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## WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

### CENTRAL SURINAME NATURE RESERVE (SURINAME)

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#### 1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:** (15 references)
- ii) **Additional Literature Consulted:** BOS Foundation. 1996. The Guyana Shield – Recent Developments and Alternatives for Sustainable Development. **Newsletter** 15(2). September; UNDP. 2000. Conservation of Globally Significant Forest Ecosystems in Suriname’s Guyana Shield. Programme Document; Sitzer, N. and R. Rice. 1995. Backs to the Wall in Suriname: Forest Policy in a Country in Crisis. WRI; Peres, C. and J. Terbourgh. 1995. Amazonian Nature Reserves: An Analysis of the Defensibility Status of Existing Conservation Units and Design Criteria for the Future. **Conservation Biology**. 9(1) February; FAO/UNEP. 1995. Protected Area Systems in the Amazon. (English translation of report); Davis, S. D. *et al.* 1997. **Centres of Plant Diversity**. Vol. 3. WWF/IUCN; Bean-Douezzy, J. P. *et al.* 1999. **Neblina** ed. De la Maritimé; Harcourt, C. S. and J. Sayer. 1996. **Conservation Atlas of Tropical Forests – The Americas**. Simon and Schuster; Dinerstein, E. *et al.* 1995. **A Conservation Assessment of the Terrestrial Ecoregions of Latin America**. WWF/World Bank; CIFOR/UNESCO. 1999. **World Heritage Forests**. The World Heritage Convention as a Mechanism for Conserving Tropical Forest Biodiversity. Workshop Proceedings; Prance, G. and T. Lovejoy 1985. **Amazonia**. Pergamon; Colchester, M. 1995. Forest Politics in Suriname. International Books; Eden, M. J. 1992. **Ecology and Land Management in Amazonia**. Belhaven Press.
- iii) **Consultations:** 9 external reviewers, officials from Suriname Ministry of Natural Reserves, STINASU, Conservation International and WWF-Suriname
- iv) **Field Visit:** J. Thorsell, February, 2000

#### 2. SUMMARY OF NATURAL VALUES

The Central Suriname Nature Reserve (CSNR) comprises 1.6 mil. ha. of primary tropical forest of west-central Suriname, within the phylogeographic limits of Amazonia. The Reserve protects the upper watershed of the Coppename River and covers a range of topography and ecosystems. The nominated site is one of the two largest reserves in the Guyana Shield highlands (the other being the 3 mil. ha Canaima World Heritage site in Venezuela). The CSNR is of notable conservation value due to its pristine state as an uninhabited and un hunted region. Its montane and lowland forests contain a high diversity of plant life with almost 6,000 vascular plant species collected to date. There are also other areas of swamp forest, savannah and xerophytic vegetation on the granite outcrops. The Reserve’s avifauna numbers 400 species and there are viable populations of animals typical of the region including jaguar, giant armadillo, giant river otter, tapir, sloths and eight species of primates. Much of the CSNR has yet to be inventoried and the true extent of the area’s diversity is not fully known.

Several distinctive geological and physical formations occur in the site including several granite inselbergs that rise up to 360m above the surrounding tropical forest. The eastern-most tepui of the Guyana Shield occurs in the Reserve and there is a range of hills in the south that reach 1,230m. The CSNR was established in 1998 to link up three pre-existing reserves that are now incorporated in the larger site.

#### 3. COMPARISONS WITH OTHER AREAS

Comprising 1.6 mil. ha., the CSNR covers 11% of the land surface of Suriname and is by far the largest and most important protected area in the country. Compared to its neighbours, Guyana and French Guyana, the CSNR is much larger and more pristine than the protected areas in those countries. Within the Guyana Biogeographical Province it is smaller than the existing Canaima World Heritage site (3 mil. ha.) although, only 2 mil. ha. of

Canaima is forested and tepui-dominated. Canaima has much more varied scenery and topography than the CSNR and displays more dramatically the natural features of the Guyana Shield and “pantepui system”. The CSNR is also much smaller than the 3.5 mil. ha. transfrontier Neblina National Park(s) between Brazil and Venezuela. Much of this site, however, has been adversely affected by illegal gold mining and human settlement.

