

REPUBLICA FEDERATIVA DO BRASIL

MINISTERIO DO MEIO AMBIENTE

CONSORCIO MATA ATLANTICA

BIOSPHERE RESERVE NOMINATION FORM
ATLANTIC FOREST PHASE IV
NORTHEAST

INCLUDES AREAS IN THE STATES OF
CEARA, RIO GRANDE DO NORTE, PARAIBA
FERNAMBUCO, ALAGOAS, SERGIPE, BAHIA

(Integrate with Phases I, II and III - Macico da Tijuca,
Vale do Ribeira and Serra da Graciosa - Serras do Mar;
Mantiqueira, Espinhaço and Geral)

BRAZIL
1992

A - BACKGROUND INFORMATION

The Atlantic Forest and its associated ecosystems - mangroves, sandbank woods, highland marshes and ridge forests - still cover sixteen Brazilian States, from Ceara to Rio Grande do Sul. However, these formations have decreased very much nowadays, due to the predatory action of mankind, perpetrated over five centuries. In the northeast this situation is even more serious, where only spots of native or secondary vegetation exist, requiring urgent and undelayable protection and recovery actions.

In the reverse sense of the degradation process, environmental legislation in Brazil has been improving itself, ensuring important legal instruments for the protection of the Atlantic Forest and associated ecosystems. As a result of the intention of the legislator, the Brazilian Constitution itself declares that the Atlantic Forest and the coastal region as National Heritage. Besides this, for many decades the Union and the States have been implementing a system to protect the remnants of these ecosystems, through the development of Preservation Units, like Parks, Reserves, Ecological Stations and Environment Protection Areas.

In order to render feasible Phase IV of this reserve, of which the previous ones have already been approved, the Sociedade Nordestina de Ecologia (SNE - Northeastern Ecology Society), a non-government scientific society with a regional outlook, was presented to the Atlantic Forest Consortium, the agency organizing this work at national level. SNE has been operating as a link with the State governments, with support from them, developing the required technical works. Thus, SNE has performed simultaneously a technical and political effort, also marking a new experience in the Northeast, a relationship of an environmental NGO and governments, so that the first one does not lose its autonomy nor will it come to replace the State.

On the other hand, the State governments, have gradually shown sensitivity to the theme, placing technicians available part-time on the project and finally assuming the conclusions of the job.

As a first step, a workshop about the "Atlantic Forest of the Northeast and Its Inclusion in the UNESCO Biosphere Reserve Program" was held in November 1991. The work, coordinated by SNE and under the sponsorship of the Brazilian Environmental Agency - IBAMA and UNDP, gathered thirty-five specialists of the northeast and some from the south of Brazil, who made a preliminary diagnosis of the Atlantic Forest of the Northeast of Brazil and its associated formations, besides outlining a set of proposals of efforts.

The second step, essential for developing the Biosphere Reserve, consisted in mapping (1:100,000 scale) the remnants of the Atlantic Forest and associated ecosystems, in zoning the Biosphere Reserve proposal according to UNESCO guidelines (1:250,000 and 1:1,000,000 scale) and preparing a technical

text to be based upon, according the specific UNESCO form.

This step was developed in February and October 1992. For this job, the collaboration not only of all the technicians directly involved was of paramount importance and also that of many others, who work in Universities, IBAMA offices and offices of other Institutions.

In this manner, the required documents to plead for the inclusion of the Northeast in the Atlantic Forest Biosphere Reserve are concluded, being endorsed by the governments of the States of Ceara, Rio Grande do Norte, Paraiba, Pernambuco, Alagoas, Sergipe and Bahia.

Phase IV also incorporates the proposal to include remnants of the State of Bahia, made in cooperation with the Coordinator of the Atlantic Forest Consortium, in which the conclusion coincided with the study made for the other Northeastern States. In this manner, the last integration phase of the coastal remnants of the Atlantic forest within the Atlantic Forest Biosphere Reserve is concluded. The Biosphere Reserve Nomination Form for Phase IV of the Atlantic Forest is presented herewith.

and contiguous
nature sanctuary
core areas, and buffer
reserve, give the name
and the benefits of the
management.

FEDERAL AND STATE

OF RIO GRANDE DO

SERGIPE AND

Biosphere
Reserve

BIOSPHERE RESERVE NOMINATION FORM

1. COUNTRY: B R A Z I L

2. OFFICIAL NAME OF THE RESERVE: ATLANTIC FOREST - PHASE IV
Northeastern Region

3. BIOGEOGRAPHICAL REGION: 8.7.1 - Serra do Mar, according
UDVARDY, M.D.F. "A Classification of the Biogeographical
Provinces of the World" - IUCN, Occasional Paper No. 18.

4. SIZE AND SPATIAL CONFIGURATION (see map)

4.1. Size of Core Area(s): 1,331,246 hectares

4.2. Size of Buffer Zone(s): 6,063,753 hectares

4.3. Approximate Size of Transition Area(s):
4,181,030 hectares

5. ADMINISTRATIVE AREAS INCLUDED IN THE PROPOSED BIOSPHERE RESERVE

If one or more existing and contiguous administrative areas (e.g., national park, natural sanctuary, experimental station) are to be included in the core area(s), and buffer zone(s) of the proposed biosphere reserve, give the name(s) of this/these administrative area(s) and the name(s) of the authority(ies) responsible for its/their management.

SEE ATTACHMENT "A" FOR FEDERAL AND STATE CONSERVATION UNITS

IN THE STATES OF CEARA, RIO GRANDE DO NORTE, PARAIBA,

PERNAMBUCO, ALAGOAS, SERGIPE AND BAHIA.

If the proposed biosphere reserve consists of several areas which are geographically separated and managed by different administrative authorities, give the names of these administrative areas and the names of the authorities responsible for their management. In this case (cluster biosphere reserve), a supplementary form should be completed for each administrative authority concerned. The MAB Secretariat can provide this supplementary form upon request.

FEDERAL GOVERNMENT - IBAMA

STATE SECRETARIATS OF CEARA, RIO GRANDE DO NORTE, PARAIBA

PERNAMBUCO, ALAGOAS, SERGIPE and BAHIA.

ATTACHMENT "B" - ENCLOSES PERTINENT DOCUMENTS

SECONDARY

SECONDARY

SECONDARY

6. GEOGRAPHICAL LOCATION

6.1. Overview (major geographical features in the vicinity of the proposed biosphere reserve)

SEE ATTACHMENT "C"

SEA AND RIVERS

6.2. Governmental Divisions (e.g., state, province or region, county, territorial division, etc.)

SEE ATTACHMENT "C"

6.3. Nearest Major Town: SEE ATTACHMENT "C"

6.3.a. Approximate population: SEE ATTACHMENT "C"

6.3.b. Distance from the nearest boundary of the proposed biosphere reserve: 0 km kilometers

6.4. Approximate population density of the region (including transient peoples, nomads, etc.): 35 inhabitants/km2

6.5. Latitude and Longitude

29° 50' 18" and 18° 04' 20" latitude south. Between 34° 45' 00" and 42° 30' 00"

longitude west of Greenwich (except for the oceanic islands)

7. TENURE

- 7.1. National Government.....PRINCIPAL SECONDARY
- 7.2. State or Provincial Government.....PRINCIPAL SECONDARY
- 7.3. Local Government.....PRINCIPAL SECONDARY
- 7.4. Private Corporation Organization.....PRINCIPAL SECONDARY
- 7.5. Private Individual, Corporation,
or Group.....PRINCIPAL SECONDARY
- 7.6. University or Research Institution.....PRINCIPAL SECONDARY
- 7.7. International Body.....PRINCIPAL SECONDARY
- 7.8. Other (list): -----PRINCIPAL SECONDARY

8. LEGAL PROTECTION OF CORE AREA AND BUFFER ZONE

- 8.1. National Legislation.....PRINCIPAL SECONDARY
- 8.2. State or Provincial Legislation.....PRINCIPAL SECONDARY
- 8.3. Local Legislation.....PRINCIPAL SECONDARY
- 8.4. Administrative Regulations.....PRINCIPAL SECONDARY
- 8.5. Executive Decree.....PRINCIPAL SECONDARY
- 8.6. Ownership.....PRINCIPAL SECONDARY
- 8.7. Cooperative Agreements.....PRINCIPAL SECONDARY
- 8.8. Voluntary Designation.....PRINCIPAL SECONDARY
- 8.9. Other (describe)
-----PRINCIPAL SECONDARY

9. PHYSICAL CHARACTERISTICS

9.1. Climate

SEE ATTACHMENT "D"

9.1.a. Maximum average temperature of the warmest month: 30 °C.

9.1.b. Minimum average temperature of the coldest month: 22 °C.

9.1.c. Mean annual precipitation: 800 to 1,200 mm, recorded at an elevation of _____ meters

9.1.d. If precipitation is seasonally distributed, number of wet months each year: 3 - 5 months

9.2. Topography, Hydrography, and Oceanography

SEE ATTACHMENT "D"

9.2.a. Highest elevation above mean sea level: 1,200 meters

Diamantina Tableland

9.2.b. Lowest elevation: 0 meters

For coastal and marine areas,

9.2.c. Maximal depth below mean sea level: 20 meters

9.2.d. Minimal depth (if applicable): not applicable meters

9.3. Geology, Geomorphology and Soils

SEE ATTACHMENT "F"

10. HABITATS AND CHARACTERISTIC SPECIES

SEE ATTACHMENT "F"

DISTRIBUTION
Regional Local

Type _____

Species: _____

Relevant ecological controls or human management practices: _____

Relevant ecological controls or human management practices: _____

DISTRIBUTION
Regional Local

10. b. Type _____

Species: _____

Relevant ecological controls or human management practices: _____

DISTRIBUTION
Regional Local

10. c. Type _____

Species: _____

Relevant ecological controls or human management practices: _____

1. PURPOSE OF THE BIOSPHERE RESERVE

(circle appropriate number: 5 is the highest value)

- Conserve natural or minimally disturbed ecosystems (5) 4 3 2 1 0
- Provide the legal or administrative basis for resource protection and management 5 4 (3) 2 1 0
- Conserve specific genetic resources in situ (5) 4 3 2 1 0
- Conduct experimental problem-oriented research on ecosystem management and conservation 5 (4) 3 2 1 0
- Conduct long-term environmental monitoring 5 4 (3) 2 1 0
- Promote regional planning and integrated rural development 5 4 (3) 2 1 0
- Promote local participation in land use and management 5 (4) 3 2 1 0
- Promote environmental education (of local people and visitors) and training 5 (4) 3 2 1 0
- Generate and share knowledge about conservation and management of the biosphere 5 (4) 3 2 1 0

12. CONSERVATION VALUE

12.1. Species of Particular Value to Conservation

12.1.a. Endangered or threatened "Red Book" plant or animal species

SEE ATTACHMENT "G"

12.1.b. Endangered or threatened species identified, at the national or regional level

SEE ATTACHMENT "G"

12.1.c. Wild relatives of economic species

Aspidosperma spp; Copaifera lngsdorfii; Machaerium spp; Ocotea Machaerium spp; Ocotea spectabilis; Cedrela angustifolia; Vanillosmopsis erythropappa; Cariocar sp; Anacardium occidentale; harconia speciosa; Bondichia virgiloides; Tabebuia spp; Tabrebua.

