

WORLD HERITAGE NOMINATION - IUCN SUMMARY

552: LA AMISTAD INTERNATIONAL PARK AND VOLCAN BARU NATIONAL PARK (PANAMA)

Summary prepared by WCMC (April 1990) based on the original nomination submitted by the Government of Panama. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

1. LOCATION:

The protected area lies in the foothills and mountains of the Cordillera de Talamanca on the Panamanian/Costa Rican border, in Bocas del Toro and Chiriqui provinces, adjacent to the Limon Puntarenas San Jose and Cartago Provinces in Costa Rica. Lies adjacent to the biosphere and world heritage site of La Amistad, Costa Rica. The nominated area totals 221,000ha.

2. JURIDICAL DATA:

The Presidents of Costa Rica and Panama jointly declared intent to establish an international park on 3 March 1979, and this was finally reconfirmed in Panama by the directive of 6 September 1988 (Resolucion Directive No. 021-88). This resolution has the power of the executive decree based on Law No. 21 of 16 December 1986. The sector called Pila was initially protected in 1983 by Executive Decree No. 25 of 28 September 1983. Palo Seco Protected Forest was established following publication in the official gazette on 24 November 1983. Volcan Baru National Park was established by Executive Decree No. 40 of 24 June 1976 and published in the official gazette on 13 July 1978.

3. IDENTIFICATION:

The landscape represents a sector of the Cordillera de Talamanca mountain range. The whole area was uplifted to some 4,000m above sea level in the Plio-Quaternary orogenesis. The Cordillera de Talamanca is essentially of granite, metamorphic and volcanic origin, representing the Changuinola formation, the oldest in Panama. In the south is the inactive volcano Volcan Baru.

At least since the last glaciation about 25,000 years ago, tropical rain forests have covered most of the area in an assemblage of lowland tropical wet rainforest to cloud and sub-alpine paramo forests. Of the Holdridge life zones of Panama, at least nine occur in the park. The type Bosque Humedo Montano Bajo exists also solely in Panama. The Talamanca Mountains contain the largest tracts of virgin forest in Panama. In total there are 180 recorded endemic plants species found at La Amistad, which are restricted to the provinces of Bocas del Toro and Chiriqui or to Panama as a whole. Notable threatened plants include Justicia refulgens (R), Myrrhidendron maxonii (R), Ilex chiriquensis (R), Chamaedorea linearia (I), Begonia brevicyma (I), Ipomoea chiriquiensis (V) and Pilea rugosissima (I).

Studies indicate that one of the 115 species of fish, 20 of the 250 species of reptile and amphibian, 13 of the 215 species of mammal and 15 to 30 of the 600 species of birds are endemic to the region of the Cordillera de Talamanca. The area is one of the last refuges in western Panama of major species such as all the Central American felines including puma Felis concolor, ocelot

F. pardalis (V), jaguarundi F. yagouaroundi (I), tiger cat F. tigrina (V), and jaguar Panthera onca (V) and also Central American tapir Tapirus bairdii (V). Of the 850 species of bird reported in Panama, approximately 550-600 exist in the region of La Amistad, of which a total of 425 species live up to 900m above sea level. Of the amphibians, six species have a distribution restricted to the Cordillera de Talamanca. Many of the lepidoptera have a restricted distribution.

Near Baru Volcano in Chiriquo Panama, pre-ceramic sites have recently been discovered dated over 12,000 years old. Such sites are extremely rare in Central America and represent some of Central America's earliest human inhabitants in the area. The indigenous Teribe are distributed in 27 communities, occupying a part of the Cuenca and the upper Rio Teribe, with principal activities of subsistence agriculture and wood gathering.

4. STATE OF PRESERVATION/CONSERVATION:

The site was originally proposed for its important contribution to the protected area network of Central America, with principal characteristics of natural resources, climate, physiography, importance socioeconomics, potential for recreation, education and scientific research.

The region contains the largest remaining upland virgin forest in Central America. The area is one of the most ecologically diverse and rich in the whole of Panama and Central-America and contains an unique refugia where forest has been in continual existence for over 25,000 years. The whole area contains a diversity of plant genera, families or species perhaps unequalled in any other reserve of equivalent size in the world due to the convergence of the floras of North and South America, the varied climatic, altitudinal and edaphic factors. The area is also of note for a new record extension of virgin oak woodland with seven species of the genus Quercus. In total there are 180 recorded endemic plants species found at La Amistad which are restricted to the provinces of Bocas del Toro and Chiriqui or to Panama as a whole, many of which are on the endangered list. The region is also important for its high endemism in lepidoptera, amphibians and birds. In the higher altitudes it is estimated that there are 40 endemic species of bird, making this area one of the highest regions of endemism in Central America.

The responsible administration is the Instituto Nacional de Recursos Naturales Renovables (INRENARE) and the Direccion Nacional de Areas Protegidas y Vida Silvestre. The Asociacion Nacional para la Conservacion de la Naturaleza (ANCON) cooperates with these bodies and is leading local efforts to secure its boundaries, and enlisting the cooperation of local residents in its protection. Various national and international bodies have been involved in the development of the management plans including WWF/IUCN. ANCON has prepared a preliminary plan of action for the park, identifying the most critical sites as well as coordinating work on wardening. A national park management plan was prepared specifically for Volcan Baru in 1981. In the case of Pila there is a preliminary action plan. Over the international frontier, a management plan for the major part of the Costa Rica site is being prepared.

Legal documentation has declared that in Volcan Baru the land cannot be owned and is regarded as part of the forestry heritage of the state. Those people who have legal documentation within the park were taken into account within the decree specifying that they would have to adhere to the landuse practices established by INRENARE. These people live in adjacent towns and use their plots within the park (Patino, 1989).

At least until recently La Amistad was under great threat from cattle ranching, timber extraction, forest burning and illegal occupation and habitations, amongst others. Much of the private land is occupied without legal documentation. Recent oil pipeline and highway construction between Chiriqui and Bocas del Toro opened the area to settlement, land clearance and cattle grazing. In Volcan Baru estimates indicated that approximately 500 families had small agricultural plots inside the park. Clearing of land has caused severe erosion and illegal hunting is regarded as common.

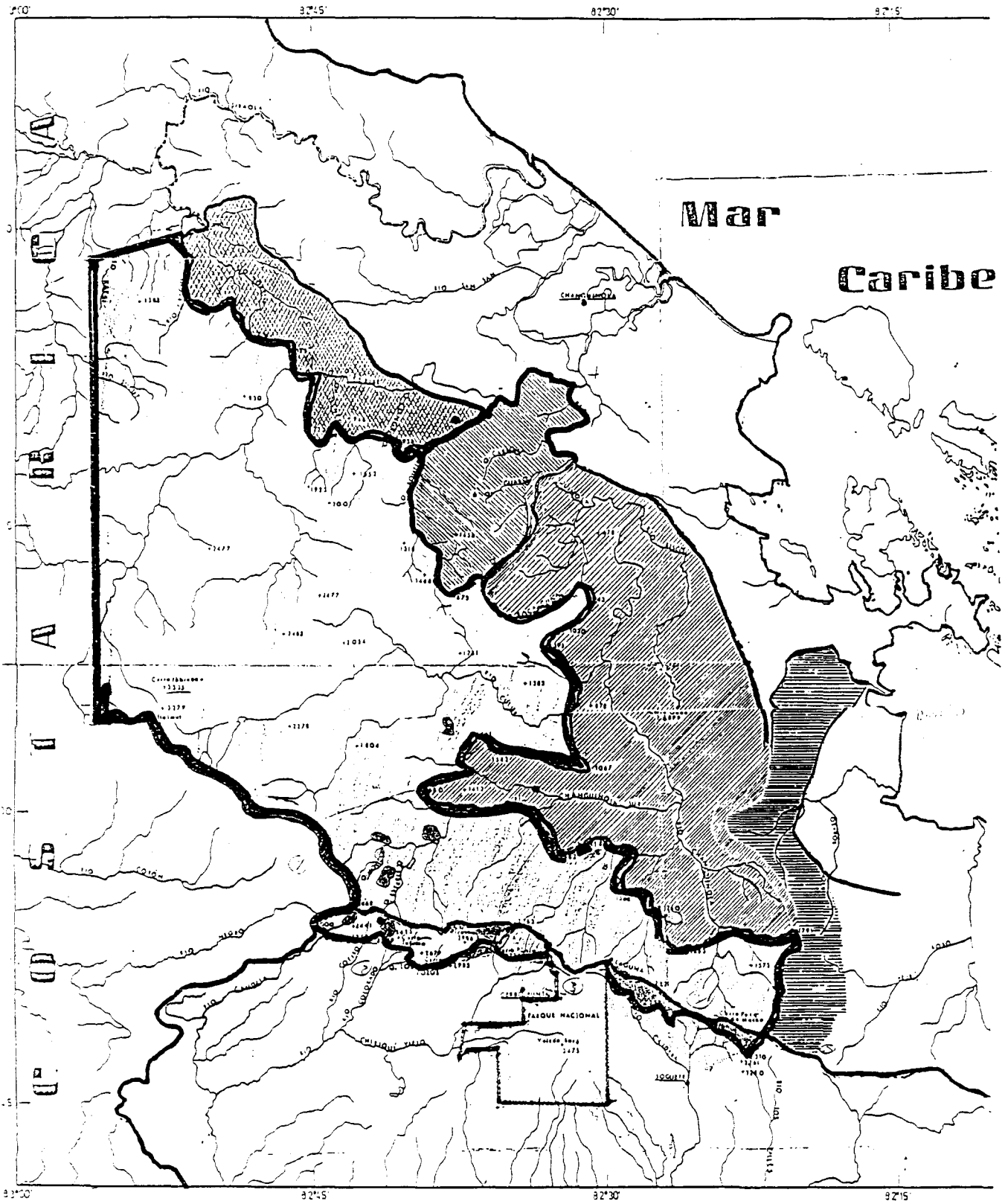
5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST:

