

UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES  
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES

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In your reply, please refer to:  
En répondant, veuillez rappeler:

IUCN REVIEW

World Heritage Nomination

1. NAME: Tikal National Park (established 1957)
2. LOCATION: Pétan Province, Guatemala
3. NOMINATED BY: Government of Guatemala  
Director, Institute of Anthropology and History
4. DOCUMENTATION:
  - i) Nomination form
  - ii) Bibliography
  - iii) Balance of documentation sent to ICOMOS relevant to primary consideration as a cultural site.
  - iv) From IUCN files - Tikal National Park - Master Plan 1972.

EVALUATION:

The area has been evaluated against the operational guidelines for the implementation of the World Heritage Convention as amended by the World Heritage Committee at its 2nd Meeting.

1. IUCN has no comment on the cultural characteristics or qualities of the site except as they relate to man and his natural environment.
2. The master plan for the 576 sq. km. National Park recognizes the predominant cultural character of the nomination.
3. The master plan stresses "Tikal's 576 sq. miles provides one of the great natural preserves of the world." (p.41)

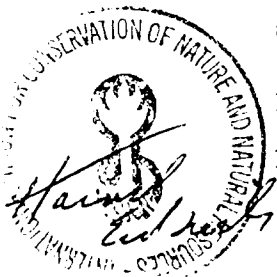
COMMENT:

Tikal National Park is first and foremost a cultural site; it also represents a poorly understood relationship between man and nature - this was at one time very sensitive but is now less so - in any event, the nomination meets criteria C (10)ii and, because of species' diversification, C.10(iv).

RECOMMENDATION:

Place Tikal National Park on the World Heritage List.

International Union for Conservation of Nature and Natural Resources



INTERNATIONAL COUNCIL ON MONUMENTS AND SITES

ICOMOS

April 10 1979

Nominations on the World Heritage List

REVIEW SHEET

TIKAL - Guatemala - °6<sup>4</sup>

Proposed for ICOMOS Bureau recommendation

Fundamental for PreColumbian archeology and for the protection of nature, Tikal Park certainly merits inscription.

Panel:

M. André Chastel

Mr. Henry Milon

M. Jean Taralon

ICOMOS

10 avril 1979

Propositions d'inscription à la liste du patrimoine mondial

FICHE CRITIQUE

Tikal - Guatemala - ° 664

Bien à soumettre à la recommandation du Bureau de l'ICOMOS

Fondamental pour l'Archéologie précolombienne et pour la protection de la nature, le parc de Tikal mérite certainement l'inscription.

Panel:

M. André Chastel

Mr. Henry Millon

M. Jean Taralon

GUATEMALA

NAME Reserva de la Biosfera Maya

IUCN MANAGEMENT CATEGORY II (National Park)  
X (World Heritage site - Criteria: ii,  
iv, cultural)  
IX (Biosphere Reserve)

BIOGEOGRAPHICAL PROVINCE 8.01.01 (Campechean)

GEOGRAPHICAL LOCATION Within the municipalities of La libertad, Flores, Melchor de Mencos, San Andrs and San Jos, Petn Department, north-eastern Guatemala. The nearest major town is Santa Elena in the municipality of Flores. The reserve borders Mexico to the north and west, and is adjacent to Calakmul Biosphere Reserve in Mexico. To the south-east it borders the Usumacinta River, while the eastern boundary forms the frontier with Belize. The ruins are located at 17/13'N, 89/37'W. 17/06'-17/20'N, 89/30'-89/44'W

DATE AND HISTORY OF ESTABLISHMENT Declared a national park on 26 May 1955, having originally been established as a national monument in 1931. **Tikal** National Park (accepted as a World Heritage site in 1979) and Laguna del Tigre (a Ramsar site) are located within the biosphere reserve. Declared a biosphere reserve on 30 January 1990 by Congressional Decree No. 5-90, based on Article 12 of Congressional Decree No. 4-89 of the Protected Areas Law (Lehnhoff Temme, 1990).

