IUCN Conservation Outlook Assessment 2014 **(archived)**
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Tikal National Park

SITE INFORMATION

Country:
Guatemala
Inscribed in: 1979
Criteria:
(i) (iii) (iv) (ix) (x)

Site description:
In the heart of the jungle, surrounded by lush vegetation, lies one of the major sites of Mayan civilization, inhabited from the 6th century B.C. to the 10th century A.D. The ceremonial centre contains superb temples and palaces, and public squares accessed by means of ramps. Remains of dwellings are scattered throughout the surrounding countryside. © UNESCO

SUMMARY

2014 Conservation Outlook

Good with some concerns

The establishment of Tikal National Park has conserved a particularly valuable part of the Maya Forest region around a number of exceptional archaeological sites. Since the establishment of the park and its inscription on the World Heritage List, major population growth in this part of Guatemala has changed the wider landscape. Besides a permanent need to manage tourism and control illegal activities in the property, the future management and conservation of Tikal will be dependent on the success in buffering the property from the broader developments in the surroundings and from ensuring a balance between conservation and local development in those surroundings.

Current state and trend of VALUES

Low Concern
Trend: Deteriorating

Increasing management efforts have been resulting in an enhanced overall situation with threats in the property becoming less severe than in the past. However, there is a concern regarding future trends. The natural values of the site are under pressure and pressure is likely to increase in the future due to the growing population in the immediate vicinity of the property. Bird and mammal species suffer from changes in the broader landscape and directly from hunting and capturing for illicit trade of live animals and animal products. The exceptional flora is under pressure from fires, trade in species and alien invasive species.

Overall THREATS

Low Threat

The declaration of the protected area and the simultaneous status as an archaeological site has buffered Tikal National Park from the profound landscape

transformation across much of the Petén region over the last decades. The current threats, such as natural resources use, wildfires and increasing tourism, are of concern. However, efforts are undertaken to regulate and control the resources use, as well as to prevent fires. Potential threats include severe weather events, expected climate change and proposals for road construction.

Overall PROTECTION and MANAGEMENT

Some Concern

The relatively small property has a good level of management in this highly visited site. The massive tourism to the archeological sites poses challenges which are not yet fully addressed. Equally important, more remote areas of the property are not well monitored and patrolled. In the longer run, the most important challenge will be the direct and indirect effects of the transformation of the broader Maya Forest region. The biosphere reserve model is an appropriate umbrella to address conservation and local development in integrated fashion but much remains to be done to translate the ideas into practice.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Broad array of intact tropical forest ecological processes**
Criterion:(ix)

Tikal National Park, located on the southern reaches of the Yucatan Peninsula’s karst plateau, is one of the core zones of the much larger Maya Biosphere Reserve that surrounds the property, connecting it to the "Maya Forest" landscape which extends into neighboring Belize and Mexico. The property is comprised of a rich mosaic of upland forest, seasonal rivers, lakes and lagoons, swamps, flooding savannas, lowland forests, caves and rock habitats. This great complex of habitats harbors a rich biodiversity, including millions of migratory birds during the Northern Hemisphere winter. The property maintains intact a broad array of ecological processes, communities and species due to its connection to the wider landscape (whc.unesco.org; WCS, 2012; Parkswatch, 2002).

▶ **Biodiversity and threatened species**
Criterion:(x)

The national park is anchored within the largest intact tropical rainforest areas in Central America, home to more than 2000 higher plants, including some 200 tree species. A considerable number of endangered, threatened, vulnerable and CITES listed species are found in the property. More than 100 species of mammal occur, including 5 felids - Puma, Margay, Ocelot, Jaguarundi and Jaguar – as well as Yucatan Spider Monkey, Mantled Howler Monkey, two species of anteater, otter and Baird's Tapir. More than 330 bird

species encompass Ocellated Turkey, Crested Eagle and Ornate Hawk-Eagle, as well as the vulnerable Great Curassow. Of the more than 100 reptiles the endangered Central American River Turtle, Morelet's Crocodile and 38 species of snakes stand out. In addition to 25 known amphibian species, there is a noteworthy fish fauna and a great diversity of invertebrates (whc.unesco.org; Parkswatch, 2002). Tikal and the broader Maya Forest are also known for the wild varieties of several important agricultural plants.

