

WORLD HERITAGE NOMINATION - IUCN SUMMARY

CANAIMA NATIONAL PARK (VENEZUELA)

Summary prepared by IUCN/WCMC (March 1994) based on the original nomination submitted by the Government of Venezuela. 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

Canaima is located in south-east Venezuela and meets the border of Guyana and Brazil in the north-west of the Guayana Shield.

2. JURIDICAL DATA

Canaima was established as a national park in 1962 and its size was doubled to the present area in 1975.

3. IDENTIFICATION

Canaima National Park includes three million hectares of lowland and upland habitats in the Venezuelan sector of the Guayana Shield. The park is most well known for the unique table mountain (*tepui*) formations. There are numerous waterfalls, including Angel Falls, the world's highest, with a free fall of 1002m. The high degree of endemism found on the summits of the tepuis has led to the recognition of *Pantepui* as a unique biogeographical entity. The park protects the headwaters of the Caroní River which supplies Guri, the country's largest hydroelectric power station and source of 60% of the nation's energy. The savanna portion of the park is inhabited by the indigenous Pemón people many of whom are settled in and are dependent on three capuchin missions. A main road from Ciudad Bolívar runs along the eastern border of the park, bisecting its south-east corner and providing easy access for tourists. There are no other metalled roads within the park, the western section being accessible only by air.

