IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Gunung Mulu National Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Gunung Mulu National Park

SITE INFORMATION

Country:
Malaysia
Inscribed in: 2000
Criteria:
(vii) (viii) (ix) (x)

Site description:
Important both for its high biodiversity and for its karst features, Gunung Mulu National Park, on the island of Borneo in the State of Sarawak, is the most studied tropical karst area in the world. The 52,864-ha park contains seventeen vegetation zones, exhibiting some 3,500 species of vascular plants. Its palm species are exceptionally rich, with 109 species in twenty genera noted. The park is dominated by Gunung Mulu, a 2,377 m-high sandstone pinnacle. At least 295 km of explored caves provide a spectacular sight and are home to millions of cave swiftlets and bats. The Sarawak Chamber, 600 m by 415 m and 80 m high, is the largest known cave chamber in the world. © UNESCO

SUMMARY

2017 Conservation Outlook

Good

The conservation outlook for Gunung Mulu National Park is overall very positive. The combination of the remoteness (no public road access), rugged terrain, legislative basis of protection, existence and implementation of an Integrated Development and Management Plan, 5 year plan, very effective professional management and dependence of a valuable tourism industry on the park augers well forall contribute to on-going effective protection and management. Notwithstanding, there are a number of potential threats external to the park that need to be monitored and kept under review including possible changes in government position on the proposed Tutoh Hydro Dam, logging and palm oil plantations in adjacent forests, oil and gas development and associated road access and demand for increased/inappropriate cave infrastructure for tourism.

Current state and trend of VALUES

Good
Trend: Stable

On-going active survey and research in Gunung Mulu National Park is regularly enhancing those known World Heritage values at the time of nomination. There is every reason to believe that the condition of all cited World Heritage values is good and the condition remains stable. Apart from the need for an update on monitoring of the impacts of traditional hunting, no significant threats to the World Heritage values are current within the park. Gunung Mulu National Park is one of the best protected and appropriately managed protected areas in South East Asia.
There is a concern about the lack of understanding of the feeding grounds of the major deer cave bat colony - which are outside of the park - and are most likely at risk of development.

Overall THREATS

Low Threat

The current remoteness and lack of road access, combined with the mostly very rugged terrain, management plan and professional management is favorable to the effective protection of the park. The commitment by the State Government to not proceeding with the Tutoh hydro-electric dam is also encouraging but needs to be publicized and confirmed again in the future. There is therefore no immediate threat to the park but there is a need to constantly monitor the various potential threats identified.

Overall PROTECTION and MANAGEMENT

Highly Effective

The combination of remoteness (no public road access), rugged terrain, buffering by other protected areas, an operational management plan and a professional management team has provided a good environment for a high level of protection and appropriate management for the park and augers well for the future.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Spectacular caves**
Criterion:(vii)

Sarawak Chamber, one of the largest cave chambers in the world, stretches 600 m in length by 415 m wide and 80 m high. Deer Cave at 120 to 150 m in diameter is the largest cave passage in the world known at the present time and the Clearwater Cave System holds the world record as the longest cave in Asia at 110 km of mapped and explored passages. The caves contain fine examples of tropical river caves, flood incuts, vadose, and phreatic caves, exhibiting fine examples of all types of speleothems (structures formed in a cave by the deposition of minerals from water). (SoOUV, 2012) including the world’s longest straw stalactite (9.12 m. Colin Boothroyd pers. comm. to Hein Gerstner, August 2017). Remarkable subterranean biodiversity and bat populations.

► **Exceptional natural beauty and an outstanding wildlife spectacle**
Criterion:(vii)

Gunung Mulu National Park is an area of exceptional natural beauty, with striking primary forest, karst terrain, mountains, waterfalls and some of the largest caves on earth (SoOUV, 2012).The daily exit en masse of millions of bats and swiftlets from Deer Cave is an outstanding natural phenomenon; a superlative wildlife spectacle and likely the most outstanding readily accessible example of its kind. Visitors to the park view the phenomenon

daily.