12.1.d. Traditional agricultural plant populations and/or cultivars within indigenous production systems

Manihot utilissima; Musa paradisiaca; Anacardium occidentale.

12.1.e. Animal domesticates within traditional production systems

Cattle herd = 120,000 heads Hog herd =150,000 heads

Goats = 100,000 heads Poultry =200,000 heads

12.1.f. Species of cultural or commercial importance. Indicate use(s) of these species.

Several medicinal herbs that were used by the Indians have been incorporated to contemporary culture, mainly due to the movement in favor of natural medicine.

12.2. Habitats of Particular Value to Conservation

All the habitats considered as such, have been described in Attachment "F"

13. LOGISTIC ROLE (circle appropriate number)

13.1. Cooperation between the site and the MAB National Committee	(5)	4	3	2	1	0
13.2. Cooperation with regional planning and development authorities.	(5)	4	3	2	1	0
13.3. Cooperation with local communities and representatives of populations living in and around the biosphere reserve	(5)	4	3	2	1	0

13.4. Cooperation with institutions involved in basic or applied research or monitoring	(5)	4	3	2	1	0
13.5. Cooperation with institutions involved in <u>ex situ</u> conservation of biological resources	5	4	(3)	2	1	0
13.6. Comparative monitoring or research with a biosphere reserve or research site in the same biogeographical province or ecological zone	(5)	4	3	2	1	0
13.7. Comparative monitoring or research with a biosphere reserve or research site in another biogeographical province or ecological zone	5	(4)	3	2	1	0
13.8. Site of an internationally recognized UNESCO-MAB pilot project or comparative study	5	(4)	3	2	1	0
13.9. Site of a national MAB project	(5)	4	3	2	1	0
13.10 Cooperation with a biosphere reserve on functions other than research and monitoring	(5)	4	3	2	1	0
13.11 Coordinating body for integrating scientific activities at the site	5	(4)	3	2	1	0
13.12 Site of an international development project (describe project in 13.16)	(5)	4	3	2	1	0
13.13 Site of an international research project other than MAB (describe project in 13.16)	(5)	4	3	2	1	0

13.14. Estimated number of national scientists participating in research at the site: 250

13.15. Estimated number of foreign scientists participating in research at the site: 30

13.16. Use the space below to describe activities and important mechanisms for coordinating biosphere reserve functions:

National Program for Coastal Management - CIRM/IBAMA

National Program for Forestry Development - PNUD/FAO/BRA

Guariba Project - WWF/CI

Capibaribe Project - British Government

Human Resources Captivating Project (Alagoas) - GTZ

Mangroves Inspection Program (Alagoas) - Canadian Embassy

Fauna and Flora Research Programs (Sergipe) - UFS/CNPq

TAMAR Project (Fernando de Noronha - PE) - IBAMA

Marine Cowfish Project (Pernambuco and Paraíba) - IBAMA

14. RESEARCH AND MONITORING (check as appropriate)

14.1. General Programme

- No research history, and no monitoring and research programme
- Used occasionally for research, but has no permanent monitoring and research programme
- Basic research programme not oriented to land use and management issues
- Applied research programme oriented to land use and management issues
- Integrated programme of basic and applied research that supports site management objectives and sustainable conservation in the region
- Site being considered as part of long-term national, regional, or international monitoring programme

14.2. Resource Information (check as appropriate)

	ACTIVITY		
	<u>Past</u>	<u>Ongoing</u>	<u>Planned</u>
General Information			
aerial photographs	(x)	(x)	(x)
bibliography	(x)	(x)	()
ecological data management system	(x)	(x)	()
geographic information system [automated]	(x)	(x)	(x)
history of scientific study	(x)	()	()
risk assessment data and maps	(x)	(x)	()
satellite imagery and data tapes	(x)	(x)	(x)
topographic map	(x)	()	(x)
vegetation/land cover map	(x)	()	()

	<u>Past</u>	<u>Ongoing</u>	<u>Planned</u>
Aquatic Systems			
aquatic ecosystems, freshwater	(X)	(X)	()
aquatic ecosystems, marine	(X)	(X)	()
bathymetric maps	(X)	()	()
hydrological data, surface	(X)	(X)	(X)
hydrological data, groundwater	(X)	()	()
limnological surveys	(X)	(X)	()
water quality data	(X)	(X)	()
Atmosphere			
air quality data	(X)	(X)	()
climatological data	(X)	(X)	(X)
precipitation chemistry	()	()	()
Biological Inventory			
inventory of fishes	(X)	()	()
inventory of mammals	()	(X)	(X)
inventory of other vertebrates	(X)	(X)	(X)
inventory of invertebrates	(X)	(X)	()
inventory phytoplankton	(X)	(X)	(X)
inventory of macrophytes (aquatic grass)	(X)	(X)	(X)
inventory of nonvascular plants	(X)	(X)	(X)
inventory of vascular plants	(X)	(X)	(X)
Geology/Soils			
coastal geomorphological information	(X)	(X)	(X)
geological map	(X)	()	()
soils map and description	(X)	(X)	()
Socioeconomic and Cultural			
ethnobiological information	()	()	()
land/water use history	(X)	(X)	(X)
land/coastal use map	(X)	(X)	()

Other:

14.3. Research Activities (check as appropriate)

	<u>ACTIVITY</u>		
	<u>Past</u>	<u>Ongoing</u>	<u>Planned</u>
acidic deposition	()	()	()
agricultural research	(x)	(x)	(x)
appropriate rural technology	(x)	(x)	(x)
aquaculture/mariculture	(x)	(x)	(x)
biological survey and collection of flora and fauna	(x)	(x)	(x)
biogeochemical cycles/energy flow/ productivity	()	(x)	()
comparative ecological research	(x)	(x)	()
cultural anthropology	(x)	(x)	()
ecological succession	(x)	(x)	()
ecosystem modelling	()	()	(x)
ecosystem restoration	()	(x)	()
effects of atmospheric pollutants	()	(x)	(x)
effects of sea level changes	()	()	()
effects of water pollutants	(x)	(x)	(x)
effects of pesticides	(x)	(x)	(x)
ethnobiology	()	()	()
exotic species	(x)	(x)	(x)
fire history and effects	()	()	()
fish population dynamics	(x)	()	()
forest research/silviculture	()	(x)	(x)
genetic resources management	(x)	(x)	(x)

14.4. RESEARCH FACILITIES

In the below listing, CHECK facilities which are available within the proposed biosphere reserve

- Air pollution monitoring station
- Climatological monitoring station
- Conference/meeting facilities
- Hydrological monitoring station
- Laboratory facility
- Library
- Lodging for visiting scientists. How many? _____
- Logistical support for suitable research vehicles (e.g., autos, jeeps, boats, aircraft)
- Microcomputers.
- Other computers.
- Permanent monitoring plots for lakes or streams
- Permanent monitoring plots for marine benthic communities.
- Permanent monitoring plots for vegetation
- Small watershed monitoring and research site(s)
- Storage and curatorial facilities for biological and environmental collections
- Other: Facilities in various Government Facilities located

in the several regions.

Mode(s) of access to research facilities: By land (state-owned
vehicles, bus lines, private cars), by air (airplanes and heli-
copters), by river (boats, yachts and ferries).

If there are no research facilities within the proposed biosphere reserve, give the name and location of the nearest research laboratory or centre relevant to biosphere reserve objectives:

15. EDUCATION AND TRAINING (check as appropriate)

	ACTIVITY	
	Ongoing	Planned
Environmental education for school children and students	(X)	(X)
Extension services for local people	(X)	(X)
Demonstration projects in conservation and rational use of natural resources	(X)	(X)
Graduate and postgraduate research projects for students	()	(X)
Interpretive programmes for tourists	(X)	()
Professional training and workshops for scientists	(X)	(X)
Professional training and workshops for resource managers and planners	(X)	(X)
Training for staff in protected area management	()	(X)

Other education and training: _____

16. LOCAL POPULATION AND PARTICIPATION

16.1. Type of Local Population Living in and around the Proposed Biosphere Reserve (CHECK those that apply):

(X) Agricultural

(X) Artisanal fishing/shellfishing

(X) Forest-dwelling

(X) Hunter-gatherer

() Nomadic

(X) Pastoral

(X) Urban or suburban

(X) Other (specify): _____

SEE ATTACHMENT "H"

16.2. If indigenous populations live within or near the proposed biosphere reserve, provide a brief description of these populations:

16.3. Approximately how many people live permanently within

16.3.a. the core area(s): 500

16.3.b. the buffer zone(s): 12,000

16.3.c. the transition area(s): 150,000

16.4. Approximately how many visitors (including tourists) come to the proposed biosphere reserve each year? 300,000

16.5. Benefits to Local People

BENEFIT

Major

Minor

() there are virtually no benefits for local people		
employment opportunities	(X)	()
educational and training opportunities	(X)	()
financial incentives and benefits	(X)	()
fuel, fodder, or food	(X)	()
health and community services	(X)	()
rural development assistance	(X)	()
recreation and tourism opportunities	(X)	()
soil and water conservation	(X)	()
maintenance of traditional cultures and and resources use practices	(X)	()
participation in planning and management of the proposed biosphere reserve	(X)	()

Please describe any other benefits to local people:

Development of economical activities that help holding rural
population in their regions

17. USES AND ACTIVITIES

17.1. Uses and Activities in the Core Area(s) (CHECK those that apply)

- Collection of plant and/or animal materials for scientific purposes
- Biological inventories
- Long-term environmental monitoring
- Environmental education
- Professional training
- Conservation management practices (e.g., controlled burning, mowing, wildlife population control)
- Public recreation/tourism
- Authorized fishing and/or shellfishing
- Authorized hunting and/or trapping

Elaborate upon any activities which you regard as a significant adverse influence on the conservation status of the core area(s), e.g., poaching, encroachment of settlements, etc.:

17.2. Uses and Activities in the Buffer Zone(s) (circle appropriate number)

Agricultural activities	5	4	(3)	2	1	0
Biological inventories	5	4	(3)	2	1	0
Collection of plant and/or animal materials for scientific purposes	5	4	(3)	2	1	0
Conservation management practices (e.g., controlled burning)	5	4	3	(2)	1	0
Destruction of terrestrial natural habitats	5	4	(3)	2	1	0