Although the area of the CSNR is not within the Amazonian watershed, it is mostly covered with Amazon basin vegetation (e.g. *Hylea amazonica*) and is within the phytogeographic limits of Amazonia. Within this region, where the planet’s most extensive and diverse tropical forests remain, three natural World Heritage sites have been inscribed: Sangay (Ecuador), Rio Abiseo (Peru), and Manu (Peru). Two others have been nominated for evaluation in 2000: Jaú (Brazil) and Noel Kempff (Bolivia). In 1996 there were 60 protected areas (IUCN Category I and II) in the Amazon basin, most of which are globally significant (see Map 1) but there is no easy formula for identifying the sites which would be the “most outstanding”. Various attempts to assign priorities among these have been made (e.g. Dinerstein *et. al.* 1995). In this study, the Amazon was divided into 34 ecoregions, each having distinctive features but specific reserves were not given ratings.

Granitic dome structures are found in several other World Heritage sites including Huangshan (China), Yakushima (Japan) and in the newly nominated Kinabalu Park (Malaysia). Although all of these are higher and more numerous than the domes found in CSNR, the geological origins are distinct.

To conclude, the CSNR has a number of attributes that distinguish it from other reserves in the region: (1) its size makes it one of the 10 largest tropical forest reserves in the Amazon/Guyana Shield region; (2) its floristic composition, due to its location on the eastern edge of the precambrian Guyana Shield, contains an assemblage of species with substantial differences with the rest of the region; (3) it is of particular importance for several rare faunal species such as Cock-of-the Rock and Giant Otter; (4) it contains the distinctive geological feature of granite domes and additional relief provided by a tepui and the Wilhelmina mountain range; and (5) it is one of the very few undisturbed forest areas in the Amazonian region with no inhabitants and no human use.

#### **4. INTEGRITY**

Although large parts of the Guyana Shield and Amazon regions are being rapidly transformed by logging, hunting, mining and settlement, the CSNR remains inaccessible, largely unaffected and unthreatened by human activity. However, as development pressures build around the reserve it is likely that, in future, threats may arise. For example, 60-100km to the north and west of the CSNR mining and logging concessions are being given mainly to multi-national companies. There is currently some small-scale mining in reserves to the east of the reserve and a major bauxite deposit is known to exist to the west in the Bakhuis hills.

While the aforementioned concessions lie outside of the CSNR’s watershed, vigilance is needed to ensure that future development activity is not expanded into areas critical to maintaining ecological functions within it. This is necessary to foreclose the risk mercury contamination within the Reserve or alteration of vital hydrological functions through water abstraction and sedimentation. Increased human activity and traffic that will come with the development of concessions could also pose a threat. A buffer zone would help ensure that any development is strictly controlled. Satellite image monitoring will be used to identify any changes in regional forest cover.

As is the case with all of Suriname’s protected areas system the CSNR suffers from a general lack of resources and capacity within government agencies to enforce its protected area status or provide the necessary park management infrastructure. The remoteness of the CSNR has thus far protected it, but this same factor has also slowed the government’s conservation activities there. Of the three existing protected areas that were linked to form the CSNR, only the Raleighvallen Natural Reserve has infrastructure for park management and a management plan. Preparation of a plan for the whole reserve has commenced. This process will take some time as consultations with the local communities (residing 60-100km outside the CSNR) are being undertaken.

To ensure the necessary capacity and long-term financing to manage the CSNR (and Suriname’s other protected areas), the Government of Suriname, Conservation International and UNDP/GEF have commenced a 6 year project. The project focuses on capacity building and provision of facilities on site. Over US\$1 mil. has been invested to date with a total of US\$18 mil. being provided in a trust fund which will be managed by the newly-formed Suriname Conservation Foundation.

