

IDB Investments in Brazilian Protected Areas During the 1990s¹

Marc J. Dourojeanni²

W O R K I N G P A P E R

This working paper is being published with the sole objective of contributing to the debate on a topic of importance to the region and to elicit comments and suggestions from interested parties. The paper has not gone through the Department's peer review process or undergone consideration by the SDS Management Team. As such, it does not represent the official position of the Inter-American Development Bank. Please direct your comments to: Marcd@iadb.org.

¹ / The opinions and recommendations included in this note are those of the author and they do not necessarily represent the official position of the Inter-American Development Bank.

² / The author is Principal Environmental Advisor of the Inter-American Development Bank, based in Brasilia, DF, Brazil.

Contents

Introduction	1
Results	3
Discussion	8
On the Exercise and Its Accuracy	
The Importance of “Nonenvironmental” Projects for Biodiversity Conservation	
Comparing the Results with other Available Information	
IDB and IBRD Participation in the Protection of the Brazilian Natural Heritage	
Some Facts about IDB-related Investments in Protected Areas	
Conclusions and Recommendations	11
Bibliography	12

Table 1. IDB Financing for Protected Areas in Brazil, Approved in the
Period 1990 – 2000

Introduction

External observers of multilateral development banks (MDBs), both private (i.e. the Bank Information Center) or public (i.e. the U.S. Congress), frequently request information on investments or other forms of support that address precise environmental topics in the developing countries. While it is easy for the MDBs to accurately report on specific on-going operations, it is more difficult to do the same regarding their full set of operations. It becomes still more difficult if the information requested pertains to operations that have already been completed. For this reason, the MDBs usually provide information about gross annual investments in the so-called “brown” and “green” fields. They may also report on specific aspects of their “environmental” projects (i.e. IBRD, 1998; IDB, 1998).

It is important to remember that a very large portion of the MDBs' environmental investments are not done through “environmental” projects but through several other operations, particularly transportation and energy infrastructure. Environmental components or activities are also incorporated into agriculture, sanitation, health, urban development and education projects, among others. Currently, almost every Bank operation comprises some kind of environmental investment. However, because of the nature of these projects the environmental investments are not always obvious.

There are many other reasons for the difficulty in reporting on specific environmental topics for the entire portfolio. The most important reasons are four. First, all projects have at least two sources of financing (the MDB and the local counterpart), and often more than two (two or more local counterpart, co-financing arrangements, etc.). Each one of these sources finances different items or may finance portions of the same item. Second, the original budgets assigned to each item may be modified during execution because costs cannot always be accurately estimated when preparing the project (i.e. cost of land when decided in the judiciary, costs of landscape rehabilitation that varies according to procurement rules). A third reason that makes environmental investments difficult to report is that during execution, some actions may prove to be no longer necessary (i.e. already covered by other sources of funding) and other actions may become more urgent (i.e. as consequence of a natural disaster or of people migrating or invading project areas). Finally, many projects are approved on the basis of a “representative sample,” therefore, new investments, with new environmental conditions, are added during execution.

This means that in order to get the information on specific environmental features of a project, it is not enough to review the loan or project document as approved by the Board. It is also indispensable to review all events during the entire project implementation period (normally 5 years, but some projects may be significantly delayed). When environmental measures are to be executed with counterpart or co-financing funds, the financial information may be uncompleted or unclear or, simply, available in the files of the counterpart agency or the field office and not readily available in the central office. Very often, finding one single precise piece of information implies hours of reading through hundreds of pages.

This essay attempts to document the funds invested by the IDB and its counterparts and how the resources were used in the restricted field of protected areas in Brazil, during the period 1990-1999. For this purpose, all relevant documents regarding loans, technical cooperation and small projects approved or executed since 1990 were reviewed. The exercise does not include projects that were initiated before 1990, even when most expenses were undertaken in the 1990s. To be consistent, the exercise includes projects approved in 1999 that will be partially executed during 2000 and later.

In order to quantify investments in protected areas, this segment was carefully segregated from related subjects such as biodiversity, forestry, wildlife, fisheries, environmental research and education that are not directly related to protected areas. It was also separated from ecotourism whenever these investments did not take place in a protected area. The goal of the exercise was to fine-tune a search on the subject of protected areas, as defined by the World Commission on Protected Areas (WCPA) of the World Conservation Union (IUCN) and by the Brazilian legislation on the matter.