Destruction of wetlands	5	4	(3)	2	1	0
Destruction of marine natural habitats	5	4	3	(2)	1	0
Dredging and filling	5	4	(3)	2	1	0
Environmental education	5	4	(3)	2	1	0
Fishing and/or shellfishing	5	(4)	3	2	1	0
Forestry activities	5	4	(3)	2	1	0
Gathering of natural products (e.g., berries)	5	4	3	(2)	1	0
Grazing	5	4	3	(2)	1	0
Human settlements	5	(4)	3	2	1	0
Hunting and/or trapping	5	4	3	(2)	1	0
Industrial development	5	4	3	(2)	1	0
Long-term environmental monitoring	5	4	(3)	2	1	0
Marine products/aquaculture	5	4	(3)	2	1	0
Mineral development	5	(4)	3	2	1	0
Oil and gas development	5	4	3	2	(1)	0
Poaching	5	4	(3)	2	1	0
Professional training	5	4	3	(2)	1	0
Recreation/tourism	5	4	(3)	2	1	0
Residential development	5	4	3	(2)	1	0
Restoration or rehabilitation of terrestrial natural habitats	5	4	3	2	(1)	0
Restoration or rehabilitation of wetlands	5	4	3	2	1	0
Restoration or rehabilitation of marine natural habitats	5	4	3	2	1	0
Shoreline stabilization	5	4	3	2	1	0
Tourist development	5	4	(3)	2	1	0
Transportation facilities	5	4	(3)	2	1	0

Urban centres:	5	4	(3)	2	1	0
Water resource development projects	5	4	(3)	2	1	0

Use the space below to provide additional information on any of the above or other activities occurring in the buffer zone

Marine:

17.3. Uses and Activities in the Transition Area(s) (circle appropriate number)

Agricultural activities	5	(4)	3	2	1	0
Biological inventories	5	4	(3)	2	1	0
Collection of plant and/or animal materials for scientific purposes	5	4	(3)	2	1	0
Conservation management practices (e.g., controlled burning)	5	4	3	2	(1)	0
Destruction of terrestrial natural habitats	5	4	(3)	2	1	0
Destruction of wetlands	5	4	(3)	2	1	0
Destruction of marine natural habitats	5	4	3	2	1	0
Dredging and filling	5	(4)	3	2	1	0
Environmental education	5	4	(3)	2	1	0
Fishing and/or shellfishing	5	4	(3)	2	1	0
Forestry activities	5	(4)	3	2	1	0
Gathering of natural products (e.g., berries)	5	4	(3)	2	1	0
Grazing	5	4	3	(2)	1	0
Human settlements	5	4	(3)	2	1	0

Hunting and/or trapping	5	4	3	2	(1)	0
Industrial development	5	4	3	(2)	1	0
Long-term environmental monitoring	5	(4)	3	2	1	0
Marine products/aquaculture	5	4	3	(2)	1	0
Mineral development	5	(4)	3	2	1	0
Oil and gas development	5	4	3	2	1	(0)
Poaching	5	4	3	2	(1)	0
Professional training	5	4	(3)	2	1	0
Recreation/tourism	5	4	(3)	2	1	0
Residential development	5	4	3	(2)	1	0
Restoration or rehabilitation of terrestrial natural habitats	5	4	3	2	1	(0)
Restoration or rehabilitation of wetlands	5	4	3	2	1	(0)
Restoration or rehabilitation of marine natural habitats	5	4	3	2	1	0
Shoreline stabilization	5	4	3	2	1	0
Tourist development	5	4	(3)	2	1	0
Transportation facilities	5	4	(3)	2	1	0
Urban centres	5	4	(3)	2	1	0
Water resource development projects	5	4	(3)	2	1	0

Use the space below to provide additional information on any of the above or other activities occurring in the transition area

As stated in item 16.1

If you checked agricultural activities, please list the crops currently in cultivation

Sugar-cane, corn, beans, manioc, oranges, bananas, coconut, cashew, mango, coffee, cocoa, vegetables

If you checked forestry activities, please list the species currently being intensively planted and/or managed

Eucalyptus spp., Prosopis juliflora spp., Hevea brasiliensis,

If you checked grazing, please describe the grazing animals, type of vegetation involved, and range management practices

Cattle - molasses grass, brachiaria grass
Other grazing - Hogs - corn

18. STAFF

18.1. The proposed-biosphere reserve has a total staff of: 200

18.2. Number of staff for administrative, control, and resource management: 90

18.2.a. University-trained: 50 18.2.b. Other staff: 40

18.3. Number of staff for educational, demonstration, and training: 40

18.4. Number of staff for research: 50

18.4.a. Doctorate or equivalent: 6

18.4.b. Other university degree: 24

18.4.c. Technical support personnel for research: 20

18.4.d. Forest Rangers : 300

19. TECHNICAL AND FINANCIAL SUPPORT: PNUD/FAO/WWF/BIRD

19.1. Sources

- Activities are receiving support from a variety of sources
Activities are receiving support from a single central administrative authority
Activities are receiving support solely from a local administrative authority

() Activities are receiving special assistance from the local population. Please specify: _____

(X) International sources

Please list the international sources (UNESCO, UNEP, FAO, IUCN, WWF, etc.) and the projects they support

WWF - World Wildlife Fund UICN = International Union for the Conservation of Nature BIRD - World Bank FAO/PNUD - Forestry

Development Projects
19.2. Budget

The current annual operating budget of the proposed biosphere reserve in local currency is approximately Cr\$4,800,000,000.00

20. SPECIAL DESIGNATIONS

(X) World Heritage Site (Olinda)

() RAMSAR Convention Site

() International Biological Program Research Site

() Other. Please specify

() List other special designations made at the country or other level and a brief description of the purpose of the designation(s)

NATIONAL HERITAGE the same as described in the precedent phases

21. SUPPORTING DOCUMENTS

21.1. Principal References.

SEE ATTACHMENT "I"

21.2. Maps

21.2.a. General location map: 1:1,000,000 scale, attached.

21.2.b. Biosphere reserve zonation map: 1:250,000 scale, attached.

21.2.c. Vegetation map or land cover map 1:5,000,000, the same map as presented in the preceding phases.

21.3. Legal Documents (list)

BRAZILIAN FEDERAL AND STATE CONSTITUTIONS PLUS PERTINENT

LEGISLATION

DECLARATIONS OF NATIONAL AND STATE HERITAGE

21.4. Land Use and Management Plans (list)

Legislation of the States of: Ceará, Rio Grande do Norte,

Paraíba, Pernambuco, Alagoas, Sergipe and Bahia

21.5. Species List

All ready stated under items 10 and 12.

22. ANTICIPATED FUTURE ACTIONS AND ACTIVITIES

- (X) Recognition of biosphere reserve status on entrance signs
- (x) Public display of biosphere reserve designation certificate
- (X) Dedication ceremony
- (X) Cooperative agreements or other coordinating mechanisms to encourage scientific use
- (X) Participation in regional, national and/or international monitoring network
- (x) Establishment of a biosphere reserve research station
- (x) Implementation of integrated research project
- (X) Preparation of biosphere reserve plan
- (X) Incorporate biosphere reserve objectives into existing planning process
- (X) Identification of biosphere reserve activities in programmes and budgets
- (X) Establishment of mechanism to improve coordination with local people
- (X) Development of model sustainable development project
- () Establishment of national coordinating body for biosphere reserves
- (X) Actively develop a means for local people to participate in decision-making concerning the biosphere reserve

Other: _____

23. EXACT MAILING ADDRESS OF THE LOCAL ADMINISTRATION OF THE PROPOSED BIOSPHERE RESERVE

Name of local administration: CONSÓRCIO MATA ATLÂNTICA

Street: Av. 9 de julho nº 4877 - 8º andar

Town and Postal Code: 01407-902 São Paulo SP

Country: BRAZIL

Telex and/or Telephone Number: telex: (55) 11-36621/38624 SMA

telefax: (55) 11-822-1910/822-5468

telefone: (55) 11-853-5905

24. DECLARATION OF COMMITMENT TO THE ACTION PLAN FOR BIOSPHERE RESERVES.

We hereby certify that the administrative authorities responsible for the planning and management of the proposed biosphere reserve acknowledge their responsibility to pursue the objectives identified in the Action Plan for Biosphere Reserves; to prepare corresponding management guidelines, as appropriate; and to participate in the international network of biosphere reserves and the MAB Information System.

25. ENDORSEMENTS

25.1. Nomination form(s) or letter of endorsement, including an acknowledgement of responsibilities, from the responsible authority for each administrative area within the proposed biosphere reserve

SEE ATTACHMENT "J"

25.2 Signed (on behalf of the MAB National Committee)

Full name: _____
(Ambassador Carlos Alberto de Azevedo Pimentel)
Title: _____ President of the Brazilian MAB Committee _____
Date: _____

20:REVFORM

ATTACHMENT "A"

5. ADMINISTRATIVE AREAS INCLUDED IN THE PROPOSED BIOSPHERE RESERVE

CONSERVATION UNITS		- CEARA	
NAME	AREA (ha)	DOCUMENT (number)	DATE
Floresta Nacional do Araripe	38.262	Dec. Fed 9.226	02.05.46
Parque Nacional de Ubajara	563	Dec. Fed 45.954	30.04.59
APA de Jericoacoara	5.480	Dec. Fed 90.379	29.10.84
APA do Balbino	250	Dec. Mun 497	20.09.88
Parque Ecológico Rio Cocó	379	Dec. Est 20.253	05.09.89
APA de Baturite	32.699	Dec. Est 20.956	18.09.90
Parque Ecológico da Lagoa Fazenda	19	Dec. Est 21.303	11.03.91
Parque Ecológica da Lagoa da Maraponga	31	Dec. Est 21.349	03.05.91

CONSERVATION UNITS - RIO GRANDE DO NORTE

NAME	AREA (ha)	DOCUMENTO (number)	DATE
Parque Estadual das Dunas de Natal	1.172	Dec. Est 7.237	22.11.77
Reserva Biológica Marinha do Atol das Rocas	36.249	Dec. Fed 92.755	05.06.86
Mata da Estrela	1.833	Fort. Est. 460	22.12.90

UNIDADES DE CONSERVAÇÃO - PARAIBA

NOME	AREA (ha)	DOCUMENTO (número)	DATA
Area de Relevante interesse ecológico dos manguezais da Foz do Rio Mangape	5.721,07	Dec. Fed 91.890	05.11.85
Area de Preservação Permanente da Mata do Burquinho	471,00	Dec. Fed 98.181	26.09.89
Reserva Biológica Guaribas	4.321,06	Dec. Fed 98.884	25.01.90
Reserva Ecológica Mata do Pau Ferro	600,00	Dec. Est 14.832	19.10.92
Reserva Ecológica Mata do Rio Vermelho	1.500,00	Dec. Est 14.835	19.10.92
Parque Estadual do Fico do Jabre	500,00	Dec. Est 14.834	19.10.92

CONSERVATION UNITS - PERNAMBUCO

NAME	AREA (ha)	DOCUMENT (number)	DATE
Estação Ecológica de Tapacurá	380,00	Res. Fed 51/75	18.03.75
Reserva Biológica de Serra Negra	1.100,00	Dec. Fed 87.591	20.09.82
Parque Ecológico Prof. João Vasconcelos Sobrinho (Serra dos Cavalos)	364,00	Lei. Fed 2.796	07.06.83
Reserva Biológica de Saltinho	548,00	Dec. Fed 88.744	21.09.83
Area de Proteção Ambiental do Rio Goiana e Megaó	4.776,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Itapessoca	3.998,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Jaguaribe	212,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Canal de Sta. Cruz	5.292,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Timbó	1.397,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Jaboatão e Pirapama	1.284,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Formoso	2.724,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Carro Quebrado	402,00	Dec. Est 9.931	11.12.86
Area de Proteção Ambiental do Rio Una	533,00	Dec. Est 9.931	11.12.86
Reserva Ecológica Lanço dos Cações	52,07	Dec. Est 9.989	13.01.87
Reserva Ecológica de Santa Cruz	52,63	Dec. Est 9.989	13.01.87