Other important biodiversity values

► Other international designations

The Park lies within a Conservation International-designated Conservation Hotspot, a WWF Global 200 Eco-region, a WWF/IUCN Centre of Plant Diversity and is surrounded by a large UNESCO Biosphere Reserve.

Assessment information

Threats

Current Threats

Low Threat

The broader landscape is in a process of rapid transformation due to considerable local population growth and corresponding demand for land, pasture and natural resources. Hunting, fishing and collection of non-timber forest products for subsistence, as well as wildlife and plants might at some point exceed the natural regeneration capacity. Regular wildfires of multiple origins jointly with severe weather events over the last years are further complicating the situation. However, the threat of fires has been significantly reduced by the recently developed prevention programme.

▶ Tourism/ visitors/ recreation

High Threat
Inside site

While mostly restricted to the major archaeological sites, tourism has locally reached levels of mass tourism raising concerns about impacts from disturbance, demand for illicit wildlife and plant products, and poorly managed sewage and solid waste (Confidential consultation, 2014).

▶ Housing/ Urban Areas, Crop production, Livestock Farming / Grazing

Low Threat
Outside site

A sharp population increase in a rural, resource-dependent setting inevitably increases pressure on natural resources. According to UNEP/WCMC (2011), the population of the Petén Province (Departamento) in which the property is located, has roughly quintupled between 1970 and 2000. The agricultural and livestock frontier has advanced on the southern boundary of the property. Despite this fragmenting, the ecological connectivity with the wider Maya Forest remains preserved (Confidential consultation, 2014).

▶ Other Biological Resource Use, Subsistence hunting

Low Threat
Inside site
Outside site

The rich and diverse forest resources have traditionally been strongly used by local and indigenous communities. Extraction of a broad range of non-timber forest products, including game and fish, is a common and much needed element of livelihood systems of local and indigenous communities throughout the Maya Forest. Regulated legal harvest of NTFPs occurs outside the park boundaries. While local resource use is an integral part of the longstanding human presence in the Petén, extraction levels need to be closely monitored and regulated. (Vaques, 2004; Ministerio de Cultura y Deportes, 2003; Parkswatch, 2002; Confidential consultation, 2014).

▶ Fire/ Fire Suppression

Low Threat
Inside site

Outside site

Fires stem from purposeful burning of pastures and hunting grounds, and are also used to facilitate the collection of wild honey. Furthermore settlers along the southern boundary of the property use fire to clear land. Accidental fires are also known to be caused by campfires of looters of archaeological sites and during harvesting of non-forest products. (Vasques, 2004; Ministerio de Cultura y Deportes, 2003). The national park has recently developed an effective program implemented now every year, to prevent forest fire (Confidential consultation, 2014).

Potential Threats

Low Threat

Climate change is one of the main potential threats to the park biodiversity in the long term. Repeatedly proposed road construction in and around Tikal National Park would have a significant impact, however, the proposals seem to have so far lost the impetus, but they remain as a potential threat.

► Temperature changes

High Threat
Inside site
Outside site

In a recent study, Tikal National Park was rated as one of the 12 World Heritage sites with the largest projected change in terms of plant species richness (IUCN, 2011; Christiansen et al., 2007). Severe weather events, such as hurricanes, degrade habitats and wildlife populations, and are projected to increase in severity in the future (Christiansen et al., 2007; Ministerio de Cultura y Deportes, 2002).