On the basis of the results, the author discusses the viability of this kind of exercise, the perception of other institutions regarding IDB investments on biodiversity in Brazil and, briefly, the role of the IDB in assisting Brazil in the field of protected areas.

Results

As shown in Table 1, from 1990 to 1999, the IDB approved 22 operations containing investments in protected areas in Brazil. These operations were 12 loans and 10 technical cooperations. All technical cooperations were “environmental” operations. Five of the loans containing investments in protected areas were infrastructure for energy and transportation. Two other loans were in urban sanitation, two were related to tourism, two were for an environmental fund and another was a mix of watershed management and sanitation. The Bank and Brazil's environmental legislation require that investments in infrastructure include investments in protected areas in the region of influence of the works as a means of ecological compensation.

The total investment in protected areas during the indicated period was US\$69.4 million. The counterpart contribution was US\$28.9 million (41,6 %). The IDB provided US\$40.5 million (58,4%). In one of the projects, the Bolivia-Brazil Gas Pipeline, the IDB contribution is combined with that of the IBRD.

It should be highlighted that the 7 infrastructure loans (including sanitation) provided more resources (US\$34 million) to the protected areas than the 5 “environmental” loans (US\$26 million) approved during the same period. Technical cooperation (grants) accounted for the difference (US\$9.4 million).

The investments were made or are destined to 83 identified protected areas, pertaining to 11 categories of federal, state and municipal protected areas, and to a large number of areas not identified during the review. The National Environmental Fund (FNMA I) project alone financed 43 additional protected areas. The identified protected areas are located in 25 of the 27 states of Brazil. These areas are 27 state parks (36%), 14 state environmental protection areas (20%) and 12 national parks (17%). Other categories of protected areas that benefited include federal or state ecological stations, extractive settlements, private natural reserves, extractive reserves, state biological reserves, municipal parks, etc. Some protected areas, such as the Serra da Capivara National Park and the Cantao State Park, benefited from more than one IDB operation.

The largest number of areas that benefited from these operations were strictly protected areas (61%) such as parks, biological reserves and ecological stations, where direct exploitation of natural resources is not allowed. However, a substantial portion of the investments were made in categories of protected areas, such as environmental protection areas (APAs), extractive settlements and extractive reserves, where direct use of the resources is allowed.

Table 1. IDB FINANCING FOR PROTECTED AREAS IN BRAZIL, APPROVED IN THE PERIOD 1990 – 2000

PROJECT NAME	PROJECT NUMBER	STATE	PROTECTED AREA	ACTIONS	FUNDING US \$1000	
					Local	IDB
Segredo Hydro Dam	BR-0061	PR	Rio do Toro SES	Establishment, and initial of protected area management	3.950	
Brasilia water & sewage (CAESB)	BR-0071	DF	Rio do Descoberto SAPA	Implantation, research, monitoring, control, etc.	4100	
Guanabara Bay Sanitation Program (PDBG)	BR-072	RJ	Serra da Tiririca SP Paraiso SES Gericino-Mendanha SAPA	Management plans		733
			Serra da Tirica SP Paraiso SES Nova Iguacu MP Pedra Branca SP Cidade de Niteroi SP	Improvement of infrastructure		1044
Gas pipeline Bolivia-Brazil	RG-0028	MS	Bodoquena NP	Establishment, land titling		1.500
		SP	Xixva-Japui SP	Land purchase		290
			Alto Ribeira SP	Land purchase		120
			Jacupiranga SP	Land purchase		310
			Serra do Mar SP	Land purchase		30
		PR	Superagui NP Campinhos SP	Land titling Expansion, institut. strenghtening Institut. strenghtening		750
			Guartela SP Cerrado SP	Education, implanting		214 185 351
SC	São Joaquim NP Serra do Tabuleiro SP Morro do Bau BG	Land titling Infrastructure Education, infrastructure		750 570 180		
RS	Aparados da Serra NP Mata Paludosa SBR	Land titling Establishment, land purchase, infrastructure		750 750		
São Paulo-Florianopolis Highway	BR-0150	SP	Jureia-Itatins SES	Land titling, zoning, infrastructure, etc.	1.618	
		PR	Marumbi SP Guaraquecaba SAPA Guaratuba SAPA	Infrastructure, institutional strengthening	1.258	