Reserva Ecológica de Jaguaribe	107,36	Dec. Est	9.989	13.01.87
Reserva Ecológica do Engenho Macaxeira	60,84	Dec. Est	9.989	13.01.87
Reserva Ecológica do Engenho São João	32,34	Dec. Est	9.989	13.01.87
Reserva Ecológica do Amparo	172,90	Dec. Est	9.989	13.01.87
Reserva Ecológica da Usina São José	292,00	Dec. Est	9.989	13.01.87
Reserva Ecológica de Miritibã	273,40	Dec. Est	9.989	13.01.87
Reserva Ecológica de São Bento	102,47	Dec. Est	9.989	13.01.87
Reserva Ecológica de Jaguaraná	324,28	Dec. Est	9.989	13.01.87
Reserva Ecológica de Caetés	154,54	Dec. Est	9.989	13.01.87
Reserva Ecológica do Janga	125,49	Dec. Est	9.989	13.01.87
Reserva Ecológica do Passarinho	13,36	Dec. Est	9.989	13.01.87
Reserva Ecológica de Dois Unidos	32,66	Dec. Est	9.989	13.01.87
Reserva Ecológica de Contra Açude	144,40	Dec. Est	9.989	13.01.87
Reserva Ecológica de Caraúna	169,32	Dec. Est	9.989	13.01.87
Reserva Ecológica do Engenho Moreninho	66,48	Dec. Est	9.989	13.01.87
Reserva Ecológica da Serra do Cotovelo	977,50	Dec. Est	9.989	13.01.87
Reserva Ecológica da Serra do Cumaru	367,10	Dec. Est	9.989	13.01.87
Reserva Ecológica do Sistema Gurjau	1.362,02	Dec. Est	9.989	13.01.87

Area de Proteção Ambiental do Rio Sirinhaém e Maracaípe	3.335,00	Dec. Est	9.989	13.01.87
Reserva Ecológica de Dois Irmãos	388,67	Dec. Est	9.989	13.01.87
Reserva Ecológica do Curado	100,86	Dec. Est	9.989	13.01.87
Reserva Ecológica do Jardim Botânico	10,72	Dec. Est	9.989	13.01.87
Reserva Ecológica de São João da Várzea	64,52	Dec. Est	9.989	13.01.87
Reserva Biológica do Engenho Uchoa	20,00	Dec. Est	9.989	13.01.87
Reserva Ecológica de Quinzanga	299,77	Dec. Est	9.989	13.01.87
Reserva Ecológica de Tapacurá	334,62	Dec. Est	9.989	13.01.87
Estação Ecológica do Engenho Tapacurá	94,24	Dec. Est	9.989	13.01.87
Reserva Ecológica do Toró	80,70	Dec. Est	9.989	13.01.87
Reserva Ecológica do Camocim	36,40	Dec. Est	9.989	13.01.87
Reserva Ecológica Outeiro do Pedro	48,38	Dec. Est	9.989	13.01.87
Reserva Ecológica de Jangadinha	76,43	Dec. Est	9.989	13.01.87
Reserva Ecológica de Mussaíba	304,23	Dec. Est	9.989	13.01.87
Reserva Ecológica de Manassu	253,16	Dec. Est	9.989	13.01.87
Reserva Ecológica do Engenho Salgado	257,00	Dec. Est	9.989	13.01.87
Reserva Ecológica de Urucu	534,97	Dec. Est	9.989	13.01.87
Reserva Ecológica de Camaçari	223,30	Dec. Est	9.989	13.01.87

Reserva Ecológica de Duas Lagoas	142,41	Dec. Est 9.989	13.01.87
Reserva Ecológica de Zumbi	292,40	Dec. Est 9.989	13.01.87
Reserva Ecológica de Bom Jardim	245,91	Dec. Est 9.989	13.01.87
Parque Nacional Marinho de Fernando de Noronha	11.270,00	Dec. Est 96.693	14.09.88
Area de Proteção Ambiental de Fernando de Noronha	2.600,00	Dec. Est 13.553	07.04.89
Reserva Biológica de Pedra Talhada	4.500,00	Dec. Fed 98.924	13.12.89

CONSERVATION UNITS - ALAGOAS

NAME	AREA -(ha)	DOCUMENTO (number)	DATE
Area de Proteção Ambiental Bacia Rio Pratagi	-	Dec. Est 2.498	18.04.78
Area de Proteção Ambiental de Piaçabuçu	55,00	Dec. Fed 88.421	21.06.83
Area de Proteção Ambiental Santa Rita	88,00	Dec. Est 6.274	05.06.85
Reserva Ecológica Saco de Pedras	5,00	Dec. Est 6.274	05.06.85
Reserva Ecológica Manguezais da Lagoa do Roteiro	7,40	Dec. Est 32.355	03.06.87
Area de Proteção Ambiental de Mirituba do Feixe	86,00	Dec. Est 32.858	05.03.88
Parque Municipal de Maceió	60,00	Dec Municipal em tramitação	1988
Reserva Ecológica de Pedra Talhada	4.500,00	Dec. Fed 98.524	13.12.89
Reserva Particular de Muriçá	3.000,00	Comodato FZSC/FBCN	1992

Reserva Município Maceió/ IBAMA	56,00	Proc. Fed. em Tramitação	-
Area de Proteção Ambiental do Catolé e Fernão Velho	5.415,00	Dec Estadual Tramitação	-

CONSERVATION UNITS - SERGIPE

NAME	AREA (ha)	DOCUMENTO (number)	DATE
Posto de Fomento Engo. Ro- berto da Costa Barros (Ibura) Nossa Senhora do Socorro	150,28	Dec. Est 22.973	20.07.33
Estação Ecológica de Ita- baiana	288,53	Dec. Est 94.656	20.07.87
Reserva Biológica Santa Isabel Firambú	2.766,00	Dec. Est 96.999	20.10.88

CONSERVATION UNITS - BAHIA

NAME	AREA (ha)	DOCUMENTO (number)	DATE
Estação Ecológica do Pau-Brasil	1.145,00		
Parque Nacional do Monte Pascoal	14.233,00	Dec. Fed 242	29.11.61
Parque Metropolitano de Pituaçu	660,00	Dec. Est 23.666	04.09.73
Reserva Florestal de Wen- ceslau Guimarães	12.000,00	Dec. Est 23.483	30.11.73
Reserva Florestal de Gar- cia D'Avila	900,00	Dec. Est 24.643	28.02.75
Parque Florestal da Ilha dos Frades	910,00	Dec. Est 24.643	28.02.75
Reserva Florestal de Wen- ceslau Guimarães	12.000,00	Dec. Est 24.643	28.02.75

Parque Florestal e Reserva Ecológica de Itaparica	2.295,00	Dec. Est 24.643	28.02.75
Parque Florestal e Reserva Ecológica de Lagoas Mambassu	450,00	Dec. Est 24.643	28.02.75
Parque Balneário e Reserva Ecológica da Coroa Vermelha	1.000,00	Dec. Mun 24.643	28.02.75
Parque Municipal das Dunas de Abrantes	700,00	Dec. Est 116	01.03.77
Reserva Biológica de Una	11.400,00	Dec. Fed 85.463	10.12.80
Parque Nacional Marinho de Abrolhos	226 milhas	Dec. Fed 88.218	06.04.83
Parque Nacional da Chapada Diamantina	152.000	Dec. Fed 91.655	17.09.85
Parque Metropolitano de Ipitanga I	667,49	Dec. Est 32.915	06.02.86
Area de Proteção Ambiental das Lagoas e Dunas do Abaeté	1.800,00	Dec. Est 351	22.09.87
Area de Proteção Ambiental das Lagoas de Guarajuba	290,00	Dec. Est 388	12.03.91
Area de Proteção Ambiental do Rio Joanes I	5.022,00	Dec. Est 100	04.06.91
Area de Proteção Ambiental de Mangue Seco	3.395,00	Dec. Est 605	06.11.91
Area Indígena Barra Velha	8.627,00	Dec. Fed 396	24.12.91
Area de Proteção Ambiental do Litoral Norte do Estado da Bahia	142.000	Dec. Est 1.046	17.03.92
Area de Proteção Ambiental do Guaibim	2.000,00	Dec. Est 1.164	11.05.92
Area de Proteção Ambiental das Ilhas de Tinharé e Boipeba	34.000,00	Dec. Est 1.240	05.06.92

NOTE: Areas occupied by traditional communities in the conservati
units are considered transition areas. The administrative areas
of these units are buffer areas.

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DO CEARÁ

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor da Reserva da Biosfera da Mata Atlântica.

ÍTEM 23: Endereço Postal exato da Administração da Secretaria da Reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL: Secretaria de Desenvolvimento Urbano e Meio Ambiente - SDU
. Secretária - MARFISA MARIA DE AGUIAR FERREIRA

ENDEREÇO: Centro Administrativo Governador Virgílio Távora
Prédio da SEPLAN 19 andar
60850 - Cambéba
Fortaleza - CE

TELEFONE: (085) 274-1171/1178/1337

TELEFAX: (085) 229-3603

ÍTEM 24: DECLARAÇÃO DE ADESÃO AO PLANO DE AÇÃO PARA AS RESERVAS DA BIOSFERA.

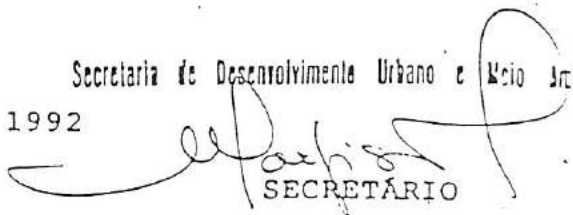
Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as Reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no Sistema de Informação do MAB.

ÍTEM 25: APOIO

Aceitamos por parte do Estado Ceará as responsabilidades a nós concernentes que se referem à Fase IV da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para o seu pleno desenvolvimento e consolidação.

Fortaleza , 16 de outubro de 1992

Secretaria de Desenvolvimento Urbano e Meio Ambiente


SECRETÁRIO

Marfisa Maria de Aguiar Ferreira



RIO GRANDE DO NORTE
SECRETARIA DE FAZENDA E PLANEJAMENTO

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DO RIO GRANDE DO NORTE

Acrecente-se que todos os dados técnicos do formulário aplicam-se ao Setor Riograndense da Reserva da Biosfera da Mata Atlântica.

ÍTEM 23: Endereço Postal exato da Secretaria de Planejamento do Rio Grande do Norte da reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

. SECRETARIA DA FAZENDA E PLANEJAMENTO

ENDEREÇO: Centro Administrativo BR 101
Natal -RN Cep: 59059-900

TELEFAX (084) 231.2720


ÍTEM 24: DECLARAÇÃO DE ADESÃO AO PLANO DE AÇÃO PARA AS RESERVAS DA BIOSFERA.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no sistema de Informação do MAB.