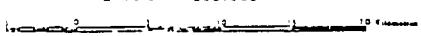










The nomination, as presented by the Government of Panama, provides the following justification for designation as a World Heritage property:

D) Natural heritage properties

Three main justifications for inclusion of natural properties has been listed by the Government of Mexico:

- (ii) Be outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment;
- (iv) contains the most important and significant natural habitats where threatened species of animal or plants of outstanding universal value from the point of view of science or conservation still survive.



<p style="text-align: center;"> LIMITE PARQUE INTERNACIONAL LA AMISTAD Escala 1:250.000  Octubre, 1986 </p>	<p style="text-align: center;">LEYENDA:</p> <ul style="list-style-type: none">  Limite internacional  Limite provincial  Límites  Areas ocupadas dentro de límites propuestos  Puntos límites del Suroeste 	<ul style="list-style-type: none">  Como  Bosque  Ranaj  Reser  PARQ
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WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

552 LA AMISTAD AND VOLCAN BARU NATIONAL PARKS (PANAMA)

1. DOCUMENTATION:

- i) IUCN Data Sheets.
- ii) Consultations: Panamanian Government Officials, E. Ponce, B. Alfaro, D. Miranda, F. de Sousa, J. Barborak, C. McFarland, J. Ileuca, O. Lucke.
- iii) Additional Literature Consulted: IUCN. 1990. Estrategia Regional Para el Desarrollo Sostenible de Bocas del Toro, Panama; IUCN. 1973. An Ecological Survey of the proposed Volcano Baru National Park.
- iv) Site visit: April 1990 (J.Thorsell).

2. COMPARISON WITH OTHER AREAS

The nominated site is part of a complex of conservation areas that cluster around the Talamanca mountains that follow the Panama/Costa Rica border. The Costa Rican section of the area (500,000 ha.) was inscribed on the World Heritage List in 1983 with a recommendation that the Panama side be added later to form a transfrontier property. The area includes the largest remaining tract of natural forest in Panama and, together with the Costa Rica portion, comprises the single largest natural forest unit in Central America. In terms of biodiversity the area contains several hundred endemic plant species and one of the last major refuges for threatened fauna such as ocelot, jaguar and tapir. The avifauna is particularly rich with some 600 species. No other protected area complex in Central America contains as many viable populations, species, life zones, or as much altitudinal variation. The Talamanca range is estimated to harbour about 4% of the varieties of all terrestrial species on earth.

La Amistad may be compared with the two existing natural World Heritage Sites in Central America, Rio Platano Biosphere Reserve (Honduras) and Darien National Park (Panama). All three sites are non-volcanic tropical wet forest areas, but Amistad - being located between Darien and Rio Platano - provides missing biological and cultural links between the sites. Only Amistad has pure oak stands, subalpine paramos, and high altitude bogs.

3. INTEGRITY

Because of its large size and rugged terrain, Panama's sector of the Amistad International National Park, even though only officially two years old, is still relatively intact. Ten incursions, mostly along the southern boundary have been identified where cattle are grazed and some agriculture is seasonally practised. Potential exists to phase the inappropriate uses out and to restore the habitat. The Park also has several trails across the southern section through which livestock are occasionally herded but impacts are not serious. Amistad is adequately buffered on the northern-eastern side by the Palo Seco Forest Reserve, one

indian reserve and a 13,000 ha. jungle training area formerly used by the military (this land may be eventually added to the Park). There is no buffer along the northern boundary and agriculture is gradually moving right up to the 2000 m. contour line which is the park boundary. There is no management plan for the Park but boundaries are being marked at key points with the help of funds from a local conservation group, ANCON. The Park has a director with a staff of 4 rangers but no budget allocation and no equipment.

Although Amistad is not facing any major immediate threats, a management regime will need to be instituted soon. At least 4 ranger posts and several vehicles are needed as well as an overall management plan which would spell out research needs and public extension programmes. A regional project would also address the pressures on the adjacent buffer zones, particularly the Palo Seco Reserve. Liaison with other Government departments involved with public works, hydroelectric development and indigenous people will be required. A joint committee to coordinate activities with the adjacent Costa Rica authorities would also be useful. A project profile for the Park and the buffer zone has been prepared by IUCN's Regional Office.

The situation in the Volcan Baru National Park is considered separately. Baru is a much smaller and an appendage to Amistad and was established in 1976. A management plan was completed in 1981 but there was no follow-up or implementation. Since then, there has been continual encroachment, a new road to a communication facility built on the summit and a proposal for a new road across the Park to connect the towns of Cerro Punta and Boquete. The Park has a director and a ranger but no vehicles or equipment.

4. ADDITIONAL COMMENTS

Panama and Costa Rica have both declared that Amistad is an international park. In terms of the area's natural resources and ecological characteristics there is no way to separate the two sides. The inscription of the new site should thus be a single one, recognizing that the two countries will cooperate in management.

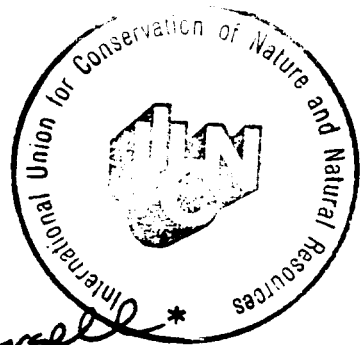
5. EVALUATION

La Amistad National Park in Panama adds an important extension to the existing Talamanca/Amistad World Heritage site in Costa Rica. As a truly international transfrontier park the area is the most diverse and largest natural forest remaining in Central America. The site meets two criteria: (ii) as an outstanding example of biological evolution and (iv) as a significant habitat for threatened species. The Committee should also be aware that the Park has only recently been created and a major effort to operationalise it will be required.

The nomination also includes Volcan Baru which is not essential to the nomination and does not meet the conditions of integrity.

6. RECOMMENDATIONS

La Amistad National Park should be inscribed on the World Heritage List as an international property with the adjacent area in Costa Rica. This single listing will require a formal letter of agreement from the two governments. The Volcan Baru portion of the site should not be included until a re-definition of its boundaries and implementation of the 1981 management plan has begun. The Committee should encourage the Panamanian authorities to allocate significantly more resources to the management authority (RENARE) in order that field management activities can be initiated and to apply for technical assistance where required. The "Regional Strategy for Sustainable Development for Bocas del Toro" should be viewed as the general framework to guide international support for the Park.



*J. Thorsell **

COSTA RICA

NAME Reserva de la Biosfera de la Amistad

IUCN MANAGEMENT CATEGORY IX (Biosphere Reserve)
X (World Heritage site - Criteria: i,
ii, iii)

Composed of a range of protected areas of various categories, including two national parks (II), two biological reserves (I), seven anthropological reserves (VII), one protection forest (VIII) and one forest reserve (VIII).

BIOGEOGRAPHICAL PROVINCE 8.16.04 (Central American)

GEOGRAPHICAL LOCATION The park lies in the foothills and mountains of the Cordillera de Talamanca, between the mountain ranges of Las Vueltas, Cartago and Echandi on the Panamanian/Costa Rican border, and falls within Limon, Puntarenas, San Jos and Cartago provinces in Costa Rica, adjacent to the proposed park in Boscas de Toro and Chiriqui provinces in Panama. The Panamanian park is planned to adopt the 1,800m contour as its park boundary. 8½44'-10½02'N, 82½43'-83½44'W

DATE AND HISTORY OF ESTABLISHMENT The Presidents of Costa Rica and Panama jointly declared intent to establish an international park on 3 March 1979, and this was reconfirmed in Costa Rica by Presidential Decree of 4 February 1982. The Costa Rican portion was accepted as a biosphere reserve in 1982. Declared a World Heritage site in 1983. The Reserva Forestal de Rio Macho extension to the reserve was approved by the MAB Bureau on 27 January 1988. **La Amistad** International Park was inscribed on the World Heritage List in December 1990.