#### **5. ADDITIONAL COMMENTS**

The creation of the CSNR has encouraged the French government's plans to create the Parc du Guyane in the southern section of French Guyana. The Government of Guyana has also recently expanded the extent of the Kaieteur National Park. There may be considerable opportunities for regional cooperation between the three countries in terms of a conservation corridor through the region (although all 3 of these sites are not contiguous).

## 6. APPLICATION OF WORLD HERITAGE CRITERIA

CSNR was nominated under all four natural criteria. CSNR is complementary to an existing World Heritage site in the same Biogeographical Province (Canaima). It is a strong candidate for inscription under natural criteria (ii) and (iv):

### **Criterion (ii): Ecological processes**

The CSNR conserves a large portion of the easternmost portion of the Guyana Shield, an ancient, mineral-dense layer of the earth's crust, formerly connected to the continent of Africa. As a geologically stable speciation centre, this region has produced a well-defined assemblage of biota including many endemics. The area of the reserve falls within one of 26 Amazonia refugia as defined in Prance and Lovejoy (1985). The CSNR encompasses significant vertical relief, topography and soil conditions which have resulted in a variety of ecosystems. Such ecosystem variation across environmental gradients is necessary to allow organisms within these ecosystems to move in response to disturbance, adapt to change, and maintain gene flow between populations. The CSNR's size, undisturbed state (a rare condition in Amazonian forest parks) and protection of the entire Coppename watershed will allow long-term functioning of the ecosystem. IUCN considers that the nominated site meets this criterion.

### **Criterion (iv): Biodiversity and threatened species**

Although much basic inventory work remains to be done in the unexplored portions of the CSNR, it is clear that the Reserve is a major reservoir for biota of the region. The CSNR is globally significant for its high diversity of plant life (6,000 vascular plant species, 8 primate species), a number of which are endemic to the Guyana Shield and are threatened. IUCN considers that the nominated site meets this criterion.