ÍTEM 25: APOIO

Aceitamos por parte do Estado do Rio Grande do Norte, as responsabilidades a nós concernentes que se refere à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para seu pleno desenvolvimento e consolidação.

João Pessoa, 16 de Outubro de 1992


Manoel Pereira dos Santos
SECRETÁRIO



GOVERNO DO ESTADO DA PARAÍBA
SECRETARIA DA JUSTIÇA, CIDADANIA E MEIO AMBIENTE

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DA PARAÍBA

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor Paraibano da Reserva da Biosfera da Mata Atlântica.

ÍTEM 23: Endereço Postal exato da Administração da Paraíba da Reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

. SECRETARIA DA JUSTIÇA, CIDADANIA E MEIO AMBIENTE

ENDEREÇO: Centro Administrativo Integrado - Jaguaribe
Bloco 2º 4º Andar
CEP: 58.015

TELEFONE (083) 221.2580

TELEFAX (083) 222.3149

ÍTEM 24: DECLARAÇÃO DE ADESÃO AO PLANO DE AÇÃO PARA AS RESERVAS DA BIOSFERA.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as Reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no sistema de Informação do MAB.

ÍTEM 25: APOIO

Aceitamos por parte do Estado da Paraíba, as responsabilidades a nós concernentes que se referem à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para o seu pleno desenvolvimento e consolidação.

João Pessoa, 16 de Outubro de 1992


INALDO ROCHA LEITÃO
SECRETÁRIO



GOVERNO DO ESTADO DE PERNAMBUCO
SECRETARIA DE PLANEJAMENTO, CIÊNCIA, TECNOLOGIA E MEIO AMBIENTE

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DE PERNAMBUCO

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor Pernambucano da Reserva da Biosfera da Mata Atlântica.

Item 23: Endereço Postal exato da Administração de Pernambuco da Reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

- Secretaria de Planejamento, Ciência, Tecnologia e Meio Ambiente
Rua da Moeda, 46
50030 - Recife-Pernambuco-Brasil
Telefone: 081 224.5261 - 224.4097
Fax: 081 224.5263
Telex: 81 3227

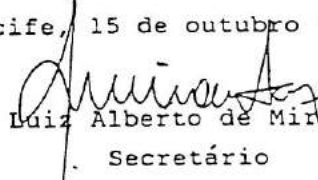
Item 24: Declaração de Adesão ao Plano de Ação para as Reservas da Biosfera.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as Reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão, segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no Sistema de Informação do MAB.

Item 25: Apoio

Aceitamos por parte do Estado de Pernambuco, as responsabilidades a nós concernentes que se referem à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para o seu pleno desenvolvimento e consolidação.

Recife, 15 de outubro de 1992


Luiz Alberto de Miranda
Secretário



ESTADO DE ALAGOAS
SECRETARIA DE PLANEJAMENTO
GABINETE DO SECRETARIO

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DE ALAGOAS

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor Alagoano da Reserva da Biosfera da Mata Atlântica.

ITEM 23: Endereço Postal exato da Secretaria de Planejamento do Estado de Alagoas da reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

. SECRETARIA DE PLANEJAMENTO

ENDEREÇO: Rua Cincinato Pinto, 503 - Centro - CEP - 57.000.020

TELEFAX: (082) 221-4438

ITEM 24: DECLARAÇÃO DE ADESÃO AO PLANO DE AÇÃO PARA AS RESERVAS DA BIOSFERA.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no sistema de Informação do MAB.

ITEM 25: APOIO

Aceitamos por parte do Estado de Alagoas, as responsabilidades a nós concernentes que se refere à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para seu pleno desenvolvimento e consolidação.

Maceió, 16 de outubro de 1992

GODOFREDO PALMEIRA
Secretário



GOVERNO DE SERGIPE
SECRETARIA DE ESTADO DA INDÚSTRIA, COMÉRCIO, CIÊNCIA,
TECNOLOGIA E MEIO AMBIENTE

PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DE SERGIPE

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor Sergipano da Reserva da Biosfera da Mata Atlântica.

ITEM 23: Endereço Postal exato da Secretaria de Estado da Indústria, Comércio, Ciência, Tecnologia e Meio Ambiente da reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

. SECRETARIA DE ESTADO DA INDÚSTRIA, COMÉRCIO, CIÊNCIA, TECNOLOGIA E MEIO AMBIENTE.

ENDEREÇO: AV. HERÁCLITO ROLEMBERG, S/N - DISTRITO INDUSTRIA DE ARACAJU - CEP 49030-640 - ARACAJU - SERGIPE.

TELEFAX: (079) 231-2790

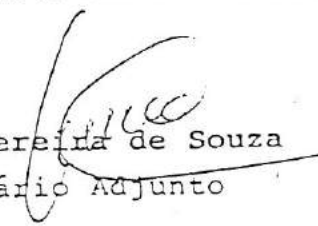
ITEM 24: DECLARAÇÃO DE ADESÃO AO PLANO DE AÇÃO PARA AS RESERVAS DA BIOSFERA.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no Sistema de Informação do MAB.

ITEM 25: APOIO

Aceitamos por parte do Estado de Sergipe, as responsabilidades a nós concernentes que se refere à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para seu pleno desenvolvimento e consolidação.

João Pessoa, 16 de outubro de 1992.


José Pereira de Souza
Secretário Adjunto



PROPOSTA DE RESERVA DA BIOSFERA DE MATA ATLÂNTICA (FASE IV)
FORMULÁRIO ADICIONAL PARA O ESTADO DA BAHIA

Acrescente-se que todos os dados técnicos do formulário aplicam-se ao Setor Baiano da Reserva da Biosfera da Mata Atlântica.

ÍTEM 23: Endereço Postal exato da Administração da Bahia da Reserva da Biosfera proposta.

NOME DA ADMINISTRAÇÃO LOCAL:

. Secretaria do Planejamento, Ciência e Tecnologia - SEPLANTEC

ENDEREÇO: Av. Luiz Viana Filho, nº 250
Salvador - Bahia - Brasil
CEP: 41.746-900

TELEFONE: (071) 371-0952

TELEX: (71) 7105

TELEFAX: (071) 371-3206

ÍTEM 24: Declaração de Adesão ao Plano de Ação para as Reservas da Biosfera.

Certificamos que as autoridades administrativas encarregadas da planificação e gestão da proposta de Reserva da Biosfera da Mata Atlântica assumem suas responsabilidades de trabalhar para alcançar os objetivos definidos no Plano de Ação para as Reservas da Biosfera, de preparar as correspondentes diretrizes para a gestão, segundo as necessidades e de participar da Rede Internacional de Reserva da Biosfera e no sistema de Informação do MAB.



ESTADO DA BAHIA
SECRETARIA DO PLANEJAMENTO, CIÊNCIA E TECNOLOGIA
GABINETE DO SECRETÁRIO

ITEM 25: Apoio

Aceitamos por parte do Estado da Bahia, as responsabilidades a nós concernentes que se referem à Fase IV da Reserva da Biosfera da Mata Atlântica, comprometendo-nos a desenvolver todos os esforços ao nosso alcance para o seu pleno desenvolvimento e consolidação.

Salvador, 16 de outubro de 1992.


WALDECK VIEIRA ORNELAS
Secretário

ATTACHMENT "C"

6. GEOGRAPHIC LOCATION

6.1. Overview (major geographical features in the vicinity of the proposed biosphere reserve)

With the original occurrence of the coastal forest zones starting in Rio Grande do Norte, the Atlantic Forest runs southward in strips of vegetation with a variable width, presenting species adapted to the geoclimatic characteristics of each locality until it reaches the State of Rio Grande do Sul.

The area under study is situated between Latitude $2^{\circ} 50' 18''$ and $18^{\circ} 04' 20''$ south and $32^{\circ} 23' 00''$ longitude, west of Greenwich.

It is worth noting that in the northern region the fact that it varies in length in the east/west direction, appearing narrower and less humid in the northern direction of the eastern coast, disappearing in the northern coast of Rio Grande do Norte and Ceará, where it is substituted by xeromorphous vegetation.

The northeastern relief presents a wide variety of geomorphological features, caused by successive climatic changes, lithologic and structural characteristics and of the biological factors which originated various geomorphological compartments.

Among the great relief units that occur in the domain of the Atlantic Forest of the Northeast, the coast (southern and eastern); the Borborema plateau; and, the Diamantine tableland stand out.

In the specific case under study, the southern coastal stretch reaches from the mangroves of the State of Ceará to the Cape of São Roque in Rio Grande do Norte, with sandy strips and barren tableland. The dunes range the beach line with small elevations. The longest extension of the dunal relief corresponds to the driest stretches of this coast, in Ceará and Rio Grande do Norte. Besides the seashore strips and dunes, the barren tablelands follow the coast under study, similar to a long "glacis" gently inclining to the northeast, and dipping into the ocean.

As an interesting geomorphologic feature of the northeastern coast in general, the arenite and coral reefs appear in the seashore of Ceará and Rio Grande do Norte, running southward to Bahia. In general, these reefs remain uncovered during low tide. Parallel between themselves and the beach, these reefs correspond to ancient coastal lines, emerged by Pliocene transgressions - Pleistocene coast.

The eastern coast runs from Rio Grande do Norte to Bahia and is characterized for presenting a diversity of geographic accidents, such as: sandbanks, dunes, lagoons, mangroves, barren tablelands of the Barrancas System and hills modeled

on pre-cambrian rock. In general, the river mouth are soaked, forming estuaries which, flood marshy lowlands originating, in some cases, lagoons and swamps like in the State of Alagoas.

As the last unit integrating the coastal landscape, there are coastal islands and oceanic islands.

The coastal islands, which have their formation connected to the continental relief, like for example, the islands of Itamaracá and Itaparica, are part of the estuaries on the coast, their insular forms are generally separated from the continent by one or more channels.

The oceanic islands, where the Archipelago of Fernando de Noronha, the Atol das Rocas and the Saint Peter and Saint Paulo Reefs stand out, are around 345km away from the coast of Rio Grande do Norte were originated, as all the other Brazilian oceanic islands, from magmatic activities which emerged from the abyssal depth of the South Atlantic.

Among the great interior morpho-structural domains, the Borborema plateau and the Diamantina tableland stand out.

Ranging from the State of Alagoas to Rio Grande do Norte, Borborema includes a vast structural set of massifs or fault blocks, with elevated surfaces with altitudes between 700 and 800 m, from which arise residual blocks, standing out the Triunfo ridge, with 1,175 m and the Teixeira ridge, where the Jibre peak is located with 1,090 m.

The highest regions of the plateau and those best exposed to the winds make up islands with a higher humidity than local average. This higher humidity reflects on the vegetation and the manner of human occupation, these islands are named "brejos".

The Diamantina tableland, in turn, forms a great set o plateau reliefs, connected to Espinhaço ridge, in its extension in the State of Bahia, so as to become the divider of waters between the rivers that run into São Francisco river and others that run into the Atlantic Ocean.