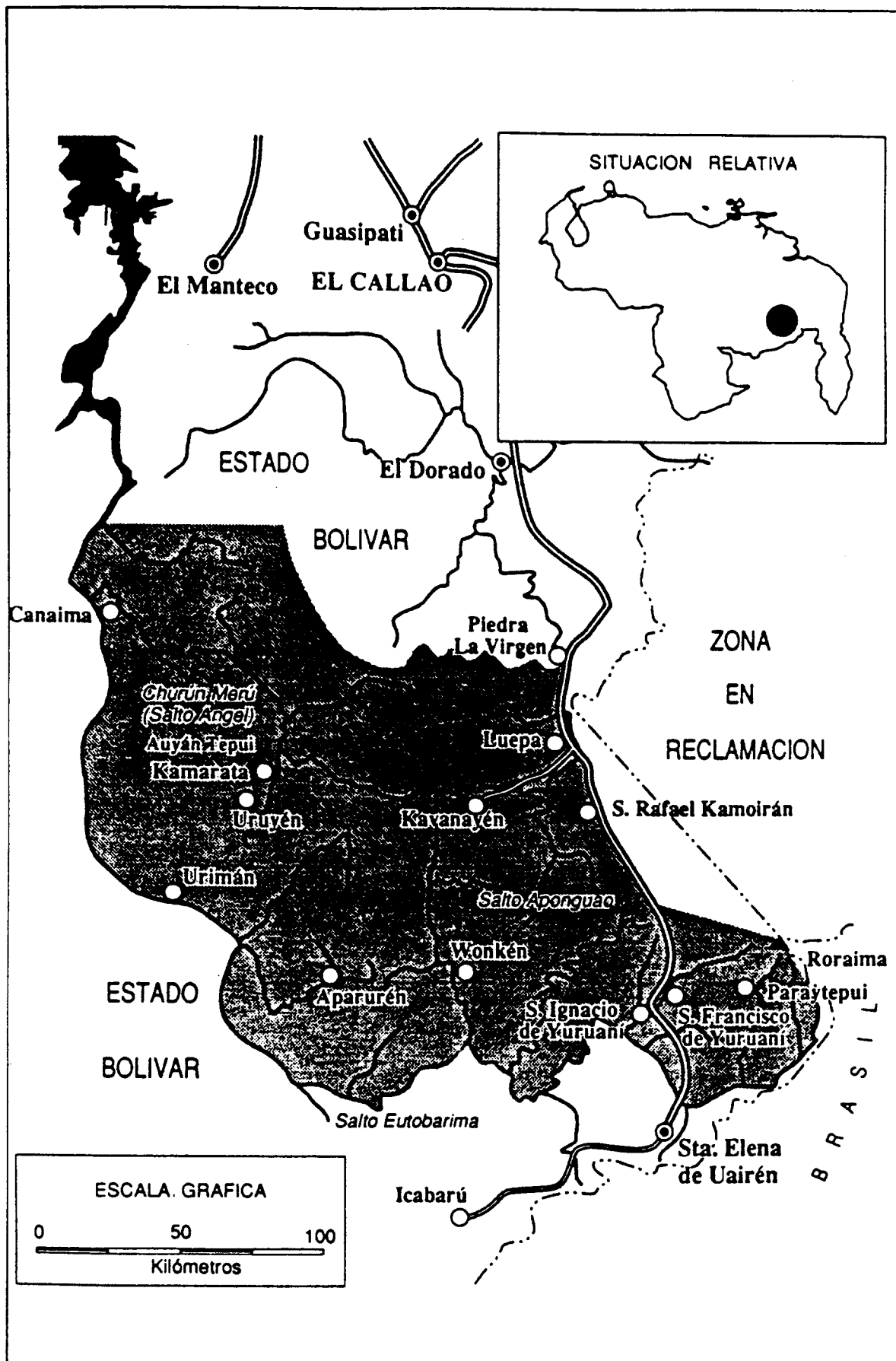
4. STATE OF PRESERVATION / CONSERVATION

Until recently access to the park was by dirt road or air only, thus visitor pressure was only concentrated at the one tourist development site at Canaima. The surfacing of the road in 1992 has led to localised pressure from tourism. The main management issues are contamination and silting of watercourses caused by mining outside the park, spread of savanna due to excessive burning, and growth of village settlements and tourism services along the newly opened highway through the eastern sector. Only the tepui portion of the park is in a relatively natural state at present and the government is concerned over the future conservation of the site due to lack of financial and human resources. There is only one staff member for the western sector, one for the east and 12 guards. The national hydro-electric authority (EDELCA) plays a major role in management of the park.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

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

- (i) **Outstanding examples representing the major stages of the Earth's evolutionary history.** Three different erosion surfaces are to be found within the park. The oldest rocks are Precambrian and, around 1700 million years old, are some of the oldest on the planet. Above these are younger formations which have been weathered into mountains by 500 million years of erosion. The geology provides evidence that South America and Africa once formed part of a single continent.
- (ii) **Outstanding examples representing significant ongoing geological processes and biological evolution.** The *tepui* landscape is still undergoing the same type of geological evolution which has been taking place over the last 600 million years. Ongoing biological evolution is demonstrated by the response of endemic taxa to the very poor soils of tepui summits and the processes by which savannas are expanding at the expense of forests. The park demonstrates the interaction of the indigenous Pemón with the environment both because of the great use the Pemón make of the park's natural resources and because of the way the park's landscape and vegetation has been shaped by the Pemón.
- (iii) **Contains unique, rare or superlative natural phenomena, formations or features of exceptional natural beauty.** The tepuis are a unique natural formation of outstanding natural beauty and the park includes the Angel Falls, the world's highest waterfall.
- (iv) **The most important and significant habitats where threatened species of plants and animals still survive.** The park protects a number of internationally threatened species, particularly in the floral communities on the summit of the tepuis.



WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

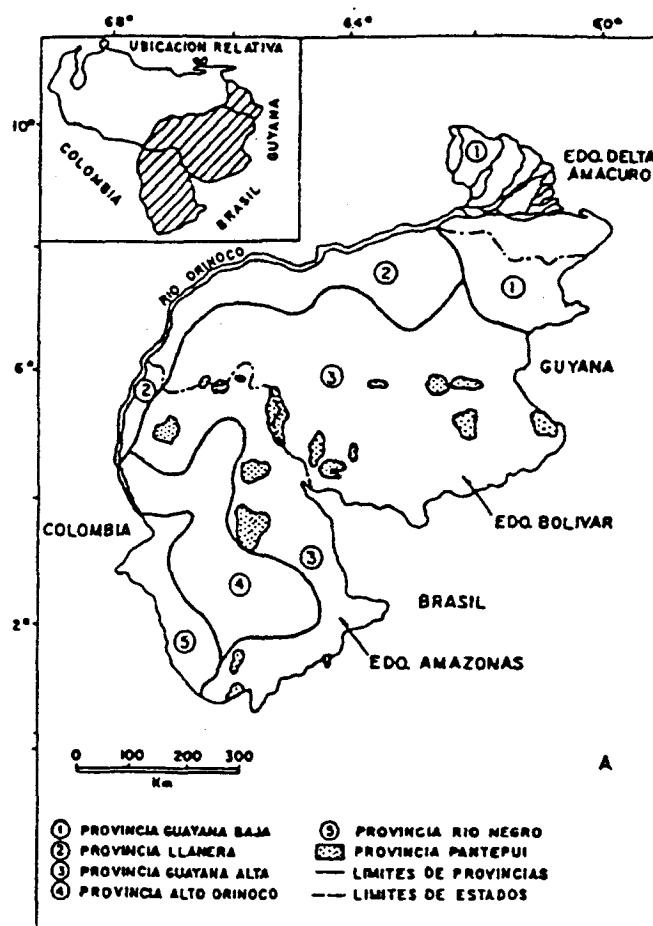
CANAIMA NATIONAL PARK (VENEZUELA)

