

Canaima national park in venezuela



**ASSIGN
BUSTER**

Canaima National Park is located in the eastern part of Venezuela in the northwest of Guianan Shield and south of the Orinoco River (The Nature Conservancy, n. d.). It was established with one million hectares land area in 1962 that broadened into 3 million hectares in 1975 to protect its watersheds (Sharpe and Rodriguez, n. d.). The park is an exquisite assortment of jungles, Guianan savannas, and rambling rivers. In fact, the Angel Falls, the highest waterfall in the world, is eighteen times longer in height as compared with the Niagara Falls (The Nature Conservancy, n. d.).

Thus, it is the main attraction in the park wherein during summer seasons; the mist of the water rises even more before dropping in a 986-meter height in just fourteen seconds (The Nature Conservancy, n. d.). In 1838, the first scientific research was conducted by Sir Robert Schomburgk in the locale of Canaima, while in 1884 the peak of the tepuis was reached (World Heritage Sites, 1997). Due to its geological characteristics and biological diversity, in 1994 the World Heritage Status was granted to Canaima National Park (Sharpe and Rodriguez, n. d.).

Geological Features The tepuis or flat-topped mountains in the area are some of its exceptional geological features (Sharpe and Rodriguez, n. d.). The tepuis were believed to be the product of million years surrounding land erosions. Through breaking down of the Guavana shield parent rock, high weathering rates, and complementation of other sediments, the soil in the vast area can extensively sustain the grandeur vegetation (Sharpe and Rodriguez, n. d.).

On the other hand, the three major land features igneous-metamorphic basement, quartzite and sandstone layers, and intrusive rock formations

signify a geological event that can hardly be explained accurately (Sharpe and Rodriguez, n. d.). Fauna and Flora Forests are typically located in gullies in tepuis, damp depressions, lower slope regions, and rivers. The diversity of fauna with limited number of species has been reported by the Venezuela government in 1993 consisting of 550 birds, 55 amphibians, 118 mammals, and 72 reptiles (World Heritage Sites, 1997).

With these, the park serves as a sanctuary for jaguars, giant anteaters, giant river otters, ocelots and giant armadillos which belong to the endangered mammal species (The Nature Conservancy, n. d.). Also, during the winter in South America, the park is a haven for neotropical migratory such as American-swallow tailed kite, osprey, and broad-winged hawk which are included in the conservation priority list (The Nature Conservancy, n. d.).

In the same manner, the moorland of the park is an asylum for about a hundred local bird species like velvet-browed brilliant, rufous-breasted sabrewing, tepui golden throat, peacock coquette, tepui parrotlet, fiery-shouldered parakeet, jabirus, harpy eagles, oilbirds, and around seven toucan species. Twenty nine of these local birds are native in the area (The Nature Conservancy, n. d.). Common and atypical plant species are ubiquitous due to the different elevation of the areas. Around nine thousand of these plant species are uniquely found in Venezuela (The Nature Conservancy, n. d.).

The area has a vast vegetation cover ranging from lowlands' tropical rainforest to bushes and grasses at its summit. These include moriche *Mauritia* groves, montane forests, shrublands, and savanna (World Heritage Sites, 1997). Grass savannas dominated by *Axonopus pruinosis* and

Trachypogon plumosus are extensively located in less nutrient-rich sandy soils while herb savannas of Stegolepis guianensis, Brocchinia steyermarkii, and Stegolepis ptaritepuiensis are abundant in nutrient-rich, damp soil areas (World Heritage Sites, 1997).

Nonetheless, the vegetation along the tepuis is constituted mostly of carnivorous plants like Utricularia humboldtii, Drosera roraima, and Heliamphora spp (World Heritage Sites, 1997). Approximately 3, 000-5, 000 ferns and phanerogams species exist in the region (World Heritage Sites, 1997). Based on the estimates of the Venezuela government in 1993, the Pantepui of tepui system has 900 Auyan-tepui higher plants species, 10% of which is endemic; and 500 orchid species (World Heritage Sites, 1997).

Aside from the geological and biodiversity characteristics of Canaima, through the Caroni River, it is made possible for the Guri hydroelectric dam to produce around 77% of electricity for the different places in Venezuela (Sharpe and Rodriguez, n. d.). These biogeographical features made Canaima worth for conservation. Population and Anthropogenic Threats Approximately one hundred thousand carib indigenous members of the populace called Pemon are living in the locality for several centuries (The Nature Conservancy, n. d.).