Having a predominantly tabular form, the Diamantina tableland elevates itself like an imposing wall, with average altitudes of over 1,000 meters, reaching maximum altitude of 2,100 meters at the Almas peak. Its originality is given when we compare it with reliefs modeled from crystalline formations, situated to the east, and to the lands in the São Francisco valley, in the west, depressed topographically in relation to the reliefs that compose the Diamantina tableland.

6.2 Government Divisions

- State of Ceará
- State of Rio Grande do Norte
- State of Paraíba
- State of Pernambuco
- State of Alagoas
- State of Sergipe
- State of Bahia

6.3 Nearest Major Towns:

- Fortaleza (State of Ceará)
- Natal (State of Rio Grande do Norte)
- João Pessoa (State of Paraíba)
- Recife (State of Pernambuco)
- Maceió (State of Alagoas)
- Aracaju (State of Sergipe)
- Salvador (State of Bahia)

6.3.a. Approximate number of inhabitants

- Fortaleza (State of Ceará)
- Natal (State of Rio Grande do Norte)
- João Pessoa (State of Paraíba)
- Recife (State of Pernambuco)
- Maceió (State of Alagoas)
- Aracaju (State of Sergipe)
- Salvador (State of Bahia)

TOTAL 8,000,000 inhabitants

6.3.b. Distance from the nearest boundary of the proposed biosphere reserve:

- 0 km - from Fortaleza
- 0 km - from Natal
- 0 km - from João Pessoa
- 0 km - from Recife
- 0 km - from Maceió
- 0 km - from Aracaju
- 0 km - from Salvador

9. PHYSICAL CHARACTERISTICS

9.1 Climate

The area under consideration covers from the State of Ceara to the south of the State of Bahia, between approximately 5° and 12° latitude S, therefore a strap of low latitudes. This is a geographic space dominated by hot and humid climates, included in Group A of the Koppen Classification.

Average annual temperatures remain around 24° Celsius, with very slight thermal ranges, since they do not exceed 7 Celsius during the year. Therefore, there is no climatic diversification imposed by temperature, rather with a higher influence from annual isohyetal values and above all rainfall.

Concerning rainfall, the annual isohyetal values are between 800 and 2,200 mm. These rains, according to the influences of the several atmospheric systems, connected to general and secondary circulation, which happen in the Northeast Region of Brazil, happen in different seasons. On the eastern coast of the State of Rio Grande do Norte, the rainy season is between the months of February and July. From the State of Paraíba to the coast of the State of Bahia approximately, rains occur between the months of March and August. However, in the south of the State of Bahia, they are concentrated between the months of November and April. Therefore, according to the Koppen Classification, we have the following rainfall rates:

- Summer rains delayed to Autumn/Winter
- Autumn-Winter rains
- Summer-Autumn rains, in the south of Bahia.

The dry season is not very long (4 to 5 months, at most), which permits the occurrence of latifoliate, sub-perennifolials and/or sub-caducousfolials.

9.1 a/b/c/d (see nomination form)

9.2 Topography, hydrography and oceanography:

The topography in the area is formed by the following geomorphological features:

- Barren tablelands (tabuleiros)
- Plains (chãs)
- Hilly surfaces
- Alveolar surfaces
- Coastal plains

The barren tablelands are remnants of a plico-pleistocenico

(Attachment "D" - 2)

erosion surface, developed over sedimentary soils of the Barreiras group. They can be defined as low plateaus.

The "chãs" correspond to the related levelling but developed over pre-cambrian soils, on the rearward of the barren tablelands. These surfaces are at a low altitude, however, at higher levels than the tablelands (150 - 200 meters).

The hilly surfaces occur in areas with crystalline and crystallofilian soils. They are included in the "Serras-of-Hills Dominion" and are characterized by the presence of poly-convex slopes.

The alveolar surfaces are depressed relief compartments built into the hilly and tableland areas. They are present as ample valleys, with a flat bottom, where there is generally draining with a meandering character.

The coastal plains are geomorphological landscapes characterized by low altitudes and the presence of fluvial, fluvial-marine, marine and dune terrains.

9.2. a/b/c/d (see nomination form)

ATTACHMENT "E"

9.3 Geology, Geomorphology and Soil

From the geological point of view, the area is contained over pre-cambrian soils of the Brazilian Shield and sedimentary and vulcanic phenozoic from the mesozoic and holocene periods.

The crystalline and crystallofilian pre-cambrian soils appear in the States of Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe and Bahia. They are part of the so called Complexo Cristalino (Crystalline Complex), formed, among others, by the following lithologic types: granites, gnaisses, migmatites, amphibolites, milonites, etc.

The farenozoic soils are post-paleozoic, they are unprovided with tecto-orogentic and metamorphic phenomena. They are predominantly sedimentary, but also present lithological bodies of extrusive magmatic nature, like in the Vulcano-Sedimentary Province, in the south of the State of Pernambuco. There are also tectonic basins in the Recôncavo-Tucano-Jatobá, Sergipe-Alagoas and Paraíba-Pernambuco. Still in the farenozoic soils, those that are part of the Barreiras Group (plyo-pleistocenico) and the alluvial and the holocenico fluvial-marine sediments, disposed along the river valleys and coastal plains, may be mentioned.

ATTACHMENT "F"

10. HABITATS AND CHARACTERISTIC SPECIES:

10.a. Type of habitat: Evergreen Hygrophile Coastal Forest
- Regional Distribution

Its occurrence is determined by relief, rainfall and humidity which make for a high dense physiognomy, the result of the variety of species belonging to different biological forms and strata, those in the lower stratum living in a very dark and humid environment and always depending on the upper stratum. The large number of llanas, epiphytes, arborescent ferns and palm trees lend this forest a typically tropical aspect.

The soil is virtually bare, being populated almost exclusively by young elements. Only shade-tolerant plants can survive.

The vegetation is not uniform throughout the area on account of differences in soil, topography and climate that provoke variations. The one common element is the exposure to humid winds blowing inland from the ocean.

This forest, documented in quite some detail by early explorers has been intensely devastated since the discovery of Brazil. It was the scene of the beginning of colonization in the country and today a large part of Brazil's population is still concentrated in this region, where the settlements began. For this reason, the remnants that still exist should be preserved and the areas where the occurrence has been altered, be recovered and managed rationally.

Species: *Bowdichia virgilioides*; *Parkia pendula*; *Byrsonima sericea*; *Ocotea* spp; *Apeiba tibourbou*; *Copaifera nitida*; *Clarisia racemosa*; *Gallezia gorazema*; *Inga* spp; *Tapetira guianensis*; *Lecithis pisonis*; *Bombax gracilipes*; *Carapa densifolia*; *didymopanax morototoni*; *anilkara* spp; *Tabebuia avellanedae*; *Tabebuia* spp; *Annona* spp; *Lucuma* spp; *protium* spp; *Andira* spp; *Myroxylon toluiferum*; *Virola* spp; *Jacaranda* spp; *Swartzia* spp; *Nectandia* spp.

Relevant Ecological Management and Control Measures:

Brazilian Federal Constitution

Federal Law No. 4771 (Sept. 15, 1965), altered by Laws No. 6535 (Sept. 15, 1965), 7511 (July 7, 1986), 7803 (June 18, 1989). Institutes the New Forestry Code.

TITLE VIII - On the social order

CHAPTER VI - On the environment

Article 225.

4th Paragraph.

the Atlantic Forest, the Mar Ridge and the Coastal Zones ...

(Attachment "F" - 2)

are national heritage and their utilization will be done, according to the law, within conditions that ensure the preservation of the environment, including as concerns the use of natural resources."

Federal Decree No. 99547 (Sept. 25, 1990)

Federal Decree No. 99556 (Oct. 1, 1990)

Rio Grande do Norte State Constitution

Law No. 5147 (Sept 30, 1982)

Decree No. 8600 (March 3, 1983)

Decree No. 8718 (Sept. 16, 1983)

Decree No. 10388 (June 7, 1989)

Decree No. 10582 (March 6, 1990)

Paraiba State Constitution, Art. 227, sole paragraph, Clauses VII and IX

Fernambuco State Constitution, Law No. 9,989/87 - Defining the Ecological Reserves of the Metropolitan region of Recife

Constitution of the State of Alagoas

Constitution of the State of Sergipe

Constitution of the State of Bahia

Government Order No. 018/90 (April 4, 1990)

CEPRAM Resolution No. 294 (July 11, 1990)

CEPRAM Resolution No. 302 (Aug. 15, 1990)

10.b Type of habitat: Coastal Caducous Foliar Seasonal Forest - Regional Distribution

This plant formation, representing a transition between the humid forest and the region of knotty trees of the northeast drought area, may be observed in the townships not bathed by the sea, situated in the northeast of Pernambuco, where annual rainfall varies from 1,000 mm and 750 mm (Alianca Plant).

During the rainy season (April-June) it can be physiognomically be mistaken with the evergreen forest but, during the drier season (October-November) it assumes its unmistakable aspect, because of the caducous foliage of most of the arboreal species.

Besides this, these two types of forest also differ structurally, the dry forest being formed by two arboreal strata, one which is shrubby and is larger than in the humid forest and another herbaceous which is denser. In the soil, the layer of organic remains is barely thick.

(Attachment "F" - 3)

Species: *Syagrus oleracea*; *Enterolobium contortisiliquum*;
Pithecoelobium polycephalum; *Caesalpinia echinata*; *Astronium*
fraxinifolium; *Cordia trichotoma*; *Tabebuia chysotricha*.

Relevant Ecological Management and Control Measures:

Same as item 10.a.

10.c. Type of habitat: Coastal Tableland (Tabuleiro)
Regional Distribution

On the low coastal plateaus, coinciding with the sandy covering, barren soil, poorly drained, with stunted vegetation which has the particular name of "Tabuleiro" in the Northeast. It has a herbaceous-shrubby formation. On the herbaceous cover predominate gramineous plants. The shrubby stratum presents sparse individuals, sizable, with tortuous trunks and limbs and thick and fissured barks.

According to A. Lima, D. (1957), the open sandbank would be an intermediate floristic stage of the real "Tabuleiro".

Species: *Hancornia speciosa*; *Couratella americana*;
Anacardium microcarpum; *Schinus terebenthifolius*; *Mouquilea*
tomentosa; *Durata* sp.; *Apuleia leiocarpa*; *Cassia apoucovita*;
Kramaria tomentosa; *Andira laurifolia*; *Periandra*
mediterranea; *Byrsonima cydoniaefolia*; *Anacardium*
occidentale; *Couratella americana*; *Miconia ferruginata*;
Hyptis fruticosa.

Pertinent Ecological Management and Control Measures:

The same as described under 10.a

Plus CONAMA Resolution No. 004/85

Coastal Management Law No. 7661/88.

10.d. Type of habitat: Fluvionebular Tropical Sub-taduceous
Foliar Seasonal Forest - Regional Distribution

Highland Forest/ "Brejo de Altitude"

Although located within a semi-arid zone, the highland forests constitute a disjunction of the coastal forest, locating themselves at higher levels of the ridges and windward on the slopes, at altitudes never lower than 500 m and progressively higher (up to around 1,100 m) in a general SE-NW direction.

