contract workers

**Guides:** private hotels and travel agencies provide their own guides

**Organizations:** Association dos Amigos de Itatiaia, comprised of about 80 members who are mostly owners of local hotels and vacation-homes, helps clean up litter and maintain trails

**Special circumstances:** private parties with in-holdings were never expropriated; they claim to play a large role in protection of park because (they say) park administration is corrupt

**Local people:** hotels and restaurants in and near the entrance to the park hire local people and some local products are sold to tourists; particularly on Minas Gerais side of park, there are ongoing incursions for agriculture and logging; Park has arrested local people for hunting

## **TRINDADE: APA DE CAIRUÇU AND PARQUE NACIONAL DA BOCAINA**

**Location:** Rio de Janeiro coast, 20 kilometers south of Parati

**Administration:** Private Association of Village Residents; IBAMA responsible for APA and Park

**Area:** association monitors village and three nearby beaches

**Year declared:** association founded in 1989

**Highest point:** unknown

**Ecosystems:** coastal and Atlantic Coastal Forest

**Main attraction:** Beach (surfing)

**Nearby attractions:** Parati, Nucleo Picinguaba

**Infrastructure:** campground (bath house non-functional due to recent storm and associated flooding); the two largest lodging facilities and the largest restaurant are owned by people from São Paulo; many other small bars, restaurants, and lodging

**Regulations:** visitors are not allowed to camp outside of established campgrounds; anti-noise and anti-littering regulations

**Visitation:** very high in summer; more than 200 tents on summer holiday weekends; international and Brazilian visitors, mostly on side-trip from Paraty

**Revenues from tourism:** camping fees are used to maintain a van which takes local school children to main road to catch school bus to Parati; have also used revenue to help fund reinforcement and repairs of entrance road to community

**Staff:** elected board; three part-time guards are paid nominal salary

**Guides:** tourists can reach waterfall, ocean-water pools, and beaches on well-marked trails without guide

**Organizations:** Centro Excursionista de Paraty organizes hiking trips and environmental campaigns (anti-litter, for example); Pró-Bocaina promotes environmentally sustainable activities, including reforestation, alternative crops, and ecotourism; neither organization works directly in Trindade; the Tourism Secretariat of Paraty has assisted the community to design and print brochures

**Special circumstances:** village organized in response to attempt by large landowner to expropriate area in 1970s; locals are now divided over issue of selling part of plots for vacation homes

**Local people:** directly benefit by selling food and lodging to visitors; a few run stores; these are all indicated in a brochure with a map of the village; there are also a few private camp grounds and a few bars near the beach; association which regulates tourism has also served as community voice to municipal government in Paraty to demand better services and infrastructure and to negotiate with IBAMA about resource use

## **PARQUE ESTADUAL TURÍSTICO DO ALTO RIBEIRA**

**Location:** southern São Paulo, near towns of Capão Bonito, Apiai, Iporanga, and Eldorado, 325 kilometers from city of São Paulo, last 20 kilometers on rough dirt road

**Administration:** Instituto Florestal, an agency of the state government of São Paulo

**Area:** 35,712 hectares

**Year declared:** 1958

**Highest point:** Serra de Paranapiacaba, 1000 meters

**Ecosystems:** Atlantic Coastal Forest

**Main attraction:** Caves (more than 180) and trail to waterfalls

**Nearby attractions:** Devil's Cavern/ Caverno do Diabo - Parque Estadual de Jacupiranga; APA da Serra do Mar; Fazenda Intervales; Estação Ecologica de Xitue, Parque Estadual de Carlos Botelho; Instituto Florestal published a folder that promotes a "roteiro das cavernas" through the Vale do Ribeira, including Iporanga, Bairro da Serra, Ivaporanduva, and Eldorado

**Infrastructure:** the two "núcleos" (a third is planned) have gates where entrance fees are collected and information distributed; there are camping areas with bath houses; the most popular núcleo also has a shelter where cave guides meet tourists, a picnic area, and several improved trails (washbars and ladders over rocky sections); the most popular cave is gated and has walkways; administrative offices and cafeteria for park staff

**Regulations:** visitors are only allowed to enter caves with registered and trained guide

**Visitation:** 20000 in 1993; expected 35000 in 1994; visitors arrive independently and in tour groups year-round; mostly Brazilian, ranging from student groups to families; international mostly on tours

**Revenues from tourism:** started charging entrance fee in 1992; 30% is given to local government for purpose of "sustainable socio-economic development," and has been used for education, sanitation, and tourism promotion; 70% is returned to the park through the quasi-public foundation Fundação para a Conservação e Produção Florestal do Estado de São Paulo

**Staff:** park guards; administrative and maintenance staff; cave guides

**Guides:** park staff guide visitors through main cave (included in entrance fee); off-duty park staff and other registered guides can be hired to visit other caves

**Organizations:** Instituto Geologico, Prefeituras Municipais, Fundação Florestal, and Sociedade Brasileira de Espeleologia are all involved in maintaining the caves and the park

**Special circumstances:** the director of the protected areas division of the Instituto Florestal is a spelunker and has taken special interest in PETAR