PROJECT NAME	PROJECT NUMBER	STATE	PROTECTED AREA	ACTIONS	FUNDING US \$1000	
					Local	IDB
Fundo Nacional Meio Ambiente (FNMA I)	BR-0078	BR	43 small and mid-size projects in protected areas	Demarcation, infrastructure, research, training, education, etc.	1.300	1.600
FNMA II-Fase I	BR-0262	BR	To be determined	Demarcation, infrastructure, research, training, education, etc.	2.000 ^{1/}	4.000 ^{1/}
Fernão Dias Highway I and II	BR-0162 BR-0216	SP MG	Cantareira SP Jaguari-Camanduaia SAPA Sapucaí-Mirim SAPA Morro do Papagaio SP Fernaõ Dias MP	Land titling, infrastructure, etc. Establishment Establishment Establishment Establishment	2.500	
Guaíba Watershed Management (PROGUAIBA)	BR-0073	RS	Delta do Jacuí SP Itapua SP Botanical Garden PA Zoological Garden PA Serra Geral SBR Studies for new PAs Paleontology Sites	Infrastructure, demarcation, management plans, equipment, studies, training, public education, etc.	5.000	6.600
Tourism development program in the Northeast (PRODETUR)	BR-0204	BA CE RN	Serra do Conduru SP Itacaré-Serra Grande SAPA Lagoa Encantada SAPA Pratigi SAPA Santo Antonio SAPA Coroa Vermelha SAPA Caraiva-Trancoso SAPA Marimbus-Iraquara SAPA Lagoon (4) conservation Pecem Dunes Paracuru Dunes Dunas SP	Establishment, land purchase, infrastructure Establishment, staffing Establishment, staffing Establishment, staffing Establishment, staffing Establishment, staffing Establishment, staffing Establishment, staffing Rehabilitation and protection Recuperation and protection Recuperation and protection Establishment, infrastructure	5.000 ^{2/}	3.590 360 360 350 360 720 830 365 479 164

PROJECT NAME	PROJECT NUMBER	STATE	PROTECTED AREA	ACTIONS	FUNDING US \$1000	
					Local	IDB
Support to ecotourism development in the Amazon (PROECOTUR)	BR-0206	AC	Serra do Divisor NP	Studies for ecotourism development and investments in existing NPs and SPs.	100 ^{2/}	2.950
		AP	Delta do Amazonas SP			
		AM	Rio Negro SP Jau NP Pico da Neblina NP Anavilhanas ES	Establishment studies and management plans for new SPs and MPs.		
		MT	Cristalino SP	Studies for ecotourism development in ERs		
		MA	Parcel de Manuel Luis SP Mirador SP			
		PA	Amazônia NP Cachoeira Porteira SP Monte Alegre SP Alter no Chao MP Tapajoz-Arapiums ER			
		RO	Serra dos Reis SP Curalinho ER Pedras Negras ER	Emergency investments for recovery. Investments to be realized in the second phase of the project		
		RR	Monte Roraima NP			
		TO	Cantão SP Araguaia NP			
Cerrado Wildlife Sanctuaries	ATN/JF 5247-BR	GO	Flor das Aguas RPPN Pousada das Araras RPPN Volta da Serra RPPN Mata Funda RPPN	Management plans, training, infrastructure		480
Support to Extractive Reserves	ATN/TF 3934-BR	AC	Sao Luiz do Remanso ES Cachoeia ES Santa Quiteria ES Porto Dias ES	Training, technical assistance, infrastructure, equipment, management plans	657	1.000
Action Plan for Abrolhos NP	ATN-SF 5366-BR	BA	Abrolhos NP	Action plan		150
Integrated Coast Management Initiative	ATN/SF 5841-BR	PE AL	Tamandare-Paripuera SMAPA	Establishment, coastal management	350	1.750
Fundação Homem Americano	ATN/JF 5029-BR	PI	Serra da Capivara NP	Infrastructure, institut. strengthening	100	1.750

PROJECT NAME	PROJECT NUMBER	STATE	PROTECTED AREA	ACTIONS	FUNDING US \$1000	
					Local	IDB
Fundação Homem Americano (FUNDHAM)	ATN/SF 3751-BR SP/SF 9228-BR	PI	Serra da Capivara NP	Support to rural communities in the buffer zone of the Park	100	640
Integrated Coastal Ecosystem Management	ATN/SF	BR	Southwest Atlantic SMAPA	Integrated monitoring and management of coastal ecosystems: identification of priority areas	100	850
Conservation Planning in the Cantao Region	ATN/JF 6187-BR	TO	Cantão SP Cantão SAPA	Establishment, infrastructure, management plan, training, etc.	573	750
Support to Amapa planning	ATN/SF 5107-BR	AM		Studies for new protected areas		40
Total					28.900	40.461