AREA 584,592ha, including 51,150ha in Chirripo National Park, 190,000ha in Cordillera de Talamanca National Park, 9,000ha in Hitoy-Cerere Biological Reserve, 10,000ha in Barbilla Biological Reserve, 19,000ha in Las Tablas Forest Protection Zone and 84,592ha in Rio Macho Forest Reserve. There are also Las Tablas (19,602ha), and Telire (9,187ha), Tayni-Estrella (12,477ha), Talamanca (56,830ha), and Ujarras-Salitre-Cabagra (57,452ha) Indian reserves. The Panamanian park is planned to cover 120,000ha.

LAND TENURE 95% of the land within the core areas is government property, but there are small scattered agricultural developments along the borders. The remaining 5% is being surveyed and will be purchased or expropriated in the near future. There are sizeable holdings of private land within Las Tablas Protection Forest although the remainder is state-owned. Expropriation of this land is not foreseen, but legislation prohibits changes in existing land use and 90% consists of undisturbed forest. Within the Indian reserves, the Indian population has exclusive rights to the land in

perpetuity, but non-Indian settlers are gradually being relocated. The botanical garden is owned by the Universidad Estatal a Distancia.

ALTITUDE 50m-3,820m (Cerro Chirripo, the highest point in southern Central America)

PHYSICAL FEATURES The Cordillera de Talamanca is the highest and wildest non-volcanic mountain range in Central America. It was formed by the orogenic activity which created the land dividing the Pacific Ocean from the Caribbean. After a long period of marine deposition in the shallow surrounding seas up to the Middle Miocene, a period of marine volcanism began which included the intrusion of a huge granitic batholith, and the uplifting of the whole area to some 4,000m above sea level in the Plio-Quaternary orogenesis. The peneplain thus formed has been gradually eroded due to heavy rainfall, creating a rugged topography with many slopes inclined at over 60½. During the Quaternary, glaciers carved cirque lakes and steep valleys on the slopes of Chirripo National Park, the only area in Central America to show signs of glaciation. Most soils are poorly evolved inceptisols (leached soils).

CLIMATE Average temperatures range from above 25½C near sea level to -8½C on the highest peaks. Mean annual precipitation varies from around 2000mm near the Caribbean coast to more than 6000mm on some high montane areas.

VEGETATION Tropical rain forests have covered most of the area at least since the last glaciations about 25,000 years ago. Of the twelve life zones of Costa Rica, at least eight occur in the park, including lowland tropical wet rain forest to cloud and sub-alpine paramo forests, pure oak stands, lakes of glacial origin and high altitude bogs. The latter four communities are not found elsewhere in Central America. The area also contains all five altitudinal zones found in the tropics. Most of the main crest lies within the montane rain forest life zone, characterised by mixed oak forest; a dense, low and heavily covered forest with bryophytes, ferns, bromeliads, orchids and other epiphytes. Below 2,500m the lower montane rain forest life zone occurs and the forest is generally more mixed. The Talamanca Mountains contain the largest tracts of virgin forest in Costa Rica. On high points along the ridge, at elevations above 2,900-3,100m, frequent stands of paramo, swamps, cold marshes and Aretostaphylos arbustoides occur. The paramo located on Mt Kamuk contains the richest and most varied vegetation (after Chirripo) in the entire Talamanca Range and is the only one in Costa Rica that shows no signs of human intervention. The whole area contains a diversity of plant genera, families or species perhaps unequalled in any other reserve of equivalent size in the world, due to the convergence of the floras of North and South America and varied climatic and edaphic factors.

FAUNA The fauna is extremely diverse, with intermigrations from both North and South America. Studies indicate that one out of the 115 species of fish, 20 out of the 250 species of reptile and amphibian, 13 out of the 215 species of mammal and 15 of the 560 species of birds are endemic to the reserve. Signs of tapir Tapirus terrestris, possibly of a species as yet unrecorded in Costa Rica, are abundant at Cerros Utyum, Kamurk and Fabrega near the Panamanian border. All the Central American felines are found including puma Felis concolor, ocelot F. pardalis (V), jaguarundi F. yagouaroundi (I), tiger cat F. tigrina (V), and the jaguar Panthera onca (V) and also Central American tapir Tapirus bairdii (V), Central American squirrel monkey Saimiri oerstedii (E) and Geoffroy's spider monkey Ateles geoffroyi (V). Bothrops negriviviparus, a green and black high-altitude viper that has been rarely seen or collected, is present. Resplendent quetzal Pharomacrus mocinno (V) is present in the park as are many other bird species, such as bare-necked umbrella bird Cephalopterus glabricollis, three-wattled bellbird Procnias tricarunculata, harpy eagle Harpia harpyia (R), crested eagle Morphnus guianensis (R), solitary eagle Harpyhaliaetus solitarius and orange-breasted falcon Falco deiroleucus. It has been suggested that no other park in the world possesses as many species and such a wealth of fauna. **La Amistad** includes 9 of the 11 birds listed as 'endangered' by Costa Rica, 13 of their 16 'endangered' mammals, and all their reptiles and amphibians.

CULTURAL HERITAGE Archaeological sites are reported along all major water courses, yet an almost total lack of archaeological investigation within the area makes objective analysis of the human history difficult. However, less than 50km away, near Baru Volcano in Chiriquo Panama, pre-ceramic sites have recently been discovered dating back more than 12,000 years. Such sites are extremely rare in Central America, but this discovery just a short distance away indicates the possibility of more finds of Central America's earliest human inhabitants in the area. Studies on the Pacific Slope of Costa Rica just a few kilometres from the proposed Talamanca-La Amistad World Heritage Site have revealed much about the area's pre-Colombian inhabitants. Skilfully-created elaborate zoomorphic and anthropomorphic gold ornaments and jewellery and huge symmetrical stone spheres up to 2m in diameter are among the most outstanding evidences of the cultural development of pre-Colombian man in the area over the last 3,000 years. Analysis of polychrome pottery found in digs has led to definition of two major cultural phases for the area: the Agua Buena phase lasted from 300 BC to 500 AD and the Chiriqui phase from 500 AD until the Spanish Conquest. The recent discovery of pre-ceramic sites in the region surrounding the site presents a 10,000-year gap in the archaeological record of the area of great interest to scientists. Further details are given in Torres et al. (1987).

LOCAL HUMAN POPULATION At the time of the Spanish conquest, a

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number of Indian tribes inhabited the Talamanca Range. Their numbers were decimated by conflict with Spanish settlers and imported diseases over the following centuries, and by 1940 only 6,000 Indians were left in Costa Rica along isolated river valleys in still unsettled terrain. Since then, increased public and governmental interest in their plight has led to a gradual increase in their numbers and legal recognition of their land rights. Approximately 10,000 Indians of the Bribri, Cabecar, Brunca and Guaymi tribes live within the area's boundaries. These populations represent nearly 100% of the total population of Bribris and Cabecars, and an important percentage of the remaining population of Guaymis and Bruncas left in the world. These groups have experienced varying degrees of cultural contact for over 400 years, yet have retained much of their folklore, language, customs, and subsistence agricultural, hunting and gathering lifestyle.

VISITORS AND VISITOR FACILITIES No information

SCIENTIFIC RESEARCH AND FACILITIES Apart from a number of anthropological surveys, no comprehensive scientific studies have been conducted within the area. There are some research facilities, in particular at Las Cruces Botanical Garden. Chirripo National Park, Cordillera de Talamanca National Park, and Las Tablas Forest Protection Zone are used for field training activities for university students.