AREA 1,400,000ha approximately

LAND TENURE State ownership primarily, research institution secondarily

ALTITUDE 600m

PHYSICAL FEATURES The soils of El Petn-Caribbean form a sedimentary basin with deposits from the Mesozoic and the Tertiary periods. They contain limestone and dolomites showing Cretacic characteristics of karst formations with a broken relief. Soils are clayey and slightly permeable, with internal drainage, and easily compactible (Lehnhoff Temme, 1990). Two types are found in the reserve: the Yucatan shelf to the north, formed by small hills, and the Lacandon mountain chain in the centre, consisting of rounded hills of calcareous origin, mountain chains, lagoons and alluvial plains (Lehnhoff Temme, 1990). In the Lacandon area, soils are poor and there are abrupt cliffs. In the **Tikal**, Uaxactun and Dos Lagunas areas, the topography is undulating and soils are well drained (Lehnhoff and Perez, 1990). Laguna del Tigre and Laguna de Yaxha are the main lagoons found in the wetland area, where there are a large number of 'aguadas' or superficial swamps.

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The various rivers in the reserve are part of the drainage basin of the Usumacinta River in the Gulf of Mexico. This is one of the most extensive wetland systems in central America (Lehnhoff and Perez, 1990; Lehnhoff Temme, 1990). The underwater potential has not been evaluated, but it is believed that geological faults canalise water in a disorganised fashion in limestone subsoils such as this (Lehnhoff Temme, 1990).

CLIMATE Conditions are warm and humid, with mean annual precipitation of 2000mm. The rainy season lasts from May to December and it usually rains for approximately 150 days of the year. During the rainy season the winds are from the north, north-east, south and south-east, and blow in a north to south direction during the dry season. The mean annual temperature is 24/c (MAB committee, 1990).

VEGETATION The rich vegetation includes; species of savanna such as nance *Byrsonima crassifolia*; high altitude forest with chicle *Manilkara achras*, 'ramon' or bread-nut tree *Brosimum alicastrum*, West Indian mahogany *Swietenia macrophylla*, cedar *Cedrella odorata*, palma de botan (palm) *Sabal morrisiana* and palma de escobo *Chrysophylla argentea*; 'tinto' lowland forest with *Hematoxylon campechianum*; wetlands with tule *Typha* sp. around water bodies (Lehnhoff Temme, 1990). Other common tree species include cedar *Cedrela angustifolia*, *Vitex guameri*, *Aspidosperma megalocarpon*, *Guarea exelsa*, *Calophyllum brasiliense*, the palm *Sabal mayarum*, *Sursera simaruba*, *Protium copal* and *Acacia farnesiana*. The botanist L. Lundell identified over 2,000 plant species in the park area.

FAUNA Fifty-four species of mammal occur, including mantled howler monkey *Alouatta palliata nigra*, spider monkey *Ateles geoffroyi* (V), giant anteater *Myrmecophaga tridactyla* (V), lesser anteater *Tamandua tetradactyla*, dwarf anteater *Cyclopes didactylus*, three-toed sloth *Bradypus tridactylus*, nine-banded armadillo *Dasypus novemcinctus*, squirrel *Sciurus yucatanensis*, pocket gopher *Heterogeomys hispidus*, raccoon *Procyon* sp., brown coati *Nasua narica*, kinkajou *Potos flavus*, tayra *Eira barbara*, paca *Agouti paca*, long-tailed weasel *Mustela frenata*, hooded skunk *Mephitis macroura*, otter *Lutra annectens*, puma *Felis concolor*, margay *F. wiedii* (V), ocelot *F. pardalis* (V), jaguarundi *F. yagouarundi*, jaguar *Panthera onca* (V), Baird's tapir *Tapirus bairdii* (V) which is limited by water availability, collared and white-lipped peccaries *Tayassu tajacu* and *T. albirostris*, white-tailed deer *Odocoileus virginianus* and red brocket deer *Mazama americana sarterii*.

The avifauna comprises 333 species, representing 63 of the 74 families in Guatemala, and includes the threatened ocellated turkey *Agriocharis ocellata* (K), *Saracorhamphus papa*, *Crax rubra*, *Penelope purpurascens*, macaw *Ara macao*, jaribu *Jaribu mycteria* and many others, including crested eagle.

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Reptiles and amphibians include the endangered Morelet's crocodile *Crocodylus moreletii* (E), the central American river turtle *Dermatemys mawii* (V), *Claudius angustatus*, nine families of amphibian and six genera of turtles, as well as 38 species of non-poisonous and poisonous snakes including coral snake *Micrurus diastema sapperi*, four species of Bothrops and two sub-species of rattlesnake *Crotalus*. Fishes include *Petenia splendida*, the cichlids *Cichlasoma melanorum*, *C. bifasciatum*, *c. heterospilum*, *C. lentiginosum*, *C. margaritifera*, *C. champotonis*, *C. affine*, *C. hyorhynchum* and *C. pasionis* (Lehnhoff Temme, 1990). A rich invertebrate fauna, especially arthropods, also occurs.