Abbreviations:

NP	National Park, Parque Nacional (IBAMA)
ES	Ecological Station, Estação Ecologica (IBAMA)
SP	State Park, Parque Estadual (SEMAs or alike)
SES	State Ecological Station (SEMAs or alike)
SBR	State Biological Reserve, Reserva Biologica Estadual (SEMAs or alike)
MP	Municipal Park, Parque Municipal (Municipalities)
ER	Extractive Reserve, Reserva Extractivista (IBAMA)
ES	Extractive Settlement, Assentamento Extrativista (INCRA/IBAMA)
SAPA	State Area of Environmental Protection, Area de Proteção Ambiental Estadual (SEMAs or alike)
SMAPA	Marine Area of Environmental Protection, Area de Proteção Ambiental Marinha (IBAMA)
RPPN	Official Private Natural Reserves/ Reservas Particulares de Patrimonio Natural (IBAMA)

Notes:

1/	Gross estimate, as this project begun in 1999.
2/	Estimated.

Discussion

On the Exercise and its Accuracy

This exercise was carried out in the IDB's Office in Brazil, where IDB staff responsible for the projects is located and where all technical and financial information on project execution is filed. Staff in the country office also has easier access to local executors of the projects if additional information or clarifications are needed. Despite all these advantages, it was significantly difficult to decide what exactly may be considered "an investment in a protected area." Often, the description of the activities and the financial information were not clear and/or disaggregated enough to figure out how much was effectively invested in the protected area. In many other cases, decisions as to what to include or exclude were made on the basis of criteria that may be considered arbitrary. For example, it was decided that investments in the restoration of an historical monument in a national forest would not be included. Similarly, improvements in the physical infrastructure of a botanical garden were excluded, while improvement to a natural park around a zoological garden was included. It is not easy to decide if social investments in the buffer zone of a park or in an extractive reserve are, indeed, an investment in the protected area. In this exercise, these categories of investments were included. Assigning amounts to protected areas was even more complex when projects financed general studies that included sections on protected areas or, as in the PROECOTUR project, when tourism studies aimed at promoting visits to protected areas. In this analysis, the costs of these studies were not considered simply because it was not possible to establish criteria for separating the cost of the part of the report that dealt with protected areas or with tourism in protected areas from the overall cost of the study. Finally, in the case of projects whose execution is only beginning, such as in the case of the FNMA II, total investment amounts are only a best guess, based on previous experience. These kinds of difficulties increase as the object of the exercise becomes more specific, often lost in an ocean of other planned activities within each project. It becomes easier with larger subject areas, such as biodiversity, forestry, marine resources, fisheries, etc.

The Importance of "Nonenvironmental" Projects for Biodiversity Conservation

Ever since the Bank began producing its annual report on the environment and natural resources (1990-1999), there has never existed a reliable estimate of the contributions to the environment contained in the "nonenvironmental" operations. Moreover, the presumption has always been that these contributions were underestimated. This exercise shows that this may, indeed, be the case since the seven "nonenvironmental" loans included accounted for 57% of the funding for protected areas during the period being studied.

These results suggest the need for a more detailed information system able to extract the appropriate data from every approved operation, to analyze the role of the Bank in the environmental field.

Comparing the Results with Other Available Information

The World Resources Institute researched the investments of private and public institutions based in the United States (excluding multilateral institutions) in biological diversity conservation in developing countries. It found that in 1989, Latin America and the Caribbean received the largest amount of money (67% of the total) or US\$42.5 million for 310 projects in 14 countries (Abramovitz, 1991). Of this amount, Brazil received US\$5.5 million. Most of this funding went for biological research; however, a significant portion was also allocated to protected areas. Another survey of funding for biodiversity

conservation in Latin America and the Caribbean (World Bank, 1994) identified 61 ongoing operations in Brazil. Twelve of these operations financed protected areas. It is noticeable that the only IDB investment that was mentioned was the Fundo Nacional do Meio Ambiente (FNMA I). By 1994, some 20 IDB projects dealt with biodiversity conservation in Brazil either directly or through their components.