**PETAR, cont.**

**Local people:** there is no resident population in the park although there are occasional conflicts over collection of forest products and agricultural clearing within park boundaries; the municipality near the most popular núcleo of the park has a population of approximately 6000; several local families offer basic lodging in their houses and attached additional rooms; others charge for camping space; a hotel owned by an outside investor also employs several local people; the Instituto Florestal has hired and trained guides who may seek additional employment as private guides for tourists on days when they are not on duty in the park; the Instituto Florestal says that its staff has offered local people training and advice on how to run lodging and restaurants and that it seeks not to compete with local facilities by limiting the lodging available in the park and distributing information on all housing and camping options when tourists call the office; finally, the Instituto Florestal has also worked with local governments to promote tourism to local towns, primarily Iporanga, through festivals and brochures

## PARQUE ESTADUAL DA SERRA DO MAR: NÚCLEO PICINGUABA

**Location:** eastern São Paulo, between Ubatuba and Parati, 230 kilometers from city of São Paulo

**Administration:** Instituto Florestal, an agency of the state government of São Paulo

**Area:** 309938 (núcleo = 7850) hectares

**Year declared:** 1977

**Highest point:** 1300 meters

**Ecosystems:** Atlantic Coastal Forest, mangroves, beach

**Main attraction:** Beaches (summer) and trails (school-year)

**Nearby attractions:** Trindade and APA do Cairuçu, Poruba Community, Fazenda Capricorn (APPN), Parque Estadual da Ilha Anchieta

**Infrastructure:** visitors center with museum; lodging for school groups and researchers; restored buildings of colonial sugar cane plantation, with main one now capable of processing farinha (casa da farinha); administrative offices, lodging and cafeteria for park staff; two short coastal trails that pass through mangroves and restinga (one with folder describing ecology), and one longer trail (Trilha do Corisco, 8km from Casa de Farinha to Pariti); building for snack-bar and restrooms/ dressing rooms near beach not yet complete

**Regulations:** standard regulations apply, including stay on trails, do not litter, do not disturb wildlife or vegetation, do not bring pets into the park

**Visitation:** the beach and the waterfall receive large numbers of visitors in the summer and on holiday weekends year-round (100000 annually); the trails and the casa de farinha are mostly visited by school groups with a park guide (3500 annually); numerous research projects conducted by college students; relatively few international tourists

**Revenues from tourism:** charge a fee for lodging researchers and private school groups, which comprises approximately half the non-salary budget of the park; park staff has occasionally sold other items, such as insect repellent and pins with environmental designs, either keeping the profits or sharing them with the park to meet emergency budgetary needs

**Staff:** 2 environmental education staff; 6 park guards; 4 maintenance workers ; several unskilled temporary workers

**Guides:** environmental education staff usually accompany groups; several park guards are also trained to accompany groups

**Organizations:** local schools coordinate programs with the park; non-profit organization Amigos de Picinguaba has sold T-shirts and used profits to assist park

**Special circumstances:** budget has been substantially reduced in recent years

**Picinguaba, cont.**

**Local people:** there are approximately 250 families in fishing villages located in or immediately next to the coastal area of the park; problems include sale of land within the park to people intending to build vacation beach houses; local people own some restaurants and bars patronized by tourists; community used casa de farinha to grind their manioc from 1986 (latest renovation) to 1992 (since then, has been needing repairs); from 1986 to 1989, the park kept a percentage of the farinha and maintained the machinery, but there were not enough funds for transportation; in 1990, maintenance and operation of the machinery was turned over to an organization of local farmers, the Associação de Desenvolvimento da Costa Norte; a charitable organization, the LBA, donated money for truck but due to difficulties created by a national emergency anti-inflation plan, the funds were released late and were only sufficient for a used truck, which the association could not afford to maintain; according to park staff, the association was dominated by one person who received most of the benefits; park was planning to hire three local people (native to the area) to monitor activities in the park and to serve as liaison between the park and local population

## OTHER TECHNICAL VISITS

Mico-Leão Baiano Project (Nature Center located on campus of CEPLAC, Ilhéus BA):

The center seeks to generate support for the Reserva Biologica de Una through environmental education of locals and tourists, in addition to serving as a rehabilitation center for injured animals, or those that have been illegally captured and domesticated. The center has interpretive trails with numbered signs. Its symbol is the mico-leão-de-cara-dourada (*Leontopithecus chryso melas*), and it generates some revenues from sale of stickers and pins with a mico design. Other sources of assistance and funding include Pau Brasil Foundation, Wildlife Preservation Trust International, Conservation International, and USAID. The center employs three people and was founded in 1990. The general region of Ilhéus has little remaining native Atlantic Coastal Forest but does have extensive forest cover on cacão plantations. The center is seeking to influence policy makers to maintain that forest as part of the “tourists landscape.”

Tatu Tours (Salvador, BA):

The owner claims that Bahia is known for beaches and culture and not for ecotourism. Chapada Diamantina probably receives the most ecotourists, largely from the US, Germany, and other European countries (used to be more British). Tatu Tours promotes “turismo participativo,” in which tourists eat in the houses of local families and observe their farms, casas de farinha, and schools. People most attracted to ecotourism trips are liberal professionals, average age 50, married, and European. His trips have maximum of 15 people; they hike for about 4-5 hours per day, but for the rest of the day, the tourists want comfort. He hires guides from guides from Salvador, who work regularly for his agency, or the ex-director of Chapada Diamantina. They is only a market for 3 or 4 trips per year. Bahia has various ecosystems to show, but tourism in the state has been hurt by negative press coverage (about crime).