CONSERVATION VALUE

CONSERVATION MANAGEMENT The core area is made up of Chirripo National Park, Cordillera de Talamanca National Park, Hitoy Cerere Biological Reserve and Barbilla Biological Reserve, all managed by the Costa Rican National Park Service. The buffer area consists of the Indian reserves of Talamanca, Tayni-Estrella, Telire, Chirripo, Cabagra, Salitre and Ujarras (together covering 217,441ha) as well as Las Tablas Forest Protection Zone (managed by the Costa Rican Forest Protection and Las Cruces Botanical Garden (115ha). The area is made up of a complex of reserves with various types of legal protection, and has only recently been legally protected as a whole, by means of executive laws passed by the legislative assembly. Changes of land use are prohibited within the privately owned areas of the Las Tablas area but within the Indian reserves the Indian populations have exclusive rights to the land. Barbilla Biological Reserve has yet to be legally established. More recently, Reserva Forestal de Rio Macho was officially incorporated into the reserve. A management plan for the major part of the site is being prepared. The plan will include very detailed recommendations for the management and development of Cordillera de Talamanca National Park and Las Tablas Forest Protection Zone. For the other reserves, more conceptual recommendations on land use and resource protection will be outlined. The preparation of this plan is being coordinated by specialists from the Wildlands and Watershed Programme of CATIE. The first stages of the planning

process, resource inventories and basic information collection, were completed in 1982. Simultaneously, a planning team from Costa Rica's National Autonomous University is preparing a detailed management and development plan for Chirripo National Park. Short-term management of protected wildlands within the proposed World Heritage site is undertaken based on objectives, priorities and activities outlined in annual operational plans for these management units. Guard patrols and overflights assure the integrity of resources within the natural reserves included in the site's proposed boundary. From 1985 to 1987 an interdisciplinary team (Torres et al., 1987) from CATIE and the National Park Service implemented a planning project in order to produce a regional conservation and development strategy.

There are two levels of zoning: one at the general level of the biosphere reserve as a whole which is managed as one unit, and another within each specific reserve according to their different statutes. The other reserves of the overall biosphere reserve will be generally managed with natural zones, cultural zones, recovering zones and forest management zones. Funds were being raised during 1985 and 1986 in order to purchase privately held land, although this did not proceed as planned. An environmental education programme has been underway since September 1984 in the indigenous reserve and colonist communities adjoining the Atlantic slope.

MANAGEMENT CONSTRAINTS There are several Indian reservations near or contiguous to the area and man's impact in them is considerable, with about 10,000 people maintaining their traditional lifestyles of free-range grazing, hunting, fishing and use of medicinal plants. Oil exploration in Talamanca Reserve is a problem, as is forest loss and soil degradation in the Ujarras, Salitre and Cabagra area. Land squatters on the Pacific side of Costa Rica are known to exist. If settlers can provide documentary evidence of more than 10 years occupancy, their removal requires compensation under agrarian law. Parts of the buffer zone have been affected by shifting cultivation and forest use, resulting in forest destruction, habitat elimination and watershed degradation. Without outside help it will not be possible for the rangers to control poaching, archaeological site looters and squatters. Additional threats are posed by development projects proposed for areas in or near the reserve. These include construction of a cross-Talamanca highway and copper mining. During 1983/84 it was reported that poaching, looting of archaeological sites and encroachment by colonists, particularly along the Pacific slopes of Chirripo, the Cordillera de Talamanca and Las Tablas Forest Protection Zone were posing a threat to the site. Insufficient funding had led to inadequate staff training, equipment, infrastructure, border delineation and baseline surveys.

STAFF For the various reserves, national parks etc. that make up the biosphere reserve, there are 45 full-time employees and 20-30 part-time, mostly engaged in protection and surveillance. There

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are also research workers at various times undertaking specific studies.

BUDGET The governments of Costa Rica and Panama have assigned US\$ 600,000 for resource inventory and management planning for 1981-83. 1983 - UNESCO assigned US\$11,800 towards a comprehensive course for all park personnel. 1983/84 - WWF Tropical Forest Campaign assigned US\$40,000 for essential equipment and construction work.

LOCAL ADDRESSES Servicio de Parques Nacionales de Costa Rica, Barrio Aranjuez, Costado Norte Hospital Calderon Guardia, Apartado 10094, SAN JOSE

REFERENCES

- Boza, M.A. and Mendoza, R. (1981). Los Parques Nacionales de Costa Rica, INCAFO, Madrid.
- Boza, M.A. (1986). Parques Nacionales Costa Rica. Fundacion de Parques Nacionales, Costa Rica.
- CATIE (1979). Trminos de referencia para la elaboracion del Plan de Manejo del Parque Internacional de La Amistad Costa Rica-Panama, Turrialba, Costa Rica.
- Centro Cientifico Tropical (1981). Recomendaciones de limites para el Parque de la Amistad. San Jos, Costa Rica.
- Mendez, L. (1988). Development of Amistad National Park. WWF List of approved projects. Vol.3. The Americas and Caribbean. WWF-International, Gland, Switzerland. Pp. 53-54.
- Morales, R., Barborak, J.R. and MacFarland, C. (1984). Planning and managing a multi-component, multi-category international biosphere reserve: the case of the La Amistad/Talamanca Range/Bocas de Toro Wildlands of Costa Rica and Panama. Paper presented at the First International Biosphere Reserve Congress, Minsk, Byelorussia, USSR, 26 September-2 October 1983. Conservation, Science and Society Vol: 1. Unesco, Paris.
- Ocampo, R.A. (1981). La poblacion indigena en Costa Rica y el medio ambiente, Manuscrito indito.
- Stiles, F.G. (1972). Ecological observations of Cerro Chirripo and vicinity, Costa Rica. Organization for Tropical Studies, San Jos, Costa Rica.
- Stiles, F.G. (1981). The avi-fauna of the sabanas (or cienagas) Durika. Escuela de Biologia, Universidad de Costa Rica, San Jos, Costa Rica.
- Torres, H., de Mendoza, L.H. and Masterson, D. (1987). La Amistad Biosphere

Reserve: towards sustainable developemnt. CATIE, Turriable,
Costa Rica. 10 pp.

Weber, H. (1959). Los Paramos de Costa Rica y su concatenacion
fitogeografica
con los Andes Suramericanos. Instituto Geografico Nacional.
67 pp.

Weston, A.S. (1981). Paramos, cienegas and subparamos forest in
the eastern
part of the Cordillera de Talamanca. Tropical Science Center.
14 pp.

IUCN/WWF Project 3076 reports.
CNPPA Summary Status Report (1984). Threatened Protected Areas of
the World
(draft).

DATE 1982, revised August 1986, May 1989 and September 1990

DOCUMENT 0315Q

PANAMA

NAME Parque Internacional La Amistad/Parque Nacional Volcan Baru

IUCN MANAGEMENT CATEGORY II (National Park)
VII (Anthropological Reserve)
VIII (Managed Resource areas)
X (World Heritage)

BIOGEOGRAPHICAL PROVINCE 8.16.04 (Central American)

DATE AND HISTORY OF ESTABLISHMENT The Presidents of Costa Rica and Panama jointly declared intent to establish an international park, La Amistad, on 3 March 1979, and this was finally reconfirmed in Panama by the directive of 6 September 1988 (Resolucion Directive No. 021-88). This resolution has the power of the executive decree based on Law No. 21 of 16 December 1986. The sector called Pila was initially protected in 1983 by the executive decree No. 25 of 28 September 1983. Palo Seco Protected Forest was established following publication in the official gazette on the 24 November 1983. Volcan Baru National Park was established by Executive Decree No. 40 of 24 June 1976 and published in the official gazette on 13 July 1978. The Costa Rican sector was declared a World Heritage Site (Criteria: i, ii, iii) in 1983. Inscribed on the World Heritage List in 1990.

GEOGRAPHICAL LOCATION The park lies in the foothills and mountains of the Cordillera de Talamanca on the Panamanian/Costa Rican border, in Bocas del Toro and Chiriqui Provinces, adjacent to the Limon Puntarenas San Josen and Cartagon Provinces in Costa Rica. Lies adjacent to the biosphere reserve and World Heritage Site of La Amistad, Costa Rica. $8\frac{1}{2}45'-09\frac{1}{2}29'N$, $82\frac{1}{2}25'-82\frac{1}{2}45'W$

AREA 221,000ha, of a total forest area of 400,000ha. 91% is in the province of Bocas del Toro and 8.7% is in the Province of Chiriqui. Volcan Baru National Park totals 14,000ha, Palo Seco totals 250,000ha. The Costa Rican La Amistad area is 500,000ha.

LAND TENURE 94% of the area is state owned. The remaining 6% belongs to fincas of los Rios Caldera and Chiriqui Viejo.

ALTITUDE 90-3,474m (Cima del Volcan Baru, the highest point in Panama)

PHYSICAL FEATURES The landscape represents a sector of the Cordillera de Talamanca mountain range, a rugged topography with many slopes inclined at over $60\frac{1}{2}$. The whole area was uplifted to some 4,000m above sea level in the Plio-Quaternary orogenesis. The Cordillera de Talamanca is essentially of granite, metamorphic and volcanic origin, representing the Changuinola formation, the oldest

in **Panama**. In the south is the inactive Volcan Baru. The southern facing slopes of the volcano are characterised by hydrovolcanic fans composed mainly of volcanic ashes and other material. Volcan Baru is the south-easternmost massif that exceeds 2,000m above sea level between the Cordillera Alta of Central America and the South American Andes. The principal white water rivers are Changuinola and Teribe. The Uren, Katsi and Scui rivers are all tributaries of the Sixaola. River flows between 132-158 cu.m/second have been recorded on Changuinola and Teribe.