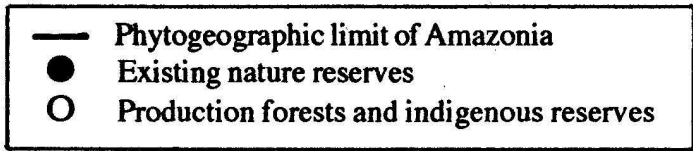
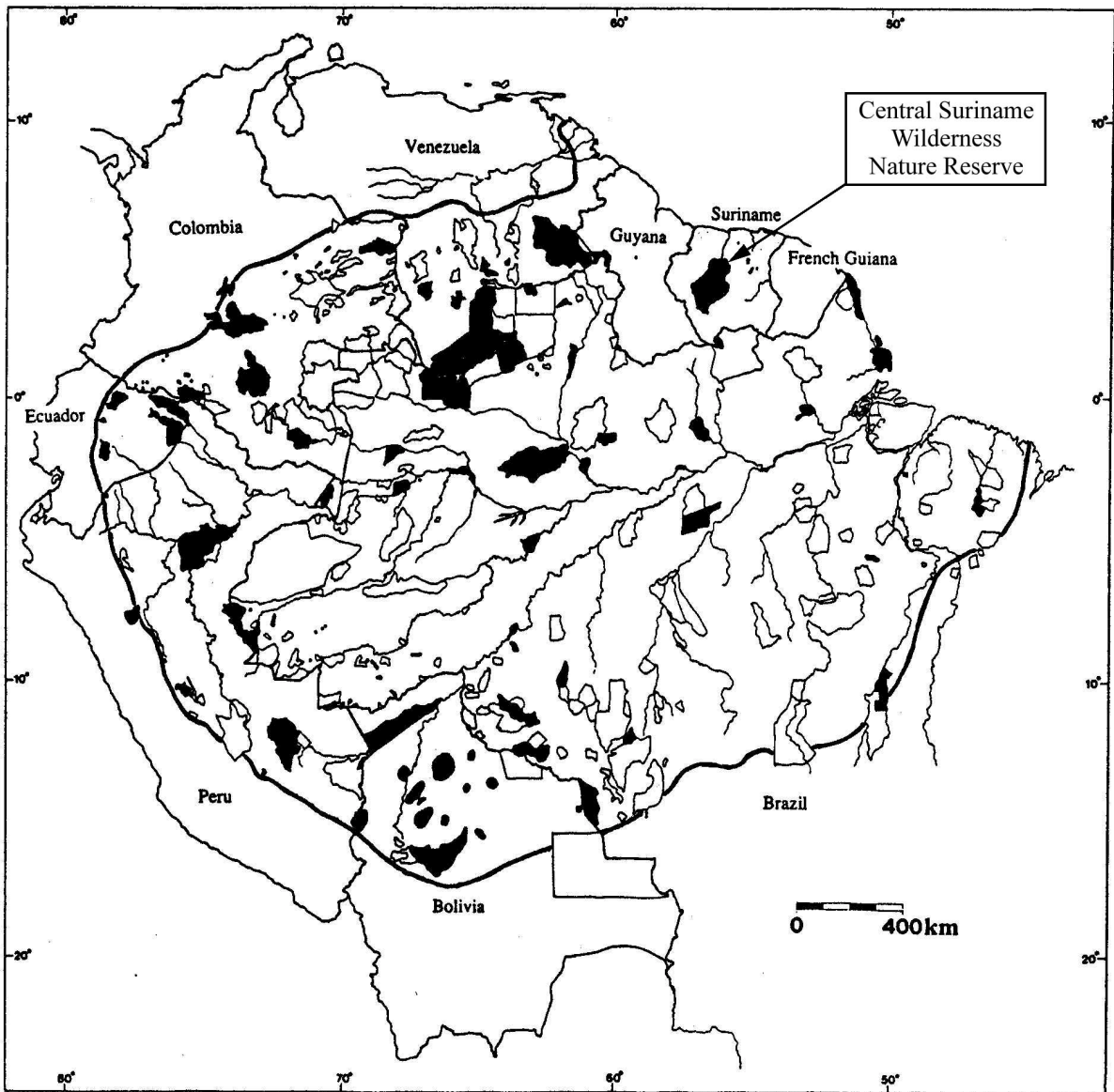
The case for natural criteria (i) and (iii) was not convincingly made in the nomination document and both these criteria are better demonstrated in the Canaima World Heritage site. Although there are high geological values and scenic values in the CSNR, there are considered secondary to its primary natural values under (ii) and (iv).

The site meets all related "conditions of integrity" as described in Operational Guidelines paragraph 44(vi) but early completion and implementation of the management plan should be encouraged.