Venda Nova do Imigrante (ES):

Town is located near Pedra Azul, a proposed protected area, and is 105 km from Vitória. The town has various tourist restaurants and hotels whose main attraction appears to be the climate and Italian culture. A group of local farmers and stores, called the Centro Regional de Desenvolvimento do Agroturismo, is also promoting “agrotourism.” One store located on the main road sells local farm products and distributes maps and information about farms which are open for visits. The farmers show visitors around dairy operation and facilities for processing coffee and cacão. Products include cheese and coffee produced locally as well as pasta, baked goods, and candy. The group also advertises possibilities for hiking and biking in the area.

Serra do Brigadeiro (MG):

Information provided by Drs. Monteiro, Griffith, Borges, and Souza Lima of the Department of Forestry Engineering, University of Viçosa. University faculty and students have been involved in research and conservation projects in Serra. The Instituto Estadual de Florestas (IEF) wants to create a state park in area above 1000 meters (goes up to 1900 meters); the local people oppose park and have increased deforestation and hunting, perhaps in order to try to limit the size of the park. One alternative to the park would be an APA. There are about 1000 families and several ranches in the area that would become park. Current visitors are mostly students who hike, climb, and visit waterfalls; most popular walk is 4 hours to Pico do Boné. Local people are reportedly suspicious of students, who they see as trouble-makers.

Caraça Park (Santuário de Caraça, MG):

Park is 11223 HA, with highest elevation of 2072 meters and is a mix of Atlantic Coastal Forest and low, dry vegetation. The area is owned and operated by the Catholic Church, which ran a private high school and seminary at the location until the 1970s. Current infrastructure for tourism includes lodging in main building, cafeteria, shop. Camping is prohibited, while hiking, swimming, fishing are allowed in restricted areas. The revenues from entrance fee, lodging, meals, and store provide most of the budget to run the reserve; IBAMA has never provided promised assistance. In 1994, Fundação Biodiversitas received funding from the Fundação O Boticário de Proteção à Natureza (FBPN) to implement interpretive trails in Caraça.

Itacolomi (Parque Estadual, MG):

The state park is located near Ouro Preto, one of most popular tourists destinations in MG, 100 kilometers south of Belo Horizonte. It was created in 1967 and covers 7000 hectares, but has not been demarcated. Most noticeable feature is Itacolomy Peak, at 1772 meters. The ecosystem is mostly grasslands, with forest along the rivers. The park has received funding to establish visitors center, but development of recreation and tourism facilities is inhibited by major land tenure conflicts - most of the land in the park is claimed by private individuals.

Serra do Cipó (Parque Nacional, MG):

The national park is 100 kilometers north of Belo Horizonte. Its trails and attractions are poorly marked. A road crosses through the park, and there are some locally owned basic lodging and restaurants along it; private campgrounds with recreation facilities exist on border of park. IBAMA office in park was not staffed at time of visit. Features include grasslands, mesas, and canyons.

Anhangava (PR):

Anhangava is located in the Serra do Mar near Curitiba. The site is visited mostly by students and rock-climbing groups and is very popular for weekend outings. Its land tenure status is unclear. The ridge has practically no forest, which is apparently due to historical deforestation and repeated burning. A private organization has marked trails and put up signs advising care with fire and asking visitors not to litter. The site's overused and eroding trails will be difficult to re-route, due to the force of habit of the many visitors. See Smythe (1993) for results of a survey of visitors to Anhangava.

Ilha do Mel (PR):

The island has been a tourist destination for decades. In 1982, half of the island (2241 hectares) was declared a state ecological reserve; recently, an old fort located in the reserve has been renovated and turned into a visitors center. Local residents on other half of the island feel that they have lost control of island, due to the rapid pace of tourism development, with vacation homes, hotels, and restaurants. There are major problems with garbage disposal, litter, water pollution, and water availability.

Marumbi (PR):

The Parque Estadual Pico do Marumbi covers 2342 hectares, within a larger area of 57511 hectares that has been designated the Área de Especial Interesse Turístico do Marumbi and theoretically is specially zoned to protect nature tourism opportunities and environmental resources. The state park has numerous private inholdings, including many modest weekend homes of frequent visitors. The site is popular with hikers and rock-climbers, principally from Curitiba. Most trails are severely eroded. Access to the park is only by train or by foot along the Itupava Trail. The state government (IAP/SEMA) has recently implemented more infrastructure for visitors and to monitor activity.

Vila Velha (PR):

The state park of Vila Velha, located west of Curitiba near Ponta Grossa, protects 3122 hectares. The only part visited, however, is a small area of unusual rock formation administered by the municipality. It is a popular destination to combine with Iguaçu. The administration has been criticized for allowing buildings very close to the natural formations. An entrance fee brings in substantial revenues.

Bocaina (Parque Nacional da Serra da Bocaina, RJ and SP):

This national park covers 100086 HA, reaching a peak elevation of 2088 meters and descending to the Atlantic Ocean. Ecosystems include Atlantic Coastal Forest, plains, pine forest, and beach. Many trails follow old colonial routes or paths currently used by resident population. Park headquarters is of difficult access (27 km on dirt road from São José do Barreiro); however, much of park is easily accessible from paved roads and is poorly monitored. Pró Bocaina and Centro Excursionista Paraty are NGOs with activities in the park. A local guide in São José founded a travel agency that organizes hikes across the park; they buy lodging and food from park residents, notifying them in advance by radio or by sending messages with bus drivers or neighbors.