1. DOCUMENTATION

- i) IUCN/WCMC Data Sheet (12 references)
- ii) Additional Literature Consulted: Ochoa J. et.al. 1993. Inventario Estado Comunitario de los Mamíferos del Canaima. Ecologica.44 (with 56 references); George, U. 1989. Venezuela's Islands in Time. National Geographic, May; Blanco C.R. and Galbadon. 1992. The Evolution of Protected Area Systems. PARKS. Jan.;
- iii) Consultations: Four external reviewers, INPARQUES officials, Botanical Institute.
- iv) Field Visit: February 1994. Jim Thorsell

2. COMPARISON WITH OTHER AREAS

Canaima is one of 6 protected areas found in the Campos Limpos biogeographic province. These protected areas cover 109 mil. ha or 52% of the total province and include a number of other important parks in Venezuela and Brazil such as the 3.5 mil. transfrontier Neblina National Park. Canaima (3 mil. ha.) is the second largest of Venezuela's 39 National Parks. Within its boundaries are found the main cluster of the "pantepui system". This is a newly recognized biogeographical entity consisting of a group of ancient sandstone mesas found scattered across the Guyana shield. The map below shows the approximate location of the 14 main tepui clusters all found to the south and east of the Orinoco river.



Reflecting its former connection between South America and Africa through the former Gondwanaland, Canaima has many geological affinities with western Africa. The cliffs and mesa-like structures in the western Sahara consist of sandstone similar to that of the Roraima tepui. Structurally the tepuis have similarities with Monument Valley in Arizona where similar plateaus and rock types are found. Canaima's tepuis, however, are more dramatic in terms of their relief, waterfalls, tropical forest slopes and floral endemism.

The main tepui groups inside Canaima (Auyuan, Venamo, Chimantá and Roraima) are certainly four of the most outstanding found in Venezuela with Chimantá one of the most diverse. There are important other tepuis outside Canaima that are also protected and form part of the pantepui system. Directly next to the park is the Yurani/Kukenan/Ila cluster which is considered part of the Roraima group. Other important tepui parks are the Duida Marahuaca, Jawa, Sarisariñama, and the Serranía de la Neblina. Canaima, however, is the largest, most diverse and most natural.

3. INTEGRITY

Canaima's large size (3 mil.ha.), remoteness and the difficulty of access to the major portion of the land in the park (i.e. no roads) have insulated it from major alteration. The watershed values of the park are such that the national hydroelectric commission (EDELCA) has a \$2 mil. annual budget just to protect it from fire. Three small areas on the edge of the park were mined for gold and diamonds before it was protected in 1962 and some scars still remain. Upstream mining activity near Icabarú is resulting in substantial sediment flow into the Rio Caroni. A major threat was presented in the 1980's when a hydrodam on the Caroni River at Eutobarima Falls was proposed. This would have involved extensive flooding and the construction of transmission lines across the park. Fortunately, the proposal has been dropped.

Tourism has resulted in some localized impacts especially at the main hotel village of Canaima. The newly paved road which crosses the eastern border of the park has also opened up this area and much new building is evident. In many accessible areas orchids have been taken by collectors. Hunting has been common throughout the lower reaches of the park. Until recently there was only one resident ranger for the entire park so enforcement activities were minimal. Although there is still only one ranger for the western sector, 13 rangers have recently been hired for the eastern sector, partially with support from The Nature Conservancy. The annual budget in 1993, however, for operation, maintenance and salaries is only \$10,000. This is an insufficient amount especially when the \$100,000 annual income from concession fees is considered. A new "Canaima Foundation" is providing some assistance but the park is under-staffed and under-funded. To address all the above issues a management plan for the eastern sector was completed in 1991 and one for the western sector is now in preparation.