The sharp elevations of the relief, that offer conditions for lowering temperature and increase of the relative humidity, provoke condensation of fogs which hover above these ridges during a certain time of the year, mainly during the night and early morning.

Thus, the water supply of these forests is provided not only from rainfall, but also from condensation of water vapours, which permits the occurrence of a "hidden precipitation": water condensing on the crown of the trees runs down the trunks, contributing towards maintaining the forest and supplying the small streams that run down the slopes.

But, since this pluvial-nebular supply does not reach high rates, these forests suffer from a relative water shortness, thereby their sub-caducous foliar character.

Species: *Gallezia gorazema*; *Attalea oleifera*; *Geonoma blanchettiana*; *Inga subnuda*; *Cassia hoffmansegii*; *Caesalpinia leiostachya*; *Copaifera trapezifolia*; *Roupala cearensis*; *Cedrela odorata*; *Terminalia* sp.; *Manilkara rufula*; *Hymenaea courbaril*; *Aspidosperma pyricollum*; *Tabebuia avellanadae*; *Tabebuia chrysotricha*.

Pertinent Ecological Management and Control Measures:

The same as described in 10.a.

10.e. Type of Habitat: Lagoon - Regional Distribution

Bodies of fresh water present predominantly in the sandbanks and occasionally further inland in regions where the draining standards are characterized by diffused draining.

Species: *Acrostichum adreum*; *Typha domingensis*; *Cladium jamaicense*; *Fimbristylis spadices*; *Elocharis mutata*; *Scirpus californicus*; *Scirpus olneyi*; *Scirpus robustus*; *Spartina alterniflora*; *S. densiflora*; *Paspalum vaginatum*; *Echinoloa* sp.; *Sesuvium portulacastrum*; *Bacopa monnieri*; *Juncus acutus*; *Salicornia gaudichandiana*; *Crinum* sp.

Pertinent Ecological Management and Control Measures:

Federal Law No. 4771 and 7803

10.f. Type of Habitat: Mangroves - Regional Distribution

Mangroves represent plant communities adapted to climate conditions that happen on the coastal zones, geographically distributed between inter-tropical latitudes. The occurrence of mangroves is intimately connected to marshy soils, built up by fine silt deposits in the bottom of bays and estuaries, subject to the influence of tidal waters.

It is a highly saline environment since at high tide the salt water covers a large part of the oxygen-deficient area which has a relatively unstable substratum, topography is gentle with a flowage channel with a mouth in the form of delta or estuary in low energy coastal strips.

Existing species are few in number and are adapted so as to develop in this environment. Common features include

extraneous roots that help fix the plants to the silty soil (pneumatophores), special organs for absorbing oxygen, and coraceous leaves that prevent excessive transpiration and maintenance of the internal osmotic pressure avoiding loss of water to the external environment.

This is a system producing a great amount of organic matter, which is carried by the tide to other areas and also serves as a biological filter.

The existing fauna is divided into two great groups: the first one comprises marine animals that live all their adult lives in the mangroves, mainly molluscs and crustaceans; the second group comprises various animals that use the mangrove during their early lives, like several fish species that invade the mangroves at high tide.

Nevertheless, mangroves have diminished ever since the colonial period for use as firewood. Practices which persist today and the situation of destruction is aggravated since these sites are avidly sought for land improvement projects which are made over earthfills and draining works.

Species: *Rhizophora mangle*, *Avicennia tomentosa*, *Laguncularia racemosa*, *Hibiscus tilaceus*, *Acrostichum* spp., *Avicennia nitida*; *Conocarpus erectus*.

Pertinent Ecological Management and Control Measures:

The same measures as described in 10.a and 10.e

10.g. Type of Habitat: Beaches - Regional Distribution

The occurrence of vegetation is associated with sandy coastal soils affected by the tides and subject to the influence of salinity. All along the coast, the vegetation on the beaches is fairly uniform both physiognomically and floristically.

The vegetation commences at the high tide mark. In the zone only sporadically reached by the waves at high tide, herbaceous vegetation grows in the form of tufts. In areas only submerged by freak tides, despite the still poor make-up, there is a much greater number of elements. The vegetation is still predominantly herbaceous, through which some sub-shrubby stature plants start to grow. Finally, in the areas beyond the reach of tides, come the shrubs, orchids, bromelias and cactaceous species, which stand out in the landscape by their forms and beauty of the flowers.

Species: *Iresine portulacoides*; *Sporobolus virginicus*; *Remirea maritima*; *Ipomea pescaprae*; *Canavalia*; *Scaevola plumieri*; *Cenchrus echnistus*.

Pertinent Ecological Management and Control Measures:

Same as those described under 10.f.

10.h. Type of Habitat: Dunes - Regional Distribution

The dunes generally appear immediately inland from the beaches. The formation of dunes depends on the presence of a thick-grain sand structure and winds blowing in a constant direction. The vegetation plays an important role in the development and especially in settling the dunes.

This is an extremely sandy and shifting environment, subject to intense heat and the constant influence of the winds. Only very undemanding plants with a series of adaptations succeed establishing themselves on the dunes.

The vegetation establishes itself in more humid periods but it is often buried under shifting sands blown by the wind. Settling of vegetation is vitally important because when dunes shift they develop problems for local population and removal of vegetation aggravates these problems.

Species: *Iresine portulacoides*; *Ipomoea pes-caprae*; *Remirea maritima*; *Sporobolus virginicus*; *Canavalia obtusifolia*; *Eugenia pitanga*.

Pertinent Ecological Management and Control Measures:

The same as described in item 10.f.

10.i. Type of Habitat: Inland Sea - Regional Distribution

Marine area influenced by nearby mangroves and coastal marshes and to currents resulting from tidal movements, which serve as shelter for water fauna and is visited by seafaring birds. It is utilized very much by the seaside population for fishing, where they build traps called enclosures (cercos).

Close to the portions of land are characterized as marshy areas or coastal swamps. These marshes are resulting from the receding sea level over thousands of years and from more recent centuries and decades of rising sea level. In the beginning there was a general advancement of the coastal line, following a receding process. This has left most of the coastal line sandy and eventually muddy, forming quaternary coastal plains which frame the current lagoon.

Characteristic flora and fauna present a high degree of evolutionary adaptations and are originating either from the sea or from fresh water and earthbound species. These are open dynamic ecological systems, important for productivity, with variable temperatures and salinity, high turbidity and topographical characteristics and with irregular surfaces.

Species: *Macrobiohuim carcinus*; *Macrobiohuim acanthurus*; *Macrobiohuim birai*; *Macrobiohuim petrinious*; *Macrobiochium* spp; *Penaeus paulensis*; *Octopus* spp; *Loligo brasiliensis*;

(Attachment "F" - 7)

Perna, perna; Cassostrea spp; Mugil spp; Mycteroperca spp;
Engraulimdeos Anchoviella spp; Ancho spp; Platanistmdeos and
Delfinmdeos.

Relevant Ecological Control and Management Measures:

The same as described under 10.f.

10.j. Type of habitat: Sea - Regional distribution

The area covers a marin strip with a variable width and depth, up to the bathymetric level limit of 40 meters. The sea bottom is essentially sandy with the presence gneissic shoals and mud pockets in restricted areas.

Species: Rich in limy algae, bentonitic flora and fauna, with gradual impoverishment of ichthyofauna.

Relevant Ecological Controls and Management Measures:

Same as described in item 10.f.

10.l. Type of habitat: Oceanic islands - Regional Distribution

Along the coast of the States of Ceara and Rio Grande do Norte, there is a very irregular underwater relief, related to volcanic phenomena, which provided a series of peaks of which the Atol das Rocas Biological Reserva (1st. Conservation Unit of the Brazilian Navy), Island of Fernando de Noronha, Saint Peter and Saint Paul Reefs, are the only visible samples.

Species: Endemic fauna and flora occur and they are doubtful of sea fish, reptiles, crustaceans, molluscs, reptiles and birds.

Relevant Ecological Control and Management Measures:

Same as described in item 10.f.

ATTACHMENT "G"

12 - CONSERVATION VALUE

12.1 - Species of Particular Value to Conservation

12.1.1 - Endangered or threatened "Red Book" plant or animal species

Fauna in extinction (regulation No. 1,522, of December 19, 1988) within the Atlantic Forest (Bernardes et al., 199). This official listing of species threatened to extinction in Brazil is usually utilized as a source for the "Red Book" and should be reported in the next edition

List of fauna and flora species in the Reserve threatened to extinction in the Northeast Region of Brazil:

- Abbreviations: CE = Ceará; RN = Rio Grande do Norte;
 PB = Paraíba; PE = Pernambuco; AL = Alagoas;
 SE = Sergipe.
 EN = Endemic species of the Atlantic Forest
 Biosphere Reserve of the Northeast.
 EE = Endemic species of the Reserve in one of
 the Northeastern States.
 C = Class; O = Order; F = Family.
 Np = Popular name.
 Obs - Observations about endemism (EN or EE)

Species Threatened to Extinction	CE	RN	PB	PE	AL	SE	BA	OBS
C = MAMMALIA O = PRIMATES								
Alouatta belzebul belzebul		x	x		x	x		x

(Linnaeus, 1766) F = Cebidae
 Np = guariba

O = CARNIVORA

Felis concolor (Linnaeus, 1771) F = Felidae, Np = sus-suarana

Felis pardalis (Linnaeus, 1758) F = Felidae, Np = jaguatirica

Felis tigrina (Schreber, 1775) F = Felidae, Np = gato-domato

Felis wiedii (Schinz, 1821) F = Felidae, Np = gato maracajá

Lutra longicaudis (Olfers, 1818) F = Mustelidae
 Np = lontra

Panthera onca (Linnaeus, 1758) F = Felidae, Np = onça pintada

O = XENARTHRA

Bradypus torquatus (Desmarest, 1816) F = Bradypodidae
 Np = preguiça de coleira

Myrmecophaga tridactyla (Linnaeus, 1758) F = Myrmecophagidae
 Np = tamanduá bandeira

Friodontes maximus (Kerr, 1792) F = Dasypodidae
 Np = Tatu canastra ou tatuacu

O = RODENTIA

Chaetomys subspinosus (Olfers, 1818) F = Erethizontidae
 Np = ouriço-preto

O = ARTIODACTYLA

Ozotocerus bezoarticus (Linnaeus, 1758) F = Cervidae
 Np = veado-campeiro

C = AVES O = TINAMIFORMES

Tinamus solitarius (Vieillot, 1819) F = Tinami-

x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
							x
x	x	x	x	x	x	x	x
							x
x	x	x	x	x	x	x	x
							x
							x
							x

Phylloscartes ceciliae (Teixeira, 1987) F = Tyrannidae								X		EE
Philydor novaesi (Teixeira & Gonzaga, 1983) F = Furnariidae								X		EE
Procnias averano averano (Hermann, 1783) F = Cotingidae Np = araponga-do-Nordeste, guiraponga			X					X	X	EN
Synallaxis infusata (Pinto, 1950) F = Furnariidae						X		X		EN
Tangara fastuosa (Lesson, 1831) F = Emberizidae Np = pintor-verdadeiro			X		X			X		EN
Terenura sicki (Teixeira & Gonzaga, 1983) F = Formicariidae								X		EE
Xiphocollaptes falcirostris (Spix, 1824) F = Dendrocolaptidae Np = arapagu-do-Nordeste	X	X	X						X	EN
Xipholena atropurpurea (Wied, 1820) F = Cotingidae Np = anambé-de-asa-branca cotinga, ferrugem					X	X	X	X	X	
C = REPTILIA O = SQUAMATA Lachesis muta rhombeata (Wied, 1825) F = Viperidae Np = surucucu-pico-de-jaca	X	X	X		X	X	X	X	X	
O = CROCODILA Caiman latirostris (Daudin, 1802) F = Crocodylidae Np = jacaré-do-papo-amarelo					X	X	X	X	X	
C = INSECTA O = LEPIDOPTERA Scada Karschina delicata (Talbot, 1932) F = Nymphalidae							X			EE
O = ODONATA Leptagrion dardanoi (Santos, 1968) = Coenagrionidae	X					X				EN

Leptagrion siqueirai
(Santos, 1968) F = Coena-
grionidae

x

EE

Plant species existing in the Atlantic Forest and Associated Ecosystems, whta are officially considered on the way to extinction (Regulation N° 303, of May 29, 1968 and N° 093/80 - P of February 5, 1980 - IBDF):

Aspilea procumbens Baker - Compositae

Bumelia obtusifolia Roem. et Schult. - Sapotaceae

Caesalpinia echinata Lam. - leguminisae, Mim.

