WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

ALEJANDRO DE HUMBOLDT NATIONAL PARK (CUBA)

1. DOCUMENTATION

i) **IUCN/WCMC Datasheet:** (6 references).

ii) **Additional Literature Consulted:** Centro Nacional de Areas Protegidas/Agencia de Medio Ambiente, Ministerio de Ciencia, Tecnologia y Medio Ambiente. 1999. **Plan de manejo—Parque Nacional Alejandro de Humboldt, Cuba**; Thorsell, J. & T. Sigaty. 1997. **A global overview of forest protected areas on the World Heritage List.** IUCN; World Conservation Monitoring Centre. 1998. **Operational Guidelines for the Implementation of the World Heritage Convention.** Unesco. Paris; Gaceta Oficial de la Republica de Cuba. 1997. Ley No. 81 del Medio Ambiente. July 11, 1997; Anon. n.d. **Parque Nacional Alejandro de Humboldt**; Anon. 1998. **Proyecto Decreto Ley de Areas Protegidas** (Cuba); Borhidi. 1985. **The phytogeographic characteristics and evolution of the flora of Cuba.** Academy of Science of Hungary.

iii) **Consultations:** 7 external reviewers; senior officials of the National Council for Cultural Patrimony and the National Protected Area Center, Ministry of Science, Technology, and Environment (SITMA), provincial level authorities and field staff.

iv) **Field Visit:** February 1999. James R. Barborak.

2. SUMMARY OF NATURAL VALUES

Alejandro de Humboldt National Park (AHNP) has been recently established and is located in the north-eastern part of Cuba, covering most of the central part of the Saqua-Baracpa Mountain Range. It comprises 66,700ha of land and 2,641ha of marine area. It contains unique ecosystems which contain high levels of endemism and total numbers of endemic species. Specific features include:

- AHNP constitutes the most important strictly protected area in Cuba (a combination of IUCN Category Ia within a Category II area);
- Basic and ultra-basic igneous rocks from the Cretaceous period are predominant, with an important manifestation of pseudo-karst. This area includes the oldest evolutionary massifs in the Caribbean;
- AHNP has 905 endemic flora species, almost 30% of all endemics reported for Cuba. Of this total figure, 343 species live exclusively in this area;
- Faunal values are high. Forests in AHNP are important refuges for many endemic, resident and migratory bird species, including five species considered as Threatened. In the marine component of the Park, there is a significant colony of Caribbean manatees, considered vulnerable to extinction in the wider Caribbean. There are also 45 species of reptiles, two endemic molluscs and nine freshwater shrimp species, all of them endemic of Cuba; and

- AHNP is one of the most remote and unexplored areas in the Caribbean region. Biodiversity inventories recently carried out in the Park reported three new species of reptiles, two new species of amphibians, 17 new species of arachnids and three new species of crustaceans.

3. COMPARISON WITH OTHER AREAS

The Cuban Archipelago represents a biogeographical province of its own, not yet represented in the World Heritage List. At present there is only one natural heritage property from the insular Caribbean listed on the World Heritage List: the Morne Trois Pitons National Park in Dominica. That site (6,857ha), while possessing important volcanic features not shared by AHNP, is much smaller, with much lower total species diversity, and fewer endemic species. While both sites have peak heights of about 1,200 meters, the altitudinal diversity of AHNP, which stretches from coastal waters and reefs to peaks of 1,175 meters, is greater than that of Morne Trois Pitons (500-1,220).

Morne Trois Pitons is extremely wet (rainfall over 7,000 mm per year), but lacks the climatic variation found in AHNP, and also lacks the serpentine formations which have given rise to the exceptionally high levels of endemism found at the Cuban site. For these reasons, AHNP can be said to compare very favourably on biological terms with Morne Trois Pitons, and with other potential World Heritage Sites that might be nominated for their terrestrial biodiversity from anywhere in the insular Caribbean.

AHNP also compares favourably with Cocos Island National Park (Costa Rica), and with the Galapagos Islands, which although located in the Pacific Ocean, are the only other comparable insular World Heritage Sites in tropical America. Both Cocos and Galapagos have outstanding marine resources and evolutionary, ecological and geologic features that make them unique and globally significant; however, neither has the levels of endemism found in AHNP.