► Outstanding example of cave geomorphology
Criterion:(viii)

The park is an outstanding example of major changes in the earth’s history. ... Major uplift that occurred during the late Pliocene to Pleistocene is well represented in the more than 325 km (at October 2017) of explored caves as a series of major cave levels. The surface and underground geomorphology and hydrology reveal significant information on the tectonic and climatic evolution of Borneo. The sequence of terrestrial alluvial deposits provides an important record of glacial – interglacial cycles with the series of uplifted caves ranging from 28 m to over 300 m above sea level are at least 2 to 3 million years old, indicating uplift rates of about 19 cm per 1,000 years. This exceptionally long period makes the caves a valuable data source on geo-climatic fluctuations during the Pleistocene (SoOUV, 2012).

► Cave ecology (troglobite and stygobite evolution)
Criterion:(ix)

The property provides significant scientific opportunities to study theories on the origins of cave fauna with over 200 species recorded, including many troglobitic and troglomorphic species and it displays outstanding examples of ongoing ecological and biological processes. (Mould et al, 2013)Seventeen vegetation zones have been identified along with their diverse associated fauna. Some 3,500 species of plants, 1,700 mosses and liverworts and over 4,000 species of fungi have been recorded within the property. There are 20,000 species of invertebrates, 81 species of mammals, 270 species of birds, 55 species of reptiles, 76 species of amphibians and 48 species of fish (SoOUV, 2012). The food webs of Mulu's caves and the large-scale transfer of food energy from forest to caves by bats and swiftlets is an exceptionally well-studied process here. Many of Mulu's troglobites underground invertebrates belong to very ancient groups that have largely disappeared from the modern land surface and are now represented by a few widely scattered species.

► One of the richest assemblages of biota
Criterion:(x)

The property supports one of the richest assemblages of flora biota to be found in any area of comparable size in the world. It is botanically-rich in species and high in endemism, including one of the richest sites in the world for palm species and contains outstanding natural habitats for in-situ conservation for a large number of species.
Seventeen vegetation zones have been identified along with their diverse associated fauna. Some 3,500 species of plants, 1,700 mosses and liverworts and over 4,000 species of fungi have been recorded within the property. There are 20,000 species of invertebrates, 81 species of mammals, 270 species of birds, 55 species of reptiles, 76 species of amphibians and 48 species of fish (SoOUV, 2012).
Deer Cave alone has one of the largest colonies in the world of free tailed bats, Chaerephon plicata at over 3 million. This one cave also has the largest number (12) of different species of bats to be found in a single cave. Several million cave swiftlets (Aerodramus sp.) have been recorded from one cave system, constituting the largest colony in the world. Many species of fauna are endemic and 41 species are included on the endangered species list. (SoOUV, 2012)

Assessment information

Threats

Current Threats

Low Threat

Much of the park comprises very rugged terrain, there are no significant roads within the park and none of the park has been subjected to commercial logging. Only a small selection of caves is open to the public and infrastructure is provided for the significant number of tourists that visit the park. Three current activities - logging, traditional hunting and potential petroleum exploration - represent a potential threat to the park though not of immediate

concern.

▶ Poaching

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

Penan, Berewan, Lun Bewang and Kelabit people from various longhouses all have - and do exercise - hunting privileges within proscribed areas of the park (IUCN Consultation, 2014).

▶ Logging/ Wood Harvesting

Low Threat
Outside site

On-going logging in adjacent forests, including catchment of Tutoh River which forms part of the park boundary. Areas of forest surrounding the property have been heavily logged and cut, up to the rivers that demark much of the boundary of the property and this remains an ongoing threat to its integrity and natural values. (SoOUV, 2012)

Potential Threats

Low Threat

Whilst the park enjoys a relatively stable surrounding environment, there is potential for this to change. Change could come from 'within' (e.g. changes in park tourism) or from without (e.g. renewed forestry activities, mineral exploration and mining, hydro development). Like many protected areas, Gunung Mulu is embedded in a setting where all manner of developments may occur in the future so it is important to project forward to establish if any of the possible and likely developments may represent a potential threat. Roads up to the park boundary for whatever purpose (forestry, mining, hydro, oil palm plantations) represent a significant potential threat.