► Roads/ Railroads

Low Threat
Inside site
Outside site

Additional road construction in and around the Park has frequently been proposed. Road access to remote areas in the property would have a devastating effect by opening the door for the agricultural frontier, which

already is a challenge both on the northern and southern edges of the property (UNEP/WCMC, 2011; Ministerio de Cultura y Deportes, 2003). The main proposal for additional road construction consists of two options of the same theme: extending the paved road north. The first of these consists of paving the 23 kilometers of dirt road from the Park's center to the village of Uaxactun. The second option is a series of proposals to extend a road from Campeche/Quintana Roo to Tikal, through the intact heart of the trinational Maya Forest (Análisis económico y ambiental de carreteras propuestas dentro de la Reserva de la Biosfera Maya, 2007). The proposals have so far lost impetus, but they remain as a possible threat in the future.

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

At the time of development of the Park Master Plan in 2002, there were conflicts with the commercial establishments within the national park, and with local and indigenous communities in the surroundings. Since then considerable effort has been invested in working with local communities to engage in livelihood options based on sustainable use and also beyond natural resource extraction. The park has effectively engaged local communities to reduce one of the most important current threat, that of wild fire. Outreach campaigns, increased hiring of residents of local adjacent communities (Uaxactun, Zocotzal, Caoba) have also contributed to improving the relationships with local communities. The Guatemalan Government has recently installed a village wide system of household solar panels in the village of Uaxactun, located to the north of the park. This reduces potential threat of running electricity lines through Tikal to reach this rural community. (WCS, 2012; Rare Center, 2012; Vasques, 2004; Ministerio de Cultura y Deportes, 2003; Parkswatch, 2002; Confidential Consultation, 2014).

► Legal framework and enforcement

Some Concern

The protection status on both nature conservation and archaeological grounds is adequate, but enforcement is slowly weakening as the frequency of patrolling is diminishing. Until 1989, prior to the passing of national protected area legislation and the establishment of CONAP, the governmental agency in charge of protected areas, Tikal was administered exclusively by the Guatemalan Instituto de Antropología e Historia (IDAEH). Today, the law states that both institutions jointly administer Tikal, although in practice, IDAEH is in charge of management (Parkswatch, 2002). Development of a “Joint Operations Center” has facilitated coordinated law enforcement activities of the army, police, and park guards (WCS, 2012; GEF, 2012).

► Integration into regional and national planning systems

Mostly Effective

The integration of Tikal National Park into the much larger Maya Biosphere Reserve as the core zone is an adequate foundation for the application of a landscape approach but much remains to be done to realize the full potential (WCS, 2012; GEF, 2012).

► Management system

Mostly Effective

When the Park Master Plan was being developed in 2002, Tikal National Park was one of the best-staffed protected areas in Guatemala. There was also a Tourist Police Force in charge of crime control and prevention (Ministerio de Cultura y Deportes, 2010; Parkswatch, 2002). The administration brings together the National Council of Protected Areas and IDAEH with the former being in charge of the natural patrimony of the protected area while overall management responsibility IDAEH. The Forest Fire Commission assists with fire control (Vasques, 2004). There is tight cooperation with the larger biosphere reserves, numerous international and national NGOs and research institutions. Management is supported through bilateral and multilateral cooperation.

► Implementation of Committee decisions and recommendations

Data Deficient

As early as 1979, a Committee decision expressed concern about the possible impacts of a tourism development project on the cultural and natural values of the property. In 1993, the Committee noted "prospects" to expand Tikal but this has so far not resulted in concrete attempts to do so. Follow-up to the Committee suggestion to promote sub-regional archaeological exchange is unknown and beyond the scope of this assessment.

► Boundaries

Mostly Effective

In 2002, boundary markers were placed and Tikal National Park was legally inscribed in the National Property Registry. The boundaries have recently been re-demarcated (GEF, 2012).

► Sustainable finance

Mostly Effective

Finance for management of the property is from the government budget, often complemented by bilateral and multilateral projects, and revenues from entrance fees. A consortium of partners intends to establish a trust fund for the future management of the Maya Biosphere Reserve (WCS, 2012).