On a global level, AHNP and the surrounding Biosphere Reserve have more floral diversity than all but two large tropical islands—Hispaniola and New Caledonia. Nearby Hispaniola has no protected ecosystems that can rival the altitudinal and ecological diversity, total size, or integrity of AHNP, and New Caledonia lacks AHNP's faunal diversity. The park has more floral diversity than many of the world's largest and most floristically diverse islands, such as Jamaica, Hawaii and Fiji. It surpasses many continental endemism hotspots around the world, such as those in Tanzania and the Ivory Coast, in terms of the number of endemic plant species.

Reptilian endemism levels are also comparable to, or exceed, those in such noted centres as south-western Australia, the eastern Himalayas, the Malaysian peninsula, and the California floristic province. In addition, the site's integrity is better than many tropical islands since introduced species have difficulty colonising its azonal plant formations on serpentine and peridotite rocks than is the case in many tropical island ecosystems.

In relation to geological-geomorphological features, it is important to note that pseudokarst in serpentines or related ultrabasic rocks is an unusual phenomenon. However, it is incorrect to state, as the nomination does, that this occurrence in Cuba can be considered representative of pseudokarst - the term encompasses an immense variety of land forms in a wide range of lithologies. Those in quartzite and sandstone, for example, in Venezuela and Zimbabwe, are considered more extensive and much more spectacular, and the latter pseudokarst is already inscribed on the World Heritage List as part of Mosi-oa-Tunya / Victoria Falls WHS (Zambia / Zimbabwe).

4. INTEGRITY

4.1. Boundaries

The AHNP has been established by linking two existing Nature Reserves and one Wildlife Refuge. The AHNP was then transferred as an administrative unit to the Ministry of Science, Technology and Environment. However, the forest between these core areas and from there to the sea still belongs to the Ministry of Agriculture, and even under a protective category of forests, does not meet the objectives of an IUCN Protected Area Category II (National Park). Boundaries are currently under revision as the basis to transfer the whole area to the Ministry of Science, Technology and Environment.

Once pending changes in the park boundary are approved, AHNP will contain most key and interrelated natural elements present in the region. At that time it will have sufficient size, altitudinal and climatic diversity and ecological elements necessary for the long-term conservation of the park's ecosystems and their biological diversity, including endemic and migratory species. When expanded, it will contain ecosystems ranging from below sea level to some of the highest peaks in eastern Cuba.

4.2. Management plan

The site has a draft management plan that provides, in general, an acceptable level of detail. However, it requires strengthening in the area of internal zoning, financial strategies, and tourism planning, in the face of probable increases future tourism pressures.

4.3. Staffing and Budget

AHNP has a large, well-trained and motivated staff, but it has an inadequate operational budget. However, the location of AHNP near major existing and planned tourism development sites increases its potential for at least modest levels of self-financing through visitor fees.

While the economic crisis in Cuba has seriously affected the protected area agency's capabilities, at AHNP the number of field staff (60), their level of training and their esprit de corps are truly exceptional. Working with extremely limited financial resources, using local materials and appropriate technology, they have made important strides towards consolidating park management in a brief period of time.

4.4. Legislation

The current legislative framework for the park is inadequate. The declaration of Cudullas del Toa Mountain Range as a Biosphere Reserve by UNESCO in 1987 is not a legally binding declaration and has not been supported by National Law. Moreover, AHNP has been declared by the authorities of Guantanamo Province but has not been endorsed or ratified by National legislation. The declaration of this National Park by the National authorities is essential to link the existing care areas and to increase the size and altitude diversity of the park. It is also essential for the transfer of management responsibilities to the Ministry of Science, Technology and Environment.

4.5. Mining

There are important threats to the integrity of the AHNP. To the north of the park is one of the most important comprehensive open-cast mining regions in Cuba. Although the area allocated for future mining is primarily forested at present, economic necessity, and particularly the boom that might eventually take place if the investment climate changes, might pose important threats to the park. A small deep mine that was "grandfathered" in when the park was created, and the nearby town of

Melba, form an important pincer deep inside the park periphery and require special controls. The two main core zones of the park are still separated, although the area between them is intact, government owned, and part of the larger surrounding Biosphere Reserve.

4.6. Agriculture

Until pending legislation is passed, the park limit does not yet reach the coast at Taco Bay. Even when it does, a sizeable area paralleling the main coastal road through the coastal extremity of the park is subjected to agricultural land uses, cutting through the coast-to-mountain corridor and affecting the views from the more accessible coastal edge of the park.

Agroforestry systems (shade coffee and cacao) found in the buffer zone are among the most environmentally benign land uses in the tropics. The fact that the park forms part of a much larger biosphere reserve and special watershed management region ensures landscape level planning and management and protection for core biodiversity values.