▶ Dams/ Water Management or Use

Low Threat

Inside site, extent of threat not known
Outside site

A number of potential hydro-electric dam sites on the Tutoh River were identified in the 1980's. In 2010 the State Party gave firm assurances that it has “no plan to develop a hydro power project in the area”. The State Party report (2010) notes that no hydro projects would be implemented if they are found to jeopardize the status of the property on the World Heritage List. Notwithstanding the assurances, some industry websites still list the Tutoh dam project as if it was still and active project. (World Market Intelligence Ltd, March 2013).

► Roads/ Railroads

Data Deficient
Outside site

Roads in surrounding areas are potentially an important threat to the park and could arise in the event of new forestry, mining or hydro development projects. (see above)

► Tourism/ visitors/ recreation

Data Deficient
Inside site, extent of threat not known

Changes in the number and type of tourists and development and changes in visitor management are all potential threats. Visitor management is presently in accord with a management plan but if road access were to be developed to the park, a different kind of tourism could be initiated. The major commercial tourism facility associated with the park , a 100 bed 5 star resort, was significantly upgraded in 2012/13 and its management contracted to US based Marriot group in 2013/14.

► Agricultural effluents

Data Deficient
Inside site, extent of threat not known
Outside site

Part of the Tutoh River catchment has been subject to logging and may be logged again in the future. The Tutoh River forms the southern boundary of

the park so there is potential for siltation and erosion etc on the park margins.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

A lot of the on-going disputation between the local Berawan and Penan residents and 'the park' are in reality largely about conflicts with government about land rights and compensation rather than the park per se. On occasions these overlapping interests and multifaceted conflicts have understandably spilled over to the park. An independent assessment would be desirable in the near future. The State Party reports a high proportion of interpretation and guides being local people.

► Legal framework

Highly Effective

The National Park Ordinance for Sarawak was first gazetted in 1956, subsequently amended and is now the National Park and Nature Reserve Ordinance of 1998. "The setting of policy direction for management of all National Parks and other Protected Areas in Sarawak is the responsibility of the State Government through the National Parks and Nature Reserves Ordinance (1998) and associated Regulations." It is also governed by the National Parks and Nature Reserves Regulation 1999. (www.mulupark.com) The Ordinance forms the legal framework for management of Gunung Mulu National Park with the Forestry Department responsible for administration of parks and nature reserves.

► Enforcement

Data Deficient

Data deficient

► Integration into regional and national planning systems

Mostly Effective

It is apparent that the park is not directly integrated into the Malaysia Plan (10th) that is mostly economy based. There appears to be no overall State plan for Sarawak with most planning instruments being geographic or theme-focused. The park is relatively remote and lacks any ground transport so is not integrated into overall development programs.

► Management system

Mostly Effective

Operational management of the park is unusual in that responsibility has been divided between two organizations, the Protected Area and Biodiversity Conservation Unit of Forestry Department managing about 90% of the park (the 'wilderness zone') and a private company for the tourism zone. "The Protected Area and Biodiversity Conservation Unit is responsible for the management of the Wilderness Zone and Borsarmulu Park Management Sdn Bhd has been appointed as the Managing Agent for the Tourism Zone with the responsibility to implement the recommendations of the Integrated Development and Management Plan for the Park which affect the Tourism Zone." (www.mulupark.com) The Property has an Integrated Development Management Plan (2000-2020). The plan is complemented by a 5 year plan that is revised annually.

► Management effectiveness

Highly Effective

All indications are that current management is effective in terms of protection of the Outstanding Universal Value of the park. There is an ongoing strong interest by international specialists in the further exploration and research of the park that represents a de facto monitoring process that can sound the alert on any inappropriate aspects of management. Management of the site continues to be effective (IUCN Consultation, 2017).

► Implementation of Committee decisions and recommendations

Mostly Effective

The State Party has been fully cooperative with implementation of Committee decisions. The 2010 decision of the Committee welcomed reports from the State Party and was very appreciative of the cooperation of the State Party.