Jacquinia brasilienses - Mez. - Theophrastaceae

Pilocarpus trachylophus - Holmes - Rutaceae

Myracrodruon urundeuva - Fr. All. - Anacardiaceae

Dorstenia cayadia - Vell

Helosis cayenensis - Swartz

Brosimum glaucum - Taubert

Cattleya acladiae - Lindley

laelia tenebrosa - Rolfe

Hirtella insignis - Broquet ex France Chrysobalanaceae

Hirtella parvunguis - France Chrysobalanaceae

Hirtella santosii - France Chrysobalanaceae

Laelia grandis - Lindl et Paxt

orchidaceae - Lelia da Bahia

Ocotea pretiosa - (Nees) Mez. Lauraceae

Phyllanthus gladiatus - Muell - Arg. Euphorbiaceae

Pilocarpus jaborandi - Holmes - Rutaceae

Pilocarpus trachylophus - Holmes - Rutaceae

Aspilia procumbens - Backer - Compositae

Costus cuspidatus - Nees et Martins - Zingiberaceae

Astronium urundeuva - Engl - Anacardiaceae
Bauhinia smilacina - Schott - Studel Leguminosae
Couepia schottii - Fritsch - Chrysobalanaceae
Dalbergia nigra - Vell - Fr. All - Leguminosae
Jacquinia brasiliensis - Mez
Melanoscydon brauna - Schott - Leguminosae
Schinopsis brasiliensis - Engl V Glabra - Anacardiaceae

Espécies vegetais ameaçadas que não se encontram na lista oficial:

Cariniana estrellensis (Raddi) Ktze - Lecythydaceae

Bowdichia virgilioides - HBK - leguminosae, Fab.

Talisia esculenta Raddk - Sapindaceae.

Picrania andrade-limae - Pirani - Simaroubaceae

Calophyllum brasiliensis - Camb. - GUTIFERAE

Pithecelobium avaremotemo - Mart. - Leguminosae, Mlm

Hancordia speciosa - Gomes

Cedrela odorata - Lenn

Schinopsis brasiliensis - Engl.

Aspidosperma dasycarpum - A.D.C.

Chrysobalamus ixaco Linn

Bombax aquatitum - Schum

Astronium urundeuva Engl

Schinopsis brasiliensis Engl

Melanoxylon brauna schott

Ocotea porosa (imbuia)

Ocotea pretiosa (louro ou canela sassafrás)

Brasimum glaziovii (queri-preto)

Dicksonia sellowiana, - Hooker

ATTACHMENT "I"

21. SUPPORTING DOCUMENTS

21.1. Principal References.

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ATTACHMENT "H"

Fishermen/Shellfishing/Raft fishermen

Social group whose subsistence is artisan fishing, using rudimental methods. They are located on coastal areas and estuaries of the northeastern coast. They have a cultural tradition.

Ceramist Artisans

A cultural group working individually in the art of molding decorative or utility pieces, using clay as raw material. They have only recently become of value, this work has been divulged and recognized through government programs, among which through SUDENE. They have characteristic cultural traditions and artistic expression.

Guarani Indians

Ethnic group descending from the first inhabitants of the continent, who dominated the coastal region during several centuries, before the European discoveries, preserving themselves in several cultural groups, which are characteristic of their original way of living.

25. ENDORSEMENTS

25.1. Nomination form or letter of endorsement, including an acknowledgement of responsibilities, from the responsible authority for each administrative area within the proposed Biosphere Reserve.

25.1.a Government of the State of Ceará

25.1.b Government of the State of Rio Grande do Norte

25.1.c Government of the State of Paraíba

25.1.d Government of the State of Pernambuco

25.1.e Government of the State of Alagoas

25.1.f Government of the State of Sergipe

25.1.g Government of the State of Bahia

Original is presented in Attachment "B"

We also attach a signature list of relevant personalities who support the declaration of Phase IV of the Atlantic Forest Biosphere Reserve.

NOTE: Management of the Reserve is structured through a Council which counts on the participation of members of the government and civil society, in equal numbers, who are responsible for the major policies. It is composed by technical chambers that meet the requirements of regional integration, and by the State Committees, who are responsible for the execution of works concerning the implementation of projects. Federal and State organizations are in charge of management of the protected areas under their jurisdiction

Nós Abaixo-assinados, apoiamos a inclusão dos remanescentes florestais nordestinos, e de seus ecossistemas associados como parte integrante da Reserva da Biosfera da Mata Atlântica.

JOSE AUGUSTO SARAIVA PEIXOTO - GERMEN/ES
ELBANO PASCHOAL F. MORAES - Jose Augusto Saraiva - GERMEN/ES
D. Paschoal - CAMBAI-ES

MONICA TORRENT LACINA - Monica - FEAM/MS
SERGIO L. MENDES - Sergio - MUSEU MELLO LEITÃO - ES
MARIA ISABEL STUMPF CHIAPPETTI - FEAM/RS

Silvia Maria Vogel - FEAM/RS

Augusto de S. Silva - IRAI-RS

Silvia Motta Lima - FATMA-SC

Edu Guterres Franca - FEAM - BH

Regina Campogrosso - FEAM - BH

Rigina Maia Guimarães - FEAM - BH

Vânia Cury de Barros - FEAM - BH

Alexsio G. Costa Jr - CAPEL

MARIA SOCORRO BORGES FREIRE - FUNDAÇÃO ZARAC / RN

MARIA LÚCIA COSTA LIMA - DIRETORIA DE MEIO AMBIENTE / SEPLAN

ROSÂNGELA PEREIRA DE LYRA LEMOS - INST. DO MEIO AMBIENTE / AL. PE

A. Rocha (HOVACH) Associação Polígona Amigos da Natureza - Núcleo Ecológico de Uorro Branco - DEMB

Abriana Sara Fonseca - Bióloga - Programa Biotéc. FMISOF (BH)

Reunair Xavier de Brito - Bióloga - SMMA - Contagem - MG

Antônio dos Santos Soffrati Petti - professor - UFF / CEFICA

Maria Antônia Weyland Vianna - FEOPAM / FSM - MG

Carlos Cardoso Aveline - União Protetora do Ambiente Natural, UPAN - RS

Henrique Lobo Gençalves - FUNSEC - Governador Valadares - MG

Nós Abaixo-assinados, apoiamos a inclusão dos remanescentes florestais nordestinos, e de seus ecossistemas associados como parte integrante da Reserva da Biosfera da Mata Atlântica.

Edna Cardozo Rias - Liga de Prevenção à Crueldade
contra o Animal

Daniel Pereira de Araújo - Associação Colatinaense
de Defesa Ecológica - Colatina - ES (ACODE)
Francisca Ferreira Pires - Casimiro Ceará

ROSALVO DE MAGALHÃES - CECNA - Centro de Estudos e Conservação da Natureza
Niterói - RJ
Cristina de Souza Tossica Alvim - CECNA - RJ

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Instituto Florestal de São Paulo

Nós Abaixo-assinados, apoiamos a inclusão dos remanescentes florestais nordestinos, e de seus ecossistemas associados como parte integrante da Reserva da Biosfera da Mata Atlântica.

- ALBERTO COSTA DE PAULA - IBAMA/IBRACOF/DF
 NÍO HENRIQUE MUNIZ - IBAMA - BRASÍLIA
 Adelia Japiassu - IEF - RJ
 MARCOS ANDRÉ BARBOLIM - IEF - RS
- AGOSTINHO PENHA - IEF - RS
 - Antonio Luiz Duarte - SAUDE - SP
 - VICENTE Luiz CASTINA - IEF / RJ
 - LILIA MARIA OZÓRIO - IEF / MG
 - Denise Ferreira Jates - IEF - MG
 - Olívia S. P. F. Santos - IEF / MG
 - Patrícia do Espírito Santo - IEF / MG
 - Eduardo Schriener Cardoso - Proj. Cult. S. Sebastião Ter. Ilheus
 - NELSON LIMA ALMEIDA - IBAMA
 - Francisco A. D. Colares - INPA - AM
 - Aluanda Lima / Odomb - UFMG
 - Juana Reis Basso - UFMG
 - Paul Farnelli Tardes - UNERB
 - André Lima - ICB / UFRG
 - Projeção Flores - ICB / UFMG

Nós Abaixo-assinados, apoiamos a inclusão dos remanescentes florestais nordestinos, e de seus ecossistemas associados como parte integrante da Reserva da Biosfera da Mata Atlântica.

- Inês de Souza Dias - SOS Mata Atlântica - SP
- Márcia Huete - Fundação SOS Mata Atlântica
- Paulo Groth - CIA Suzano
- Pâmela - FE. PESC. DO EST. DA BAHIA
- ~~Wagner~~ - EREA / Conserv. Herb. Aracaju BA.
- ~~Wagner~~ - IBAMA/RS - Coord. Técnica Conserv.
- Alberto Luiz Cavatito - IEF-ES - Diretor
- Helene Arthur Delmonte - MG
- Milene Nova Martins - UFMS
- Jullia de Assis de Michelis Velloso - Universidade UFRPE
- Márcia Angélica Figueiredo - UFC - SNE
- Ronaldo Lacerda de Lima - UFPE / SNE
- Ariane Costa Pinheiro - Prof. Cult. Soc. Sebastião de Almeida S.P.
- Luiz Carlos Furtado de Aquino - Ass. dos Eng^{os} Florestais do Estado do Rio de Janeiro - APEFERJ
- Márcia Jacconcellos - Amigos Tessa - Brasil - RJ
- Ricardo Braga - SNE