Central Suriname Nature Reserve

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Suriname
Inscribed in: 2000
Criteria: (ix) (x)

The Central Suriname Nature Reserve comprises 1.6 million ha of primary tropical forest of west-central Suriname. It protects the upper watershed of the Coppename River and the headwaters of the Lucie, Oost, Zuid, Saramaccz, and Gran Rio rivers and covers a range of topography and ecosystems of notable conservation value due to its pristine state. Its montane and lowland forests contain a high diversity of plant life with more than 5,000 vascular plant species collected to date. The Reserve's animals are typical of the region and include the jaguar, giant armadillo, giant river otter, tapir, sloths, eight species of primates and 400 bird species such as harpy eagle, Guiana cock-of-the-rock, and scarlet macaw. © UNESCO

SUMMARY

2020 Conservation Outlook

Finalised on 04 Dec 2020

GOOD WITH SOME CONCERNS

Given the size and inaccessibility of the Central Suriname Nature Reserve; the lack of human communities within its boundaries; the containment of the Reserve inside its own watershed, and the lack of significant threats, the Reserve is in a good state of conservation and the trend remains stable for now, even though there is little on-the-ground management capacity. There is an urgent need to develop on-the-ground management capacity in order to assure that the current excellent conservation status is maintained, especially in the context of increasing encroachment of logging activities from the northwestern and northeastern borders of the site. It is also important to put in place a monitoring system to manage the threats outside of the World Heritage site and in order to detect impacts of current threats and avoid the negative effects of those threats within the CSNR. However, the encouraging engagement with initiatives such as Wildlife Insights may develop capacity in this regard to include more comprehensive data collection and analysis of the site's values.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ Ecological processes and variety of ecosystems **Criterion:(ix)**

The Central Suriname Nature Reserve conserves a large portion of the easternmost portion of the Guiana 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 site 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 Reserve'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, 2000).

▶ High diversity of plant life, including endemic and threatened species **Criterion:(x)**

Although much basic inventory work remains to be done in the unexplored portions of the World Heritage site, it is clear that the Central Suriname Nature Reserve is a major reservoir for biota of the region. The Reserve is globally significant for its high diversity of plant life (6,000 vascular plant species), a number of which are endemic to the Guiana Shield and are threatened (IUCN, 2000).

▶ Presence of unique habitat of a flagship species **Criterion:(x)**

The Central Suriname Nature Reserve contains the largest known lek of the Rupicola rupicola (Guianan cock-of-the-rock) with 50 – 60 active males and is one of the most accessible and well-known sites to watch the Guianan cock-of-the-rock (Ebels et al., 2014).

▶ High diversity of terrestrial mammals, including threatened mammal species **Criterion:(x)**

A study comparing camera trapping data from seven tropical study sites, showed that the Central Suriname Nature Reserve had the highest terrestrial mammal species richness (Ahumada et al., 2011). This high number of terrestrial mammal species include threatened species, such as Lowland tapir (Tapirus terrestris), Giant anteater (Myrmecophaga tridactyla), Giant armadillo (Priodontes maximus), White-lipped peccary (Tayassu pecari) and the Oncilla (Leopardus tigrinus) (all assessed as Vulnerable (VU) in the IUCN Red List of Threatened Species, 2017). Of the 1,890 known species of vertebrates in Suriname, at least 65 are endemic to the country and likely occur within the World Heritage site. Many of the species are endemic to the site or even small areas within the site, such as the ecologically and geologically remarkable individual granite inselbergs (World Heritage Committee, 2014).

Assessment information

Threats

Current Threats

Low Threat

Due to the size, inaccessibility and containment in its own watershed, the Central Suriname Nature Reserve (CSNR) is currently subject mainly to low-level threats. However, the encroachment of logging into the site from the northwestern and northeastern borders is a growing issue, especially since the area became accessible by road in 2018 (IUCN Consultation, 2020).