The Brazilian government also attempted to establish the facts about foreign contributions to biodiversity conservation. Its last report for the Biodiversity Convention (Brazil/MMA, 1998) presents a summary of international contributions from 1985 to 1996 and concludes that the IDB provided US\$7.7 million for biodiversity. Considering that “biodiversity” investments, as defined in that report, include most actions related to agriculture, forestry, fisheries and wildlife, it is clear that the reported amount is only a very small portion (probably less than 5%) of what the Bank actually invested in biodiversity during the indicated period. Only the PROGUAIBA (watershed management in the state of Rio Grande do Sul) invested US\$84 million (IDB financing) in issues related to biodiversity. The report does not even mention IBRD investments. The principal multilateral donor cited is the IDB followed by the ITTO, with US\$6.2 million.

These results reflect the magnitude of the underestimation of IDB investments in biodiversity conservation. However, they are not a surprise since the IDB itself also underestimated its own investments, as shown in an effort to list all Bank investments (from 1987 to 1996) dealing with biodiversity (IDB, 1997). This internal desk study report concluded that 7 investment projects and 2 technical cooperations were developed for Brazil during the indicated period. But, there were several omissions. Among the projects omitted that were approved during the period under the review were the Segredo Hydro Dam Project and Fernão Dias Highway Program, Phase I. Also the PMACI project, in Acre (US\$10 million investment in biodiversity and protected areas); whose funding was approved before 1990 goes unmentioned in this desk report. There are similar omissions regarding technical cooperation. It is evident that there has been a tendency to under estimate total amount of investments in biodiversity conservation.

IDB and IBRD Participation in the Protection of the Brazilian Natural Heritage

IDB projects (including counterpart funding which is an integral part of every project) totaled US\$6.9 million per year. This is a highly significant amount and the IDB (with a direct contribution of US\$4.1million/year) is probably the single largest source of financial support for Brazil’s protected areas. If other IDB investments dealing with biodiversity were also included in the analysis, the preeminent role of the IDB in the financing of biodiversity conservation in Brazil would be even more evident.

Brazil is making remarkable efforts in support of protected areas as a tool for conserving endangered ecosystems and biodiversity. The country directly contributed with 44.2% of the investments in IDB projects. Adding IBRD projects to the federal and states budgets for protected areas further highlights Brazil's efforts. During the 1990s, the IBRD developed the National Environmental Program (PNMA) and, jointly with the G7, is also developing the Pilot Program for the Tropical Forests of Brazil (PPG7), both with important investments in protected areas.

Nevertheless, these efforts are still far from enough to ensure the long-term preservation of Brazil’s huge natural heritage. The main problem revolves around the high costs of land purchases (FUNATURA, 1991) that can only be financed with national resources.

Some Facts about IDB-related Investments in Protected Areas

The results show that the government of Brazil and the Bank gave priority (60.5%) to strictly protected areas over protected areas that allow the exploitation of natural resources. However, almost 20% of the areas were *Áreas de Proteção Ambiental* (APAs), especially in road, water and sanitation and tourism projects. Total investments in APAs, during the period was over US\$10 million (not considering investments made through the FNMA I and II) representing 15% of the total investment in protected areas. Of all the categories of protected areas in Brazil that allow the exploitation of resources, the APAs are the most controversial because success in implementing them as been particularly elusive. As a result, conservation objectives are rarely achieved (Morais de Jesus, 1997, Dourojeanni, 1997). The main issue with APAs is that the land is privately owned and it is very difficult to enforce uses that are not compatible with conservation. Some APAs, financed through Bank's projects, were severely affected by undesirable developments. This was the case of the APA do Rio Descoberto, in Brasilia, established to protect the main source of fresh water for the city. Most of the area was converted into shantytowns, its urbanization was chaotic and abuse was rampant (Correio Braziliense, several reports since 1995). Other categories of directly used protected areas, such as extractive reserves, are much better suited to combining development and environmental objectives. The Bank must consider this issue when it is asked to finance more APAs.

The regional distribution of investments in protected areas shows the same trends as for the investments themselves. A high proportion of them (44%) were made in only 6 of the most developed states of the South and Southeast where there is a higher density of protected areas, while these are much smaller than in other regions. Newer projects, such as PROECOTUR and PRODETUR, as well as technical cooperation, are investing more in the Northeast, the North and the Center West regions.