► Staff training and development

Some Concern

On-going projects in the Maya Biosphere Reserve have provided occasional opportunities for staff training (WCS, 2012), though there is no information available on a long-term training program. Working with local staff and unions could help further improve the park management (Confidential consultation, 2014).

► Sustainable use

Some Concern

Regulated non-timber forest products extraction, tourism, and research are the key uses of the property. (WCS, 2012; Fujisaki, 2002).

► Education and interpretation programs

Data Deficient

An environmental education program was developed in 2004 in cooperation with the Rare Center, but data is deficient as to whether there has been continuity to that program (Vasquez, 2004).

► Tourism and interpretation

Some Concern

Tourism has significantly increased since the end of the civil war with major potential for the local economy, conservation financing and visitor education. The park has recently begun installing bi-lingual interpretation signs throughout the site (Confidential consultation, 2014). However, much remains to be done to maximize the benefits of tourism while minimizing its impacts.

► Monitoring

Mostly Effective

WCS, CONAP and CEMEC undertake annual monitoring of deforestation and fire within Tikal and across the entire MBR, including the southern agricultural frontier. This covers the two greatest threats to the ecological stability of the area. In 2005 WCS also conducted a study on jaguar and prey abundance in Tikal, and returned to do a follow up evaluation in 2009. During the second study however, some of the remote cameras deployed in the park were stolen and the follow up study was discontinued. Prior to that however, WCS was able to demonstrate the continued presence of jaguars, puma, and their prey in the heart of the park (WCS, 2012).

► Research

Mostly Effective

At the time of development of the Park Master Plan in 2002, a wide range studies on the biology and ecology of Tikal, as well as on natural resource management were undertaken, more concretely, studies of individual endangered species, limnology and hydrology, pests and diseases, soils, sedimentation, tourism impacts, forestry, resource mapping, traditional land

use systems and wildlife population dynamics (Ministerio de Cultura y Deportes, 2003). At the same time, there is longstanding and ongoing research into the culture and history of Tikal and its surroundings and its past and current inhabitations. Promoting long term biological research within the interior of the park would help to generate data on the effectiveness of park management – taking into account some key indicator species, but also establish a presence throughout the park and pave the way for the return of regular patrols in the interior of the park, detecting and reporting sightings of illegal activity (Confidential consultation, 2014).

▶ Management effectiveness

Some Concern

Improvements in management in response to the past evaluations, including the Tikal National Park Master Plan, should be commended. However, management has certain difficulties to cover the more remote areas of the property and ensure effective enforcement (UNEP/WCMC, 2011).

Overall assessment of protection and management

Some Concern

The relatively small property has a good level of management in this highly visited site. The massive tourism to the archeological sites poses challenges which are not yet fully addressed. Equally important, more remote areas of the property are not well monitored and patrolled. In the longer run, the most important challenge will be the direct and indirect effects of the transformation of the broader Maya Forest region. The biosphere reserve model is an appropriate umbrella to address conservation and local development in integrated fashion but much remains to be done to translate the ideas into practice.

▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

Mostly Effective

Considerable effort working with the growing communities south of the property is having some effect in improving the level of environmental awareness, governance, and sustainable use of this region (WCS, 2012). The

control of deforestation to the north of the park – in the community forest concession of Uaxactun – is efficient. The park has also been successful in reaching out to land owners on the southern edge obtaining their support to avoid fire for example (Confidential consultation, 2014).

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Broad array of intact tropical forest ecological processes**

Low Concern
Trend:Deteriorating

It is widely acknowledged that the increasing management efforts have been resulting in an enhanced overall situation with threats in the property becoming less severe than in the past (UNESCO, 2011). There is, however, major concern about the dynamics of the broader landscape and the direct and indirect effects of such processes on the property in the longer term. In light of the projected impacts of climate change, increasing human populations south and north of the Park, and potential road development in and around the Park, there is a concern regarding future trends (IUCN, 2011).