4.7. Alien species

Exotic species, while less of a problem than in other smaller islands, are nevertheless present and new introductions could have unknown consequences for native flora and fauna.

4.8. Local Population

Rural population density is low and growth rates are minimal. Ongoing environmental education and outreach programs appear thus to be succeeding. There seems to be little pressure from private landowners or cooperatives ringing the park to encroach on forested areas.

4.9. Visitation

Tourism, while currently extremely limited, should increase at Taco Bay as thousands of new hotel rooms at nearby beaches and towns are built, posing special challenges to the park staff, who up to now have not had to deal with visitor management issues.

4.10. Other Issues

The severe economic crisis in Cuba could bring other threats and challenges to park management, including staff reductions, greater levels of poaching and encroachment by neighbouring communities, pressure to expand mining and timber cutting in the park, etc.

Hurricanes are a naturally occurring threat to the park, but it has survived millions of years of their cumulative impacts and many species are adapted to hurricane impacts. At this time, little can be said about threats posed by climate change, but the altitudinal, climatic, and ecological variability within the park should enhance its ability to withstand such impacts better than many other protected areas that lack its size or internal variability.

5. ADDITIONAL COMMENTS

None.

6. APPLICATION OF WORLD HERITAGE NATURAL CRITERIA

AHNP has been nominated under all four World Heritage natural criteria. IUCN recommends that its case for inscription strongly rests on the following two:

Criterion (ii): Ecological processes

The size, altitudinal diversity, complex lithologies, and landform diversity of AHNP have resulted in a range of ecosystems and species unmatched in the Insular Caribbean. It was a Miocene-Pleistocene refuge site, particularly in the glacial eras, for the Caribbean biota. The fresh water rivers that flow off the peaks of the park are some of the largest in the insular Caribbean and because of this have high freshwater biological diversity. Because of the serpentine, peridotite, karst and pseudokarst geology of the region, AHNP is an excellent example of ongoing processes in the evolution of species and communities on underlying rocks that pose special challenges to plant survival. IUCN considers that AHNP meets criterion (ii).

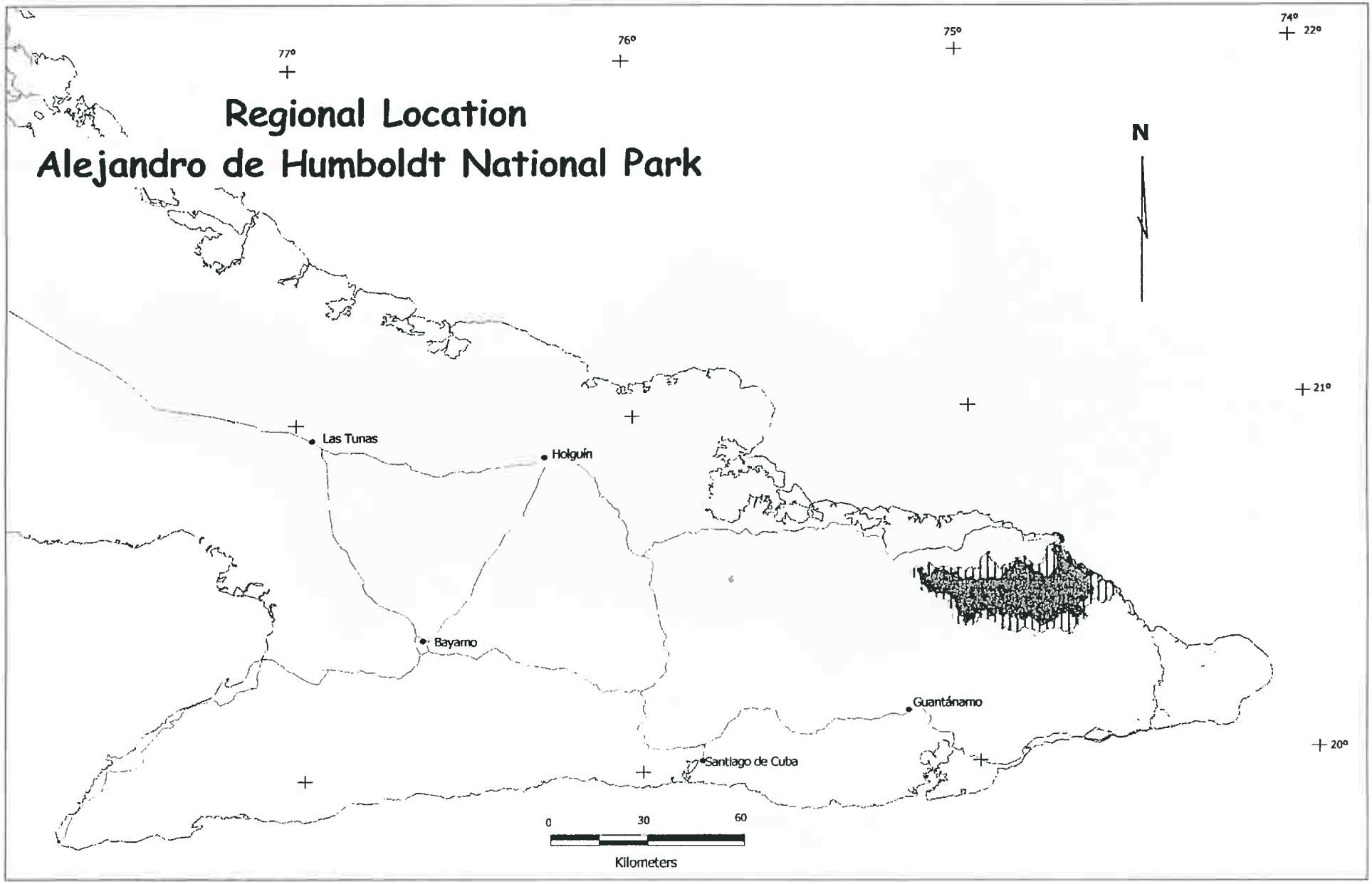
Criterion (iv): Biodiversity and threatened species