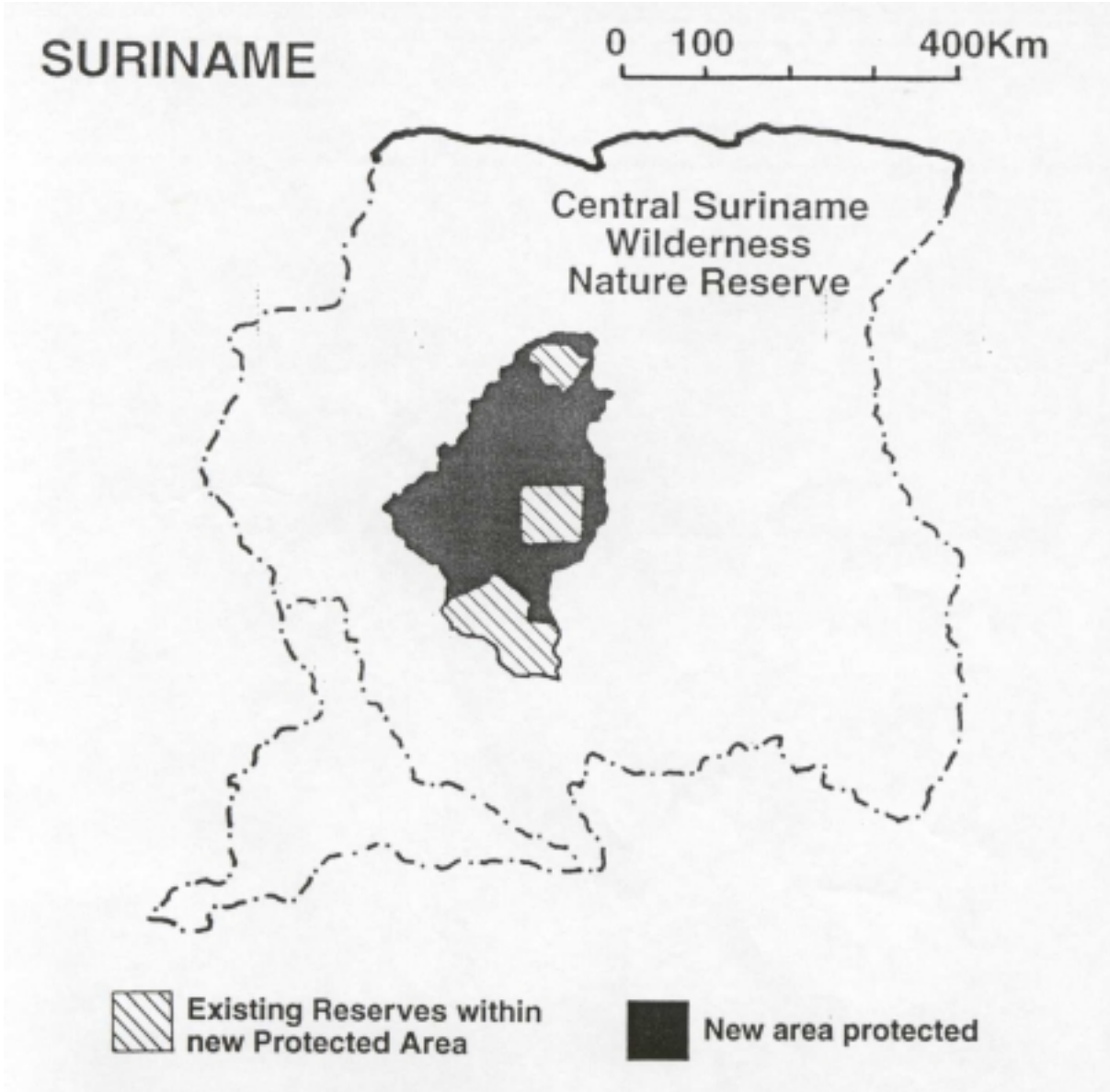
## 7. RECOMMENDATION

The Bureau recommended to the Committee that the Central Suriname Nature Reserve be **inscribed** on the World Heritage list under natural criteria (ii) and (iv). The Bureau noted that the site encompasses significant vertical relief, topography and soil conditions that have resulted in a variety of ecosystems. This ecosystem variation allows organisms within these ecosystems to move in response to disturbance, adapt to change, and maintain gene flow between populations. The site's size, undisturbed state (in general a rare condition in Amazonian forest parks) and protection of the entire Coppename watershed will allow long-term functioning of the ecosystem. The site contains a high diversity of plant and animal species, many of which are endemic to the Guyana Shield and are globally threatened.

The Bureau encouraged the completion of the management plan for the Reserve and commended the State Party and its partners for establishing the US\$ 18 Million trust fund to support protection of the site, which could serve as a model for other sites



Map 1: Location Map – Central Suriname Nature Reserve



**Map 2: Site Map – Central Suriname Nature Reserve**