► Boundaries

Some Concern

Most of the boundaries of the park are appropriate and well defined. There are several areas that have been proposed for addition to the park that would significantly improve the integrity and manageability of the park but recent documentation is silent on these proposals. Questions need to be raised about these earlier proposals, particularly the Ubung in the south east and the Medalam additions in the north east. According to SOC 2001, the indigenous traditional owners of Buda National Park withdrew their support for the park being added to the World Heritage Site because of on-going dispute with the Government about land rights and co-management of Buda National Park. Although no map of Buda National Park could be located, it is understood that the park is very much limited to the karst area and is only a part of the larger proposed Medalam additions. Some statements made in the Periodic Reporting could not be substantiated from other documentation. "Although there was no buffer zone identified at the time of inscription, the Property is surrounded by the National Park that effectively acts as a buffer zone." (Periodic Reporting 2012) There is no definitive evidence that the park is 'surrounded by other national parks', something that needs to be clarified. No maps were available for the recently gazetted (2011 and 2012) new parks and additions to Mulu.

► Sustainable finance

Mostly Effective

Funding for the protection and management of Gunung Mulu National Park is provided from the annual budget of the Sarawak State Government.
Also, fees are levied on visitors to the park and reportedly collected by the Government for application to park management. This should make a sustainable contribution towards financing of the park. Given that the same company that owns the Mulu resort manages the tourism part of the park, there is likely to be a strong lobby for government to fund on-going

infrastructure costs and maintenance. Current funding appears to be adequate.

► Staff training and development

Highly Effective

Staff training appears to be adequate for effective protection and management of the park. The park receives significant levels of research input that benefits the staff in terms of knowledge of the resource. Although there is some formal training, it is not clear how well trained are the staff of Borsamulu company which is responsible for management of the tourism zone. Staff training opportunities continue to be provided (IUCN Consultation, 2017).

► Sustainable use

Highly Effective

Given that 90% of the park is zoned and managed as wilderness, use of this part of the park should be sustainable providing there is monitoring of the impacts of traditional hunting and the ongoing but illegal harvesting of bird nests.
The tourism zone is the more vulnerable part of the park as it includes a number of important caves open to visitors. Tourism has the potential to be sustainable but clearly that will be elusive unless there is some genuine monitoring and science applied to tourism planning. Given the potential vested interests of the Borsamulu group as both park manager and resort operator, the monitoring would best be undertaken independently. It is noted that the Department of Forestry prepared a report on proposed monitoring in 2008 but no public documentation of adoption and any results could be located. There may be a need to slow or halt the increasing development both in and around the park so that visitor numbers do not reach levels where the visitor experiences are degraded (IUCN Consultation, 2017).

► Education and interpretation programs

Mostly Effective

The education component at the schools level is undertaken by the Borsamulu Park Management. Education and interpretation aares an integral part of their tourism management. There is also an information centre at

park headquarters.

▶ Tourism and visitation management

Mostly Effective

All tourism management and interpretation is contracted to a private company, Borsamulu Park Management that is responsible for management of tourism within the 10% of park designated as Tourism Zone. The use of guides not trained by the site administration could potentially lead to wrong and misleading information being delivered (IUCN Consultation, 2017).

▶ Monitoring

Data Deficient

It is noted that the Department of Forestry prepared a report on proposed monitoring in 2008 and the 2009 SOC refers to the 'Biodiversity Monitoring System' that has been in place 'since 2008' so presumably that monitoring process is underway but to what extent is not clear. (SOC 2009)

▶ Research

Highly Effective

There is substantial evidence of numerous surveys and studies, mostly exploratory and collecting expeditions. The managing agency has conducted some comparative analysis research to establish the impact of traditional hunting and gathering (PR 2009).

Overall assessment of protection and management

Highly Effective

The combination of remoteness (no public road access), rugged terrain, buffering by other protected areas, an operational management plan and a professional management team has provided a good environment for a high level of protection and appropriate management for the park and augers well for the future.

▶ Assessment of the effectiveness of protection and management in

addressing threats outside the site

Highly Effective

Any and all threats outside the park are the responsibility of the State Government of Sarawak. The Sarawak Forestry Corporation which has responsibility for the overall management of the park has extensive responsibilities for forest areas outside the park and is therefore in a position to play an active role in dealing with any activities or proposed developments that might threaten the park from outside.
The Special Committee established for the park includes stakeholders from outside the park and so should be effective in providing early warning of any external threats and provides a forum for discussion of any apparent threat. To date it is apparent that protection and management from threats outside the park have been very effective. Gunung Mulu National Park is an outstanding protected area in an excellent condition and with an effective professional management regime.