Vila da Gloria (SC):

Small hotel with chalets and restaurant in historic building on the coast. Hotel revenues are supposed to support private reserve of Atlantic Coastal Forest (Volta Velha), currently used for nature walks and research.

Juréia (Estação Ecológica da Juréia-Itatins, SP):

This state protected area is 80000 hectares, with elevations from sea level to 1400 meters. Ecosystems include Atlantic Coastal Forest, restinga, mangroves. The area is located 150 kilometers from the city of São Paulo; the nearest town, Peruibe, is a major beach tourism destination. The administration has concentrated recreation use at the Praia da Juréia and the Cachoeira Paraíso; they allow some mountain biking; and have a substantial environmental education program. In addition, there is a limited program to work with local people to provide services and products to tourists. Most of the area is off-limits to tourists and is designated for research and environmental protection. There have been serious conflicts over resource use with resident population. Directly south of the area is the Parque Estadual Ilha do Cardoso.

Maier's Mar Virado (Ubatuba, SP):

This private property is located near the Parque Estadual da Ilha Anchieta and Jureia. It covers 10 hectares with some Atlantic Coastal Forest, 1 unmarked trail, 2 chalets with capacity for 6 people each, and a restaurant. The area is 10 minutes by a small boat which stays anchored at the popular Lagoinha beach. The cost of the boat ride is about \$2/person, which can be reimbursed with expenditures in the restaurant; main clientele seems to be people who arrive by boat to drink and eat. The chalets cost about \$70/night and must be rented for a minimum of 2 days; mostly foreigners stay in the chalets, attracted by advertisements in a small English-language newspaper in São Paulo. The owner says that his main problem is seasonality: there are lots of visitors in the summer, when they open every day 9-6, and hardly any for the rest of the year, when they only open on the weekends and holidays. He employs 15 people in the summer, 6 currently, and 3-4 year round. Most visitors just come to fish, swim, eat, drink, and relax. The owner also manages a beach that he says is zoned (tombado) for no construction, and so he tries to regulate camping in the area. He used to pay someone to watch the beach, but has no intention of promoting tourism there.

Poruba (SP):

Poruba is a community north of Ubatuba with about 15 houses. There is an unmarked dirt/sand road to the community and river; visitors can hire canoes to cross river to beach (can walk across at low tide). There is a lovely beach with nearby forest forest, but the hills in the distance had been deforested. In the village, there are at least three small bars/restaurants. Tourists mostly come in summer, especially during New Years and Carnival holidays; a few rent local peoples' houses and many camp. Local people say that visitors are free to camp on beach, although there is a sign near the parking area warning that the land belongs to the Grupo Aché (pharmaceutical company) and that camping is not allowed. In addition to tourism, the economy is based on fishing; agriculture is limited by IEF restrictions on clearing forest.

## IGUAÇU NATIONAL PARK

Brazil's most visited national park is Iguazu, which protects the spectacular waterfalls of the Iguazu River on the border with Argentina. The Brazilian park and contiguous protected areas in Argentina and Paraguay cover an area of 260,000 hectares, most of which is sub-tropical rain forest with a great diversity of plant and animal life, including many endangered species. Most visitors to the area, however, only enter the national park to see the waterfalls. One Brazilian company, Ilha do Sol Turismo e Navegação, offers trips into the forest and out on the river. That company's business has been steadily increasing, demonstrating that there is a demand for both more "ecological" and more adventure tourism in the region.

In 1993, 868,750 people visited Iguazu National Park, of whom 62% were Brazilians. More than half of the international visitors were from Argentina. The greatest number of tourists therefore visit Iguazu during the Argentine and Brazilian school holidays in January and July, when up to 8,000 people a day enter the park. The slowest months for tourism are May and June, with an average of 41,500 people per month. These data are collected at the park entrance, where a fee of approximately \$1.75 per individual is collected by the park. The tourists need not leave their cars or bus to pay the fee, and most continue straight through the park on the twelve kilometers of paved road to the river and the waterfalls. At the river's edge near the waterfalls, there is a luxury hotel (Hotel Tropical das Cataratas) frequented mostly by Europeans and North Americans. Tourists can park at the hotel and walk a hardened trail through the forest along the river to the base of the waterfalls. A second option is to park just above the waterfalls and take an elevator down. Two companies also offer brief helicopter flights over the falls. The park administration has a small museum in the park, but it is not promoted to visitors and is evidently not frequently visited.

The region has other attractions in addition to the park. The Argentine side, which can be reached essentially without any bureaucracy at the border, offers more catwalks out to the edge of the waterfalls. Approximately half as many people visit the Brazilian side of the Bi-national Itaipu Dam as visit Iguazu National Park, although most of the visitors (60%) are foreigners. At the dam, tourists see a film which discusses some aspects of the regional ecology and the impacts of the reservoir, and they can also visit a small "Eco-museum" administered by Itaipu. Casinos both in Argentina and Paraguay are increasing in popularity, and there are numerous large restaurants and night clubs in Foz do Iguazu. The main attraction of the region for many Brazilians, however, is the opportunity to shop in Paraguay, where the border city Ciudad del Este is a free port. Smuggling across the border is perhaps the second most important economic activity in the region, after tourism.