CULTURAL HERITAGE The park's main attraction is the ruined city of the Maya Indians reflecting the cultural evolution of Mayan society from hunter-gathering to farming, with an elaborate religious, artistic and scientific culture which finally collapsed in the late 9th century. There are over 3,000 separate buildings dating from the period 600 BC to 900 AD, including temples, residences, religious monuments decorated with hieroglyphic inscriptions and tombs. Excavations have yielded remains of cotton, tobacco, beans, pumpkins, peppers and many fruits of Precolumbian origin. Large areas are still to be excavated.

LOCAL HUMAN POPULATION Five municipalities are located within the reserve, with an approximate population of 8,000. Agriculture, artisanal fishing, forest dwelling, gathering and hunting are the main activities. It is expected that the reserve will benefit local people by increasing opportunities in training and education, recreation and tourism and by maintenance of their traditional cultures and resource use practices. The road network will also facilitate the movement of local people in the area (Lehnhoff Temme, 1990).

VISITORS AND VISITOR FACILITIES There are three hotels in Tikal (Lehnhoff Temme, 1990).

SCIENTIFIC RESEARCH AND FACILITIES An integrated programme of basic and applied research supports site management objectives and sustainable conservation in the region (Lehnhoff Temme, 1990). Information is available on past aerial photography, bibliography, history of scientific studies, hydrology, biological inventories, geology, socioeconomic and cultural ethnobiology, land/water use and use of the fauna. Current information exists on geographic information systems, satellite imagery, hydrological and limnological surveys, climate, biological inventories and ethnobiology (G-MAJB Committee, 1990).

Research has centered on the evolution of the Mayan culture. Other studies have been conducted on the protection of the endangered ocellated turkey, sedimentation, and social sciences. The Instituto de Antropologia e Historia is leading archaeological research in the reserve. Studies are ongoing on aquaculture,

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limnology and hydrology, pests and diseases, and soils. Other current research includes forestry, impacts of recreation and tourism, resource mapping, traditional land use systems and wildlife population dynamics (Lehnhoff Temme, 1990). CATIE and IUCN are cooperating in demonstration projects in the multiple use zone east of **Tikal**.

There is a climatological monitoring station, conference, laboratory and library facilities (G-MAJB Committee, 1990) and a museum containing over 10,000 religious and domestic artifacts. Three hotels in **Tikal** provide accommodation for visiting scientists. Access to the reserve is through CONAP in Guatemala City or San Benito City (63km south of **Tikal**) (Lehnhoff Temme, 1990).

CONSERVATION VALUE Together with Sierra de las Minas Biosphere Reserve, Maya is the most important reserve in the country, because of its archaeological and bio/ecological interest. As well as the magnificent ruins of the Maya culture, rivers, lakes, swamps and flooding savannas are important for biodiversity and for migratory birds. The reserve contains the largest area of tropical rain forest in Guatemala and central America, with a wide range of unspoilt natural habitats. A large area of the reserve still comprises dense broad-leaved forests with more than 300 species of trees useful to man, such as cedar, mahogany, 'ramon' (Lehnhoff and Perez, 1990), Araceae (osier for furniture), chicle, pepper and others (Lehnhoff Temme, 1990). Palms, epiphytes, orchids and bromeliads are abundant. In addition, a considerable number of threatened and CITES listed species are found within the reserve.

CONSERVATION MANAGEMENT The reserve is administered by CONAP (Congressional Decree No. 4-89), through its executive secretariat, with the participation of various institutions. The reserve incorporates **Tikal** National Park, administered by the Instituto de Antropologia e Historia, Los Biotopos Protegidos (Protected Biotopes) of San Miguel La Pelotada, Dos Lagunas y Laguna del Tigre-Rio Escondido, administered by the Centro de Estudios Conservacionistas (CECON), and the national parks of Mirador-Rio Azul, Sierra del Lacandon y Laguna del Tigre, administered by CONAP. The biosphere reserve will have a core area, cultural areas, areas of multiple use, a recovery area and a buffer zone (Lehnhoff Temme, 1990).