▶ **Biodiversity and threatened species**

High Concern
Trend:Data Deficient

Charismatic bird and mammal species as well as certain reptiles and amphibians suffer from changes in the broader landscape and directly from hunting and capturing for illicit trade of live animals and animal products. The exceptional flora is under pressure from fires, trade in species and alien invasive species (IUCN, 2011; UNEP/WCMC, 2011). However, data is deficient with regard to the trend in the abundance of some species compared to the past data.

Other important biodiversity values

▶ Other international designations

The Park lies within a Conservation International-designated Conservation Hotspot, a WWF Global 200 Eco-region, a WWF/IUCN Centre of Plant Diversity and is surrounded by a large UNESCO Biosphere Reserve.

Summary of the Values

▶ Assessment of the current state and trend of World Heritage values

Low Concern

Trend: Deteriorating

Increasing management efforts have been resulting in an enhanced overall situation with threats in the property becoming less severe than in the past. However, there is a concern regarding future trends. The natural values of the site are under pressure and pressure is likely to increase in the future due to the growing population in the immediate vicinity of the property. Bird and mammal species suffer from changes in the broader landscape and directly from hunting and capturing for illicit trade of live animals and animal products. The exceptional flora is under pressure from fires, trade in species and alien invasive species.

▶ Assessment of the current state and trend of other important biodiversity values

Low Concern

Trend: Deteriorating

The current state and trend of the biodiversity values associated with the property’s other international designations is overall comparable.

Additional information

Key conservation issues

▶ Population growth in the surrounding areas

Local

Population growth and in-migration, particular to the south of the property, are not buffered by comprehensive planning putting direct and indirect pressure on both the property and its surroundings.

▶ Tourism impacts

Local

The potential of tourism to benefit the local economy and contribute to both conservation funding and visitor education is only partially tapped while localized negative impacts are well documented.

Benefits

Understanding Benefits

▶ Collection of wild plants and mushrooms

Poor communities depend on natural resources, such as food, medicine and construction material.

▶ Outdoor recreation and tourism

While potentially causing significant disturbance if not adequately controlled, tourism is a driver of the local and national economy.

▶ Importance for research

The site is of great importance for understanding local knowledge and for developing and transmitting knowledge of the Maya civilization, its use of natural resources, and the reasons for its collapse, and the response by nature to re-establishment of the lowland tropical forest environment after the collapse.

Summary of benefits

Conservation and the generation of knowledge are the major benefits of the site at the global level, while nationally and locally the site is the major attraction for tourism at the global, regional and national level. At the local level, the property helps to maintain environmental services in the increasingly populated surroundings and serves as a safety net.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	RARE Center		The Rare Center is assisting Park management through development of an Environmental Education Program, a program for development of Ecotourism and Community Development (Vasques, 2004).
2	GEF, IDB, and CONAP		Implementation of a project for “Improvement of the Management Effectiveness in the Maya Biosphere Reserve” providing assistance in fire control and monitoring; management tools and coordination; investments in infrastructure for protected area management, tourism and water treatment; incentives to adopt sustainable technologies and capacity building outside of protected areas; physical demarcation of protected area; design of seven “Joint Operation Centers at entry points to protected areas to provide infrastructure for all enforcement authorities to facilitate joint actions and better coordination.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years

1	Extension of the boundaries	It has repeatedly been observed that the property is relatively small from a nature conservation perspective. That is because the design appears to be centered around the key archaeological sites. The boundaries do not always follow landscape features, indicating that they are not based on a sophisticated nature conservation rationale.
2	Consolidation of the Maya Biosphere Reserve	Tikal National Park is the core zone of the vast Maya Biosphere Reserve. Given that the wider landscape dynamics will undoubtedly be a decisive factor in the future of the property, further investment in integrated conservation and development based on the many existing efforts is highly desirable.
3	Consolidation of coordination and cooperation with neighboring Belize and Mexico.	The greater Maya Forest is historically and ecologically a coherent landscape, today shared by three countries. There is room for enhancing coordination and cooperation.

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