AHNP contains the most important and significant natural habitats for in-situ conservation of terrestrial biological diversity in the entire insular Caribbean. It contains 16 of 28 plant formations defined for Cuba, the largest island in the Caribbean, which is a unique biogeographic province. It is one of the most important sites for conservation of endemic flora in the entire Western Hemisphere – nearly 70% of the 1,302 spermatophytes already described, of an estimated total of 1,800-2,000, are endemic to the park. AHNP is one of the most biologically diverse terrestrial tropical ecosystems in an island setting anywhere on earth. Endemism rates for vertebrates and invertebrates found in the park are also very high. Many of these are threatened because of their small range. Because of their uniqueness and the fact that they represent unique evolutionary processes, they are of outstanding universal value from the point of view of science and conservation. IUCN considers that AHNP meets criterion (iv).

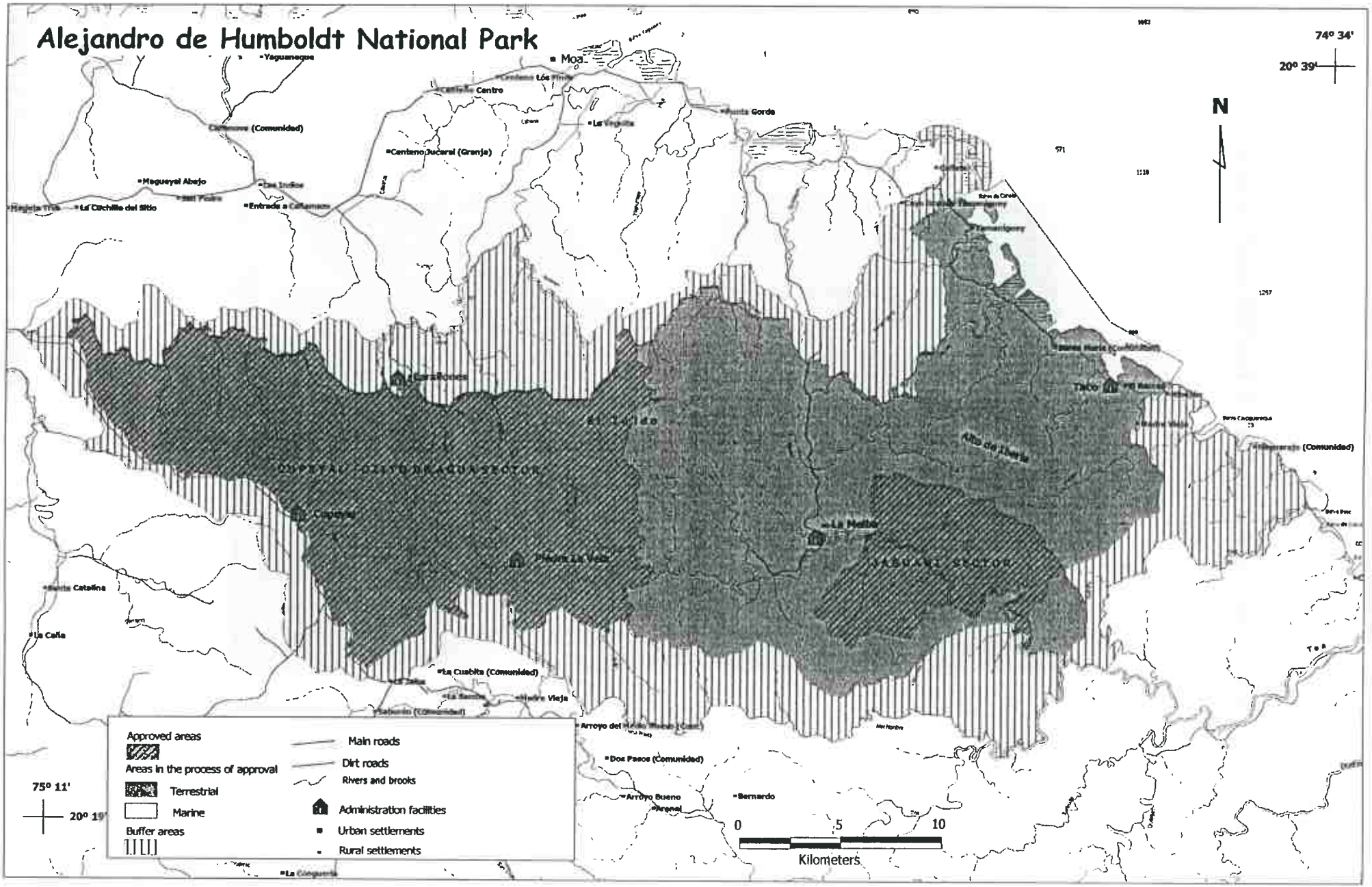
7. RECOMMENDATION FROM THE TWENTY-THIRD ORDINARY SESSION OF THE BUREAU: JULY, 1999

At its twenty-third ordinary session, the Bureau noted that Alejandro de Humboldt National Park is considered to meet natural criteria (ii) and (iv) but decided to **defer** the nomination to allow approval of the law expanding the park and approval of an expanded boundary which links the currently isolated core zones. Until this law and this boundary are in place, the integrity of the site cannot be guaranteed.

The Bureau also commended the State Party for its efforts for the protection of this site.



Map 1. Location of Nominated Site



Map 2. Nominated Site

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

ALEJANDRO DE HUMBOLDT NATIONAL PARK (CUBA)

Background note: The IUCN technical evaluation of Alejandro de Humboldt National Park (AHNP), nominated by Cuba in 1999, was presented to the twenty-third session of the Bureau in July 1999. Based on IUCN's advice the Bureau adopted the following recommendation:

"The Bureau noted that Alejandro de Humboldt National Park is considered to meet natural criteria (ii) and (iv) but decided to defer the nomination to allow approval of the law expanding the Park and approval of an expanded boundary which links the currently isolated core zones. Until this law and this boundary is in place, the integrity of the site cannot be guaranteed."

ADDITIONAL INFORMATION

IUCN has received a copy of recently approved legislation (Accord No. 3880 of the Executive Committee of the Council of Ministers, 1 February 2001), which establishes of a number of new protected areas as part of the development of the National Protected Areas System of Cuba. The legislation includes provisions for the expansion of AHNP. IUCN has also received a detailed map of the expanded park (see Map 1). The new boundaries link the core zones (Cupeyal-Ojito de Agua Sector and the Jaguaní Sector) which were separated from each other at the time of the 1999 nomination. The new boundaries also encompass a marine and coastal component; thus the expanded park covers a range of ecosystems from the sea to some of the highest peaks in eastern Cuba. IUCN considers that the expanded boundaries adequately respond to the Bureau's concerns on the integrity of this site.

APPLICATION OF CRITERIA/STATEMENT OF SIGNIFICANCE

Criterion (ii): Ecological processes

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RECOMMENDATION

That the Bureau recommend to the Committee that Alejandro de Humboldt National Park be **inscribed** on the World Heritage List under natural criteria (ii) and (iv). The Committee may also wish to recommend that the

State Party consider requesting Technical Assistance to finalise the management plan for this site, taking into account the conservation requirements of the extended boundaries.