CLIMATE Tropical humid with average temperatures ranging from above 23½C near sea level to 0½C on the highest peaks. Mean annual precipitation varies from around 2500mm to more than 5000mm in some high montane areas.

VEGETATION The area is one of the most ecologically diverse and rich in the whole of **Panama** and Central-America. At least since the last glaciation about 25,000 years ago, tropical rain forests have covered most of the area in an assemblage of lowland tropical wet rainforest to cloud and sub-alpine paramo forests. Of the Holdridge life zones of **Panama**, at least nine occur in the park, including four found only on Caribbean facing slopes (bosque humedo tropical, bosque muy humedo tropical, bosque muy humedo premontano and bosque pluvial premontano) and three on the Pacific-facing slopes (bosque humedo montano bajo, bosque muy humedo montano bajo and bosque muy humedo montano) and two zones representative of high altitudes in the Cerro Fabrega (paramo pluvial sub-alpino). Bosque humedo montano bajo exists almost exclusively in **Panama**.

Most of the main crest lies within the montane rain forest life zone, characterised by mixed oak forest; a dense, low and heavily-covered forest with bryophytes, ferns, bromeliads, orchids and other epiphytes. Below 2,500m the lower montane rain forest life zone occurs and the forest is generally more mixed. The Talamanca Mountains contain the largest tracts of virgin forest in **Panama**. The vegetation of the mixed forests characteristic of the Cordillera de Talamanca above 1,000m includes Rodocarpus oleifolus, Symphonia poasoana, Terminalia amazonia, Cedrela tonduzii, Ulmus mexicana, Ardisia sp., Clethia lanata, Clusia sp., Persea sp. and Ocotea sp. (Patino, 1989). The whole area contains a diversity of plant genera, families or species perhaps unequalled in any other reserve of equivalent size in the world, due to the convergence of the floras of North and South America, the varied climatic, altitudinal and edaphic factors. The area is also of note for a new recorded extension of virgin oak woodland, with seven species of the genus Quercus, which had previously only been recorded from Chiriqui province and Costa Rica. In total there are 180 recorded endemic plants species found at La Amistad which are restricted to the provinces of Bocas del Toro and Chiriqui or to **Panama** as a whole. These include four species of Fleishmania, four species of

Chamaedorea, five species of Burmeistera, 19 species of Ardisia and eight species of Hoffmania (Patino, 1989). Notable threatened plants include Justicia refulgens (R), Myrrhidendron maxonii (R), Ilex chiriquensis (R), Chamaedorea linearia (I), Begonia brevicyma (I), Ipomoea chiriquiensis (V) and Pilea rugosissima (I).

FAUNA The fauna is extremely diverse, with intermigrations from both North and South America. Studies indicate that one of the 115 species of fish, 20 of the 250 species of reptile and amphibian, 13 of the 215 species of mammal and 15-30 of the 600 species of birds are endemic to the region of Cordillera de Talamanca. The area is one of the last refuges in western **Panama** of the major species such as all the Central American felines including puma Felis concolor, ocelot F. pardalis (V), jaguarundi F. yagouaroundi (I), tiger cat F. tigrina (V), jaguar Panthera onca (V) and also Central American tapir Tapirus bairdii (V).

Of the 850 species of bird reported in **Panama**, approximately 550-600 exist in the region of La Amistad, which a total of 425 species lives up to 900m asl. In the higher altitudes it is estimated that there are 40 endemic species of bird, making this area one of the regions with the highest frequencies of endemism in Central America. Resplendent quetzal Pharomacrus mocinno (V) is present in Volcan Baru National Park as are many other bird species, such as yellow-green finch Pselliophorus luteoviridis which is also restricted to the country. Other species of bird include three-wattled bellbird Procnias tricarunculata, bare-necked umbrella bird Cephalopterus glabricollis, harpy eagle Harpia harpyia (R), crested eagle Morphnus guianensis (R), solitary eagle Harpyhaliaetus solitarius and orange-breasted falcon Falco deiroleucus.

Of the amphibians, six species have a distribution restricted to the Cordillera de Talamanca as represented by Dendrobates speciosus, and Anolis kemtoni which is endemic to the country (Patino, 1989). Many of the lepidoptera have a threatened and restricted distribution, such as Dalla octomaculata (R), Busiques idothea, Oxeoshitus puerta submaculatus and Itabalia caesia tenuicornis (Patino, 1989).

CULTURAL HERITAGE Pre-ceramic sites have recently been discovered near Baru Volcano in Chiriquo and are dated over 12,000 years old. Such sites are extremely uncommon in Central America and represent some of the region's earliest human inhabitants. Analysis of the pre-Columbian archaeological sites have produced polychrome pottery which has led to definition of two major cultural phases for the area: the Agua Buena phase, which lasted from 300 BC to 500 AD, and the Chiriqui phase, which lasted from 500 AD until the Spanish Conquest. In 1502 Christopher Columbus visited the province of Bocas del Toro, which was inhabited by a diversity of indigenous

tribes; the Guaymies, Doraces or Dorasques, Changuinas or Changuenas, the Terrabas or Teribes, the Sigwas Zeguas or Mejicanos, the Ciceitas, the Cabeceras and the Urinamas. The first documented mention of the tribes dates from 1564 when Juan Vasquez de Coronado visited the region. The Teribes during the 16-17th centuries dispersed to the regions of Talamanca and the Isla Tojar or Colon, where they made contact with other groups such as the Doraques, Changuenas, Borucas, Bribe and the Cabecar. The Isla Tojar was the haunt of the Changuenas, Torresques and Seguas. In the 17th century the Teribes and the other Talamanca tribes accepted domination by the King of Spain. There followed a series of persecutions, rebellions and evangelising by missionaries which led to a drastic decline in the native populations. In 1709 the Indians reacted against the missionaries, soldiers and civilians. The 19th century brought suffering for the Teribes tribes, a period of constant wars "Tal es el caso de las largas guerras entre ellos y los Bribris" (Patino, 1989).

LOCAL HUMAN POPULATION A number of fincas within the area undertake extensive livestock rearing and agricultural production. The land of the Cuenca Superior of the Rio Changuinola Sur is extensively grazed by large numbers of livestock. The indigenous Teribe are distributed in 27 communities, occupying a part of the Cuenca and the upper Rio Teribe, their principal activities being subsistence agriculture and wood gathering. The city Capital de David has an approximate population of 50,000 inhabitants. Horticulture, stock raising and dairy production is of major importance (Patino, 1989).

VISITORS AND VISITOR FACILITIES The lower altitudes have been described as having great tourist potential. Over the last few years greater numbers of visitors have explored the area with the opening up of new routes (Anon., 1989).

SCIENTIFIC RESEARCH AND FACILITIES Research has been undertaken by consultants for WWF and IUCN, in order to prepare conservation plans for the Province of Bocas del Toro (Moore, 1985). The Asociacion Nacional para la Conservacion de la Naturaleza (ANCON) has undertaken surveys of the region, drawn up species lists and surveyed the proposed park boundaries (LaBastille, 1972; Anon., 1988). Considerable research on flora and vegetation has been undertaken in Volcan Baru by Missouri Botanical Garden. Avian studies have been done by Wetmore and Loftin, and a general survey carried out in early 1972 by LaBastille. The management plan includes an extensive compilation of information on biophysical and socio-economic aspects of the park and surrounding areas.

CONSERVATION VALUE The area was originally proposed for its important contribution to the protected area network of Central America, with principal characteristics of natural resources,

climate, physiography, importance socioeconomics, potential for recreation, education and scientific research (Patino, 1989). The area is one of the most ecologically diverse and rich in the whole of **Panama** and Central-America and contains an unique refugium where forest has been in continual existence for over 25,000 years. The whole area contains a diversity of plant genera, families or species perhaps unequalled in any other reserve of equivalent size in the world due to the convergence of the floras of North and South America, the varied climatic, altitudinal and edaphic factors. In total, 180 recorded endemic plants species are found at La Amistad which are restricted to the provinces of Bocas del Toro and Chiriqui or to **Panama** as a whole, many of which are on the endangered list. The region is also important for its high endemism in lepidoptera and amphibians.

La Amistad International Park and Volcan Baru National Park meet criteria (ii) and (iv) of the World Heritage Convention based on: representing the most diverse and largest natural forest remaining in Central America. Volcan Baru is not essential to the nomination and does not meet the conditions of integrity. In terms of biodiversity the area contains several hundred endemic plant species. The avifauna is particularly rich with some 600 species. It is also one of the last major refuges for threatened fauna such as ocelot, jaguar and tapir. No other protected area complex in Central America contains as many viable populations, species, or life zones. The Talamanca range is estimated to harbour about 4% of the varieties of all terrestrial species on earth.