Ilha do Sol Turismo sold trips to approximately 90,000 tourists during the past year. The agency's most popular trip, called Macuco Safari, includes a jeep ride through the forest, a short walk, and a trip up river to the waterfalls in an inflatable boat. Other trips include fishing on the river or Itaipu reservoir, boat rides and hikes to the Bertoni Reserve in Paraguay, and full day expeditions that include hikes in the Iguazu National Park. (See the attached map.) According to the director of the agency, Alexander P. Schorsch, the trips have been growing in popularity, and they are included in much of the tourism literature about Foz do Iguazu. Schorsch says that there was a substantial unmet demand for opportunities to explore the natural areas and to take boats on the rivers of the Iguazu region when he started to work with ecotourism ten years ago. The federal agency which runs the park, IBAMA, was supportive of the agency, and the major difficulty was finding financial support among a local tourism industry which did not believe there was enough demand for adventure and ecological tourism.

The agency employs approximately 45 people, including guides, pilots, drivers, and maintenance and administration staff. The guides are multilingual, with Spanish and English being the most important second languages. The agency has an office in Foz do Iguazu, a small port near the city used for maintenance, and a station on the road through the park where the Macuco Safari begins. Tourists either arrive at the station with a travel agency, guide, or on their own, or take the agency's mini-bus from the Hotel Tropical das Cataratas. The station is open from 9 AM to 6 PM daily, with the number of trips depending on the demand. During rainy weather and the off season, the staff may spend most of the day unoccupied. During the peak months, trips leave as quickly as possible given the number of jeeps and boats available.

The trips leave with groups of up to 30 tourists in the back of a jeep and/or a wagon with benches pulled behind the jeep. Along a three kilometer dirt track to the river, there are about six stops where the guides point out certain plants and provide information on the species (water vine, palm, bromelia, philodendron, timboeteau tree). The guides also provide general information on the park, such as its size and number of species. Although Schorsch complains about tourists littering and breaking off pieces of rock as souvenirs, the guides apparently do not specifically request tourists not to litter or not to take anything from the park. The tourists can continue to the river bank in the jeep or follow an 800 meter trail that passes by the small Macuco waterfall and a pool made by damming a stream right before it reaches the Iguacu River. The trail is improved with stone steps and wash bars. The boats are kept at a floating dock, which also has a service counter where the tourists can buy drinks, film, and t-shirts. The largest inflatable boat holds 26 tourists, while several smaller ones hold less than a dozen. The trip up river is rough, due to several substantial rapids before reaching the waterfalls, and the guides emphasize the adventure aspect of the trip. The entire trip takes approximately 1 hour and 45 minutes.

The agency works with both the international and domestic markets. Schorsch estimates that the majority of his customers are Argentines. Since Foz is the only tropical area of their country, Argentines who want to see the rain forest and cannot afford to go farther north take his trips. Among Brazilians, São Paulo is the fastest growing market for ecotourism. Schorsch believes that is because the generation of "Paulistas" that is now reaching the age to travel is the first who have had no contact with nature, having not grown up on a farm or had any relatives who own a farm or live in the country. He also notes that São Paulo is particularly large and polluted and is one of a very few regions in Brazil that has a substantial middle class. In general, Schorsch says that aggressive marketing is extremely important for the success of his trips. In addition to advertising, he cultivates relationships with "receptive" tourism agencies and hotels. The Hotel Tropical das Cataratas, for example, includes his trips in its brochures and works with the agency making arrangements for tourists from the hotel to go on his trips. He estimates that 25-30% of his costs are commissions to guides, agencies, hotels, and taxi drivers who bring him customers.

According to Schorsch, the advantages of nature tourism, such as that promoted by his company, include employment opportunities for local people, and specifically for former hunters, or poachers, who can use their skills and knowledge of the area to pilot boats through the rapids, drive on poor roads, or guide visitors through the forest. Second, the agency provides support to the national park and to researchers, primarily in the form of transportation and guides. Theoretically, the agency could also make donations to local research projects or to IBAMA. Third, the agency provides free trips to school children from the region. When those trips are accompanied by someone knowledgeable about the local fauna and flora, they can be an effective form of environmental education. Finally, the trips could be a means to provide environmental education to tourists, increasing their awareness of conservation issues and support for the park. Schorsch says that he has plans to provide more training to his guides and establish a small information center at the Macuco Safari station.

**APPENDIX B: REPORT ON SURVEY OF BRAZILIAN TRAVEL AGENTS, DECEMBER 1993**

In order to gain a better understanding of the Brazilian market for tourism in the Atlantic Coastal Forest, the directors of ten nature tourism agencies in São Paulo and Rio de Janeiro were interviewed in December of 1993. The agencies were chosen on the basis of their directors' availability for an interview during the week before Christmas. As shown in the table below, most of the agencies work primarily with Brazilian tourists, although all had enough experience with international tourists to compare them with their Brazilian clients.<sup>8</sup>