▶ Logging/ Wood Harvesting

(Logging and wood harvesting)

High Threat
Inside site, extent of threat not known
Outside site

Logging concessions and community forestry concessions in the vicinity of the Central Suriname Nature Reserve (CSNR) are causing fragmentation of the area bordering and even overlapping the Reserve (IUCN Consultation, 2020a). There are also indications that concession holders, including the so-called “community forests” are subsequently rented-out to logging companies, and that roundwood export therefore has increased many times in recent years and is expected to rise further. Due to the difficulty to control these remote areas, regulations on sustainable selective harvesting are not always followed and clear-cutting have been undertaken (IUCN Consultation, 2020b).
Increased accessibility might stimulate poaching, noise disturbance on wildlife, illegal logging of high value species within the CSNR (IUCN Consultation, 2017). The western border shows clear signs of encroachment of logging activities. Logging activities have also increased significantly close to the eastern border (Upper-Saramacca River region) since the area became accessible by road in 2018 (IUCN Consultation, 2020a).
The lack of on-site management capacity, decreased number of active wildlife guards and the exclusion of local Indigenous and Tribal Peoples in management of the World Heritage site, might contribute to a greater risk of encroachment of logging activities (FPP, 2008; Meddens, 2011; MacKay, 2014; IUCN Consultation, 2020b).

▶ Air Pollution

(Pollution)

Low Threat
Inside site, extent of threat not known
Outside site

Atmospheric transport of mercury from the small-scale goldmining activities north-east of the CSNR causes elevated levels of mercury concentrations in fish tissue and bottom sediments (Ouboter, 2015).

▶ Hunting and trapping

(Illegal hunting/ poaching)

Low Threat
Inside site, extent of threat not known

Poaching is a current threat within the World Heritage site, however, the extent of the threat is unknown. As the authorities have very limited means of surveillance and transport into the CSNR is expensive, poaching is a threat as rangers rarely carry out patrols and control is largely left to one road control point where most check-ups are focused on logging and not on (illegal) hunting and poaching (IUCN Consultation, 2020). However, due to the large size of the reserve, this threat is deemed low.

Potential Threats

High Threat

Potential threats from climate change are low at the moment, but the activities outside the Reserve (timber concessions, mining) are increasing rapidly and getting closer to the CSNR. There is a clear sign of encroachment of logging activities from the northwestern and northeastern borders of the CSNR, which may increase the potential threat of future logging activities.

▶ Temperature extremes

(Climate change)

Low Threat
Inside site, extent of threat not known

Temperatures are expected to rise slowly (1.5 ºC by 2090) and rainfall to decrease even more slowly (-0.7 in. by 2090). Since the Reserve has significant altitudinal differences, species are expected to be

able to adapt (McSweeney, n.d.).

▶ **Mining/ Quarrying** — **Low Threat**

(Threats from outside the Reserve that could in the future affect the Reserve) — Outside site

Several large-scale mining concessions exist or are being awarded close to the boundaries of the designated site, gold to the north and bauxite to the west. Several exploratory timber concessions are located to the north and east (WDPA, 2011). Hunting and fishing is carried out to the south (Meddens, 2011).

Overall assessment of threats — **Low Threat**

Currently, most threats identified inside the Central Suriname Nature Reserve are low overall. However, logging has increased within the vicinity of the World Heritage site and has begun to encroach within the site from the northwestern and northeastern borders as a result of increased accessibility by a road built for logging purposes in the Matawai area. The area bordering the Reserve is impacted by gold mining.

Protection and management

Assessing Protection and Management

▶ **Management system** — **Some Concern**

The Head of the Forest Management Service (LBB) is responsible for Reserve management. The Nature Conservation Division (NB) of LBB directs the actual management, supported by the Suriname Foundation for Nature Preservation (STINASU). NB supervises Reserve management, based on the Management Plan developed in 2004 (Vision, 2012). A Project Implementation Unit (PIU) was established in 2009 to support the NCD with implementation of the management plan. By the end of 2010 only 2 employees were still working at the PIU; the others left because of the lack of progress. Project proposals, plans and budgets are still under review by the Forest Service (Middens, 2012). The PIU is currently not functioning (IUCN Consultation, 2017).

▶ **Effectiveness of management system** — **Some Concern**

Despite considerable effort and investment in the development of the management plan, there is no on-site management capacity. In the Headquarters Area, tourist facilities have been upgraded, but the beginnings of a visitors center stands unfinished. Tourist numbers have not increased as expected and employee homes are in deplorable condition. Although more research buildings were built and a local road improved, the number of active wildlife guards, research activities, and tourist numbers have actually decreased since establishment of the Reserve in 1998 (UNDP, 2012; Meddens, 2011). In June 2017, the research field station at the Voltzberg was rebuilt with the necessary facilities to function as a field camp for tourists and researchers.

▶ **Boundaries** — **Serious Concern**

There are major mistakes in the coordinates describing the geographical location of the Reserve, and these have not been resolved since creation of the Reserve in 1998 (Middens, 2012). The boundaries have not been demarcated on the ground (WDPA, 2011).