Agricultural practices, fishing, and hunting are the traditional means of subsistence of Pemon (Sharpe and Rodriguez, n. d.). However, greater than six-fold increase in this population was noted since 1937 which gave threats of devastation on natural resources (The Nature Conservancy, n. d.). Aside form this, the commercial promotion of the tourism sector added ecological

threats. Traditionally, the native populace has relied largely on swidden agricultural practices for several generations.

In the practice of swidden agriculture, grasses and shrubs are being cleared to grow crops in plots within the short time duration (American Association for the Advancement of Science, n. d.). As industrialization has reached the area, some members of the populace are already involved in tourism and mining activities. In addition, they now generally form larger groups by inhabiting similar areas. This resulted not only to lifestyle changes but also changes in the environment.

Agricultural practices in response to a greater food demand for the increasing population, have adversely affected the Canaima ecology (American Association for the Advancement of Science, n. d.). Cutting down of plants and burning of shrubs and grasses in clearing vegetation areas affected both forest organisms and the properties of the soil (American Association for the Advancement of Science, n. d.). As a result, shrubs and bushes that are naturally grown in the area may become extinct because of the changes in the soil properties.

Further, animals in the wild will be forced to vacate their natural habitat due to human disturbance. Within 1991 and 1995, the tourism sector prevailed in the commercial promotion of the park. As a consequence, from agricultural practices Pemon learned the trade of tourism and began to rely on its economic value (Sharpe and Rodriguez, n. d.). This has necessitated better guidelines for the effective management of the park by strengthening the capacity of the Pemon to efficiently handle the tourism economy as well as environmental consciousness.

Nevertheless, the threat of environmental destruction was intensified by the mining industry like in Kamarata valley in 1994 (Sharpe and Rodriguez, n. d.). Thus, the native became miners for income generation. This became a challenge for an intensive environmental education among the native populace inculcating into their minds that hidden natural riches of the park outweigh any diamond or gold glitters. Conservation Program and Management

The Nature Conservancy Organization together with Experimental University of Guyana (UNEG), Venezuelan Guyana Corporation (CVG) and the National Directorate of Indigenous Affairs, the National Parks Institute (INPARQUES) have been working with Pemon since 2004 in order to tone down the anthropogenic activities that harmfully affect the Canaima ecological balance (The Nature Conservancy, n. d.). Canaima National park was divided into two administrative sectors.

In the eastern section regulations and management plans center is established in June 5, 1991 through decree number 1640 while the Santa Elena de Uairen is the administrative center located at a 20-km town from the south of the park (World Heritage Sites, 1997). These collaborative efforts led to the natural resource management plan development wherein the indigenous people were given crucial role in monitoring animal species, rain forest restoration and maintenance, and forest fire prevention (The Nature Conservancy, n. d.).

Also, strict regulations on the indigenous agricultural practices and prohibition of wild-animal hunting were imposed. At present, Canaima National Park is under the National Institute of Parks, INPARQUES

administration (World Heritage Sites, 1997). Management Constraints It was only in 1981 when environmental management began through the fire-prevention program of the government-owned electric company (Sharpe and Rodriguez, n. d.). Then, in 1990 the first warden with a staff member was designated in the area and in 1992 eleven additional staff members were assigned (Sharpe and Rodriguez, n. d.).

In 1996, the Gran Sabana has a single poor vehicle only without any radio system for communication while the western sector still lacks management plan (Sharpe and Rodriguez, n. d.). Based on the report of the 1993 Venezuela government report, the insufficient financial support for the park resulted to its poor and inefficient management (World Heritage Sites, 1997). This situation was aggravated by the lack of qualified personnel and monitoring facilities for the effective management of the park.

In addition, the illegal mining activities have brought environmental problems and pollutions like the development of silt and mercury toxicity (World Heritage Sites, 1997). Moreover, the pavement of the road, helicopter flights, and illegal airstrips started to bloom without any environmental assessment impact and community consultation (World Heritage Sites, 1997). Further, the construction of electrical transmission lines from the hydroelectric plant to several sites of the park has also brought peril to the forest animal due to the possibility of electrical shock accidents (World Heritage Sites, 1997).