The governmental counterpart for protected areas in most infrastructure projects includes the cost of land appropriation, which the MDBs are not allowed to finance. Also, as in the road projects, a large portion of the entire environmental costs is financed with local funding. The Bank is currently changing this latter practice in order to gain better control over environmental conditionalities and investments during loan execution.

In the near future, current trends in protected areas investment will continue. Projects currently under study, such as the Pantanal program, PRODETUR-South, PRODETUR-NE II, PRO-ECOTUR II, among others, will probably invest over US\$100 million in establishing the conditions for tourist activities inside existing or new protected areas. As with the case of the United States and Canada, Brazil's greatest tourism potential is in outdoor recreation.

Conclusion and Recommendations

1. Due to the inherent difficulty of preparing specific information on special environmental topics, information being circulated about the Bank's performance in fields such as biodiversity or protected areas is frequently wrong and, in the case of Brazil, is grossly underestimated. It is important to be able to provide better quality information of environmental investments components in programs of other sector. This improves the Bank's capability to provide more accurate information to the public.
2. Investments in protected areas in IDB-related projects during the 1990s have been significant. A total of US\$69.4 million was invested in 83 protected areas. A large number of other investments have not been quantified during the analysis. These include small and mid-size projects granted through the FNMA I and II. Of the identified investments the Bank funded 58.4% and the country 41.6%.
3. The so-called "nonenvironmental" loans have been a more significant source for investments in protected areas than the "environmental" loans, showing the importance of careful monitoring of environmental components, especially in infrastructure lending.
4. Technical cooperation (grants) for protected areas have also been significant (US\$9.4 million). They have been located in regions and protected areas which have had no loan funding by the IDB. These include the Northeast, the North and the Center West regions of the country. Marine areas also have benefited from three technical cooperation projects.
5. While most protected areas support have gone to strictly protected areas (parks and equivalent reserves), a high portion of the resources (35%) has been invested in "soft" protected areas, especially APAs which received 15% of total investments, despite the fact that this category is not considered an efficient instrument for the conservation of ecosystems and biodiversity. It is recommended that the Bank review the wisdom of financing APAs in the future.
6. Despite inherent difficulties and the high cost of carrying out special analysis of environmental topics relevant to the Bank's portfolio, as shown here, doing so is worthwhile in order to guide future decisions regarding Bank financing. However, it is advisable that such analyses take place in the field offices and is performed by staffers who are very well acquainted with Bank operations.

Bibliography

- Abramovitz, J. N. 1991. Investing in Biological Diversity, U.S. Research and Conservation Efforts in Developing Countries. Washington, D.C. : World Resources Institute.
- Brazil/ MMA . 1998. Primeiro Relatório Nacional para a Convenção sobre Diversidade Biológica. Ministério do Meio Ambiente, dos Recursos Hídricos e da Amazônia Legal Brasília, D.F.
- Dourojeanni, M.J. 1997. Areas protegidas de América Latina en los albores del Siglo XXI . Anais do Congresso Brasileiro de Unidades de Conservação Curitiba, March 15-23, 1997. IAP/UNILIVRE/Rede Nacional Pró Unidades de Conservação. Curitiba. Vol I: 69-109.
- FUNATURA. 1991. Custo de Implantação de Unidades de Conservação na Amazônia Legal. Fundação pró-Natureza, UNDP and SCT/PR. Brasília, D.F.
- IBRD. 1994. Survey of Funding for Biodiversity Conservation in Latin America and the Caribbean. Washington, D. C.: The World Bank, Environment Department. October 1994.
- IBRD. 1998. Environmental Matters at the World Bank, Annual Review. Washington, D.C.: World Bank.
- IDB. 1997. El BID y la Biodiversidad. División de Medio Ambiente, Banco Interamericano de Desarrollo. Washington, D.C.: IDB (unpublished draft).
- IDB. 1990-1999. Annual Report on the Environment and Natural Resources. Inter-American Development Bank, Environment Division Washington, D.C.: IDB (10 yearly reports).
- IDB. 1998. Annual Report on the Environment and Natural Resources. Inter-American Development Bank, Environment Division. Washington, D.C.: IDB.
- Moraes de Jesus, R. 1997 Condicionantes para o aproveitamento sustentável de unidades de conservação de uso direto. Anais do Congresso Brasileiro de Unidades de Conservação. Curitiba, March 15-23, 1997. IAP/UNILIVRE/Rede Nacional Pró Unidades de Conservação Curitiba Vol II: 428-444