The Comité Coordinador de la Reserva Maya (Maya Reserve Coordinating Committee) was created to ensure coordination between the administrative entities within the reserve and other authorities. It consists of members of CONAP, who preside over it, the Instituto de Antropologia e Historia, the Centro de Estudios Conservacionistas de la Universidad de San Carlos and the National Army, through the Commandant of military zone No. 23 and the Commandant of the Air Base of Santa Elena, who jointly coordinate a special system of patrolling the borders of the

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reserve (Congressional Decree No. 590, Article 4; G-MAJB Committee, 1990). There is a high degree of cooperation between the site and the MAB authorities, as well as between regional planning and development authorities, local communities around the reserve, and the coordinating body for integrating scientific activities at the site Lehnhoff Temme, 1990).

The core area consists of the existing **Tikal** National Park and the protected biotopes, the new areas include the national parks. The buffer zone consists of a 15km-wide border surrounding the reserve and within Guatemalan territory. The remaining areas will be defined in the reserve's master plan (Lehnhoff Temme, 1990).

The main objectives of the reserve are to conserve the natural environment, to provide the legal basis for resource protection and management, to conserve specific genetic resources in situ, to promote local participation in land use and management, to promote regional planning and integrated rural development, to disseminate knowledge about conservation and management of the reserve, to conduct scientific research and to promote environmental education and training (Decree No. 5-90; Lehnhoff Temme, 1990).

Activities taking place in the core area are biological inventories, long-term environmental monitoring, environmental education and professional training. In the buffer zone forestry, agriculture, biological inventories and collections, fishing and environmental education are undertaken. In the multiple use area main activities include conservation management, environmental education, forestry, fishing, gathering, long-term monitoring, agriculture, professional training, restoration of wetlands and terrestrial habitats, biological collections, tourist development and crafts (Lehnhoff Temme, 1990).

Extensive grazing by cattle (multiple use area), hunting, fishing, forest clearance for agriculture (small plots of maize, beans, sweet potato, citrics, ('malangu' and 'guicoy'), the use of various forest resources (chicle *Marilkara achrag*, pepper *Pimenta dioica*, cedar, mahogany *Swietenia humilis* and 'ramon' *Brosimum alicastrum* and the use of leaves and flowers for ornamental purposes (*Chamaedorea* spp. and *Araceae*) occur within the reserve (Lehnhoff Temme, 1990). There are annual burnings of grazing areas, either before or at the beginning of the rainy season, for the regeneration of pasture lands.

Ongoing education and training activities include extension services for local people, demonstration projects in conservation and rational resource use, graduate and postgraduate studies, professional training and workshops and staff training in protected area management. Eighty park guards have been trained. Environmental education for school children and interpretive programmes for tourists are planned (G-MAJB Committee, 1990).

MANAGEMENT CONSTRAINTS The annual burning of pasture land affects some nesting birds in the area, particularly the endangered ocellated turkey (Lehnhoff Temme, 1990). Poaching takes place within the core area. In the buffer zone, the destruction of natural terrestrial habitats, hunting and trapping and residential development have been reported. In the multiple use area activities include grazing, human settlements, hunting and residential and industrial development (G-MAJB Committee, 1990). The theft of archaeological remains has been reported.

STAFF Total staff of 344. Seventeen are engaged in administration and resource management (eleven are university trained), seven in education-related activities, two in research (university trained) and eight in research support (G-MAB Committee, 1990).

BUDGET Support is forthcoming from a variety of sources including CATIE (conservation and sustainable use of resources within the core area 'El Zotz' Biotope); IUCN Yaxha (sustainable use of resource in the buffer zone and multiple use area); AID-The Nature Conservancy (support to CONAP for basic protection and field personnel, Programme Parks in Danger, Manual for the Guards and their training); wildlife Conservation International (ecology of species in El Peten and their use and possible management alternatives); The Peregrine Fund (monitoring raptors in Tikal National Park); WWF (support for the management of biotopes administered by CECON); Conservation International (ethnobotany); Unesco (Tikal World Heritage site) (Lehnhoff Temme, 1990).

In previous years the budget was as follows: US\$ 185,000 in 1978 from the government of Guatemala; US\$ 500,000 in 1979 from the Central American Bank for Economic Integration to finance an archaeology programme.

LOCAL ADDRESSES

CONAP, Santa Elena Petn (Tel/FAX: 518951)

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