CONSERVATION MANAGEMENT The responsible administration is the Instituto Nacional de Recursos Naturales Renovables (INRENARE) and the Direccion Nacional de Areas Protegidas y Vida Silvestre. The Asociacion Nacional para la Conservacion de la Naturaleza (ANCON) cooperates with these bodies and is leading local efforts to secure its boundaries, and enlisting the cooperation of local residents in its protection (Anon, 1988). Various national and international bodies have been involved in the development of the management plan including WWF and the IUCN's Regional Office (McFarland and Zadroga, 1981; Morales, Barborak, and MacFarland, 1984; Alvarado, 1987; Mendez, 1988; Anon, 1989). ANCON has prepared a preliminary plan of action for the park, identifying the most critical sites as well as coordinating work on wardening (Anon, 1989). A national park management plan was prepared specifically for Volcan Baru in 1981 (McFarland, and Zadroga, 1981). As yet there has been no follow-up or implementation. In the case of Pila there is a preliminary action plan. Over the international frontier, a management plan for the major part of the Costa Rica site is being prepared. The plan will include very detailed recommendations for the management and development of the Cordillera de Talamanca National Park and Las Tablas Forest Protection Zone.

Legal documentation has declared that in Volcan Baru the land cannot be owned and is regarded as part of the forestry heritage of the state. Those people who have legal documentation within the park were taken into account within the decree specifying that they would have to adhere to the land use practices established by INRENARE. These people lived in adjacent towns and used their plots within the park (Patino, 1989).

MANAGEMENT CONSTRAINTS Until recently La Amistad was under great threat, with pressures ranging from cattle ranching and timber extraction, to forest burning and illegal occupation and habitations. Much of the private land is occupied without legal documentation (Patino, 1989). Recent highways constructed between Chiriqui and Bocas del Toro opened the area to settlement and land clearing up to a 2,000m contour line (Anon, 1988; Anon, 1989). The 1987/88 completion of the Chiriqui-Bocas del Toro oil pipeline involved construction of an adjacent highway, which opened the forests of Bocas del Toro province for the first time to settlement, logging and cattle grazing (Navarro and Fletcher, 1988). Since the completion of the Volcan Baru management plan in 1981 there has been continual encroachment, a new road to a communication facility built on the summit and a proposal for a new road across the park to connect the towns of Cerro Punta and Boquete. Clearing of land (deforestation) and fires are a serious and increasing problem and have caused severe erosion particularly on the southern and eastern slopes. Illegal hunting is common. Overall integral management of the watershed is crucially needed.

STAFF Volcan Baru has a director and one ranger, whilst La Amistad has a director and a staff of four rangers.

BUDGET The governments of Costa Rica and **Panama** assigned US\$ 600,000 for resource inventory and management planning for 1981-83.

LOCAL ADDRESSES No information

REFERENCES

Alvarado, R.H. (1987). Plan para el Desarrollo inicial del Parque Internacional La Amistad.

Alvarado, R.H. (1987). Procedimiento para la planificacion de Parque

Nacionales y Reservas Equivalentes y su aplicacion en dos areas silvestris en Bocas del Toros, **Panama**. Documento Borrador - Tesis Maestria, CATIE, Turriabla, Costa Rica.

Alvarado, R.H. (1988). Antecedentes para la creacion del Parque Internacional La Amistad, **Panama**.

Anon. (1988). Ancon and the conservation of Panama's Natural Heritage.

ANCON Newsletter No.1. p.1.

Anon. (1989). Parque Internacional La Amistad. Noticia de ANCON

2(1): 7

CATIE (1979). Trminos de referencia para la elaboracion del Plan de Manejo

del Parque Internacional de La Amistad Costa Rica-Panama, Turrialba, Costa Rica.

Centro Cientifico Tropical (1981). Recomendaciones de limites para el Parque

de la Amistad, San Jos, Costa Rica.

LaBastille, A. (1972). An Ecological Survey of the proposed Volcano Baru

National Park, Republic of Panama. WWF/IUCN, Switzerland.

McFarland, C. and Zadroga, F. (1981). Plan de Manejo del Parque Nacional

Volcan Baru, Panama y recomendaciones sobre la ordenacion de la Region Adyacente. CATIE, Turrialba, Costa Rica.

Mendez, L. (1988). Development of Amistad National Park. WWF List of

Approved Projects. Vol.3. The Americas and Caribbean.

WWF-International, Gland, Switzerland. Pp. 53-54.

Moore, A. (1985). Una propuesta: plan para la conservacion y el desarrollo de

la Provincia de Bocas del Toro. WWF/IUCN No. 3629. Panama.

Morales, R., Barborak, J.R. and MacFarland, C. (1984). Planning and managing

a multi-component, multi-category international biosphere reserve: the case of the La Amistad/Talamanca Range/Bocas de Toro Wildlands of Costa Rica and Panama. Paper presented at the First International Biosphere Reserve Congress, Minsk, Byelorussia, USSR, 26 September-2 October 1983. Conservation, Science and Society Vol: 1. Unesco, Paris.

Navarro, J.C. and Fletcher, R. (1988). Preserving Panama's Parks. TNC News

38(1): 20-24

Patino, J. (1989). Solicitud al comite de la UNESCO para la declaracion del

Parque Internacional La Amistad y el Parque Nacional Volcan Baru como Sitio Patrimonio Mundial Natural. Instituto Nacional de Recursos Naturales Renovbles, Panama.

Stiles, F.G. (1981). The avi-fauna of the sabanas (or cienagas) Durika.

Escuela de Biologia, Universidad de Costa Rica, San Jos, Costa Rica.

Weber, H. (1959). Los Paramos de Costa Rica y su concatenacion fitogeografica

con los Andes Suramericanos. Instituto Geografico Nacional. 67 pp.

Weston, A.S. (1981). Paramos, cienegas and subparamos forest in the eastern

part of the Cordillera de Talamanca. Tropical Science Center.

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Infobase produced by WCMC, January 1992

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Mora 2/2/89
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2-7-89 gals

14 pp.
CNPPA Summary Status Report (1984). Threatened Protected Areas of
the World
(draft).

DATE April 1990, reviewed October 1990

DOCUMENT 0542Q

DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL
RESUME PREPARE PAR L'UICN

PARC INTERNATIONAL DE LA AMISTAD ET PARC NATIONAL DU VOLCAN BARU
(PANAMA)

Résumé préparé par le CMSC (avril 1990) d'après la désignation d'origine soumise par le gouvernement du Panama. L'original et tous les documents présentés à l'appui de cette désignation seront disponibles pour consultation aux réunions du Bureau et du Comité.

1. SITUATION

L'aire protégée se trouve dans les contreforts et montagnes de la Cordillère de Talamanca, à la frontière du Panama et du Costa Rica, dans les provinces de Bocas del Toro et de Chiriqui qui jouxtent les provinces de Limon, Puntarenas, San José et Cartago, au Costa Rica. L'aire désignée couvre 221 000 hectares.

2. DONNEES JURIDIQUES

Le 3 mars 1979, les présidents du Costa Rica et du Panama ont déclaré ensemble leur intention de créer un parc international, ce qui fut confirmé au Panama, dans la Directive du 6 septembre 1988 (Resolución Directive No 021-88). Cette résolution a pouvoir de décret exécutif, conformément à la Loi No 21 du 16 décembre 1986. Le secteur portant le nom de Pila était déjà protégé par le décret exécutif No 25 du 28 septembre 1983. La Forêt protégée de Palo Seco a été créée par publication au Journal officiel du 24 novembre 1983. Le Parc national du volcan Baru a été créé par décret exécutif No 40 du 24 juin 1976, publié au Journal officiel du 13 juillet 1978.

3. IDENTIFICATION

Il s'agit d'un secteur de la Cordillère de Talamanca. L'ensemble de la région a été relevé de quelque 4000 mètres au-dessus du niveau de la mer durant l'orogénèse du plio-quatenaire. La Cordillère de Talamanca est, essentiellement, d'origine granitique, métamorphique et volcanique et représente la formation de Changuinola, la plus ancienne du Panama. Au sud se trouve le volcan éteint de Baru.

Il y a environ 25 000 ans - c'est-à-dire depuis la dernière glaciation au moins - que les forêts ombrophiles tropicales couvrent la majeure partie de la région allant des forêts tropicales humides de plaine aux forêts de brouillard et forêts subalpines de paramo. Au moins neuf des zones biologiques "Holdridge" du Panama se trouvent dans le parc. Le type "Bosque Húmedo Montano Bajo" n'existe qu'au Panama. La chaîne de Talamanca contient les plus grandes étendues de forêt vierge du Panama. Au total, on a répertorié à La Amistad 180 espèces végétales endémiques des provinces de Bocas del Toro et Chiriqui ou du Panama. Parmi les plantes menacées remarquables on peut citer Justicia refulgens (R), Myrrhidendron maxonii

(R), Ilex chiriquiensis (R), Chamaedorea linearia (I), Begonia brevicyma (I), Ipomoea chiriquiensis (V) et Pilea rugosissima (I).