<u>Travel Agency</u>	<u>State</u>	<u>Primary Market</u>	<u>Clients/Year</u>	<u>Primary Operations</u>
Blumar/Brazil Nuts	RJ	international tourists	4,000	sells package tours
Ambiental Viagens e Expedições	SP	Brazilian school trips and tourists	1,000	operates and sells own trips
Biotrip Viagens e Turismo	SP	expat school trips	2,000	operates trips and contracts with schools
Bromelia Expeditions	RJ	international tourists	500	operates trips sold through other agencies
Climb Tourism	SP	international and Brazilian tourists	1,000	operate trips sold through other agencies
Ecotrip Turismo Ecologico e Aventura	SP	international and Brazilian tourists	2,000	operates trips sold through other agencies and sells package tours
Free Way Trilhas e Natureza	SP	Brazilian tourists	1,300	operates and sells own trips and sells package tours
Igarape Nature Tours	RJ	Brazilian tourists	650	operates and sells own trips and sells through other agencies
Naturismo Agencia de Viagens	SP	Brazilian school trips and tourists	400	operates and sells own trips
Pisa Trekking-Excursionismo	SP	Brazilian tourists	2,000	operates and sells own trips

Of the four agencies whose clientele is at least half international, one is primarily a “agency” that puts together package tours in Brazil and the other three are primarily “operators” that run specific components of such package tours. The operators sell some trips through travel agencies and some directly to tourists, most of whom have heard of them through word-of-mouth. The average age of their tourists varied from 30 to 45. The operators generally run trips of three to four days, while the agency said the typical international tourist spends a week in Brazil and combines nature tourism with visits to cities and beaches. The average daily cost of the trips is \$100 when they are in the region of the southern Atlantic Coastal Forests (ACF) of Bahia, Minas Gerais, Rio de Janeiro, São Paulo, and Paraná.

The ACF sites visited by these agencies include many in the mountains and on the islands of São Paulo and Paraná, such as Morro de São Paulo, Serra da Graciosa, Ilha do Mel, Ilha do Cardoso, and the São Paulo State Park of Alto Ribeira, which offers technical caving. The National Park of Itatiaia is also very popular, although one agency noted that it has been tainted by the city of Rio de Janeiro's reputation for high crime rates

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<sup>8</sup>The directors of nature tourism agencies in Bahia and Paraná were also interviewed, but the same questionnaire was not used and the results are not reported here.

and violence against tourists. The only other disadvantage of the ACF as a tourist destination cited by these agencies was that it is not very well known, especially in comparison to the Amazon. The advantages, on the other hand, include its proximity to the major cities and hence the lower transportation cost, its mountains and waterfalls, and its "singular beauty." Although the agencies' clients come from various countries in Europe and North America, one agency director did note that the ACFs were better known and more popular among Germans.

Three of the agencies in São Paulo work extensively with local high schools, offering field trips oriented towards environmental education. Their trips cost an average of \$40 per day per person and often last a week or longer. School trips generally have more people, up to 75, than trips designed for adult tourists. Most of the trips are to areas in the ACF, including the sites listed above. The agencies think that the market for "environmental education tourism" is expanding and that the ACF is the logical destination for such trips because of its proximity to the major cities.

All but one of the agencies work with Brazilian tourists, and four work primarily with adult Brazilian tourists. The average age of their Brazilian clients falls in the range of 25 to 35, significantly younger than the average international tourist. Another striking difference with the international market is that 65 to 70 percent of the Brazilians who go on the agencies' nature tours are women. The average number of tourists on a trip ranged from 25 to 35. The most common length of trip run by these agencies is three to four days over a long holiday weekend, although they also offer longer trips and will custom-design trips for large enough groups. The ACFs from Paraná to Bahia are popular destinations for such weekend trips since both the travel time and cost can be contained.<sup>9</sup> Other advantages of the ACF as a nature tourism destination cited by these agencies include its high biodiversity, its waterfalls, its proximity to the beach, its parks and protected areas, and the publicity it has received in the São Paulo press as a result of the activities of SOS Mata Atlântica, an environmental organization. The agencies generally run trips to their most popular destination six to eight times a year in addition to a variety of other trips to less-known destinations.

When asked which four nature destinations they consider most popular among Brazilian tourists, most of the agencies listed the ACF, or specific sites in the region, as one of the most popular. The top destination, however, was generally one of the *chapadas* (mesa areas) or the *Pantanal* (wetlands of central Brazil). All of the agencies indicated that many Brazilians ask about trips to the Amazon but that few can afford the transportation cost. Brazilians cannot purchase the Brazilian airlines' "airpasses" which allow international tourists to fly to any five destinations in Brazil during a three week period for a single low price.

The agencies were also asked to rate the importance of twenty different attributes of nature tourism destinations from the perspective of a typical client and then to rate various Brazilian destinations on eight of those attributes.<sup>10</sup> Nearly all of the agencies remarked that their international and Brazilian clients would rank the attributes differently. Since the primary purpose of the survey was to understand the domestic market, only the agency that serves only international tourists was asked to provide rankings from the perspective of international tourism. That agency indicated that the top concerns of international tourists are the possibility of seeing a variety of ecosystems and unusual plants and animals, the exceptional beauty of an area, the opportunity for observing ecological research projects and interacting with scientists, and personal security or crime issues. The least important concern is the opportunity for fishing, which the agency indicated had declined dramatically

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<sup>9</sup>Some of the sites listed were Ilha Grande, Jureia, Trilha do Juqueriquere, Serra dos Orgãos, Bocaina, Itatiaia, PETAR, Ilha Anchieta, Trindade, Fazenda Intervaes, and Ilha do Cardoso.