▶ **Integration into regional and national planning systems** — **Highly Effective**

The Reserve was originally established as an alternative to giving the forests in concession to Asian timber companies, and as such was part of a conscious decision by the Suriname government at the highest levels to change its development model (Meddens, 2011). CSNR is among the protected areas

positioned as key in the current planning for development of Suriname (RoS, 2015).

▶ Relationships with local people — Some Concern

Designation of the Reserve is viewed in general, by both national institutions and local communities in the interior, as very positive. However, a consultation and advisory body, which was supposed to be established and include representatives of the most relevant institutions, including the neighbouring tribal communities, never was put into effect; nor is there evidence of projects being undertaken, as was originally planned, to support development of conservation compatible livelihoods as part of a process to engage local people around the Reserve. A draft of a business management model for the CSNR was developed but the plan has not yet been implemented (UNDP, 2012; Vision, 2012; Meddens, 2011; IUCN Consultation, 2014).
Indigenous and Tribal Peoples (ITP) with ancestral rights in the area were not involved in decision-making about the establishment of the CSNR. A process was initially established to develop a management plan that did involve some indigenous and tribal representatives, however, their input was later removed and was not reflected in the final plan (MacKay, 2014). ITP organisations have expressed great concern about nature conservation activities not least because Suriname has no legislation to recognize and guarantee their ownership and other rights to traditional lands and territories (MacKay, 2014). Surinamese law does also not cover co-management with ITPs of protected areas. The loss of traditional management due to expropriation, a lack of wildlife guards and the absence of a consensual management plan for ecosystem and species management (MacKay, 2014), might pose a threat to achieving nature conservation objectives and a greater risk of encroachment of logging and mining activities (FPP, 2008; Meddens, 2011; IUCN Consultation, 2020b).

▶ Legal framework — Mostly Effective

The Reserve was established by State Resolution, but there is little actual law enforcement capacity. Initiatives to revise the current nature protection laws are taking place. The updated laws should make alternative management systems such as public-private partnerships and co-management with local communities possible within nature reserves (IUCN Consultation, 2017).

▶ Law enforcement — Data Deficient

There is a general lack of on-site management capacity and active wildlife guards.

▶ Implementation of Committee decisions and recommendations — Data Deficient

No Committee decisions have been taken since inscription of the World Heritage site.

▶ Sustainable use — Mostly Effective

Ecotourism and research have been defined as two uses that can maximize benefits to the larger Surinamese community as well as neighboring communities. Though there has been some improvement in visitor facilities, visitation remains at low levels. Research facilities have improved and increased research is taking place. In both cases, current levels of activities are fully sustainable (Vision, 2012; Meddens, 2012).

▶ Sustainable finance — Some Concern

The Suriname Conservation Fund (SCF) was established in 1999 with the support of Conservation International. Support by the GEF has helped build the Fund’s capital to more than USD18 million to support and aid the long-term development and conservation goals of Suriname, especially management of the Reserve, which is the largest conservation unit in the country (Vision, 2012; Meddens, 2011). However, though funding is available, projects to support management of the Reserve have never been approved or implemented (UNDP, 2012).

▶ Staff capacity, training, and development — Some Concern

UNDP approved a project to strengthen the SCF to enable it to better support conservation

management, research, awareness, advocacy, and ecotourism activities. At the same time, the government agencies responsible for protected area management were to be strengthened through the provision of financial and technical capacity building support under this project. However, evaluation of the project revealed a lack of effective implementation because of bureaucratic issues (UNDP Suriname, 2012). There has also been little effort to implement and enforce the management plan and the number of wildlife guards has even decreased since the CSNR was established (MacKay, 2014).

▶ Education and interpretation programs

Data Deficient

No information available

▶ Tourism and visitation management

Some Concern

A tourism master plan was developed for CSNR, however, little progress has been achieved in its implementation. Management of tourism activities is only allowed by the Nature Conservation Division (LBB) and STINASU (semi-government foundation) has the right to organize tourism activities in nature reserves (IUCN Consultation, 2017).
Local ITP communities have derived little in terms of tourism benefits from the CSNR. Despite their traditional knowledge and expertise, they are only eligible for the lowest rungs of employment and are denied training opportunities because they do not “hold sufficient educational qualifications” (MacKay, 2014).