Il ressort des études qu'une des 115 espèces de poissons, 20 des 250 espèces de reptiles et amphibiens, 13 des 215 espèces de mammifères et 15 à 30 des 600 espèces d'oiseaux sont endémiques de la région de la Cordillère de Talamanca. L'aire est un des derniers refuges, au Panama occidental, d'espèces telles que tous les félins d'Amérique centrale, y compris le puma Felis concolor, l'ocelot Felis pardalis (V), le jagouarondi F. vagouarouundi (I), l'oncille F. tigrina et le jaguar Panthera onca (V) et même le tapir de Baird Tapirus bairdii (V). Parmi les 850 espèces d'oiseaux observées au Panama, environ 550 à 600 sont présentes dans la région de La Amistad et 425 vivent jusqu'à 900 mètres d'altitude. L'aire de distribution de six espèces d'amphibiens est limitée à la Cordillère de Talamanca. De nombreux lépidoptères ont une distribution limitée.

Près du volcan Baru, dans le Chiriquo Panama, des sites de la période pré-céramique vieux de 12 000 ans ont récemment été découverts. De tels sites sont extrêmement rares en Amérique centrale et témoignent de la présence de certains des peuplements humains les plus anciens de la région. Le peuple Teribe est réparti en 27 communautés et occupe une partie de la Cuenca et du Haut Rio Teribe. Les activités principales sont l'agriculture de subsistance et le ramassage de bois.

4. ETAT DE PRESERVATION/CONSERVATION

A l'origine, le site a été proposé pour son importante contribution au réseau d'aires protégées d'Amérique centrale, ses caractéristiques principales venant de ses ressources naturelles, de son climat, de sa physiographie, de son importance socio-économique, de son potentiel pour les loisirs, l'éducation et la recherche scientifique.

La région contient les dernières grandes forêts vierges de montagne d'Amérique centrale. Du point de vue écologique, l'aire est une des plus diverses et des plus riches du Panama et d'Amérique centrale. Elle contient un refuge unique où la forêt est présente depuis plus de 25 000 ans. La diversité des genres, familles ou espèces de plantes n'a sans doute d'égale dans aucune autre réserve de dimensions équivalentes au monde. Elle est due à la convergence entre la flore d'Amérique du Nord et celle d'Amérique du Sud, et aux divers facteurs climatiques, altitudinaux et édaphiques. L'aire est également remarquable par une superficie exceptionnelle de chênaies vierges comprenant sept espèces du genre Quercus. A La Amistad, on trouve, au total, 180 espèces répertoriées d'espèces végétales endémiques limitées aux provinces de Bocas del Toro et de Chiriquí ou au Panama. Beaucoup d'entre elles sont sur la liste des plantes menacées. La région est également importante pour l'endémisme élevé des lépidoptères, des amphibiens et des oiseaux. Vers les plus hautes altitudes, on estime qu'il y a 40 espèces endémiques d'oiseaux, ce qui fait de cette aire une des régions où le taux d'endémisme est le plus élevé en Amérique centrale.

L'aire est placée sous la responsabilité de l'Instituto Nacional de Recursos Naturales Renovables (INRENARE) et de la Dirección Nacional de Areas Protegidas y Vida Silvestre. L'Asociación Nacional para la

Conservación de la Naturaleza (ANCON) collabore avec ces deux institutions et conduit les efforts locaux pour protéger les limites de l'aire et faire participer les populations résidentes à la protection. Plusieurs organismes internationaux, notamment le WWF et l'UICN, ont participé à l'élaboration du plan d'aménagement. ANCON a préparé un projet de plan d'action pour le parc, identifiant les sites les plus importants et coordonnant les travaux relatifs au gardiennage. En 1981 a été préparé un plan d'aménagement spécifique pour le volcan Baru et il existe un projet de plan d'action pour le secteur de Pila. Au niveau international, un plan d'aménagement est en préparation pour la majeure partie du site se trouvant au Costa Rica.

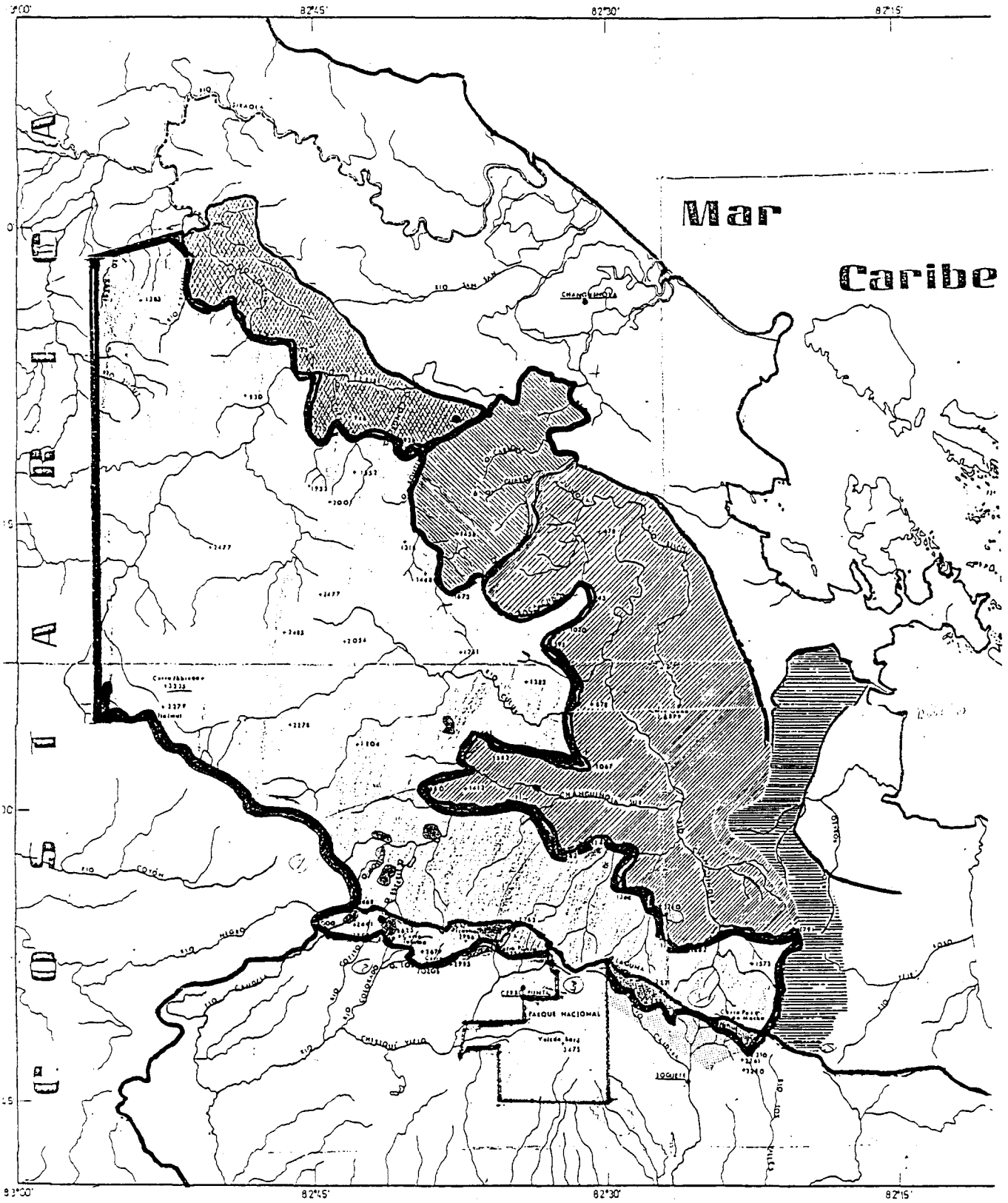
Du point de vue juridique, le territoire du volcan Baru ne peut avoir de propriétaire privé. Il est considéré comme faisant partie du patrimoine forestier de l'Etat. Certaines personnes avaient des documents juridiques prouvant leurs droits de propriété dans le parc et ce fait a été pris en compte dans le décret stipulant que ces personnes doivent se conformer aux pratiques d'exploitation des sols déterminées par INRENARE. Ces personnes vivent dans les villages voisins et exploitent leurs parcelles à l'intérieur du parc. (Patino, 1989).