<sup>10</sup>The destinations were Amazônia, the Atlantic Coastal Rainforest south of the state of Rio de Janeiro, the Iguazu Falls area, the Pantanal, and Bahia. The agencies were asked to rank the importance of each attribute from the perspective of a typical client of their agency when selecting a destination for a trip.

in popularity among international tourists during the past seven years. Again from the perspective of international tourism, the agency ranked the ACF as of exceptionally high quality for accommodations and for the possibility of seeing unusual plants, and exceptionally low for the possibility of observing and interacting with people of other cultures.

The top twenty site attributes in order of their average importance as ranked by the other nine agencies are listed in the table below, along with the average of the ranking on a one-to-ten scale given to the ACF on some of the attributes. According to these travel agencies, the emphasis a tourist places on the "opportunities for adventure" is inversely related to the age of the tourist, which may explain its much greater importance to the generally younger Brazilian tourists than to international tourists. The opportunity to observe scientific research projects and personal security, on the other hand, are much less important to Brazilian tourists than to foreigners. Opportunity for fishing was again ranked lowest, and most agencies did not consider it an appropriate nature tourism activity. Although the cost of the trip was only ranked as the ninth most important attribute, the number of Brazilians who visit the Amazon and even the Pantanal is apparently largely limited by the cost of reaching those sites.

Although it was considered the most important attribute, most of the agencies could not distinguish between the different possible Brazilian destinations based on their exceptional beauty. They were not asked to rank destinations based on their opportunities for adventure. The Pantanal was clearly considered the best destination for seeing unusual plants and animals and was in fact the only destination considered good for viewing wildlife. The agencies had widely divergent views on the comfort of travel conditions and quality of local guides at the different destinations. Several agencies said that the quality of local guides was important in post-trip evaluations but was not often asked about by prospective clients.

<u>Rank of Attribute</u>	<u>Attribute</u>	<u>Rank of ACF</u>
1	Exceptional Beauty of Natural Area	8.6
2	Opportunities for Adventure	
3	Possibility of Seeing Unusual Plants/Animals	7.9
4	Comfort of Travel Conditions	
5	Quality of Local Guides	6.4
6	Availability of a Variety of Activities	
7	Travel Time to the Destination	
8	Availability of Beaches	
9	Total Cost of Trip	
10	Quality of Accommodations	6.7
11	Scenic Beauty of Travel Routes	
12	Seeing a Variety of Ecosystems	7.6
13	Quality of Birdwatching	
14	Possibility of Observing/Interacting with other Cultures	5.8
15	How Crowded the Destination Is	
16	Availability of Handicrafts to Purchase	
17	Health Concerns	
18	Crime and Personal Security Issues	
19	Opportunities to Observe Research Projects	

Most of the agencies interviewed had strong, and divergent, opinions about "ecotourism" and how it should be conducted. One agency, for example, emphasized the tourists' experience and thought that all trips should be with small groups of people and include substantial environmental education. Another agency agreed on the importance of small groups of tourists, but the reason was to minimize the negative impacts on local people; that agency also believed that "ecotourism" requires that local people benefit economically. Yet another agency defined ecotourism in terms of minimum impact on the local environment and therefore believed that all supplies should be brought in rather than purchased locally. Several of the agencies in São Paulo had started an Ecotourism Association that they hoped to expand nationally in order to create standards for and promote the development of Brazilian ecotourism.<sup>11</sup>

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<sup>11</sup>An agency in Rio de Janeiro that was not interviewed (Expediteurs) has started another non-governmental ecotourism association in Brazil.

## REFERENCES

- Andriguetto-Filho, José Milton, 1993. "Institutional Prospects in Managing Coastal Environmental Conservation Units in Paraná State, Brazil," Coastal Zone Management.
- Atunes, Alzir Felipe B., M.V.Y. Müller, and J.M. Pye, 1996. "Uso de SIG no Estudo de Impacto Ambiental na Area de Proteção Ambiental (APA) de Guaraqueçaba - PR," Poster presented at the XIV Brazilian Symposium of Remote Sensing.
- Butler, R.W., 1991. "Tourism, Environment, and Sustainable Development," Environmental Conservation, 18:201-209.
- Ceni, Ana Marcia, H.F. Schlenker, and K.L. de Oliveira, 1992. "Programa de Comunicação e Educação Ambiental na Serra do Mar/ Estrada da Graciosa," mimeo, Curitiba, PR: Sociedade de Pesquisa em Vida Selvagem e Educação Ambiental.
- Cubbage, F.W., J.M. Andriguetto-Filho, E.O. Sills, V.Y. Müller, and M., Motta, 1996. "Protection of the Atlantic Coastal Forests in the Northern Littoral Region of the State of Paraná, Brazil: Legal and Administrative Frameworks," In: F. Schmithüsen (ed) Forest Law and Environmental Legislation, Contributions of the IUFRO Research Group, Report IV, Zürich.
- Eadington, William R. and M.Redman, 1991. "Economics and Tourism," Annals of Tourism Research, Vol.18, p.41.
- EMBRATUR, 1994. Diretrizes Para Uma Política Nacional de Ecoturismo, Brasília, Brazil.
- Healy, Robert, 1995. "Brazilian Atlantic Coastal Forests," Tourism in the Critical Environments, Tej Vir Singh, ed., forthcoming.
- <http://www.celepar.br/celepar/sema/iap2.html> (WWW site of Instituto Ambiental do Paraná)
- Ioannides, Dimitri, 1995. "Planning for International Tourism in Less Developed Countries: Toward Sustainability?," Journal of Planning Literature. V.9, N.3, pp. 235-254.
- IPARDES, 1989. Zoneamento do Litoral Paranaense, Curitiba, PR.
- Järviluoma, Jari, 1992. "Alternative Tourism and the Evolution of Tourist Areas," Tourism Management, March, p.118.
- Karam, Karen Follador, 1995. "Impactos da Atividade Turística sobre a Organização Social e Cultural das Populações Tradicionais da APA de Guaraqueçaba," mimeo, Curitiba, PR: SPVS.
- Kermath, B.M., 1991. "Nature Conservation and Ecotourism in Brazilian Amazonia," Ecotourism and Resource Conservation, Vol.1.
- Laarman, Jan G. and H.M. Gregersen, 1996. "Pricing Policy in Nature-Based Tourism," Tourism Management. V.17, N.4.