▶ Monitoring

Some Concern

In 2004, the international monitoring and assessment program initiated by CI Washington (TEAM research project), became active in Suriname and in 2006 a research station was built in the Raleighvallen area. The TEAM program has been collecting data on climate, vegetation growth and terrestrial vertebrates since 2008, however, ended in 2017. Data collected from the program has been transferred to Wildlife Insights data (Wildlife Insights, 2020). However, there is no Reserve monitoring program (UNDP, 2012; Meddenz, 2011). A monitoring program for the Reserve was developed along with the CSNR management plan. However, the monitoring program has not been implemented and financing for research was provided to implement the global TEAM program - The Ecosystem Assessment and Monitoring Program (IUCN Consultation, 2014).

▶ Research

Some Concern

There is no Reserve research program operating under the auspices of the management authority. However, research has been undertaken in the Reserve for many years, mainly by foreign academic institutions, although studies on population ecology of margays and ocelots as well as lowland tapirs have also been carried out by students for the Anton de Kom University of Suriname. Studies have generally focused on geology, geography, tropical rainforest ecology and forest fruits, and zoological studies including work on monkeys, nightjars and larger animals such as caimans and primates (WDPA, 2011). Recent research on prey composition of Harpy eagles has been published (Miranda, 2020). The Raleighvallen Area, where the Reserve Headquarters are located, has been utilized for scientific studies for many years. Conservation International constructed a research station at the base of Voltzberg Dome and the University of Florida operates a primate research station near Raleighvallen (ISESCO, 2012; WDPA, 2011). The Wildlife Insights project will facilitate more widespread analysis of camera trapping data collected within the Reserve in the future (Wildlife Insights, 2020).

Overall assessment of protection and management

Some Concern

Despite considerable effort and investment in the development of the management plan, there is very little on-the-ground capacity for management of the Reserve. A draft of a business management model for the CSNR was developed but the plan has not yet been implemented. The Suriname Conservation Fund (SCF) was established in 1999 with the support of Conservation International. Support by the GEF has helped build the Fund’s capital to more than USD18 million to support and aid the long-term development and conservation goals of Suriname, especially management of the

Reserve. However, though funding is available, projects to support management of the Reserve have never been approved or implemented.

▶ **Assessment of the effectiveness of protection and management in addressing threats outside the site** — **Some Concern**

There are no management activities to address threats from outside the Reserve.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Ecological processes and variety of ecosystems** — **Good** **Trend:Stable**

Given the size and inaccessibility of the Reserve; the lack of human communities within its boundaries; the containment of the Reserve inside its own watershed, and the lack of significant threats, the Reserve is in an excellent state of conservation and the trend is stable (Meddens, 2011; WCMC, 2012).

▶ **High diversity of plant life, including endemic and threatened species** — **Good** **Trend:Stable**

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▶ **Presence of unique habitat of a flagship species** — **Good** **Trend:Stable**

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▶ **High diversity of terrestrial mammals, including threatened mammal species** — **Good** **Trend:Stable**

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Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values** — **Good** **Trend: Stable**

Overall, the status of the World Heritage values of the Central Suriname Nature Reserve remain in good condition and are relatively stable. This owes largely to the size and inaccessibility of the Reserve; the lack of human communities within its boundaries; the containment of the Reserve inside its own watershed, and the lack of significant threats. However, encroachment by logging and mining operations are of some concern.

Additional information

Benefits

Understanding Benefits

▶ Importance for research

The size and intactness of the site makes it an extremely important resource for the generation of knowledge that requires research in pristine habitats.

▶ Outdoor recreation and tourism

Tourism to the site is limited, but has considerable potential for expansions.

▶ Carbon sequestration

With a total of 1.6 million hectares of forest, and an estimate of 212.21 MgC/ha (SBB et al., 2017), CSNR stores a large amount of carbon (approx. 339 million MgC).

Summary of benefits

Conservation and knowledge generation are superlative values for the Central Suriname Nature Reserve at the international level, while the potential for development of tourism is a benefit of the Reserve valued at the national level.

Projects

Compilation of active conservation projects

№	Organization	Project duration	Brief description of Active Projects
1	Conservation International		CIS is known for working with government of Suriname and local communities to create the 1.6 million hectare CSNR - including protected areas design and management planning through participatory stakeholder engagement - and the development and endowment of the Suriname Conservation Fund, a US$ 15 million fund.
2	Suriname Conservation Foundation		The purpose of the SCF is to support management, conservation and sustainable use of biodiversity in Suriname. The largest grant projects have been approved to support management of the Reserve and to establish buffer zones to the west of the Reserve. An evaluation noted the lack of success of these projects (UNDP, 2012).

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