A main factor relating to the natural integrity of Canaima are the local Pemón Indian residents. A total of 10,000 live in the park, mostly in the eastern sector and almost all in the savanna grassland zone of the park. Some of the Pemón still follow a traditional lifestyle (swidden agriculture, hunting and gathering) but most now are moving into settlements, working in the capuchin missions or starting small-scale tourism businesses. The evangelization process has dramatically altered Pemón culture over the past 20 years and the provision of drinking water, electricity, schools and medical care has accelerated the changes. Few Pemón, for instance, still utilize medicinal plants and some now take tourists to formerly sacred and inaccessible places in the tepuis.

The Pemón also have a tradition of burning the grasslands (one study has identified 30 reasons why the grasslands are burned). Some 11,000 man-caused fires were recorded in 1992 and the retreat of the forest and shrubland in the park is one consequence. In contrast, the Pemón have not affected some 60% of the park which is covered by dense forest and tepui vegetation. These areas were considered sacred and have little value for agriculture and thus have remained largely intact.

4. ADDITIONAL COMMENTS

As noted above, the savanna portion of the park is inhabited by 10,000 indigenous residents. In this zone, there are also three capuchin missions and the villages of San Ignacio and San Francisco de Yuruani. There has been no formal notice given to these people of the World Heritage nomination of the park. IUCN suggests, as a principle, that the Committee should have information on the views of local people who are resident within a nominated site. This is particularly important for Canaima as part of the justification for universal value is based on the interaction of the local people with the park.

A second issue is the sharing of the famous Roraima tepui with Brazil and Guyana (although Venezuela has a territorial dispute in the area with the latter). The Brazil side although protected in a National Park, unfortunately, has been invaded by gold miners and is the scene of much destruction. The Guyanan side is still thought to have some natural values but a proposal for transfrontier protection of the massive does not seem feasible at this time. With 55% of Roraima's area inside Canaima National Park, however, the protection of main mass of it is to the credit of efforts to date within Venezuela.

5. EVALUATION

There is no doubt that the tepui-dominated portion of Canaima National Park (about 65% of its 3 mil ha. size) meets all four natural World Heritage criteria. The tepuis are not only a unique biotic environment but they have an important story to tell about earth's evolutionary history. Moreover, the steep cliffs and waterfalls of the tepuis offer an especially spectacular landscape and they exist in an almost undisturbed natural condition.

The remainder of Canaima, however, (about one mil. ha.) has been substantially altered by human activity. In this savanna zone there are some important natural features still remaining (eg. the cloud forest at Sierra de Lewa, some riparian habitats and some Moriche palm swamps). But the case for these lowlands and mid-elevation grasslands of Canaima rests on the fact that they are the foreground for the tepuis and are the setting in which the tepui system exists. The Sabana, however, has been transformed into a human-dominated landscape that is a very distinct contrast with the tepui system where the truly outstanding universal values are found.

IUCN's technical evaluations do not normally "divide up" a nomination that is presented as one comprehensive National Park. In this case, however, the park is so large and there is such a contrast in the conditions existing and values found in the two parts of it that such a division needs to be made. Further, the existence of other protected tepuis, several of which are not included in the nomination, indicate that the national park boundary is not synchronized with a boundary that would encompass World Heritage values. More closely matching the two would define a much improved site and would also exclude the substantial area of the Sabana that would be better approached through UNESCO's Biosphere Reserve Programme.

6. RECOMMENDATIONS

The Bureau was given the choice of three options to recommend to the Committee. It chose to request a revised nomination from the Venezuelan authorities which would only include the tepuis and their surrounding lower slopes. In phase two, the inclusion of the adjoining protected tepuis and even several isolated ones to the west of Canaima would then comprise a nomination which would be identified as the pan-tepuis system of Venezuela and, possibly, Brazil.

In choosing this option and referring the nomination back to the authorities, the Bureau underlined the exceptional natural values of the pan-tepuis system and provided a very positive response to the

Government of Venezuela encouraging this revision to the nomination. On October 1, Venezuela advised the World Heritage Centre they do not wish to revise the nomination at this time. IUCN thus suggests to the Committee that a decision on Canaima would have to be deferred.

The Bureau also contacted the authorities in Brazil to express concern over the illegal occupation of and mining in the adjacent Monte Roraima National Park and to encourage them to take action to halt the incursions. No response has been received.