Il n'y a pas si longtemps, La Amistad était gravement menacée par l'élevage bovin, l'extraction de bois, les incendies de forêt, l'occupation et les habitations illicites. Une grande partie des terres privées est occupée sans documentation en bonne et due forme. La construction récente d'une route et d'un oléoduc entre Chiriqui et Bocas del Toro a ouvert la région à la colonisation, au défrichage et au pâturage. Au volcan Baru, on estime qu'environ 500 familles cultivent de petites parcelles à l'intérieur du parc. Le défrichage a entraîné une érosion grave et la chasse illicite serait pratique courante.

5. RAISONS JUSTIFIANT LA DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL

Pour justifier la désignation de ce site en tant que bien du patrimoine mondial, le gouvernement du Panama a donné les raisons suivantes:

- a) Bien naturel
- (ii) exemple exceptionnel de processus géologiques actuels, de l'évolution biologique et de l'interaction entre l'homme et son milieu naturel;
- (iv) contient des habitats naturels très importants et significatifs où survivent encore des populations d'espèces végétales ou animales ayant une valeur universelle exceptionnelle pour la science ou la conservation.



<p style="text-align: center;">LIMITE PARQUE INTERNACIONAL LA AMISTAD</p> <p style="text-align: center;">Escala 1:250.000</p> <p style="text-align: center;">Octubre, 1986</p>	<p style="text-align: center;">LEYENDA:</p> <p>— Límite internacional</p> <p>— Límite provincial</p> <p>— Límites</p> <p>□ Áreas ocupadas dentro de límites propuestos</p> <p>● Estación de Siquirre</p>	<p>□ Corrales</p> <p>▨ Bosques</p> <p>▤ Penas</p> <p>▥ Reservas</p> <p>▧ Parques</p>
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DESIGNATION POUR LE PATRIMOINE MONDIAL - EVALUATION TECHNIQUE DE L'UICN

552 PARCS NATIONAUX DE LA AMISTAD ET DU VOLCAN BARU (PANAMA)

1. DOCUMENTATION

- i) Fiches de données de l'UICN
- ii) Consultations: responsables du gouvernement du Panama, E. Ponce, B. Alfaro, D. Miranda, F. de Sousa, J. Barborak, C. McFarland, J. Ileuca, O. Lucke.
- iii) Littérature consultée: UICN 1990. Estrategía Regional para el Desarrollo Sostenible de Bocas del Toro, Panama; UICN, 1973, An Ecological Survey of the Proposed Volcano Baru National Park
- iv) Visite du site: avril 1990. J. Thorsell

2. COMPARAISON AVEC D'AUTRES AIRES

Le site désigné fait partie d'un complexe d'aires réservées à la conservation de la nature, regroupées autour de la Cordillère de Talamanca et qui jouxtent la frontière entre le Panama et le Costa Rica. La partie costaricienne (500 000 ha) a été inscrite sur la Liste du patrimoine mondial, en 1983. A l'époque, il a été recommandé de désigner ultérieurement la partie panaméenne pour former un bien transfrontière. Le site comprend la plus grande superficie restante de forêts naturelles du Panama et, avec la partie costaricienne, possède la plus grande unité de forêt naturelle d'Amérique centrale. Du point de vue de la diversité biologique, le site comprend plusieurs centaines de plantes endémiques et l'un des dernier grands refuges d'espèces animales menacées telles que l'ocelot, le jaguar et le tapir. L'avifaune, avec quelque 600 espèces, est particulièrement riche. Aucun autre complexe d'aires protégées d'Amérique centrale ne contient autant de populations et d'espèces viables, de zones biologiques ni ne présente une telle variation altitudinale. On estime que la Cordillère de Talamanca abrite environ 4% de la variété de toutes les espèces terrestres de la planète.

On peut comparer La Amistad avec deux biens du patrimoine mondial en Amérique centrale: la Réserve de la biosphère du Rio Platano (Honduras) et le Parc national de Darien (Panama). Les trois sites sont des régions de forêts tropicales humides sur sol non volcanique mais La Amistad - située entre Darien et Rio Platano - fournit les liens biologiques et culturels manquants entre les deux autres sites. Seule La Amistad possède des chênaies pures, des paramos subalpins et des tourbières de haute altitude.

3. INTEGRITE

Etant donné sa vaste superficie et son terrain accidenté, le secteur panaméen du Parc international de La Amistad, bien qu'il n'ait, officiellement, que deux ans d'existence, est encore relativement intact. On a repéré dix enclaves, principalement le long des limites méridionales, où le bétail est mené paître et où l'on pratique une agriculture saisonnière. Il est possible d'exclure les activités incompatibles et de restaurer l'habitat. Dans la partie méridionale, plusieurs chemins traversent le parc et servent au déplacement occasionnel des troupes

mais l'impact n'est pas très grave. La Amistad est suffisamment protégé, du côté nord-est, par la Réserve forestière de Palo Seco, une réserve indienne et 13 000 ha de jungle autrefois utilisée, par l'armée, comme terrain d'entraînement (à terme, ces terres pourraient compléter le parc). Le long des limites septentrionales, il n'y a pas de zone tampon et l'agriculture s'approche peu à peu de la courbe de niveau de 2000 mètres qui délimite le parc. Le parc n'a pas de plan d'aménagement mais les limites sont marquées aux points stratégiques grâce aux fonds fournis par un groupe local de conservation de la nature, ANCON. Le parc est géré par un directeur disposant d'un personnel de quatre gardes mais sans budget et sans équipement.

Bien que rien ne menace La Amistad dans l'immédiat, il faudra bientôt instituer un régime de gestion. Au moins quatre postes de gardes et plusieurs véhicules sont nécessaires ainsi qu'un plan d'aménagement global précisant les besoins de recherche et prévoyant des programmes de vulgarisation. Un projet régional devrait aussi trouver des solutions aux problèmes de pressions exercées sur les zones tampons, notamment la Réserve de Palo Seco. Il importera également d'assurer la liaison avec divers ministères chargés, par exemple, des travaux publics, du développement hydro-électrique, des autochtones. Il serait également utile de mettre sur pied un comité conjoint chargé de coordonner les activités avec les autorités costariciennes qui s'occupent de la partie adjacente du parc. La délégation régionale de l'UICN a préparé un modèle de projet pour le parc et la zone tampon.

Le cas du Parc national du volcan Baru est considéré à part. Créé en 1976, il est beaucoup plus petit et a été annexé à La Amistad. Un plan d'aménagement a été terminé en 1981 mais n'a eu aucune suite et n'a pas été appliqué. Depuis lors, l'empiétement n'a jamais cessé. On a ouvert une route pour atteindre des installations de communication construites au sommet et l'on se propose d'en ouvrir une autre pour relier les villes de Cerro Punta et Boquete, de part et d'autre du Parc. Il y a un directeur et un garde mais ni véhicule ni équipement.

4. COMMENTAIRES ADDITIONNELS

Le Panama et le Costa Rica ont fait de La Amistad un parc international. Du point de vue des ressources naturelles et des caractéristiques écologiques, il est impossible de distinguer les deux parties du site. L'inscription devrait donc être unique et reconnaître que les deux pays coopéreront à la gestion.

5. EVALUATION

Le Parc national panaméen de La Amistad constitue une extension importante du Bien du patrimoine mondial de Talamanca/La Amistad se trouvant au Costa Rica. Parc transfrontière réellement international, la zone constitue la forêt naturelle la plus vaste et la plus diverse d'Amérique centrale. Le site satisfait à deux critères: (ii) exemple exceptionnel de l'évolution biologique et (iv) habitat important pour des espèces menacées. Le Comité doit également noter que le parc est de création récente et qu'il sera nécessaire de déployer des efforts considérables pour assurer son bon fonctionnement.

La désignation comprend aussi le volcan Baru qui n'a pas un rôle essentiel à jouer en l'occurrence et ne satisfait pas aux conditions d'intégrité.

6. RECOMMANDATIONS

Le Parc national de La Amistad devrait être inscrit sur la Liste du patrimoine mondial en tant que bien international incluant la région adjacente du Costa Rica. Cette inscription unique nécessitera un accord officiel des deux gouvernements. La partie du site où se trouve le volcan Baru ne devrait pas faire partie du bien tant qu'elle n'aura pas fait l'objet d'une nouvelle délimitation et que le plan d'aménagement de 1981 n'aura pas été appliqué. Le Comité devrait encourager les autorités panaméennes à augmenter, de façon non négligeable, leur attribution de ressources à l'autorité de gestion (RENARE) afin que des activités sur le terrain puissent être commencées et à demander l'assistance technique selon que de besoin. La "Stratégie régionale pour le développement durable de Bocas del Toro" doit être considérée comme le cadre général dans lequel orienter l'aide internationale au parc.