► Best practice examples

There are some aspects of management of Gunung Mulu National Park that may evolve into best practice but at this stage the examples have not seen the test of time. For example, contract management of tourism could prove to be a good practice but because of the peculiarities of the Mulu arrangements, they cannot at this stage be represented as best practice.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Spectacular caves

Good
Trend:Stable

No documentary evidence of significant deterioration of these values could be found. (Official documents, Internet)

► Exceptional natural beauty and an outstanding wildlife spectacle

Good
Trend:Stable

The daily bat exodus continues to impress visitors and majority of commentary is very positive (numerous items and websites on the internet). There is a concern about the lack of understanding of the feeding grounds of the major deer cave bat colony - which are outside of the park - and are most likely at risk of development.

► Outstanding example of cave geomorphology

Good
Trend:Stable

No documentary evidence of significant deterioration of these values could be found. (Official documents, Internet)

► Cave ecology (troglobite and stygobite evolution)

Data Deficient
Trend:Data Deficient

No documentary evidence could be located for research and monitoring of this value with the result that there appears to be an important 'data deficiency'. The evidence for lack of perturbation in other aspects of the site is an encouraging indicator. Pending the necessary research and monitoring, the interim conclusion is that there has been no significant deterioration of this value. (absence of any negative reports in official documents and on the Internet)

► One of the richest assemblages of biota

Low Concern
Trend:Stable

There continues to be a strong interest by researches to conduct biodiversity studies in the park, often resulting in additional new species being discovered. None of the literature viewed raises any concern about loss of biodiversity. (All official documents plus numerous published research papers on Internet)

Summary of the Values

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

On-going active survey and research in Gunung Mulu National Park is regularly enhancing those known World Heritage values at the time of nomination. There is every reason to believe that the condition of all cited World Heritage values is good and the condition remains stable. Apart from the need for an update on monitoring of the impacts of traditional hunting, no significant threats to the World Heritage values are current within the park. Gunung Mulu National Park is one of the best protected and appropriately managed protected areas in South East Asia.
There is a concern about the lack of understanding of the feeding grounds of the major deer cave bat colony - which are outside of the park - and are most likely at risk of development.

Additional information

Benefits

Understanding Benefits

► **Legal subsistence hunting of wild game**

Indigenous people who have legal rights for traditional hunting.

► **Collection of wild plants and mushrooms**

Indigenous people who have legal rights for traditional gathering of plant material.

▶ **Sacred natural sites or landscapes**

In a 'shrinking world', the park is valued for its pristine wilderness, both above ground and subterranean.

▶ **Outdoor recreation and tourism**

Valued for its tourism resources, especially the accessible caves, wildlife display (bat exodus) and rainforest setting. Because of remote location, a major resort and accommodation complex benefits from tourism visitation.

Under the present river and road access conditions impacts are probably sustainable

▶ **Importance for research**

Because of the great diversity and pristine condition of the park, it is valued by many researchers and cave explorers who conduct numerous surveys and research projects in the park

Permitted research must abide by guidelines for protection of the resource

▶ **Contribution to education**

Because of the high standard of access into parts of the park it is valued for its great education value. This education value is enhanced by the ready availability of trained guides.

Not all guides are trained or are insufficiently trained

Summary of benefits

Undoubtedly the most obvious benefits flowing from the park are those associated with tourism visitation to the park. Tourism is a locally major economic driver that provides a high level of employment for the local people, including the Indigenous traditional owners.
The second most important benefit is likely the attraction of the park for on-going exploration and knowledge research of both karst and biodiversity. This activity makes on-going contributions to the related increasing educational

benefits from the park.
All of these benefits are potentially sustainable.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Community Relations: There is a need for on-going management of relations with local community, especially those who feel aggrieved as a result of Government decisions relating to the park	
2	.	Monitoring of the impacts of tourism use of caves	
3	.	Monitoring of the impacts of traditional hunting and gathering	
4	NA	Monitoring of the quality of interpretation and guiding in the show caves and on guided surface activities	

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