- Laarman, Jan G. and H. Gregersen, 1994. "Making Nature Based Tourism Contribute to Sustainable Development: A Policy Framework," EPAT/ MUCIA Policy Brief, No.5, July.
- Lee, David N.B. and D.J. Snepenger, 1991. "An Ecotourism Assessment of Tortuguero, Costa Rica," Annals of Tourism Research.
- Lindberg, Kreg, J. Enriquez, and K. Sproule, 1996. "Ecotourism Questioned: Case Studies from Belize," Annals of Tourism Research. V.23, N.3, pp. 543-562.
- Lindberg, Kreg and R.L.Johnson, 1994. "Estimating Demand for Ecotourism Sites in Developing Countries: The Travel Cost and Contingent Valuation Methods," Trends, vol.31, no.2.
- Lindberg, Kreg and R.M. Huber, 1993. "Economic Issues in Ecotourism Management," Ecotourism: A Guide for Planners and Managers. North Bennington, VT: the Ecotourism Society.
- Mendelsohn, R., 1994. "The Role of Tourism in Sustainable Development," Principles of Conservation Biology, Sunderland, MA: Sinauer Associates.
- Mercer, D. Evan, F.C. Zinkhan, and T.P. Holmes, 1995. "Assessing Forests for Their Ecotourism Potential: A Case Study of the Atlantic Coastal Rain Forests in Southeastern Brazil," SCFER Working Paper No. 77.
- Pye, John M., A.F.B. Atunes, and M.V.Y. Müller, 1995. "Constructing a Vegetation Map in the Diverse Atlantic Forest of Brazil" In: E.L. Usery (ed.), Proceedings of the Workshop on Mapping and Environmental Applications of GIS Data. Madison, Wisconsin, September.
- Ruschmann, Doris v.d.M., 1992. "Ecological Tourism in Brazil," Tourism Management, p.125.
- Sills, Erin O., and V.Y. Müller, 1996. "Domestic Nature Tourism in Brazil's Protected Areas: Can Brazilian Tourists Save the Brazilian Rainforest?," Southeastern Council on Latin American Studies Annals, 27: 68-80.
- Sills, Erin O., V.Y. Müller, F.W. Cabbage, T.P. Holmes, J.M. Pye, and J.E. Wagner, L.M. Marques, J.L. Binns, and D.C. Riggsbee, 1996. "Analysis of the Potential for Ecotourism in the Northern Littoral of Paraná, Brazil: Project Summary," Forestry Private Enterprise Initiative Working Paper, Research Triangle Park, NC: USDA Forest Service.
- Sills, Erin O., T.P. Holmes, and D.E.Mercer, 1994. "The Domestic Demand for Ecotourism in the Atlantic Coastal Rain Forest of Paraná, Brazil," presented at the World Congress on Tourism for the Environment, Puerto Rico.
- Smythe, Adriane, 1993. "Avaliação do Perfil dos Visitantes do Morro do Anhangava - Serra do Mar Paranaense," mimeo, Curitiba, PR.

- SPVS, 1992. Plano Integrado de Conservação para a Região de Guaraqueçaba, Paraná, Brasil, Curitiba, PR.
- Tobias, Dave and R.Menelsohn, 1991. "Valuing Ecotourism in a Tropical Forest Rain-Forest Reserve," Ambio, Vol.20, No.2, p.91-93.
- Wagner, John E., 1996. "Developing a Social Accounting Matrix to Examine Tourism in the Área de Proteção Ambiental of Guaraqueçaba, Brazil," Forestry Private Enterprise Initiative Working Paper #58, Research Triangle Park, NC: USDA Forest Service.
- Wallace, George N., 1993. "Wildlands and Ecotourism in Latin America: Investing in Protecting Areas," Journal of Forestry, V.91, N.2, pp.37-40.
- Wallace, G.N. and S.M. Pierce, 1996. "An Evaluation of Ecotourism in Amazonas, Brazil," Annals of Tourism Research. V.23, N.4, pp. 843-973.
- Western, David, 1993. "Defining Ecotourism," Ecotourism: A Guide for Planners and Managers. North Bennington, VT: the Ecotourism Society.
- Wheeler, B., 1993. "Sustaining the Ego," Journal of Sustainable Tourism. V.1, N.2, pp. 121-129.
- Zebich-Knos, Michele, 1994. "The Politics of Responsible Tourism and Its Contribution to Community Based Development in Latin America," paper presented to the XVIII Congress of the Latin American Studies Association.